Member IMC Group

NTK CUTTING TOOLS

CUTTING TOOLS

2023-2024

General Catalog

Safety instructions for using ultra hard cutting tools

1. Instructions for using ultra hard cutting tools

As required by the laws concerning Product Liability enforced on July 1, 1996, we place warning or caution labels on the packages of applicable NTK products. However, each tool body itself bears no detailed safety instructions. Therefore, you are requested to read and understand fully the “Safety instructions for the use of carbide cutting tools” before putting any ultra hard tool materials into use. In addition, we request that all relevant staff and operators fully understand these safety instructions prior to use.

2. Basic characteristics of ultra hard tool materials

2-1. Meaning and classifications of terms used in this leaflet

Ultra hard tool materials: The collective name for materials used as cutting tools, including carbides, ceramics, CBN and diamond (PCD) sintered materials.
Carbide: Tool materials where the main component is WC (Tungsten Carbide)
Ultra hard materials: T he collective name for materials used as ultra hard tools. Also used as a convenient way of referring to carbides under a narrower definition.
Ultra hard tools: The collective name for tools using ultra hard tool materials.

2-2. Physical properties

Appearance: Varies depending on the material. Example: gray, black or gold
Odor: Odorless
Hardness: Cemented carbide: HV500 up to 3,000 kg/mm2
Specific gravity: Carbide: 9 up to 19

2-3. Composition / Ingredients

Carbide, nitride, carbo-nitride, or oxidized materials of W, Ti, Al, Ta, B or the like; some contain metallic components such as Co, Ni, Cr and/or Mo.

3. Precautions for handling ultra hard tool materials

- One of the properties specific to these materials is high hardness, another is brittleness. Therefore, shock loads or impacts, or excessive clamping of these materials may result in breakage or other damage.
- As the specific gravity (density) of these materials is very high, a large component made up of these materials or such products in large quantity should be handled with care.
- Ultra hard materials are different in their thermal expansion ratio from metals. These products are prone to thermal shock and subsequent breakage when subjected to a sudden increase or decrease in temperature.
- As cutting oil, lubricant and general moisture may corrode ultra hard materials and affect their strength, pay extra attention to storing them in good conditions.

4. Precautions machining ultra hard tools

- The strength of ultra hard tools may be significantly lowered depending on the surface condition. Always use diamond grinding wheels for finish machining.
- Dust is produced when ultra hard tools are ground. Install appropriate ventilation/disposal equipment and wear protective gear such as masks, as inhalation of such dust may be hazardous to health. If such dust contacts your skin or comes into contact with your eyes, flush well with flowing water.
- After the grinding of ultra hard tools or brazed tools, the waste coolant contains components of heavy metals. Be sure to dispose of such waste liquid properly.
- After re-grinding ultra hard tools, check that they are free of cracks or damage before use.
- When ultra hard material or products made of ultra hard material is marked with lasers or an electric pen, cracking may occur to the marked area. Do not mark in areas where stress is applied during use.
- Processing ultra hard material by electric discharge may cause residual cracks on the surface, resulting in lower strength. Thus, remove any cracks completely by grinding as required.
- Be careful when brazing ultra hard material. If the temperature is lower or higher than the melting point of the brazing material, the insert may not be permanently fixed.

Metalcutting Safety

Applicable Products	Possible Risks	Safety Measures
General Cutting Tools	Contact with a sharp cutting edge with bare hands may result in injury.	Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	Misuse or using under inappropriate conditions may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	Use protective equipment, machine guarding and/or protective glasses. Use within the range of recommended conditions. Please refer to the instruction manual and catalogue.
	Sudden increase in cutting resistance due to impact load or excessive wear may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	High-temperature chips may be produced and long chips may be ejected, resulting in injury and/or burns.	Use protective equipment, machine guarding and/or protective glasses. Before removing chips, always stop the machine. Wear protective gloves and use proper equipment for chip removal.
	The tool and material/work being cut can become very hot. Touching them immediately after use may cause burns.	Use protective gear such as protective gloves.
	Sparks, heat generation due to breakage and/or chips during cutting may cause fire.	Do not use the machine and tools in locations where there are risks of ignition or explosion. When using water-insoluble cutting oil, fire prevention measures must be implemented.
	Out of balance machine set ups when run at a highspeed, may cause insert breakage due to excess vibration or chatter, resulting in injury.	Use protective equipment, machine guarding and/or protective glasses. Perform a trial-run beforehand to make sure the setup is stable, free of chatter, vibration and abnormal noise.
	Touching burrs and flashes on machined work may result in personal injury.	Use adequate hand protection.
Throw-Away Type Tools (With indexable insert)	Inappropriately clamped inserts and/or components may become detached from the machine during cutting, resulting in injury.	Before installing the insert, clean the seating surface and clamping components so that they are free of debris. Use the wrench supplied to install the insert and check that the insert and components are securely clamped. Do not use any inserts or components other than the items specified.
	Excessively tightening with a device such as a pipe extension may cause the insert and/or components to break or detach due to over clamping.	Do not use tightening devices such as pipe extensions to obtain further torque. Always use the supplied wrench.
	At high speeds inserts and/or components may lose clamping pressure due to the loosening effect of centrifugal force. This is very dangerous. Always ensure secure clamping systems and check regularly.	Use within the range the recommended conditions. Please refer to the instruction manual and catalogue.
Cutters and Rotational Tools	As cutters have sharp cutting edges, contact with bare hands may result in injury.	Use protective equipment such as protective gloves.
	Imbalance or eccentric rotation may cause the tool to break due to vibration or chatter, resulting in potential injury.	Use at a rotational speed within the recommended conditions. To prevent eccentric rotation and vibration due to worn bearings, regularly check the machine rotor/ rotating parts for the accuracy and balance and adjust as required.
Drills	Extra care should be taken when through hole drilling as chips may be ejected at high speed as the drill breaks through the workpiece.	Use protective equipment such as machine guards and/or protective glasses. Additional guarding around the chuck and drill may be advisable.
	Drill tips of a very small diameter are usually pointed and extremely sharp. Extra care and safety precautions should be taken when handling to avoid puncture wounds.	Always use precautions and secure safe handling methods. Wear protective gloves and glasses.
Brazed Inserts / Tools	Inserts may break or become, detached due to incorrect brazing.	Use protective equipment such as machine guards and/or protective glasses. Additional guarding around the chuck and drill may be advisable.
Others	It is not advisable to use repeatedly brazed inserts as the braze may progressively weaken.	Do not use repeatedly brazed inserts as the strength of such inserts is lowered.
	Use only for the original and intended purpose. Using outside recommended parameters is very dangerous, causing damages to machines and/or tools.	Always use and operate as specified, observing the required safety rules and conditions.

Guidelines for Catalog

- This catalog lists products as of July 2023.
- Please note that specifications of the products listed in this catalog may be changed without notice due to continuous research & development and product improvements.
- This catalog contains the major features and relevant information on all of our products. Please contact our sales representatives or dealers if more detailed information is needed.
- Stock Status Symbols

● : Standard stock
★ : Standard stock (specific)
◎ : Semi-standard inventory (delivery: approx. 3 weeks)
● : New standard stock
★ : New standard stock (Specified)
■ : While stock lasts (eliminating item)
Ⓜ : Mirror finish
💧 : Coolant through
Blank: Special order

Standard

1) Holder Type	Package quantity	Notes
Turning　holder	1 pc / case	
Drill	1 pc / case	
Milling cutter	1 pc / case	
2) Spare parts	**Package quantity**	**Notes**
Screw	10 pc / case	Clamp screw,Clamp bolt,Double screw,Button screw,Set screw,Shim screw,Balancing screw,Positioning clamp screw,Ball screw fixture,Screw part
Spring	10 pc / case	Spring
Seat	10 pc / case	Shim seat
Clamp	10 pc / case	
Snap ring	10 pc / case	
Spring pin	10 pc / case	
Clamp pin	5 pc / case	
Washer	10 pc / case	
Blade	1 pc / case	
Coolant hose	1 pc / case	
Wrench	5 pc / case	Torque-wrench: 1 pc / case
Handle	1 pc / case	
3) Insert Type	**Package quantity**	**Notes**
All others	10 pc / case	
BIDEMICS(Brazed)	1 pc / case	JP2,120
CBN	1 pc / case	
PCD	1 pc / case	PD1,PD2
Diamond coating	1 pc / case	UC1
Insert for cut-off	5 pc / case	CTPW series
STICK DUO SHAPER DUO	1 pc / case	
Endmill	1 pc / case	S-MILL

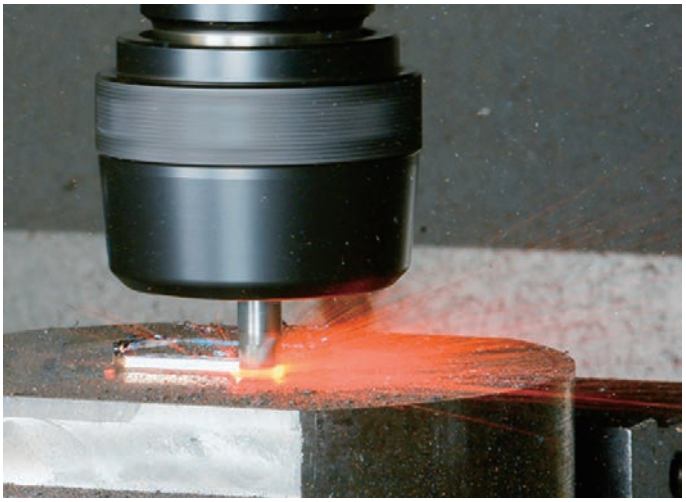
CONTENTS

Section A. New and Unique Product Information	A1-21	A
Section B. Solution	B1-28	B
Section C. Tool Materials/Selection Guide	C1-58	C
Section D. Turning Insert	D1-50	D
Section E. General Turning Toolholders	E1-59	E
Section F. Grooving/Side-Turning	F1-32	F
Section G. ID Tooling	G1-20	G
Section H. Endmill	H1-10	H
Section I. Milling Cutter	I1-32	I
Section Y. Information	Y1-35	Y
Section Z. Index	Z1-8	Z

NTK CUTTING TOOLS

Cutting tools play an integral part in any manufacturing process. NTK offers a wide range of tooling products and inserts from Ceramics, CBNs, PCDs, Carbides to new materials like BIDEMICS.

1. Advanced Cutting Tools A1
2. Swiss Tooling O1



New and Unique Product Information

NEW NTK CeramiX 450 ..... A02

NEW BIDEMICS 120 ..... A04

General Turning: Multi Clamp Toolholders A06

Grooving/Side Turning: SCRUM DUO A07

Face Grooving: SCRUM DUO BLADE A08

Endmill: CERAMATIC RCE series A11

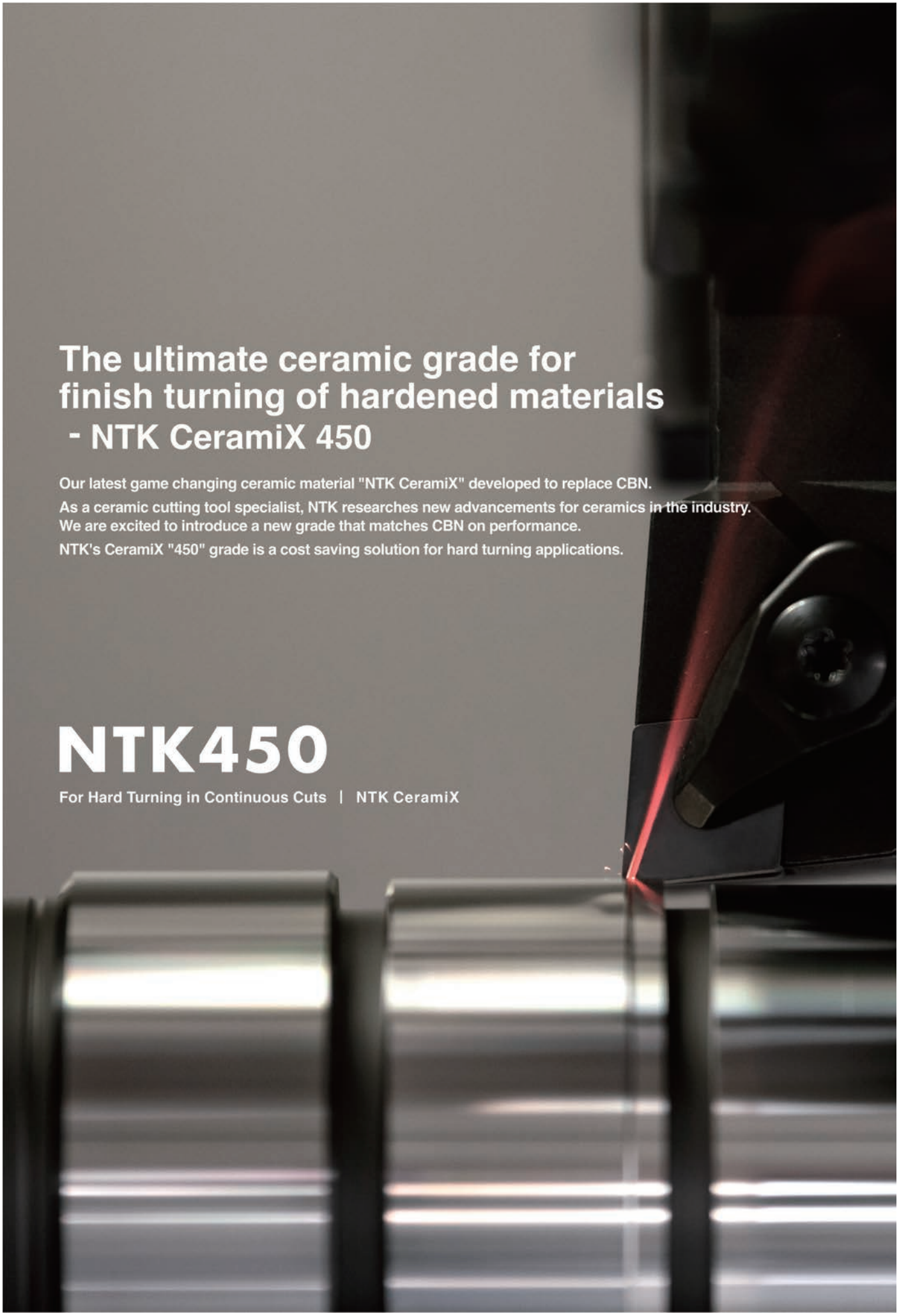
Endmill: CERAMATIC RCS series A13

Endmill: Gear tooth chamfering RCL series A15

Milling cutter: JWNXM series A16

Milling cutter: HFC series A17

Milling cutter: HPC series A20



The ultimate ceramic grade for finish turning of hardened materials - NTK CeramiX 450

Our latest game changing ceramic material "NTK CeramiX" developed to replace CBN.

As a ceramic cutting tool specialist, NTK researches new advancements for ceramics in the industry. We are excited to introduce a new grade that matches CBN on performance.

NTK's CeramiX "450" grade is a cost saving solution for hard turning applications.

NTK450

For Hard Turning in Continuous Cuts | NTK CeramiX

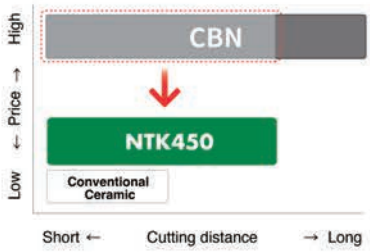
NTK CeramiX 450

New cost saving option for hard turning applications
Significant tooling cost reduction compared to CBN

Key points

- New TiAlN coating offers excellent wear resistance for hard turning.
- The best option when a balance of tool cost and performance is essential, like small production runs.

Price and Performance Comparison



Application area

Continuous hard turning cuts Hardness range: 55 to 66 HRC

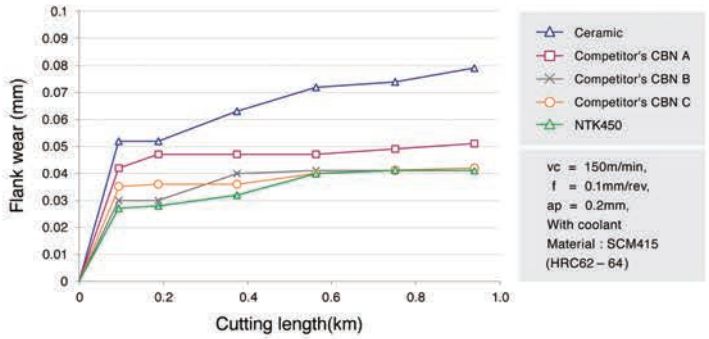
Recommended cutting conditions

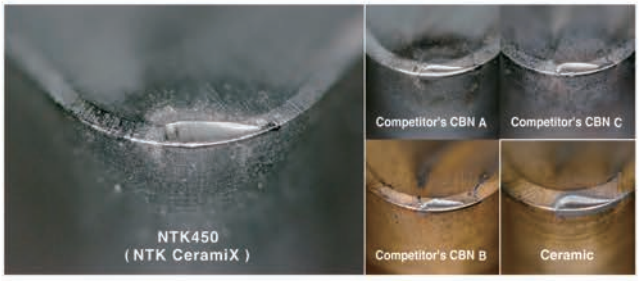
Grade	Material	Application	Process	Cutting speed (m/min)	Feed (mm/rev)	DOC (mm)	Without coolant	With coolant
NTK450	Hardened materials (HRC55 to 65)	Turning	Finishing	100-200	0.08-0.15	0.1-0.5	●	●
				The same conditions as current CBN				

Material characteristic

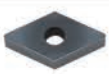
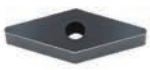
Grade	Coating	Density (g/cm³)	Bending Strength (MPa)	Hardness (Hv)	Fracture Toughness (Mpa·√m)	Structure
NTK450	TiAlN Specialized for NTK450	7.5	1200	2290	5.7	
Conventional Ceramic	TiN	4.6	1100	2060	4.3	

Wear comparison vs. CBN





Insert Item List

Geometry	Unit : 1pc/case * EDP	Item number	Unit : 10pcs/case * EDP	Item number	Corner R (mm)	Grade NTK450	Dimensions (mm) IC	Thickness (mm)	Edge preparation
	5106125	CNGA 120404 X03	5109186	CNGA 120404 X03-10	0.4	●	12.7	4.76	0.1×15° + Honed edge
	5106117	120408 X03	5109194	120408 X03-10	0.8	●			
	5106091	120412 X03	5109202	120412 X03-10	1.2	●			
	5106083	DNGA 150404 X03	5109236	DNGA 150404 X03-10	0.4	●			
	5106075	150408 X03	5109301	150408 X03-10	0.8	●			
	5106042	150412 X03	5109327	150412 X03-10	1.2	●			
	5106034	TNGA 160404 X03	5109343	TNGA 160404 X03-10	0.4	●	9.525		
	5106026	160408 X03	5109392	160408 X03-10	0.8	●			
	5106018	160412 X03	5109418	160412 X03-10	1.2	●			
	5106000	VNGA 160404 X03	5109426	VNGA 160404 X03-10	0.4	●			
	5105994	160408 X03	5109434	160408 X03-10	0.8	●			
	5105986	160412 X03	5109442	160412 X03-10	1.2	●			

* Please order Qty. you need in either item number. Insert case is the only difference.

Machine HRSA materials
at speeds of 480 m/min with BIDEMICS
BIDEMICS revolutionary material was developed a decade ago greatly improving productivity for manufacturers machining HRSA materials; predominantly in the Aerospace industry.
The newest evolution of this material is now available with improved wear resistance!
NTK120
Finishing for HRSA Materials | BIDEMICS

NTK120

at speeds of 480 m/min with BIDEMICS

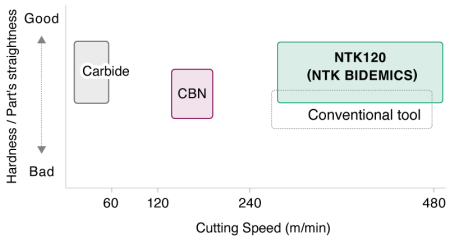
Super high speed finishing of HRSA materials.

Up to 15 times faster speeds vs. carbide and CBN

Performance

- Wear resistance provides performance and consistency of machined part straightness
- Offers finishing speeds of 500 m/min

Cutting Speed and Wear Resistance Comparison



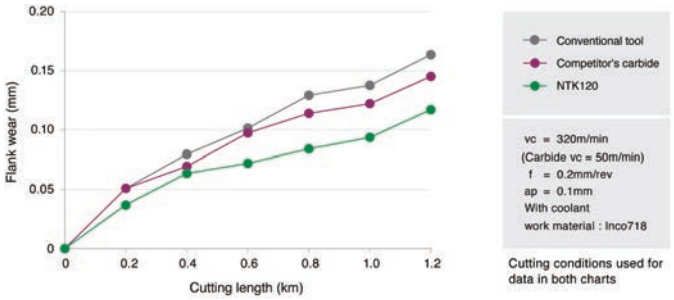
Application Area

Continuous cuts when finishing HRSA materials

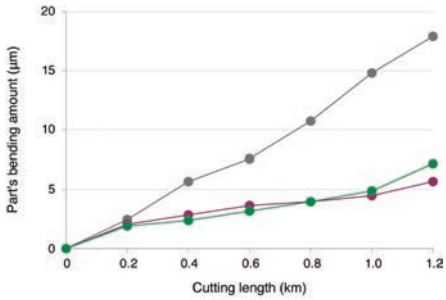
Cutting Conditions

Grade	Material	Application	Process	Cutting speed(m/min)	Feed(mm/rev)	DOC(mm)	With coolant
NTK120	Heat Resistant Super Alloys	Turning	Finishing	180-500	0.05-0.20	0.1-0.7	●

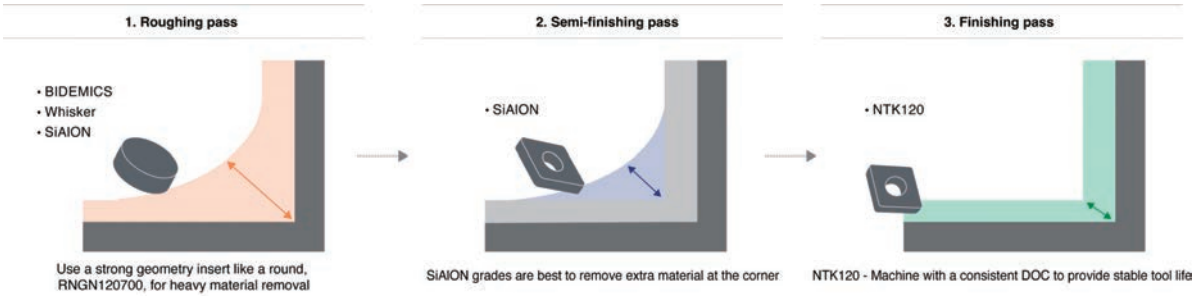
Wear resistance



Part's Straightness Performance



Recommended Machining Passes at a Corner



Insert Item List

Geometry	EDP	Item number	Corner R	Grade NTK120	IC	Dimensions (mm) Thickness	Edge preparation
	5106604	CNGA 120404 BQENB	0.4	●	12.7	4.76	Honed edge 0.04
	5106620	120408 BQENB	0.8	●			
	5106612	120412 BQENB	1.2	●			
	5106646	DNGA 150404 BQENB	0.4	●			
	5106653	150408 BQENB	0.8	●			
	5106661	150412 BQENB	1.2	●			
	5106679	VNGA 160404 BQENB	0.4	●	9.525		
	5106687	160408 BQENB	0.8	●			

General Turning

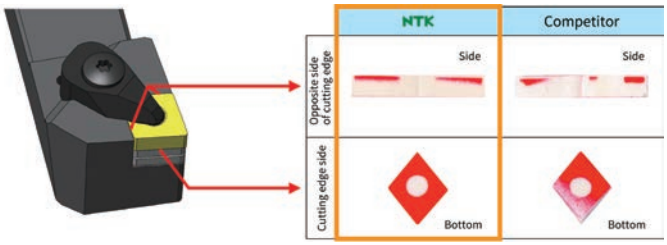
Multi Clamp Toolholders

Turning holder ideal for ceramic tools

The newly designed clamping system ensures rigidity and insert crack prevention during clamping, to achieve stable machining with ceramic tools.

Features①

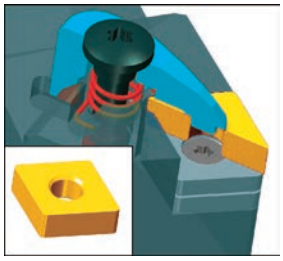
Ceramic inserts may chip or become unstable due to forces and impacts that occur during machining. NTK multi-clamp holders use a strong clamping system that evenly distributes forces on ceramic insert for a rigid set up.



Features②

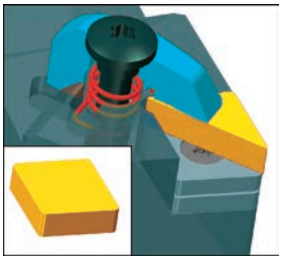
Three types of inserts can be utilized in a holder by simply changing the clamp.

Double-clamp type



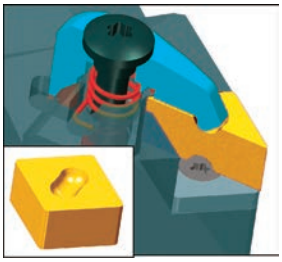
The insert can be firmly clamped.

Clamp-on type

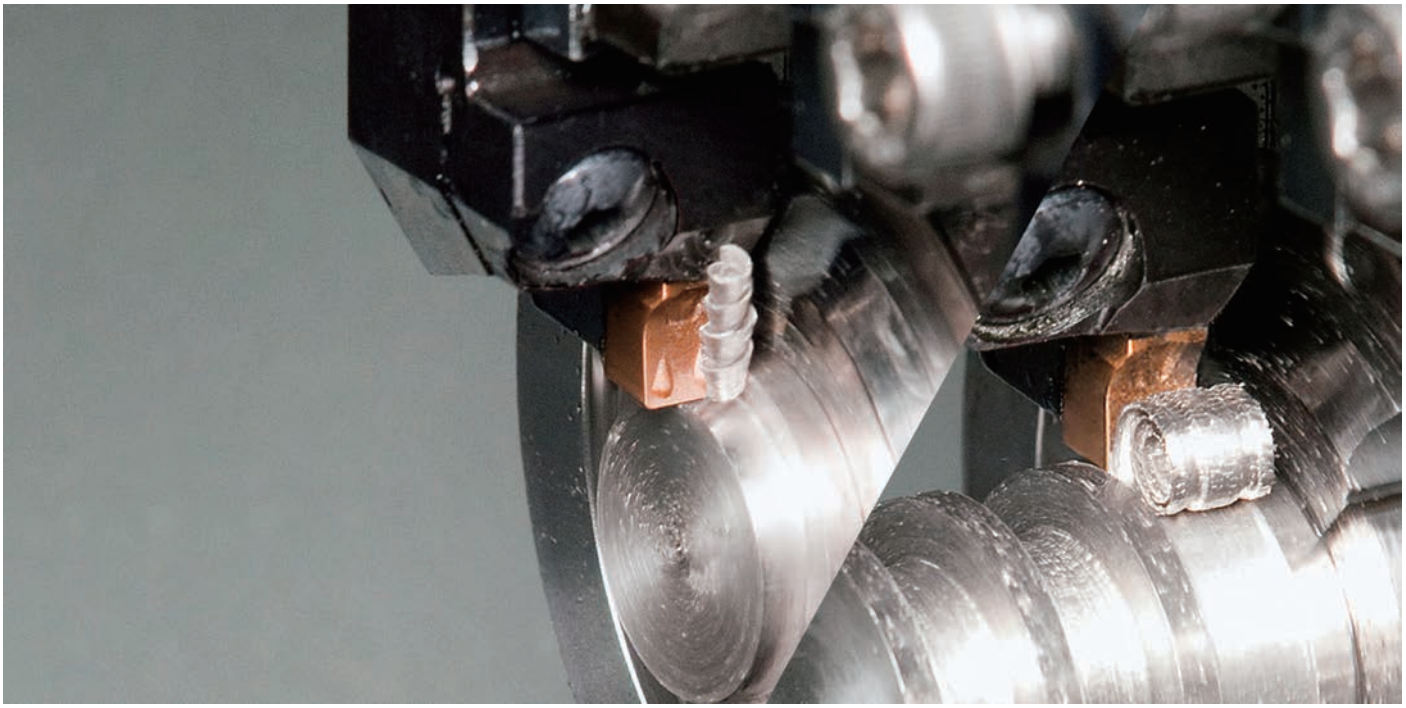


Not ideal for machining applications that apply cutting forces from multiple directions. The insert is clamped firmly and is suitable for ceramic tools.

Dimple-clamp type



Combines the double-clamp and clamp-on styles. It is effective for suppressing insert edge chipping.



For grooving | Swiss CNC lathes / Conventional CNC lathes

SCRUM DUO

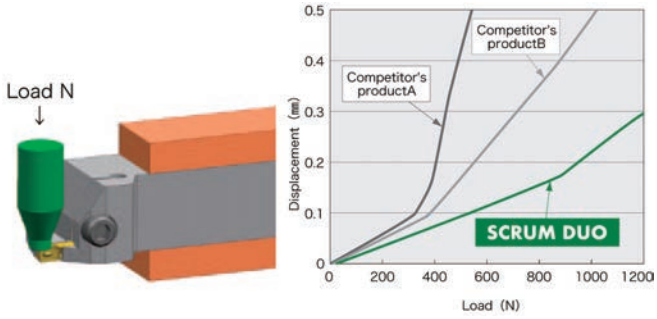
Exceptionally rigid design to ensure stable grooving

Prevents the insert from shifting during machining and achieves a good machined surface

Performance

- Applicable groove width: 3.0mm-6.0mm
- Highly rigid holder achieves a 3.5mm depth of cut during side turning operation

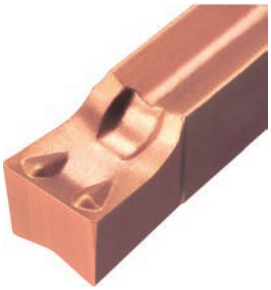
Tool pressure comparison when grooving



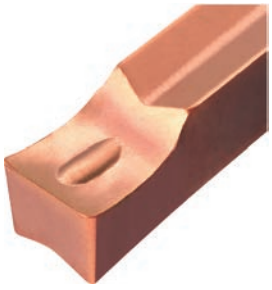
Two chipbreaker styles - select the best fit for your grooving application

GW chipbreaker: A versatile design with edge sharpness and chip control. Multi-functional for grooving and side turning.
GV chipbreaker: Features superior sharpness with high rake face. Ideal for applications requiring low tool pressure.

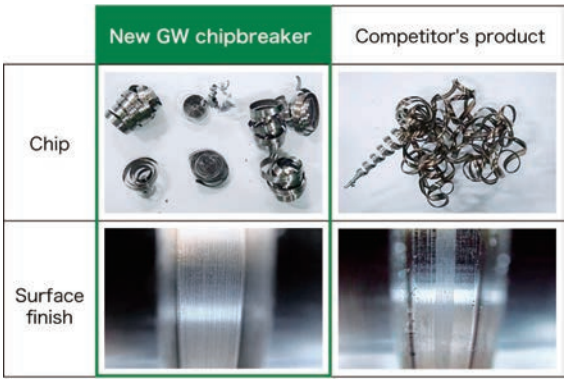
GW chipbreaker



GV chipbreaker

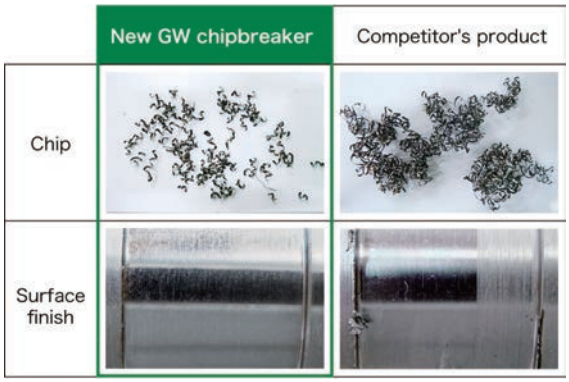


Grooving

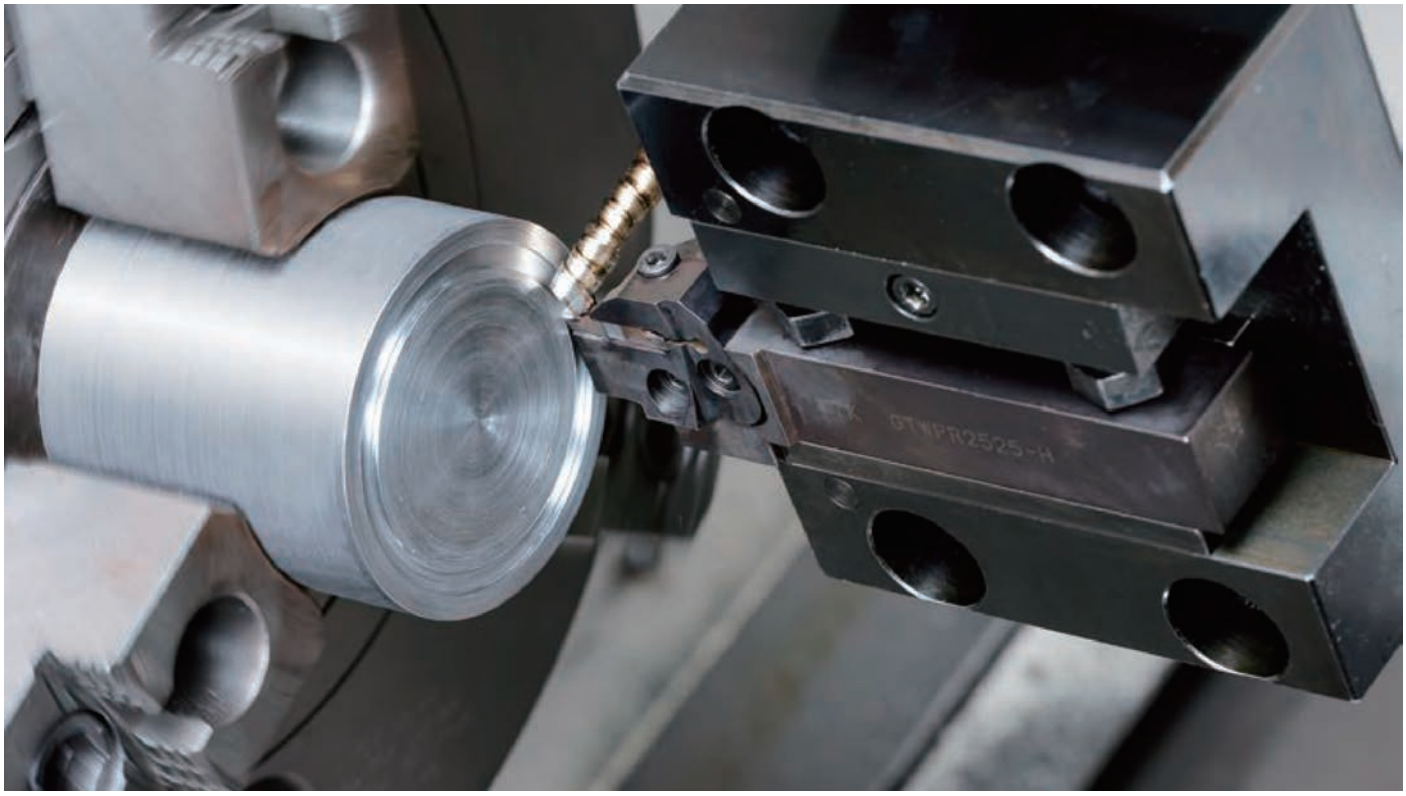


[Cutting conditions] SCM415 groove width: 5.0mm Vc=150m/min f=0.1mm/rev ap=7.0mm No step feed with coolant
[Tools] Insert: DM4 GWPG500N04F-GW Holder: GTWPR2525M-5F10

Side turning



[Cutting conditions] Material: SCM415 Groove width: 5.0mm Vc=150m/min f=0.1mm/rev ap=1.0mm No step feed With coolant
[Tools] Insert: DM4 GWPG500N04F-GW Holder: GTWPR2525M-5F10



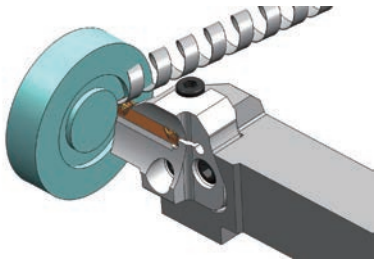
For face grooving

SCRUM DUO BLADE

Strongest rigidity in a modular style system

Unique S-shaped chipbreaker designed specifically for face grooving. The blade lineup supports a wide range of machining applications.
Groove widths range from 3 to 6mm and a minimum machining diameter of 29mm.

Chip Comparison Grooving

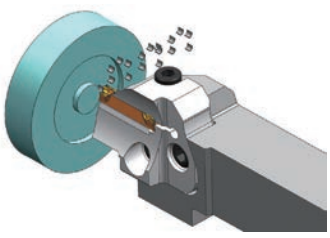


Good chip control and good machined surfaces with or without step feed

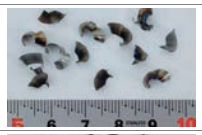
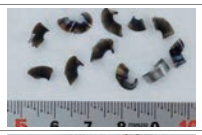
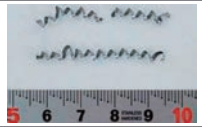
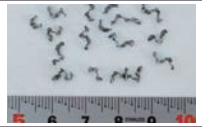
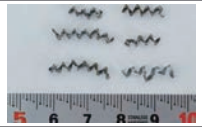
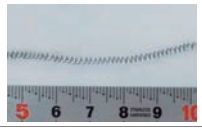
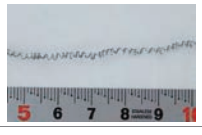
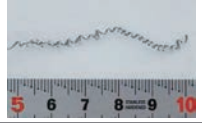
	GT chipbreaker	Competitor's
Chip		Tangled chips during deep grooving
Grooved face		Scratches inside bottom

SCM415 Vc=150m/min f=0.1mm/rev Dia.φ50 Groove depth ap=10mm
No step feed with coolant
Insert: DM4 GWPFM500N04-GT Holder: GBWPFR-5T15-050120

Chip Comparison Side Turning



Excellent chip control and shiny groove bottom surface during side turning

		Feed(mm/rev)		
		0.05	0.1	0.2
DOC(mm)	3.0			
	1.0			
	0.2			

SCM415 =150m/min with coolant
Insert: DM4 GWPFM500N04-GT Holder: GBWPFR-5T15-050120

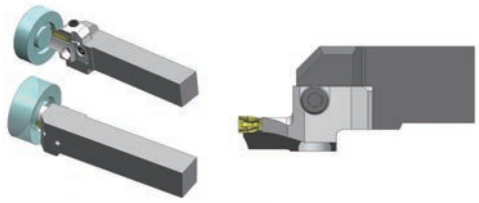
Blade and toolholder body combinations for modular system

Blade types can be easily combined with straight and L-shaped holders

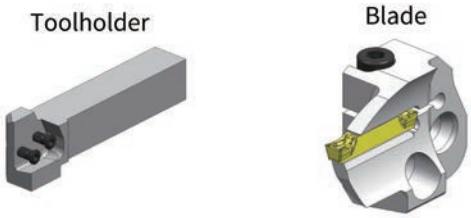
GTWP-H

Holder for blades (straight type: 0°)

Right-hand



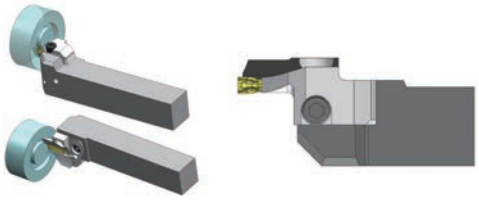
Clockwise rotation (M4 command)



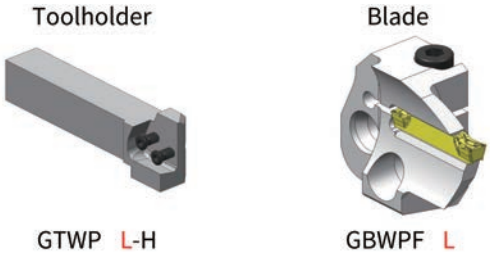
* Right-hand toolholder takes Right-hand blade.

Please use the right-hand blade for the right-hand holder body.

Left-hand



Counter clockwise rotation (M3 command)



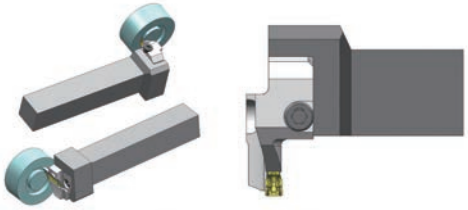
* Left-hand toolholder takes Left-hand blade.

Please use a left-handed blade for a left-handed holder body.

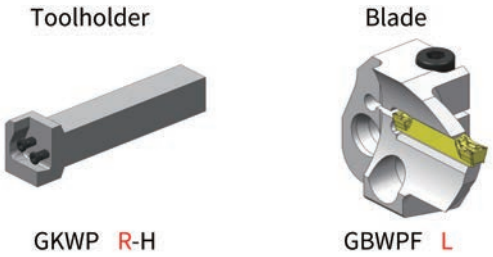
GKWP-H

Holder for blades (L-shaped type 90°)

Right-hand



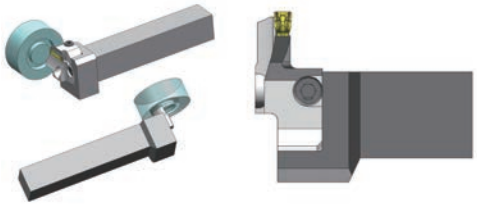
Counter clockwise rotation (M3 command)



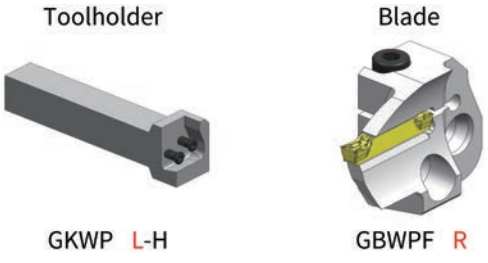
* Right-hand toolholder takes Left-hand blade.

Please use the left-hand blade for the right-hand holder body.

Left-hand



Clockwise rotation (M4 command)

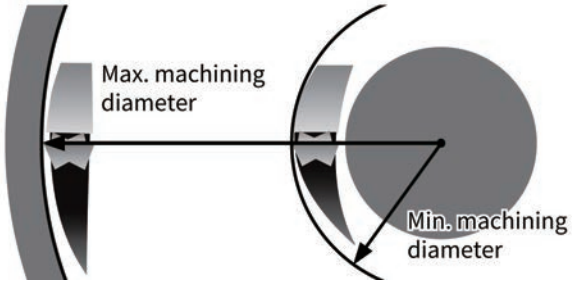


* Left-hand toolholder takes Right-hand blade.

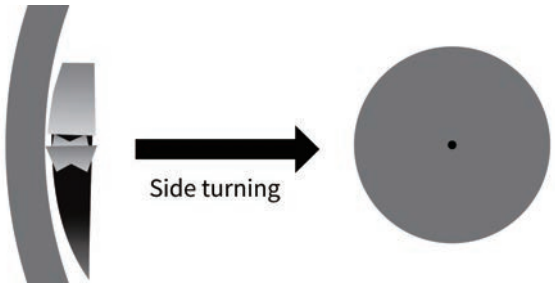
Please use the right-hand blade for the left-hand holder body.

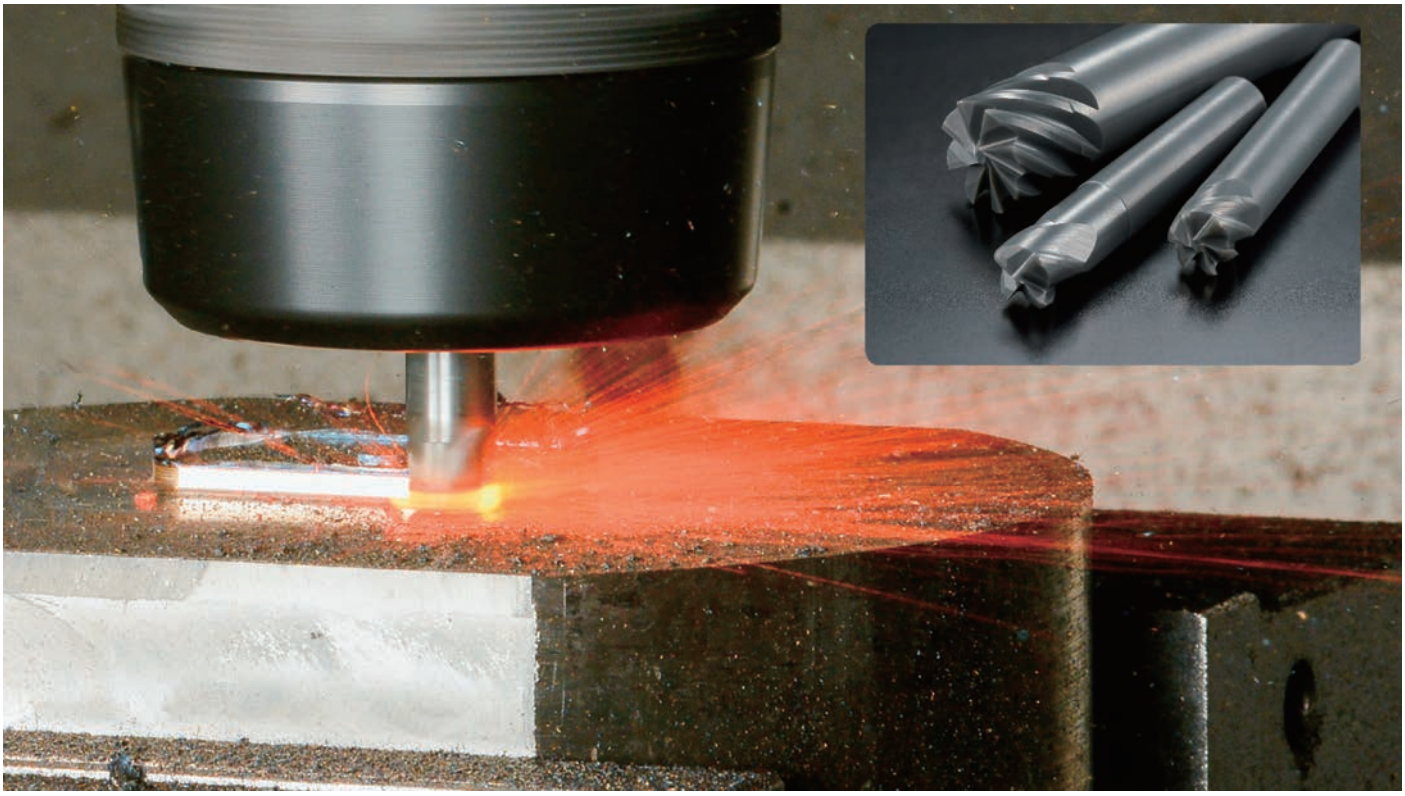
Notes on use

Select the end-face blade so that the outermost diameter of the first end-face groove to be machined is within the range of the minimum and maximum machining diameters.



To widen the groove, select a blade with the outermost diameter of the end face groove and machine from the outer edge toward the center.





For heat-resistant alloys | Sharp edged ceramic end mills

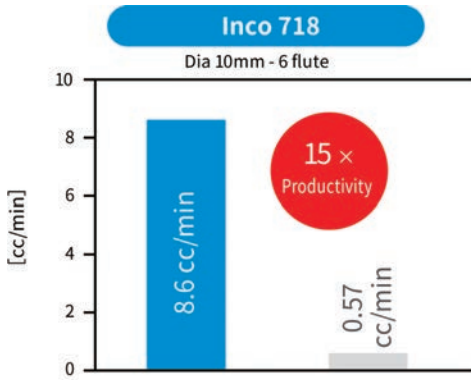
CERAMATIC RCE type

High-speed machining with ceramic

High-speed machining of heat-resistant alloys is achieved using the SiAlON ceramic grade "SX9" which has excellent wear resistance and toughness. 10 times more efficient machining than carbide end mills.

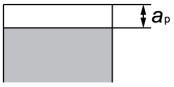
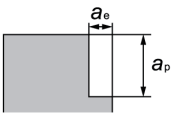
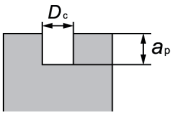
Features

Performance



	SX9	Carbides
Cutting speed (m/min)	600	40
Feed (mm/t)	0.03	←
DOC (mm)	3.0	←

Recommended cutting condition (Heat resistant alloy)

Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p -mm)	Width of cut (a_e -mm)	Coolant
Face Milling 	SX9	8mm	4/6/8		0.03	≦1.2	—	DRY
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		20mm				≦3.0		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		
		3/4"				≦2.9		
Side Milling 	SX9	8mm	4/6/8		0.03	≦4.0	≦0.8	DRY
		10mm				≦5.0	≦1.0	
		12mm				≦6.0	≦1.2	
		16mm				≦8.0	≦1.6	
		20mm				≦10.0	≦2.0	
		3/8"				≦4.8	≦0.9	
		1/2"				≦6.4	≦1.3	
		5/8"				≦8.0	≦1.6	
		3/4"				≦9.5	≦1.9	
Slotting 	SX9	8mm	4		0.03	≦2.0	—	DRY
		10mm				≦2.5		
		12mm				≦3.0		
		16mm				≦4.0		
		3/8"				≦2.4		
		1/2"				≦3.2		
		5/8"				≦4.0		
		8mm	6			≦1.2		
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		

Notes on Heat-Resistant Alloy Machining

- Toolpaths in which the cutting edge leaves the workpiece during machining are likely to cause defects due to rapid cooling of the cutting edge. Use a toolpath that allows for continuous cutting as much as possible.
- Continue machining without removing the BUE (built up edge) on the cutting edge.
- Cutting speed should be 300 m/min or more.
- Maximum ramping angle of 1.5° is recommended. When ramping, please machine at 50% of the feed rate.
- Since work hardening occurs due to high-speed machining, leave a machining allowance of 0.3 mm or more for finish machining.
- Recommended arbor: 1st recommended hydro chuck, 2nd recommended milling chuck.

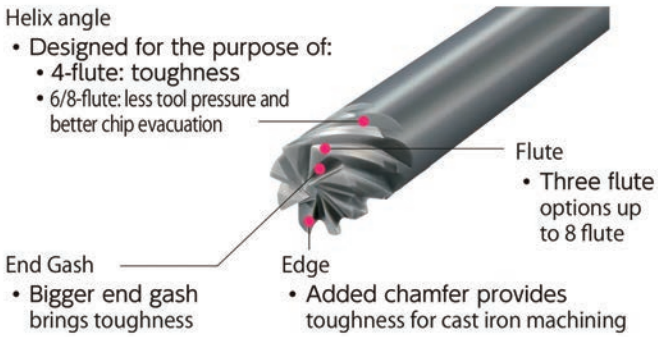
For cast iron | Edge-strengthened ceramic end mills

CERAMATIC RCS type

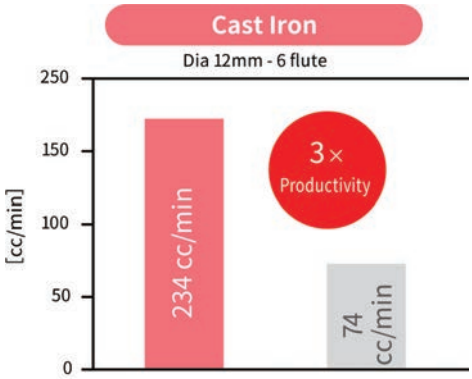
Ceramic end mills that can machine cast iron

Sialon ceramic grade "SX9" with excellent wear resistance and toughness enables high-speed machining of heat-resistant alloys and cast iron. More than 3 times higher machining efficiency than carbide end mills.

Features

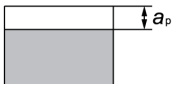
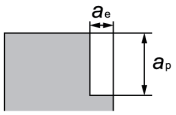
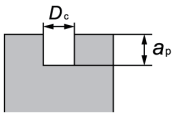


Performance



	SX9	Carbides
Cutting speed (m/min)	700	110
Feed (mm/t)	0.05	←
DOC (mm)	3.5	7.0

Recommended cutting condition (Cast iron)

Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p- mm)	Width of cut (a_e- mm)	Coolant
Face Milling 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		
Side Milling 	SX9	12mm	4/6/8		0.1	≦9.0	≦2.0	DRY
		16mm				≦12.0	≦2.5	
		20mm				≦15.0	≦3.0	
		1/2"				≦9.0	≦2.0	
		5/8"				≦12.0	≦2.5	
		3/4"				≦14.0	≦3.0	
Slotting 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		

Notes on cast iron machining

- Cutting speed should be 350 m/min or more.
- It is recommended that tool overhang be limited to 2D.
- Although machining can be performed with coolant, "DRY machining" is recommended to stabilize tool life.
- Avoid small depths of cut where the bottom flute edge scrapes the scale of the workpiece.
- Recommended arbor: 1st recommended hydro chuck, 2nd recommended milling chuck.

Gear parts | Square tooth chamfering

End mill for square tooth chamfering RCL type

Indexable 2-flute end mill

Reduced C/T is possible through the use of fine carbide inserts (in comparison with HSS end mills).
Longer tool life compared to single-blade edge-replaceable end milling tools

Recommended cutting condition

If the recommended module or feed rate is exceeded, the clamping screw should be tightened regularly (every few hours to once a day) to prevent loosening.

Cutting edge dia.	Recommended Modules	Recommended feed rate
φ14	less than 2.25	less than 0.3mm/rev
φ12	less than 2.15	less than 0.3mm/rev

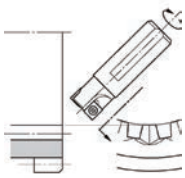
Notes

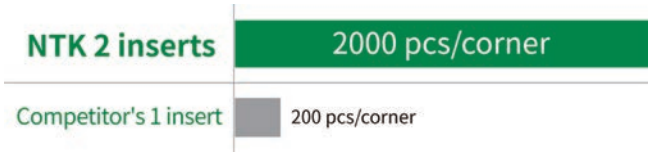
- The amount of overhang of the end mill should be minimized from the chuck to the cutting edge to prevent runout during machining (approx. 20 mm).
- The square tooth chamfering process for gear components requires a large number of impacts, which may cause the holder and clamping screw to wear out more quickly than with ordinary tools. Therefore, we recommend regular replacement of holders and clamping screws for safer and more stable use.
- Since loosening may occur during processing, please tighten the clamping screw regularly.

Case study | Sleeve holder square tooth chamfering

10 times longer tool life compared to current tools

Work material	SCM415
Cutting speed	154m/min
RPM	3,500min-1
Coolant	WET





Milling tools for machining gray cast iron and ductile cast iron | Ceramic inserts

JWNXM series Cutter

Ultra-high speed machining exceeding Vc=1,000m/min

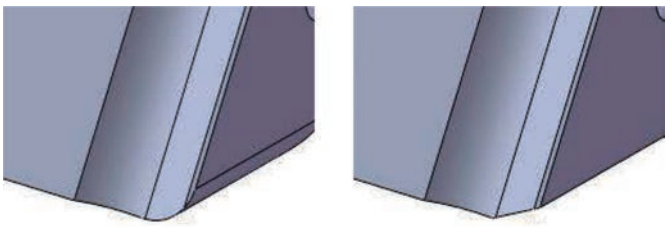
Low-resistance cutters and inserts reduce edge chipping of workpiece.
Multiple machining passes → One machining pass reduces machining time and extends tool life (up to 5.5 mm depth of cut)
Ideal for cutting cast iron with scale.

Features. 1

Unique 6-corner cutting edge reduces tooling costs. Excellent cutting performance with chipbreaker.

Features. 2

Two types of edge features: an edge radius for high feed rate and a C-chamfer shape for excellent cutting performance.

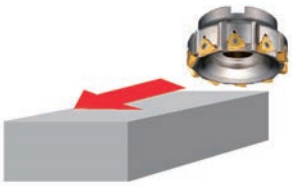


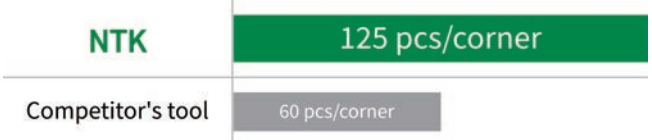
【Radius type】　【Chamfered type】

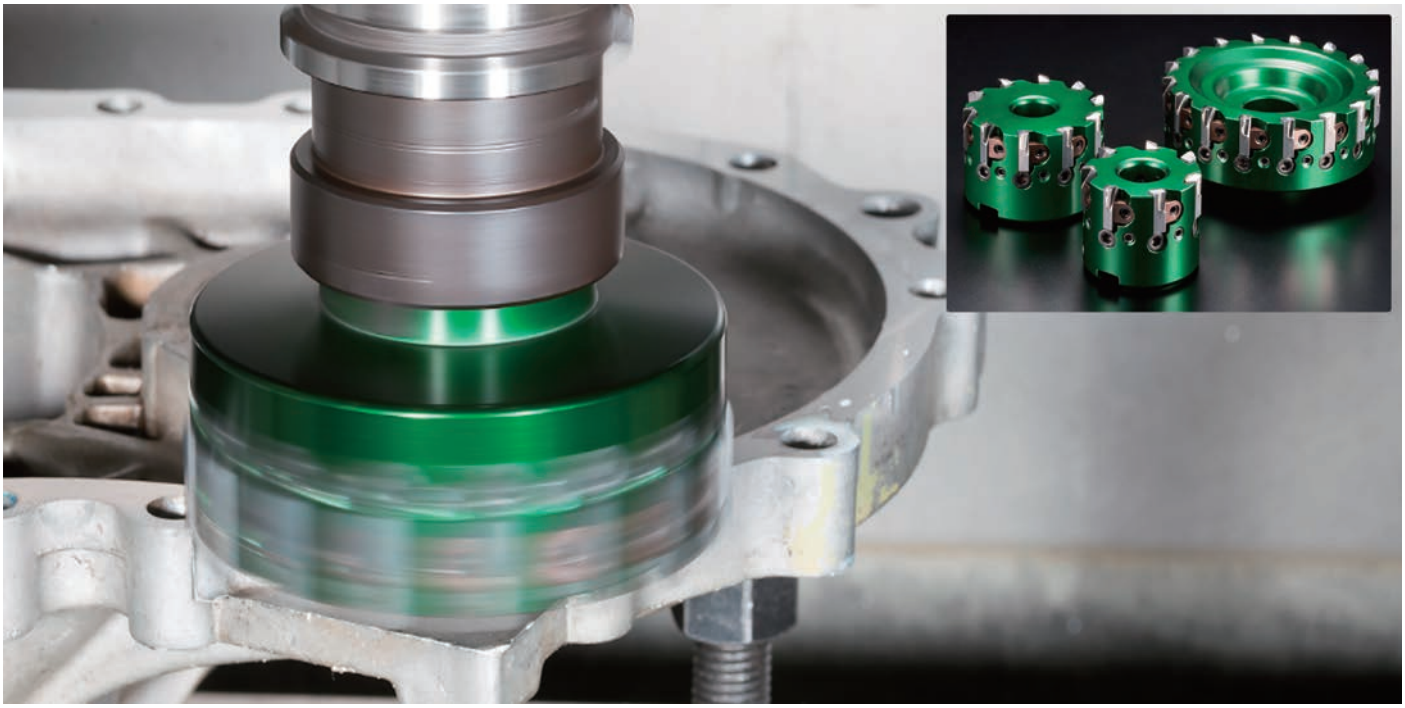
Case study transmission case

The competitor's inserts were replaced after 60 parts because insert wear caused an increase of cutting forces that loosened clamping and shifted the workpiece, but the JWNXM series cutter has low cutting resistance, so no clamping shift due to wear progresses is observed, and the life is doubled compared to the current tool.

Work material	FC230
Cutting speed	500 m/min
Feed	0.13 mm/t
DOC	1mm
Coolant	DRY







Milling Tools for Finishing Aluminum Alloys | PCD Inserts

HFC series Cutter / JHF type

φ125 cutter can be equipped with a maximum of 22 inserts, achieving highly efficient machining.

Lineup of cutter diameters from φ50 to φ125

Up to 1.5 times higher machining efficiency than competitors cutters

Adjustable type: Cutting edge height adjustable to 5 μm or less

Features 1.

Highly improved machining efficiency by maximizing the number of cutting edges in a cutter.

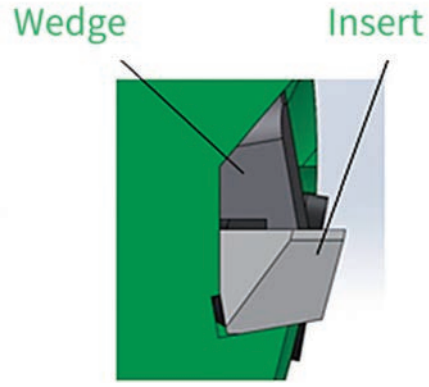
Lightweight aluminum body enables use on machines with ATC weight restrictions.

	No. of inserts		Weight(kg)	
Cutter dia.	HFC	Competitor A	HFC	Competitor A
50	7	None	0.23	None
63	10	None	0.38	None
80	12	10	0.48	1
100	16	12	0.74	1.7
125	22	15	1.10	2.2

Features 2.

Safety clamp mechanism

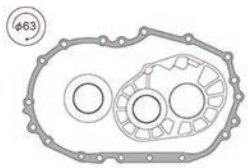
Unique sphenoidal pocket prevents inserts from becoming dislodged.

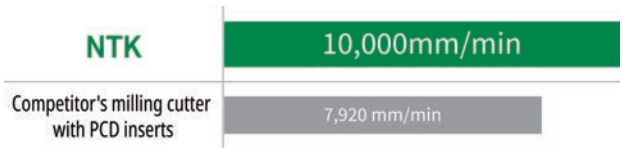


Case study Transmission case (φ63, 10 blades)

HFC has improved machining efficiency by 1.3 times compared to competitor's PCD cutters (flatness improved from less than 20 to 6 μm)

Work material	ADC12
Cutting speed	1,978 m/min
Feed	0.1 mm/t
DOC	0.5mm
Coolant	WET



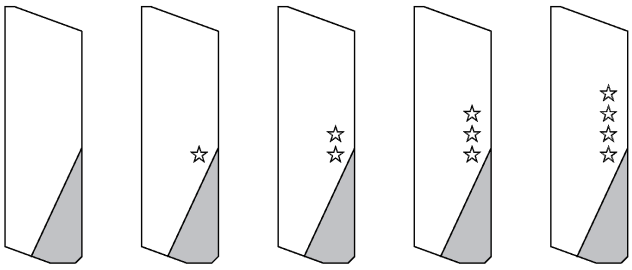


Inserts can be reground up to 4 times

- In the first round of grinding, both the front and side cutting edges are ground 0.1mm and the first mark is added.
- In the second regrind, a further 0.1 mm (0.2 mm from new) removed and a second mark is added.
- It can be reground a total of 4 times (0.4 mm from new) in the same way.

  The number of regrinds possible may vary depending on the inserts condition.
  The total amount of grinding should not exceed 0.4 mm for both the front and side cutting edges to prevent problems such as brazing strength and interference with the run-out surface.
- When installing inserts into a cutter, please make sure all the inserts have the same number of regrind marks.
- When regrinding, please contact NTK for safety.

Note(s): When using regrind inserts, be careful to reduce the cutter diameter and correct the axial dimension.



New	After 1st regrinding	After 2nd regrinding	After 3rd regrinding	After 4th regrinding

1. *Send the inserts back to our NTK USA office with the appropriate paperwork. Minimum order is 30 pcs.*
   Note: Send in inserts with the same amount of regrind stars. For orders greater than 50 pcs, NTK will manage the inserts in lots for regrind process.
2. *Delivery will be 6-8 weeks upon receiving your inserts*
3. *The insert number will be changed to the following HFT802006C05 RPD1*
4. *When installing NTK inserts into a cutter, please make sure that all the inserts have the same number of regrind stars*

Cutter setup and balance service

Re-setting

±.002mm height run out

- Presetting for new inserts and regrind inserts is a paid service.
- We support safe and stable machining for our customers.

Re-balancing

Balance grade: G 2.5

Procedures

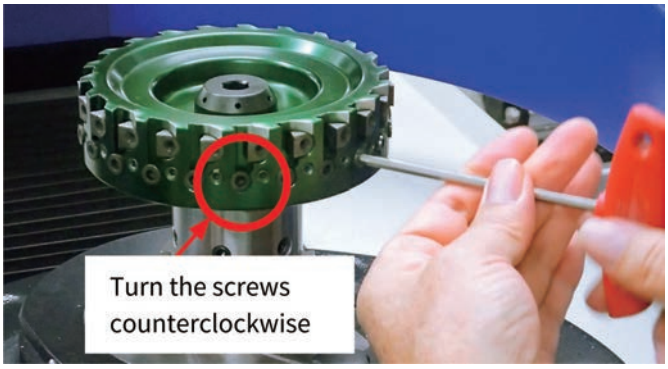
Procedures

1. Loosen the axial adjustment screw
2. Insert installation (temporary tightening)
3. Cleaning the insert edge
4. Cutting edge height adjustment (Rough)
5. Insert installation (main tightening)
6. Cutting edge height adjustment (Finish)

Preparations

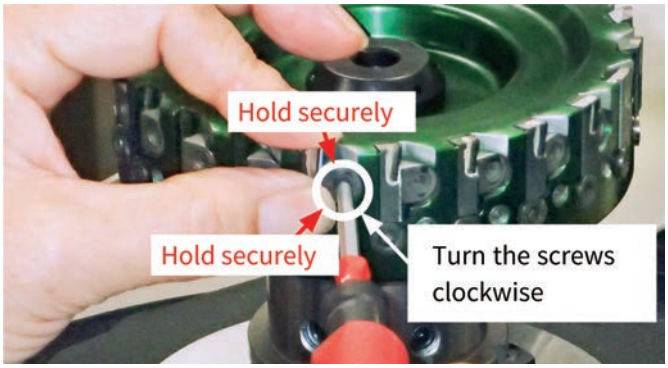
- Tool presetter
- Air blower
- 4.0mm Hex wrench
- 2.5mm Hex torque-wrench(1-4 N-m)

1. Loosen the axial adjustment screw

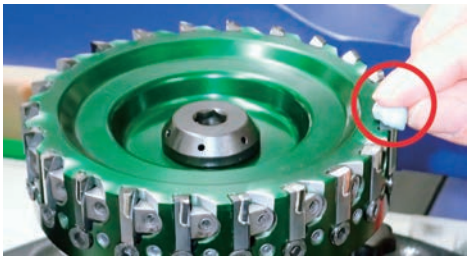


Loosen the axial adjustment screw and move it out about 1~2mm from the outer circumference of the body. When re-setting, clean the insert mounting area with air after removing the insert.

2. Insert installation (temporary tightening)



3. cleaning the cutting edge

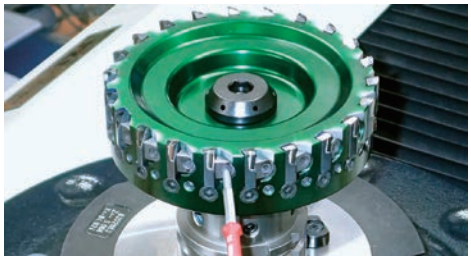


Clean the cutting edge with clay or other material to prevent misalignment of accuracy due to dust.

4. Cutting edge height adjustment (rough)

Turn the axial adjustment screw until it is near the position where it does not come out of the outer circumference of the body. (clockwise) [Approximate height of the blade edge: 44.980 mm] Adjust all edge heights according to that height. (within about 10μm)

5. insert installation (final tightening)



Tighten the wedge fixing screw to 4 N-m. (Clockwise)

4. cutting edge height adjustment (finishing)

Turn the axial adjustment screw to further increase the height of all blades by 10 μm and adjust the cutting edge height to within ±2 μm. Adjust the blade tip height to within ±2μm. The approximate height of the cutting edge is 45.000 mm.

*If the cutting edge height is raised too high during adjustment, if it is only a few micrometers, the highest cutting edge should be adjusted again.
If it is too far off, it is necessary to start over from the beginning.
(Because distortion occurs due to stress.)

Note(s): After tightening (4 N-m), the lower surface of the insert and the axial adjustment screw may not be in contact, and the full blade-up operation described above is necessary as a measure to prevent the axial adjustment screw from falling out.

Milling Tools for Finishing Aluminum Alloys PCD Inserts

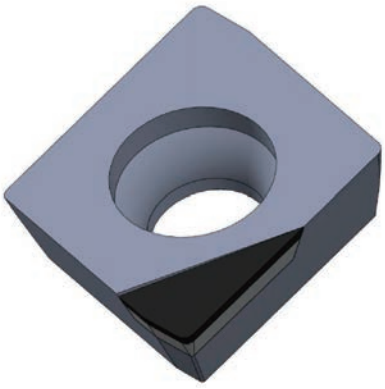
HPC series Cutter / RD_RA type

Wide range of sizes from φ20 to φ100

High reliability is achieved by adopting a steel body for the cutbody.
Fixed type: Machining is possible by simply replacing inserts
Adjustable type: Cutting edge runout adjustable to 5 μm or less

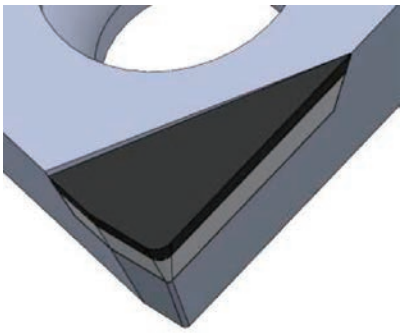
Feature 1.

The same insert can be used for φ40 to φ100
Cutting edge length : 3.5 - 6 mm
A.R. : +6 - +9°



Feature 2.

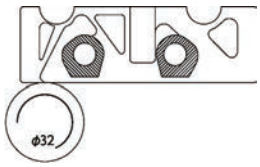
Cutting edge C0.5 type is added to the product lineup. Improved sharpness compared to Radius type, and effective in reducing tool life due to burrs.

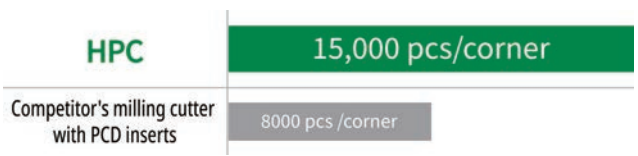


Case study Rocker shaft (φ32, 2 to 4 blades)

HPC achieves approximately 5 times higher machining efficiency than other carbide cutters. Total cycle time has been successfully reduced by 3 min.

Material	ADC12
Cutting speed	800 m/min
Feed	0.05 mm/t
DOC	MAX 1mm
Coolant	WET

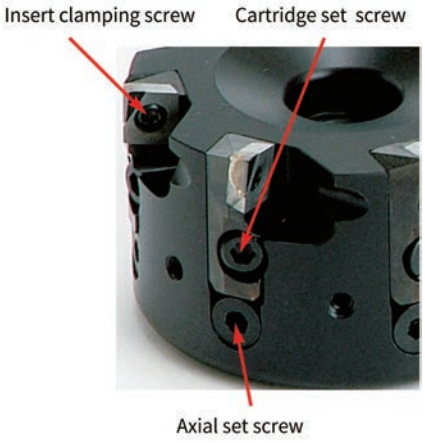




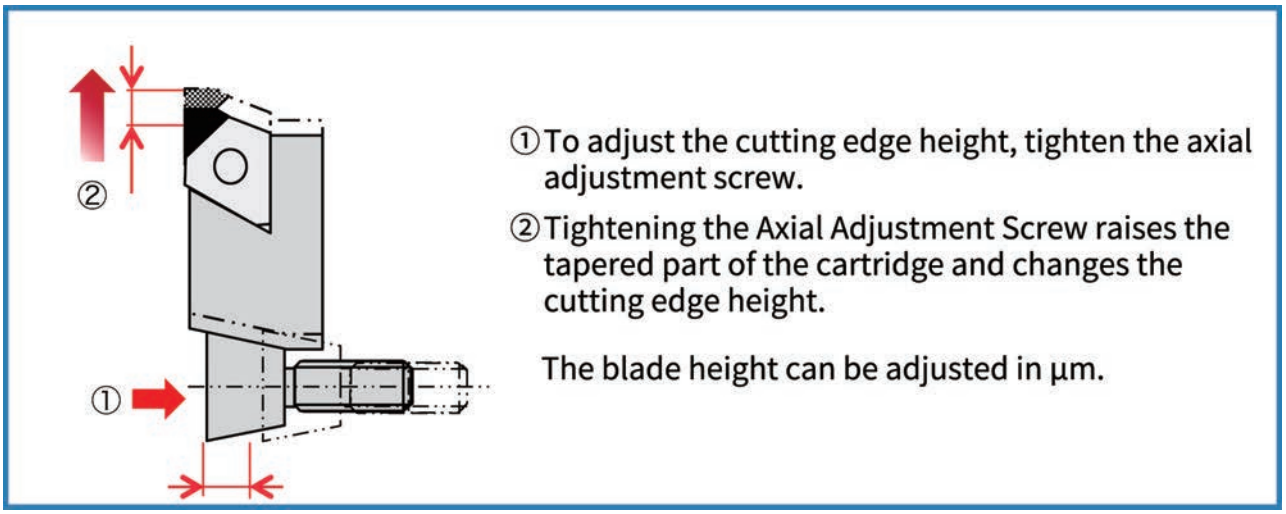
Tool presetter procedure

■Be sure to clean all insert pockets before performing the following operations.

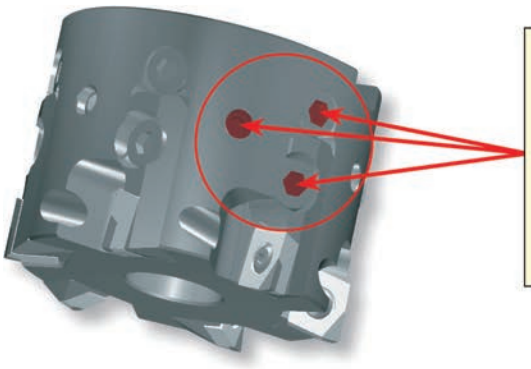
- **Step 1: Temporary tightening**
  Install the insert and turn the wedge fixing screw,Tighten the wedge temporarily at 1 N-m.
- **Step 2: Cutting edge height adjustment (rough adjustment)**
  Turn the axial adjustment screw and set it 0.1 mm lower than the cutting edge height on the drawing.
- **Step 3: Main tightening**
  Tighten the wedge with 4 N-m.
- **Step 4: Edge height adjustment (finishing)**
  As a finishing adjustment, set all inserts at 0.05 mm lower than the cutting edge height on the drawing with the axial adjustment screw.
- **Finish**



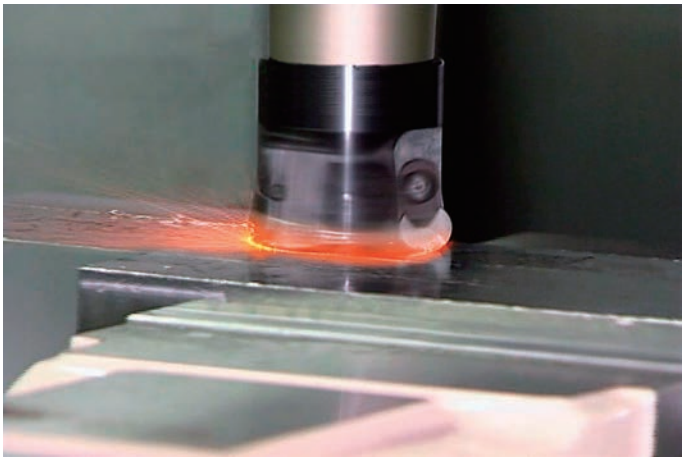
Principle of tool position adjuster



About HPC Fixed Type Cutter



【Note】
The holes for the axial setscrews and balance adjusting screws are filled with a special material, thus, no screwdrivers and hex-wrenches can be inserted in them.
※The color of the special material is different from the color of the actual product body.



Solution

Heat-resistant alloy machining B02

Cast iron / ductile cast iron machining B14

Hardened material machining B18

Mill roll machining B20

V-pulley machining B22

Copper machining B24

Plastics machining B26

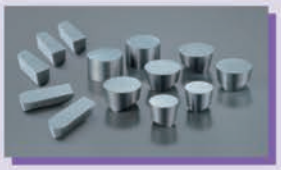
Additive manufacturing machining B28

Heat-resistant alloy machining

BIDEMICS - Game Changer

- 480m/min **Speed** Capability
- Double tool life at whisker's speed range

JX1



■Features
- **Up to 480m/min speed capability**
- Much longer tool life at Whisker ceramics' speed range
- Superior surface finish vs. Whisker ceramics

■Work Materials
- Inco 718 • 718 Plus
- Powdered metal
- Inco 625 • Rene

➡C11

JP2/120

■Features
- 10 to 15x speed capability vs. carbide
- Better wear resistance and notching resistance than CBNs
- Superior surface finish to Carbide or CBN

■Work Materials
- Inco 718 • 718 Plus
- Powdered metal • Inco 625 • Rene

➡C12

SX7

■Features
- Can run at same cutting condition as whisker ceramics
- Best grade for high-speed milling

■Work Materials
- Inco 718 • Inco 625
- Waspaloy • Udimet 720

➡C27

SX3

■Features
- Excellent wear resistance and toughness. Wide range of HRSA machining applications: Roughing with scale - semi finishing turning.
- Able to machine even the newest generation of HRSA work materials (like Rene) as well as most common HRSA materials; such as Inconel 718.

■Work Materials
- Inco 718 • 718 Plus
- Powdered metal • Inco 625
- Rene

➡C25

SiAlON - Workhorse

- Durable for scale to semi-finish machining

Whisker - Versatile Player

● Productivity and reliability

JX3

■Features
- Added toughness in BIDEMICS
- Same speed capability as JX1

■Work Materials
- Inco 718
- 718 Plus
- Powdered metal
- Inco 625
- Rene

➡C11

WA5 / WA1

■Features
- Better flank wear resistance compared to SiAlON ceramics
- Better notching resistance compared to competitor's whisker ceramics

■Work Materials
- Inco 718
- Inco 625

➡C29

SX5

■Features
- Best grade for scale and interruptions
- Best grade for machining high-cobalt alloys

■Work Materials
- Waspaloy
- Udimet 720
- 718 Plus
- Rene 41

※ Production by order.

➡C26

SX9

■Features
- Extreme toughness makes higher feed and heavier DOC machining possible
- Best grade for machining Inco 718 with scale

➡C28

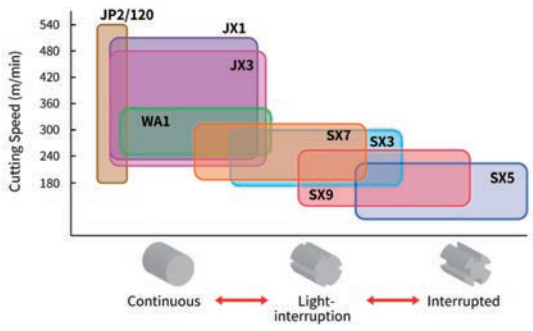
■Work Materials
- Inco 718
- Inco 706
- Inco 713
- Rene

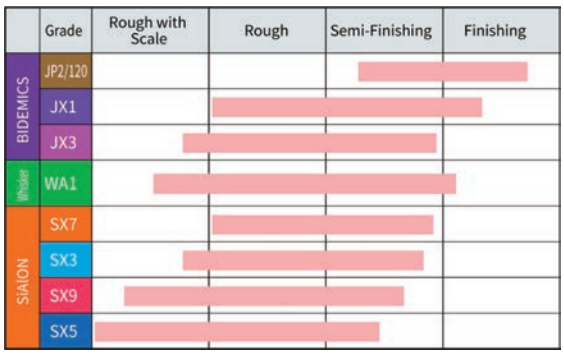
Heat-resistant alloy machining

Insert grades

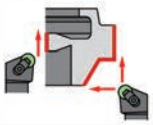
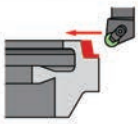
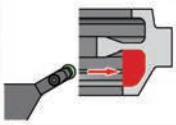
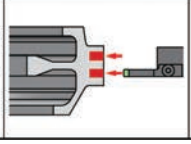
Category	Grade	Attributes	Applications						
			Scale	No scale	Profiling	Finishing	Grooving	Milling	End milling
BIDEMICS	JX1	Special grade with higher speed and longer tool life potential		●	●	○	●		
	JP2/120	Special grade for finish turning				●			
	JX3	Added toughness in BIDEMICS		●	●	○	●		
Whisker	WA1	General versatile grade for turning		○	○		○		
SiAlON	SX3	Best balance of toughness and hardness	○	●	●		●	●	
	SX5	Best grade for Waspaloy with scale	●				○		
	SX7	Versatile grade for turning and milling	○	○	○		●	●	
	SX9	Best grade for scale of Inco718	●	○	○			○	●

● 1st Choice ○ 2nd Choice

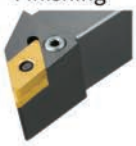




Application

	Rough with scale	Rough&semi-finish	Profiling	Grooving	Milling	End milling
						

Cutting conditions

Application	Grade	Work material	Cutting speed (m/min) 180 240 300 360 420 480	Feed (mm/rev) 0.1 0.2 0.3 0.4 0.5	Depth of cut (mm) 0.5 1.0 1.5 2.0 2.5	Coolant
Rough with Scale	SX5	Waspaloy	200(180-240)	0.3(0.2-0.35)	2.0(1.0-5.0)	WET
	SX9	Inco718	200(180-240)	0.3(0.2-0.35)	2.0(1.0-5.0)	
	SX3	Overall	240(180-270)	0.2(0.1-0.22)	2.0(1.0-5.0)	
Rough no Scale	JX1 JX3	Overall	210-390(180-480)	0.2(0.13-0.28)	1.7(1.0-2.5)	WET
	SX9 SX3 SX7	Overall	210(180-270)	0.2(0.15-0.3)	2.0(1.0-2.5)	
	WA1	Overall	240(180-300)	0.2(0.12-0.25)	1.7(1.0-2.5)	
Profiling & Semi-Finish	JX1 JX3	Overall	210-450(180-480)	0.2(0.1-0.25)	1.5(1.0-2.0)	WET
	SX3 SX7	Overall	240(180-270)	0.2(0.12-0.25)	1.5(1.0-2.0)	
	WA1	Overall	240(180-330)	0.2(0.1-0.25)	1.5(1.0-2.0)	
Finishing 	JP2/120	Overall	210-480(180-510)	0.1(0.05-0.18)	0.25(0.13-0.76)	WET
Grooving	JX1 JX3	Overall	360(180-480)	0.07(0.05-0.1)	When using SX7 / SX3/ SX5, increase feed rates 100% vs. Whisker Ceramics	WET
	SX5	Waspaloy	210(180-240)	0.15(0.07-0.17)		
	SX3 SX7	Overall	230(180-270)	1.1(0.07-0.15)		
	WA1	Overall	240(180-330)	0.07(0.05-0.1)		

Application	Grade	Work material	Cutting speed (m/min) 450 600 750 900 1000 1200	Feed (mm/t) 0.05 0.07 0.1 0.12 0.15	Depth of cut (mm) 0.5 1.0 1.5 2.0 2.5	Coolant
Milling	SX3 SX7	Overall	810(600-1200)	0.1(0.07-0.12)	1.7(1.0-2.5)	DRY
	SX9	Overall	750(450-1000)	0.12(0.1-0.15)	2.0(1.0-2.5)	
End milling	SX9	Overall	600(300-1000)	0.02-0.03		DRY

Heat-resistant alloy machining

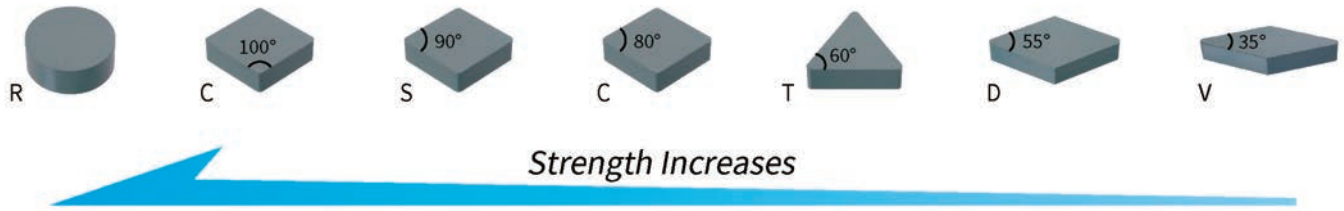
Key Points in Machining

The key to successful heat-resistant alloy machining is the use of "BIDEMICS" and "ceramics".

- BIDEMICS and ceramic materials improve productivity in machining heat-resistant alloys.
- BIDEMICS has excellent VB wear resistance and SiAlON ceramics has excellent wear resistance on the infeed side
- BIDEMICS provides high-speed machining and superior surface finishes not possible with conventional ceramic materials.
- Optimizing cutting conditions and tool grade enables more stable machining.

Selection of insert shape with toughness

Select inserts with higher strength cutting edges if at all possible.

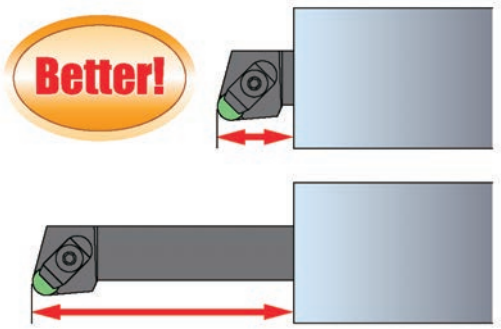


Selection of corner R with superior strength

The larger the insert's corner radius, the stronger the insert's cutting edge and the longer its life. However, please note that the larger the corner radius, the higher the cutting resistance. In general, RNGN1207 inserts are used for rough machining and CNGN1204 inserts are used for finish machining of heat resistant alloys.

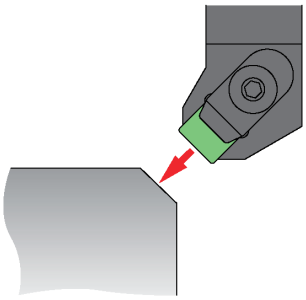
Minimize the amount of overhang

If the overhang is too long, chattering or chip loss will occur.



Insert chipping protection

Before machining, be sure to chamfer the corners of the workpiece. Machining sharp corners of workpieces without chamfering will result in chipping or defects of the inserts.



No dwell allowed.

Please note that if the insert is in contact with the workpiece at zero feed, wear will progress significantly.

Coolant

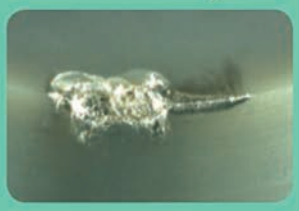
WET machining is recommended when using BIDEMICS, SiAlON-based ceramics, or whisker ceramics in turning.
However, DRY machining may be more effective in case of strong interrupted machining.
When using SiAlON ceramics (SX3, SX7, SX9) in milling, be sure to use DRY machining.

Cutting Edge Treatment

Sharp edge preparation is required when machining heat-resistant alloys, but in the case of ceramic inserts, minute angle chamfering or round honing is better for wear resistance, especially border wear resistance.

Troubleshooting

Insert Breakage



- Cutting Condition ➡ 1 ➡ B8
- Programming at Scale ➡ 2 ➡ B9
- Insert Grade ➡ Choose tougher grade
- Insert Shape ➡ 6 ➡B11
- Edge Preparation ➡ 7 ➡B11

Notching

- Cutting Condition ➡ 1 ➡ B8
- Depth of Cut ➡ 3 ➡ B9
- Lead Angle ➡ 4 ➡ B9
- Programming ➡ 5 ➡B10
- Insert Grade ➡ Choose SiAlON ceramic

Flank Wear

- Cutting Condition ➡ 1 ➡ B8
- Insert Grade ➡ Choose harder grade

Flaking

- Cutting Condition ➡ 1 ➡ B8
- Programming ➡ 5 ➡B10
- Edge Preparation ➡ 7 ➡B11

Heat

- Cutting Condition ➡ 1 ➡ B8
- Insert Shape ➡ 6 ➡B11
- Edge Preparation ➡ 7 ➡B11

Chatter

- Cutting Condition ➡ 1 ➡ B8
- Others ➡ 1 ➡B11

- Grooving information ➡ ➡B12

Heat-resistant alloy machining

Troubleshooting

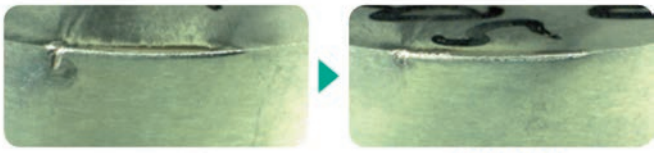
Adjustment of cutting conditions

		Cutting speed (m/min)		Feed rate (mm/rev)		Grade attribute		
		SiAlON	BIDEMICS	SiAlON	BIDEMICS	BIDEMICS	SiAlON	Whisker
	Notching		↗ 「a」	↗ 「b」		1st Choice	1st Choice	
	Flank wear	↘ 「c」		↗ 「d」		1st Choice	2nd Choice SX3 SX7	1st Choice
	Breakage			↘	↘	2nd Choice	1st Choice	
Heat		↘	↘	↘	↘	—	—	—
Chatter		↗	↗	↘	↘	—	—	—

1st Choice 2nd Choice

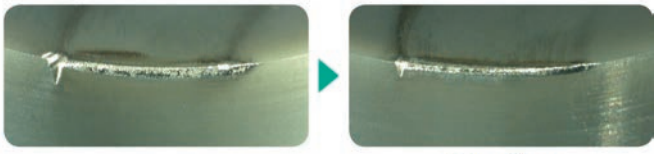
Result

「a」 WA1 : Increase cutting speed



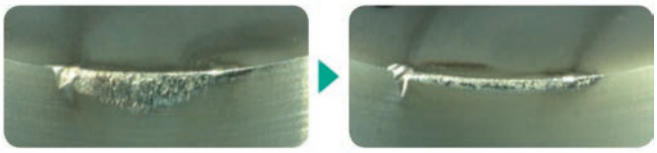
150m/ min → 550m/ min

「b」 SX7 • SX3 • SX9 • SX5 : Increase feed rate



0.2mm/rev → 0.4mm/rev

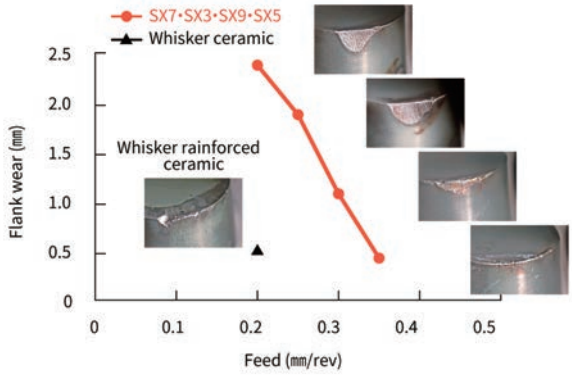
「c」 SX7 • SX3 • SX9 • SX5 : Decrease cutting speed



400m/min → 150m/ min

「d」 SX7 • SX3 • SX9 • SX5 : Increase feed rate

Feed rate increased decreases wear amount of SiAlON



Cutting condition
Work material : Inco718
Insert shape : RNGN120700
Cutting Speed : 250m/min
Depth of Cut : 2.0mm
WET

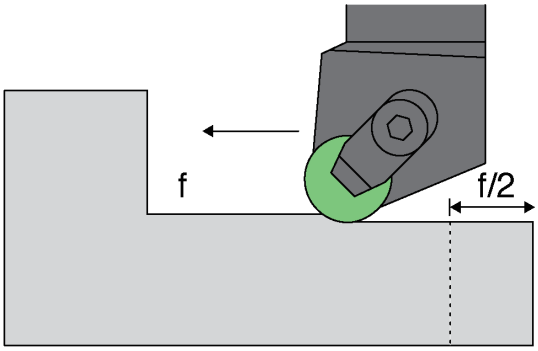
When using the SX7 & SX3 & SX9 & SX5, increased feed is necessary to increase the wear resistance of the tool. By increasing the feed rate and taking advantage of the high tool material strength of the SX7 & SX3 & SX9 & SX5, the number of times the tool and workpiece material rub against each other can be reduced, thereby reducing wear. In addition, higher feed rates shorten cycle time, increasing productivity and profitability.

Note: When machining corner R, reduce feed rate by 25% to prevent insert defects.

Machining with scale

If inserts break in the early stages of scale machining, high cutting speeds and feed rates may be the cause.

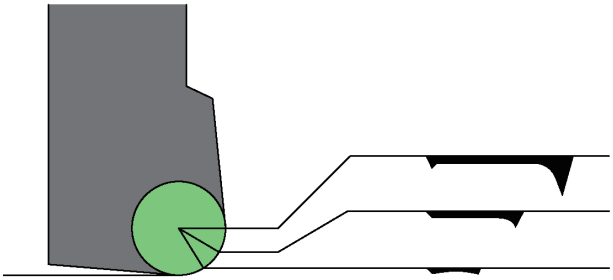
Understanding the hardness of the work material is the key to a successful cutting process. Many machining operators do not know the hardness of their work material. This causes them to spend a lot of time finding the optimum cutting conditions for test machining. The higher the hardness of the work material, the lower the cutting speed should be. Also, where there is scale on the workpiece surface, the cutting speed and feed rate must be reduced by 25%. By changing the machining program in this way, excessive tool damage can be reduced.



Depth of cut

As shown in the figure on the right, as the depth of cut increases, the amount of wear, especially border wear, increases. In order to reduce border wear and extend tool life, it is necessary to control the depth of cut.

The table below shows the maximum depth of cut for RN inserts and the maximum depth of cut by corner R size. Please refer to these values to determine the depth of cut.



Recommended depth of cut

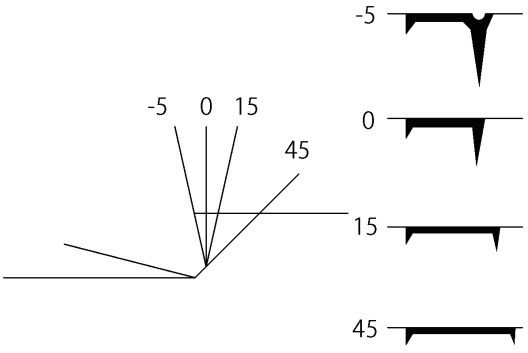
IC size of RN insert	Max. depth of cut	*Corner R size	Max. depth of cut
φ6.35mm	~1.5mm	0.8	0.2mm
φ9.525mm	~2.3mm	1.2	0.3mm
φ12.7mm	~3.2mm	1.6	0.4mm
φ25.4mm	~6.4mm	2.4	0.6mm

The optimum depth of cut is 5-15% of the insert diameter.
*In case of lead angle: 0°

Lead angle

In the machining of heat-resistant alloys, the larger the lead angle, the less wear is likely to occur. Also, the larger the lead angle, the more cutting resistance is distributed over a wider area of the insert, which reduces border wear and at the same time improves tool life and workpiece surface roughness.
In addition, the larger the lead angle, the better the chip control. In the case of the SX9 inserts, which have excellent chip resistance, higher feed rates reduce wear and machining time.

Effect of lead angle on wear pattern



Heat-resistant alloy machining

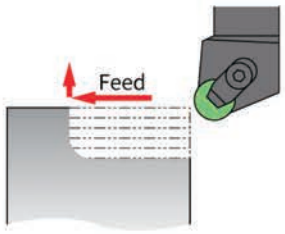
Troubleshooting

Continued

Programming

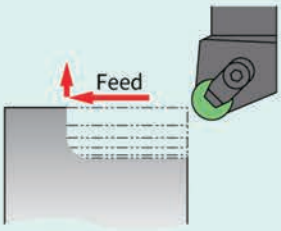
● Rough

Same Depth of Cut



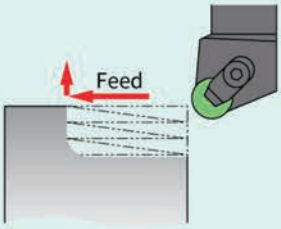
Note)
Notch wear on the insert cutting edge as shown is the result of multiple passes being taken at the same depth of cut. This type of wear will minimize tool life. The following programming examples will help to minimize this mode of failure.

Varying Depth of Cut



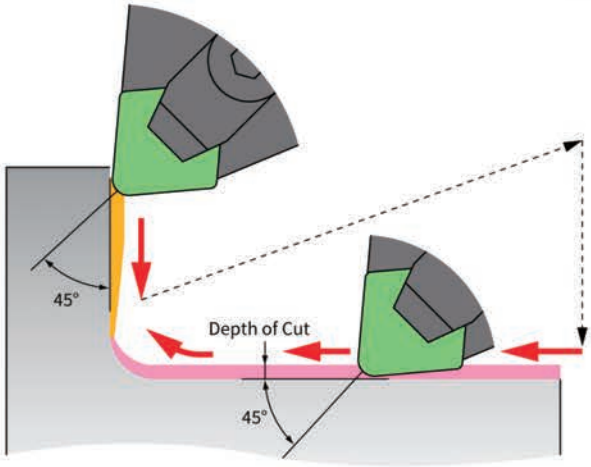
Note) Roughing while varying the depth of cut reduces notch wear because the point at which notch wear occurs changes each time.

Ramping



Note) Programming " Ramping " cuts in the same cutting direction is one of the best procedures to minimize notching. By varying the DOC, wear is distributed over the entire cutting edge not on one point.

● Finish

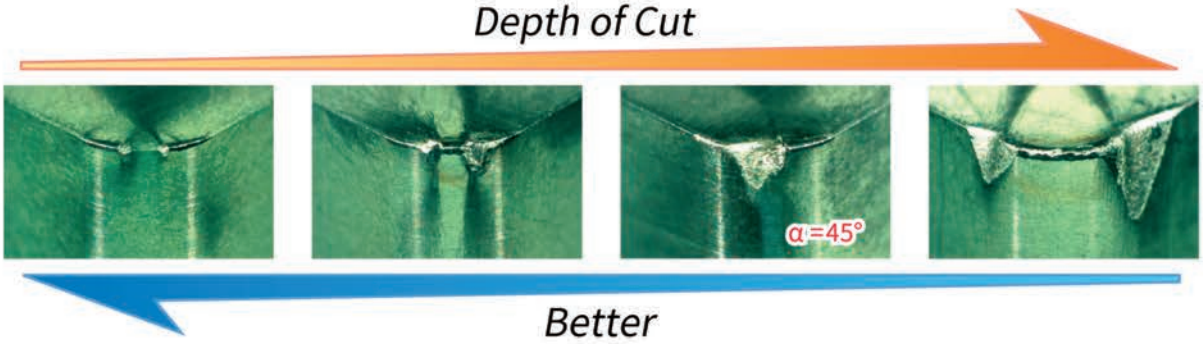


・α= 45°

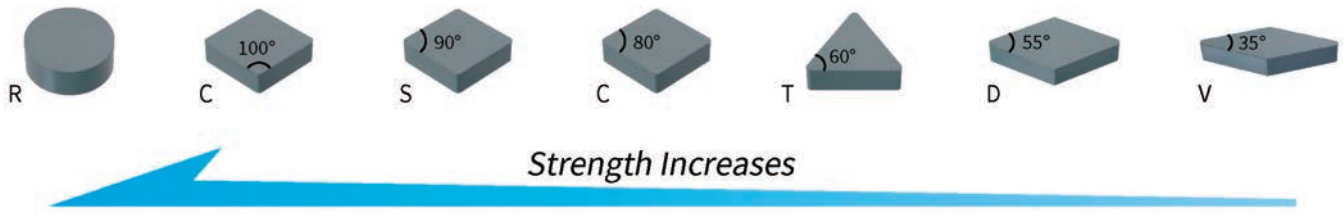
(mm)

Insert radius	DOC
0.4	0.12
0.8	0.23
1.2	0.35
1.6	0.47
2.4	0.70
3.2	0.94

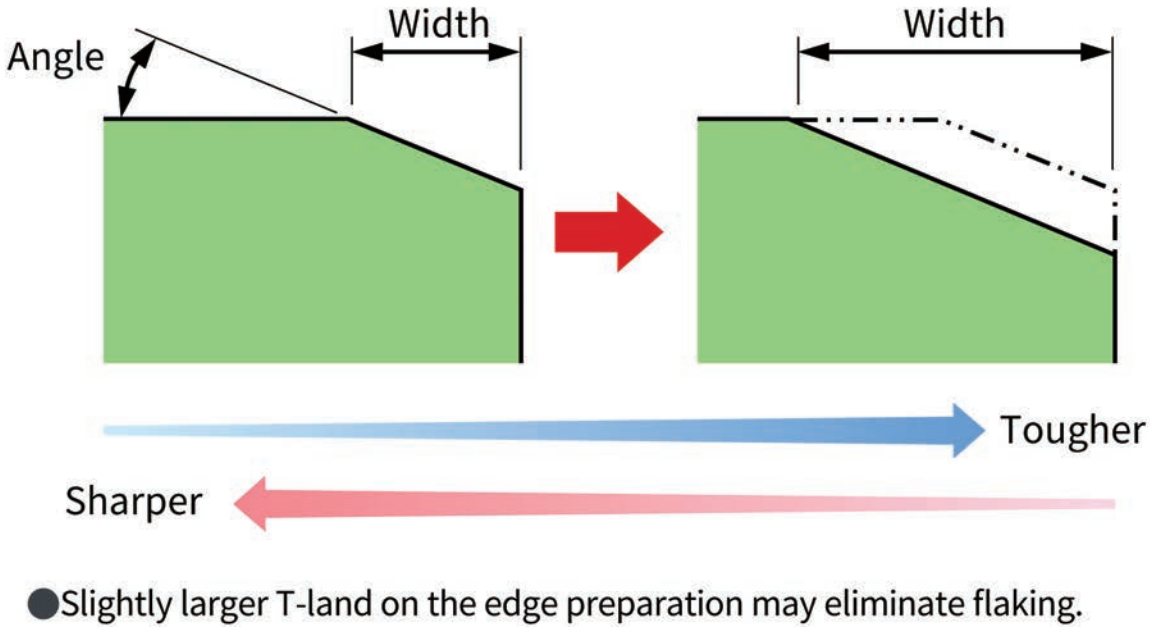
Note) The correct procedure is to take more material off during the previous roughing application.
Then remove the amount of stock suitable for the nose radius of the insert by staying
below the 45° mark of the corner radius.
This will minimize notching and allow a cut from both directions.



Insert shape



Edge treatment



●Slightly larger T-land on the edge preparation may eliminate flaking.

Prevention of chattering

When machining nickel-based heat-resistant alloys, chattering often occurs due to increased cutting resistance. Chatter is especially likely to occur when using a holder with a large overhang for copying or grooving, when machining thin-walled workpieces, or when using a machine with low rigidity, resulting in abnormal insert wear or sudden loss of inserts. Generally, increasing the cutting speed and decreasing the feed rate will reduce or eliminate chattering. In addition, the following methods are also effective.

- Increase cutting speed and reduce feed rate.
- Change to an insert grade with higher hardness.
- Change to an insert with a smaller inscribed circle or smaller corner radius.
- Change the cutting edge treatment to the sharpest possible shape.
- Change to a positive insert.
- Reduce the lead angle.
- Minimum overhang.
- Change the holder material to anti-vibration material.

Heat-resistant alloy machining

Key points for grooving

BIDEMICS and ceramic inserts enable high-speed, high-efficiency grooving. NTK offers a wide range of materials, including whisker ceramics, BIDEMICS, and SiAlON materials, which contribute to further productivity improvement and stable machining.

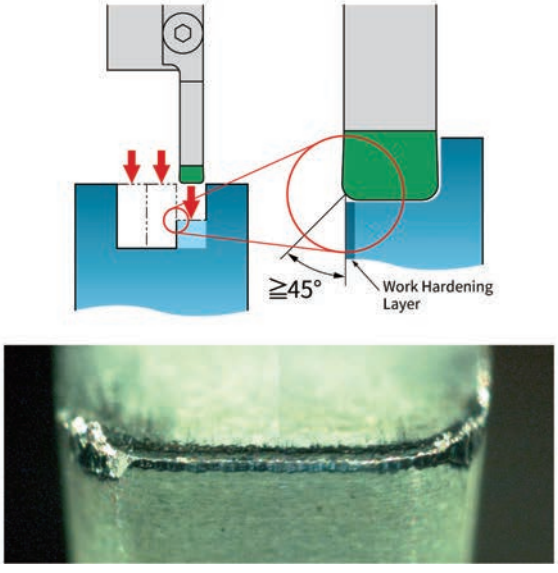
	JX1 / JX3	SX3 / SX7	SX5	WA1/WA5
Speed	●	●	●	●
Feed		●	●	
Versatility	●	●		●
Toughness		●	●	
	Can run at up to 1500 SFM. Double the speed of whisker	Double the feed of whisker	Best for scale and interruption	Versatile grade

● : 1st choice ● : 2nd choice

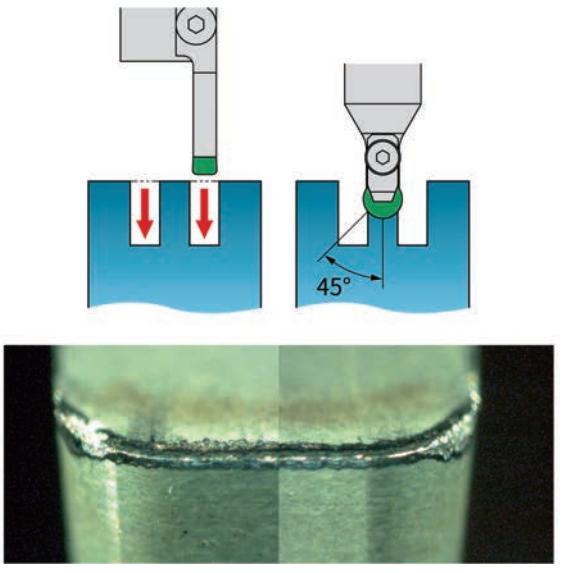
Application	Grade	Work material	Cutting speed (m/min) 180 240 300 360 420 480	Feed (mm/rev) 0.1 0.2 0.3 0.4 0.5	Depth of cut (mm) 0.5 1.0 1.5 2.0 2.5	Coolant
Grooving	JX1 JX3	Overall	360(180-480)	0.07(0.05-0.1)	When using SX7 / SX5, increase feed rates 100% vs. Whisker Ceramics	WET
	SX5	Waspaloy	210(180-240)	0.15(0.07-0.17)		
	SX3 SX7	Overall	230(180-270)	1.1(0.07-0.15)		
	WA1	Overall	240(180-330)	0.07(0.05-0.1)		

*When applying JX1/JX3, increase speed to over **300** m/min*
*When applying SX3/SX7/SX5, increase feed rates **100%** vs. Whisker Ceramics*

Application



Change to



When grooving in multiple passes:
When grooving a final pass, the cutting edge contacts the work-hardened area.
This causes chipping of the corner radius and border wear.

The grooving is performed on both sides, leaving the center machining point.
Finally, grooving is performed with a strong insert shape such as RCGX type.

SX6 Silicon Nitride Ceramic ➡C20

Features

- 1st choice for roughing gray cast iron
- Applicable for wet cutting
- Excellent thermal shock resistance makes high speed milling possible

	SX6
Notching	◎
Flank Wear	
Toughness	○
Heat Shock	◎

Recommended Applications

- Gray cast iron — Rough — Turning and milling

Recommended Cutting Conditions

Work material	Purpose	Grade	Cutting speed (m/min)	Feed	Depth of cut (mm)	DRY	WET
Gray cast iron	Turning	SX6	500-1000	0.3-0.6(mm/rev)	0.5-3.5	●	●
	Milling	SX6	450-1200	0.07-0.25(mm/t)	0.5-3.5	●	○

HC1, HW2 Alumina Oxide Ceramic ➡C17・C18

Features

- 1st choice for finishing gray cast iron with no coolant
- Excellent wear resistance makes high speed finishing possible

Recommended Applications

- Gray cast iron — Finish — Turning
- Chilled liners — Rough / Finish — Turning（HW2）

Recommended Cutting Conditions

Work material	Purpose	Grade	Cutting speed (m/min)	Feed (mm/rev)	Depth of cut (mm)	DRY	WET
Gray cast iron	Turning	HC1	300-600	0.1-0.4	0.5-2.0	●	
		HW2	300-600	0.1-0.4	0.5-2.0	●	
Chilled liners	Turning	HW2	250-350	0.1-0.3	0.5-2.0	●	

SP9 CVD Coated Silicon Nitride Ceramic ➡C21

SP9
◎
◎

Features

- Extremely tough – Tough enough to rough cast iron with T01020 (0.1 × 20°) edge preparation
- Small edge preparation – Low tool pressure for stable precision machining
- SP9' s toughness makes higher feed rates possible
- Dramatically reduced flank wear due to CVD coating

Recommended Applications

- Gray cast iron — Rough — Turning and milling
- Ductile cast iron — Rough — Turning and milling

Recommended Cutting Conditions

Work material	Purpose	Grade	Cutting speed (m/min)	Feed (mm/rev, mm/t)	Depth of cut (mm)	DRY	WET
Gray cast iron	Turning	SP9	360-800	0.3-0.6	~3.5	●	○
	Milling		360-750	0.08-0.25	-6.0	●	○
Ductile cast iron	Turning	SP9	240-600	0.3-0.6	~3.5	○	●
	Milling		630-900	0.05-0.25	-6.0	●	○

HC2, HC6 TiC Ceramic ➡C22 ・C19 WA1 Whisker Reinforced Ceramic ➡C29

Features

- All grades make high speed finishing of cast iron possible
- Applicable for wet cutting conditions
- HC6 – Optimized for finishing ductile cast iron

Recommended Applications

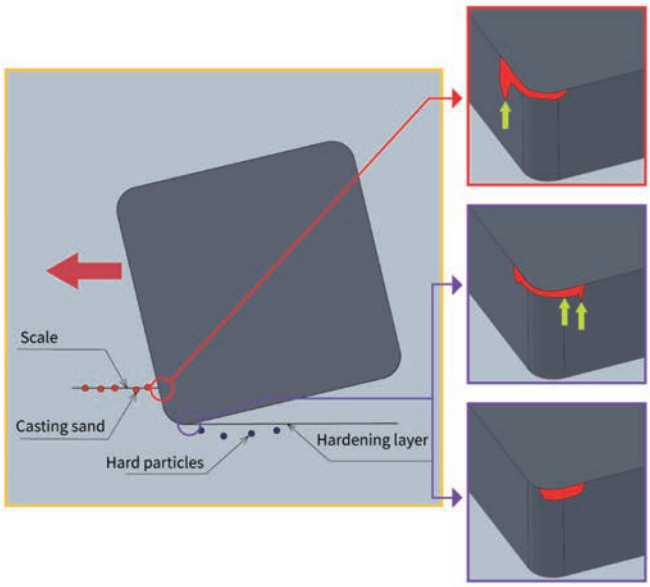
- Gray cast iron — Finish — Turning (HC2 ・ HC6 ・ WA1)
- Ductile cast iron — Finish — Turning (HC6)

Recommended Cutting Conditions

Work material	Purpose	Grade	Cutting speed (m/min)	Feed (mm/rev, mm/t)	Depth of cut (mm)	DRY	WET
Gray cast iron	Turning	HC2/HC6	360-630	0.1-0.4	-1.5	●	●
		WA1	360-630	0.1-0.4	-3.0	●	●
Ductile cast iron	Turning	HC6	180-450	0.1-0.3	-0.2	○	●

Cast iron / ductile cast iron machining

Recommended grade from cutting edge damage



Recommended when wear on the infeed side wear has progressed due to scale or casting sand, resulting in chipping of the cutting edge.

Roughing **SX6**

Recommended when VB wear has progressed due to the surface machining layer and hard particles, and the machined surface has deteriorated.

Roughing **SP9** *DRY machining

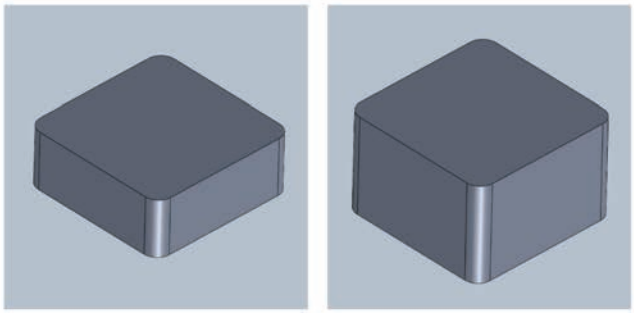
Finishing **HC2 HC6** *HC6 WET machining recommended

Recommended when the heat generated during DRY machining causes progressive wear, resulting in worsening of the machined surface and deterioration of dimensional accuracy.

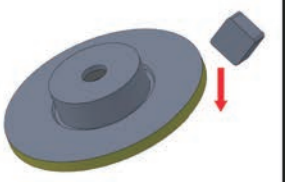
Finishing **HC1 HW2** *DRY machining

Effect of insert thickness

In machining with high cutting loads, such as roughing, a thicker insert thickness effectively reduces damage such as chipping, thus extending tool life.



Brake disc	
Work material	: FC250
Cutting speed(m/min)	: 550
Feed(mm/rev)	: 0.45
Depth of cut(mm)	: 2.5
Coolant	: DRY

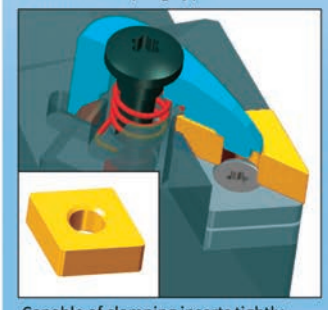


SNGN1207 type	100 pcs/corner stable
SNGN1204 type	50-70 pcs/corner unstable

Recommended clamping type when using ceramic inserts

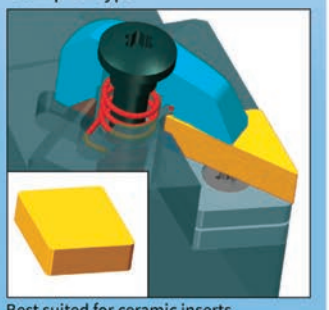
To maximize the performance of ceramic inserts, clamping rigidity of the inserts is important.
Select the clamping method best suited for your machining method.

Double clamping type



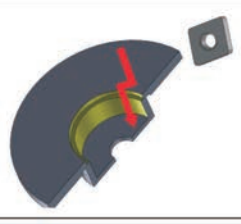
Capable of clamping inserts tightly. Supports cutting loads from any direction.

Clamp on type



Best suited for ceramic inserts. Not suitable where cutting loads are applied from each direction.

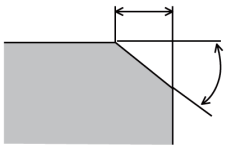
Brake disc	
Work material	: FC250
Cutting speed(m/min)	: 750
Feed (mm/rev)	: 0.35
Depth of cut(mm)	: 2.0
Coolant	: DRY



NTK double clamping type	100 pcs /corner
Lever lock type	45 pcs /corner

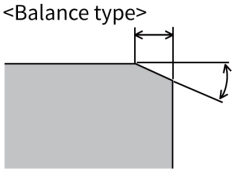
Use of different edge treatments

<Tougher type>



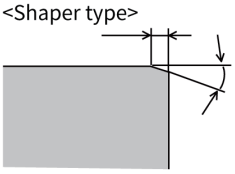
Width: Bigger
Angle: Bigger
Ex. width 0.3 × angle 35°

<Balance type>



Width: Medium
Angle: Medium
Ex. width 0.2 × angle 20°

<Shaper type>



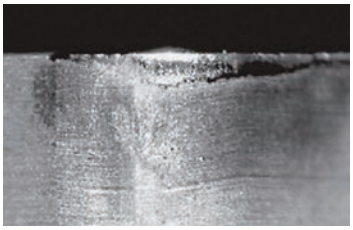
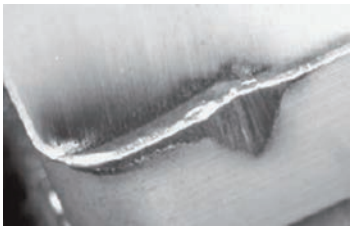
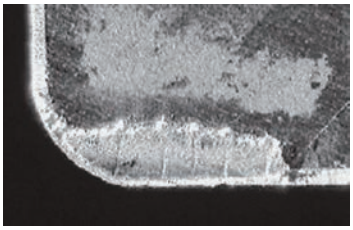
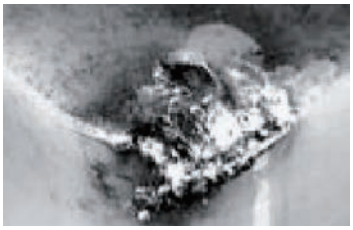
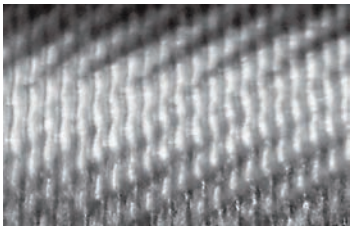
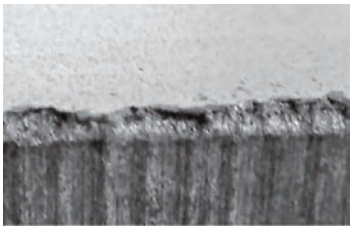
Width: Smaller
Angle: Smaller
Ex. width 0.1 × angle 15°

Case1.
Excessive notch wear or chipping in the early stages of machining.
→Tougher type is recommended.

Case2.
Unstable machining dimensions and excessive VB wear
→Sharper type is recommended.

Case3.
Micro chipping occured.
→Add round honing on the cutting edge is recommended.

Troubleshooting

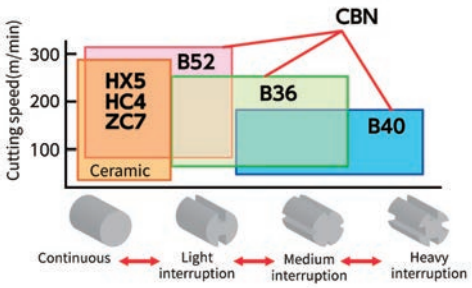
	Case study		Cause	Measure
Insert	VB wear		• Cutting speed too high • Feed rate too low • Insert shape incorrect • Incorrect insert grade	• Reduce cutting speed • Increase feed rate • Increase corner radius • Change to a grade with superior wear resistance
	Notch wear		• Incorrect insert grade • Cutter geometry incorrect • Insert shape incorrect	• Change to a grade with better wear resistance • Increase the lead angle • Change the geometry of inserts
	Thermal crack		• Cutting conditions incorrect • Incorrect insert grade	• Reduce cutting speed • Change from WET to DRY machining • Change to a grade with superior thermal shock resistance
	Fracture		• Cutting condition incorrect • Edge treatment incorrect • Use coolant	• Lower feed • Increase cutting edge treatment • Apply honing • Change from WET to DRY machining
	Cracked		• Insert clamped with incorrect seating	• Clean the mounting area and install according to the correct procedure • Tighten to the correct torque.
Work material	Chatter		• Low cutting resistance • Workpiece/tool less rigidity • Low cutting speed	• Lower feed • Smaller cutting edge treatment • Increase the clearance angle of the insert • Shorten tool overhang • Increase cutting speed
	Edge chipped		• High feed rate • Small cutting edge corner radius • Insert wear	• Lower feed • Increase the corner radius of insert • Use wiper inserts • Reduce cutting speed

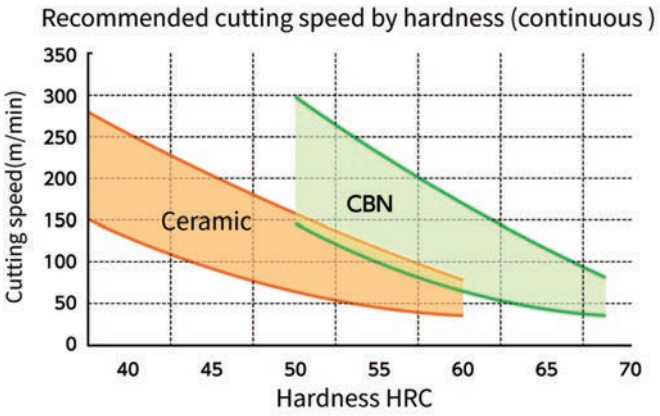
Hardened material machining

Features

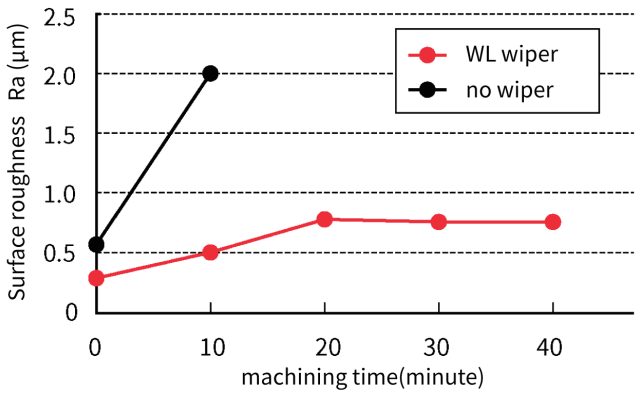
- ZC7 and HC4 ceramic materials have high wear resistance in machining of hardened materials.
- ZC7 is suitable for a wide range of machining applications from carburized hardened steel to induction hardened steel.
- HC4 offers high cutting performance in workpiece hardness in the HRc 55-70 range.
- Wiper inserts and inserts with breakers (AG) are available to improve machining efficiency.

Recommended insert grades and cutting speed





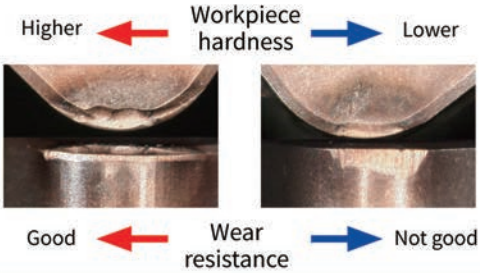
Advantages of Wiper Inserts



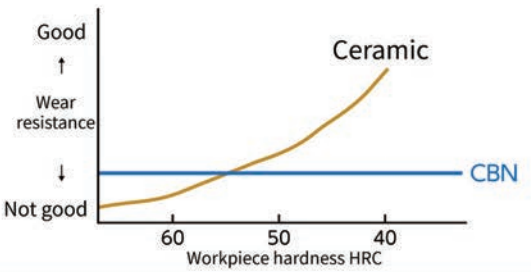
Recommended depth of cut and feed

Corner R	Depth of cut(mm)	Feed(mm /rev)
R0.4	0.15	0.05 ~ 0.08
R0.8	0.3	0.08 ~ 0.10
R1.2	0.4	0.10 ~ 0.13
R1.6	0.5	0.13 ~ 0.16
R6.35	2.0	0.16 ~ 0.25

Advantages of Ceramic Inserts

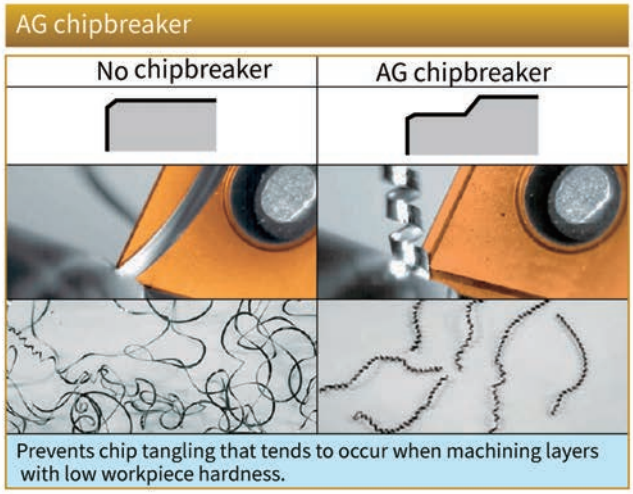


Lower workpiece hardness makes CBN tools wear out easier.

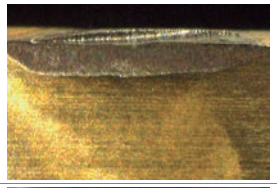
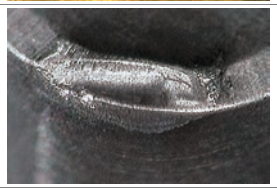
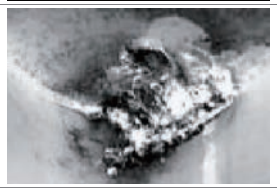
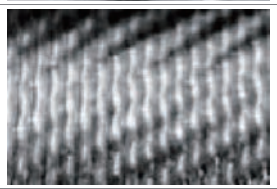


Ceramic has superior wear resistance to CBN in machining workpieces with hardnesses of HRC55 or less.

Key points for using different edge treatments



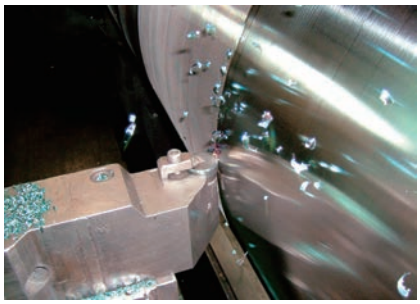
Troubleshooting

	Case		Cause	Measure
Insert	VB wear		●Cutting speed too high ●Feed too low ●Insert geometry unsuitable	●Reduce cutting speed ●Increase feed ●Increase the corner R
	Crater wear		●Unsuitable cutting conditions ●Insert geometry unsuitable	●Reduce cutting speed ●Smaller cutting edge treatment angle
	Flaking		●Insert geometry unsuitable	●Smaller cutting edge treatment angle ●Eliminate honing ●Lower feed ●Increase cutting speed
	Fracture		●Insert geometry unsuitable ●Unsuitable edge treatment ●Using coolant	●Lower feed ●Larger cutting edge treatment ●Add honing ●Change from WET to DRY machining
Work piece	Chatter		●Higher cutting resistance ●Not rigid enough for workpiece and tool ●Low cutting speed	●Lower feed ●Smaller cutting edge treatment angle ●Larger insert relief angle ●Shorten tool overhang ●Increase cutting speed
	Surface		●Higher feed rate ●Smaller insert corner R ●Insert wear	●Lower feed ●Larger insert corner R ●Using wiper inserts ●Reduce cutting speed

Mill roll machining

Features

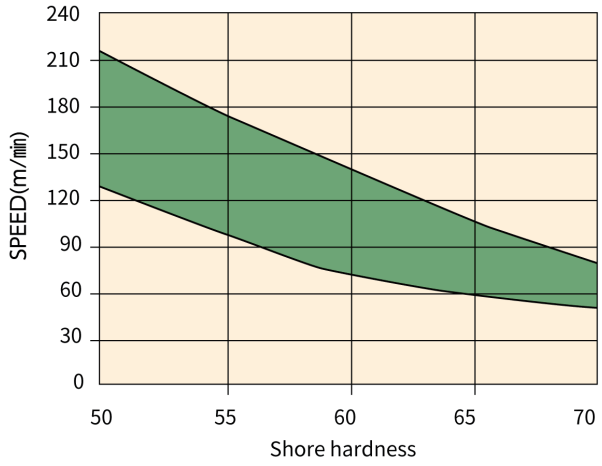
- In addition to the "HC2" ceramic material, which can be used for various types of mill roll machining, NTK offers the "HC5" and "HC7" ceramic materials, which improve machining efficiency even further.
- "WA1" has excellent wear resistance and is best suited for rough machining of carbide and high-hardness mill rolls.
- "ZC7" is applicable for a wide range of applications including carburized and induction hardened steels.
- "ZC4" has the best performance in hardened mill roll machining in the Shore hardness range of 74 to 97.



Recommended cutting conditions

Mill roll	Insert grade		Cutting speed(m/min)	Shore hardness Hs			Feed (mm/rev)	Depth of cut (mm)	DRY	WET
				55-65	65-72	72-				
Steel	ceramic	**HC7**	130-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC5**	130-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC2**	100-130	100%	80%	60%	0.1-0.3	0.5-2.0	●	
Chilled cast iron	ceramic	**HC7**	130-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC5**	130-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC2**	100-130	100%	80%	60%	0.1-0.3	0.5-2.0	●	
Ductile cast iron	ceramic	**HC7**	90-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC5**	90-180	100%	80%	60%	0.1-0.3	0.5-2.0	●	
	ceramic	**HC2**	70-130				0.1-0.3	0.5-2.0	●	
Carbide	CBN	**B30**	30-60				0.1-0.3	0.2	●	
	Whisker ceramic	**WA1**	40-150				0.1-0.3	0.25-2.0	●	
CPM	ceramic	**ZC4**	120-150				0.1-0.3	0.6-2.0	●	
	ceramic	**HC5**	120-150				0.1-0.3	0.6-2.0	●	
	ceramic	**HC7**	120-150				0.1-0.3	0.6-2.0	●	
Hardness Hs46-86 (continuous machining)	ceramic	**ZC7**	40-200	finish	finish	finish	0.07-0.2	0.1-0.7	●	●
Hardness Hs74-97 (continuous machining)	ceramic	**ZC4**	40-200	finish	finish	finish	0.07-0.2	0.1-0.7	●	●

Recommended cutting speed



Recommended feed rate

Corner R	Depth of cut (mm)	Feed (mm/rev)	
		Ra 0.8μm	Ra 1.6μm
0.4	-0.18	0.05-0.07	0.07-0.1
0.8	-0.4	0.07-0.1	0.1-0.13
1.2	-0.5	0.1-0.13	0.13-0.16
1.6	-0.8	0.1-0.14	0.15-0.2
6.35	-2.0	0.17-0.25	0.25-0.35

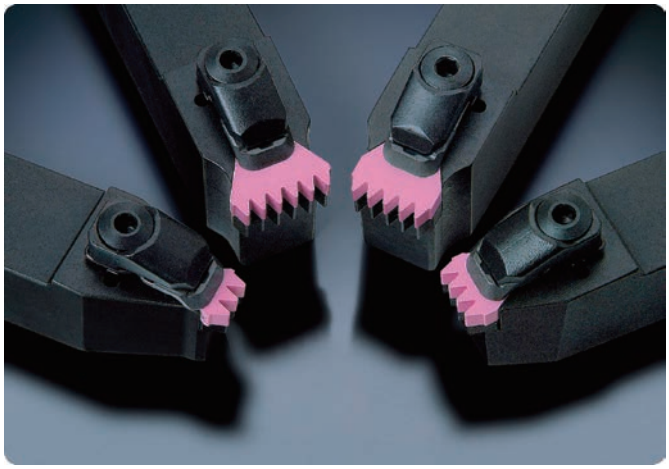
Key Points of Mill roll machining

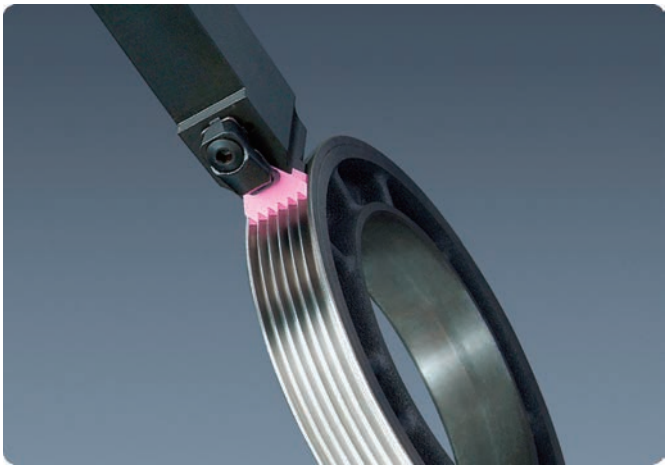
- Mill roll hardness is an important factor. The higher the hardness, the lower the cutting speed should be.
- RCGX type inserts are effective for high rigidity and tool cost reduction.
- When machining multiple passes in a single corner, the wear position can be distributed and notch wear can be reduced by varying the depth of cut.
- If chattering occurs, increase the feed rate. Chattering may be suppressed by adjusting the cutting speed.
- If chattering is severe, the machining point and tool cutting edge may not be centered.
- Chilled cast iron mill rolls and ductile cast iron mill rolls are generally low hardness, high strength materials. Even after use in rolling mills, the hardness of roll material rarely exceeds Hs67.
- HSS and CPM rolls typically have a hardness of Hs100 or higher. They are considered strong materials with high chromium and cobalt content. Considering the type and hardness of the roll material, machining at low speeds is required.

Types, applications, and features of mill rolls

Mill rolls	Applications	Features
Forged Rolls • Cr-Mo-based • High-speed-steel-based • Carbide-based	Bloom-milling at heavy rolling load. Work rolls for rough cold rolling, and rolls for reinforcement.	Strong and relatively high in heat resistance.
Cast Iron Rolls • Carbide-based	Semi-rolling or finishing that requires a very heavy load.	More wear-resistant and high-heat-resistant than steel in between ordinary steel and cast-iron-based steel.
Cast Steel rolls • Adamite roll for deep profile • Chilled roll for boards and wire steel process • Grain roll for steel finishing process boards (Resistant to thermal crack) • Ductile roll for boards, profile steel, and bar wire steel process (Rolls for roughing and finishing use) • Special cast iron roll	Wide range of applications from bloom-milling and semi-rolling to finishing.	Suitable for the applications that require heat resistance and strength. Suitable for the applications that require wear resistance.
Carbide rolls	• Pinch mills • Wire rod • Wire flattering or forming • ERWtube mills • Turks heads • Hot & Cold rolls • Work reducing rolls	Preferred in abrasive operations. High wear capabilities.

V-pulley machining



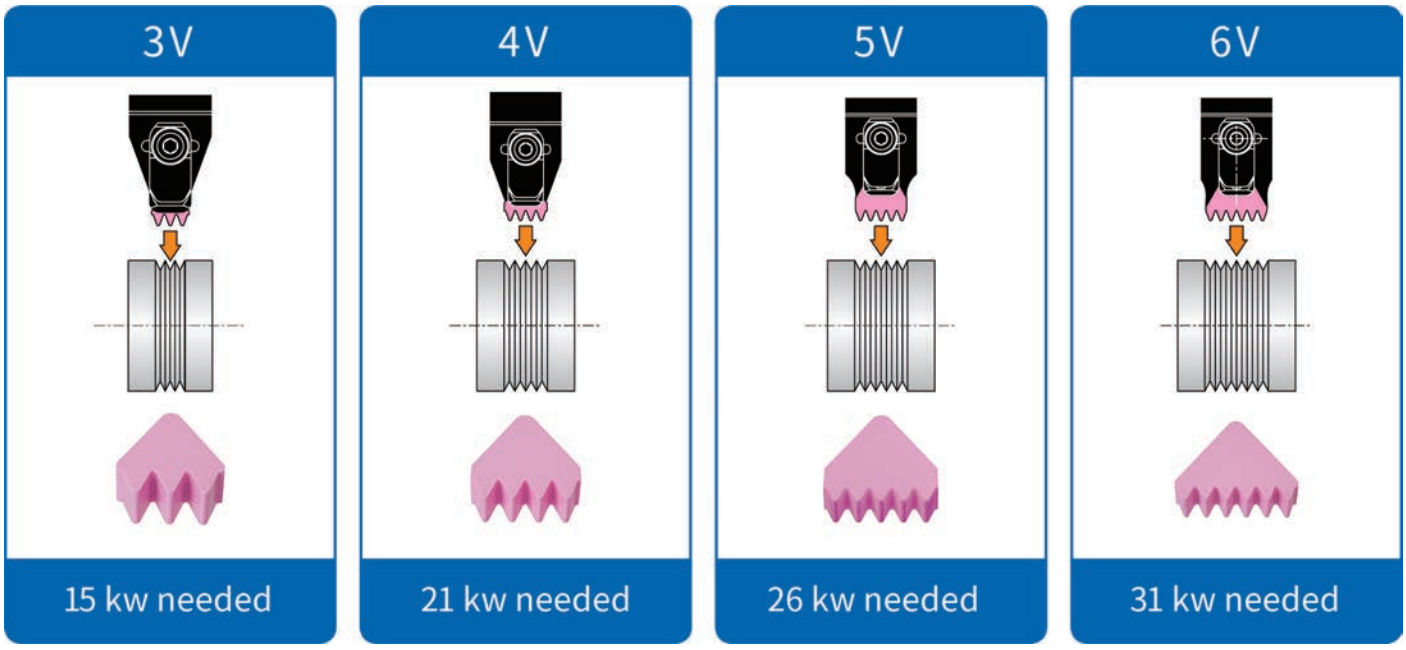


Features

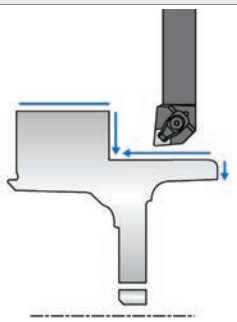
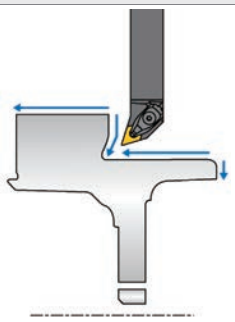
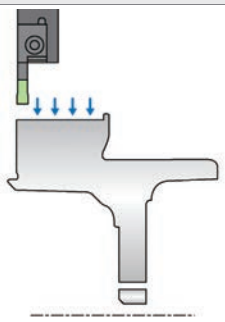
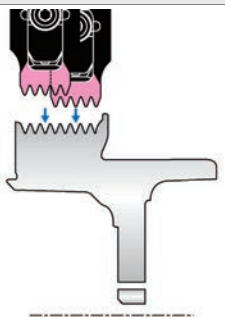
- **High-speed machining of poly-V pulleys**
- **Up to 6 grooves can be machined in a single pass**
- **High-precision inserts can be produced by profile machining**

Recommended Cutting Conditions

Material	Insert grade	Cutting speed (m/min)	Feed (mm/rev)	DRY	WET
cast iron	**HW2**	300-600	0.05-0.15	●	



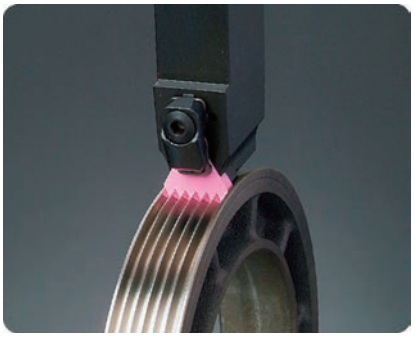
High-speed machining of poly V with NTK ceramic inserts

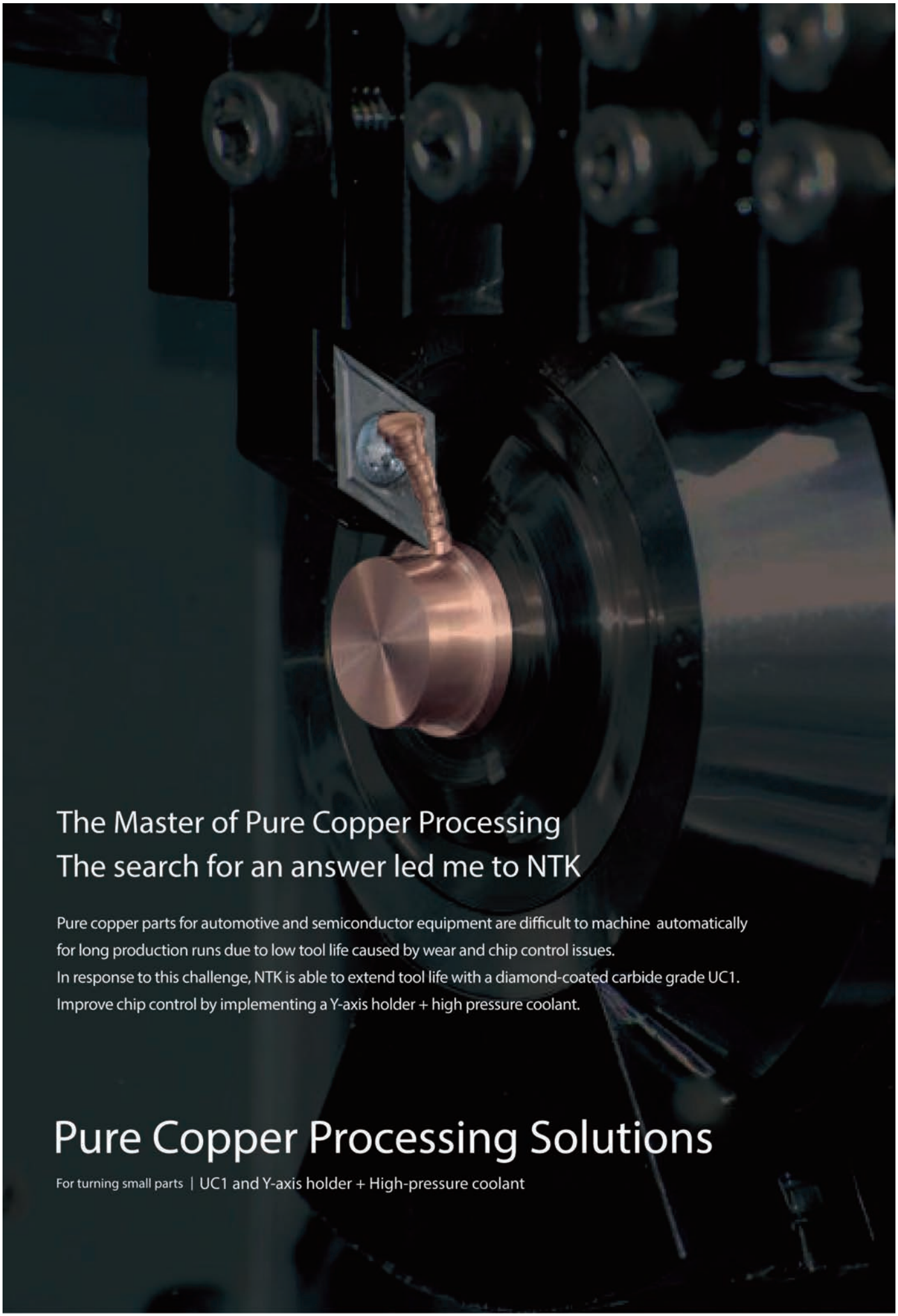
	Process #1	Process #2	Process #3	Process #4
	OD and Profile Roughing	OD and Profile Finishing	Plunge Grooving	Poly-V Grooving
Tooling				
Insert	SX6 CNGX120712T02020	HC6 DNGA150408T01225	WA1 VGW6250-2EX0001	HW2 PTM 53 K50504 ENB*
		SP9 DNGA150408T01020		360-450 (420 m/min recommend)
Cutting speed	600-840	450-600(HC6) 540-720 (SP9)	300-420	(420 m/min recommend)
Feed	0.45-0.6	0.3-0.45 (HC6) 0.45-0.6 (SP9)	0.2-0.25	0.05-0.15
Depth of cut (mm)	2.0-3.0	0.5	-	-
Coolant	DRY (WET)	DRY (WET)	DRY (WET)	DRY
Pcs / corner	-300 pcs	-300 pcs	-300 pcs	-300 pcs

*Check the machine required power.

	3V	4V	5V	6V
Required HP kw	16kw	21kw	26kw	31kw

NTK's Ceramic Inserts ensure higher productivity and stable tool life for Damper-Pulley machining.





The Master of Pure Copper Processing
The search for an answer led me to NTK

Pure copper parts for automotive and semiconductor equipment are difficult to machine automatically for long production runs due to low tool life caused by wear and chip control issues.
In response to this challenge, NTK is able to extend tool life with a diamond-coated carbide grade UC1.
Improve chip control by implementing a Y-axis holder + high pressure coolant.

Pure Copper Processing Solutions

For turning small parts | UC1 and Y-axis holder + High-pressure coolant

NTK's Work Changing Concept

Diamond-coated carbide : Longer tool life with UC1
Improved chip control with Y-axis tool holder + high-pressure coolant

Performance

- **High purity, high hardness diamond coating, and excellent adhesion performance enable long-term stable machining.**
- **Improved chip control by applying Y-axis direction machining with high-pressure coolant.**

Applications

Pure copper (C1020/C1100) machined using Sliding head automatic lathes or CNC-lathes.

〔 Machining Property of C1100 Tough Pitch Copper 〕

Diamond-coated carbide: UC1 with excellent wear resistance & welding resistance is recommended because tooling tends to wear and the machined surface deteriorates due to welding, resulting in short tool life.

A good machined surface can be obtained by applying the appropriate cutting condition (low cutting depth/low feed) which reduces the chip thickness.

Case Study

Battery connector : C1100 ϕ10 - 20

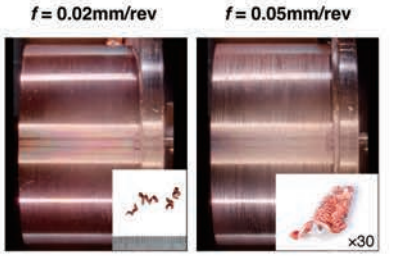
	NTK	Competitor
Tool	UC1 DCMT11T302 FNAM3	PVD super coat DCGT11T302 molded chipbreaker
Speed (m/min)	55 - 110	
Feed (mm/rev)	0.03	
DOC (mm)	0.2	
Coolant	WET	
Tool life	1000 pcs.	50 pcs.

Electrode part : C1100 ϕ12

	NTK	Competitor
Tool	UC1 DCMT11T301 FNAM3	PVD super coat DCGT11T301 molded chipbreaker
Speed (m/min)	80	
Feed (mm/rev)	0.05	
DOC (mm)	1.0	
Coolant	WET	
Tool life	2000 pcs.	100 pcs.

Machined Surface Comparison

Part material : C1100 v_c = 80m/min a_p = 1.0mm WET
Tool : DCMT11T302FNAM3 UC1



If the cutting conditions cause the chips to become thick (high cutting depth or high feed) then the machined surface will deteriorate due to chip clogging.

Cutting conditions

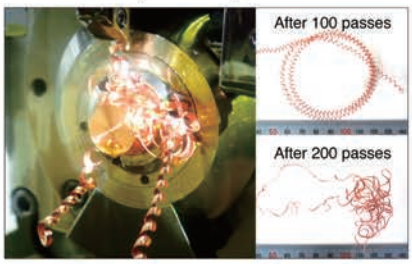
Grade	Material	Operation	Machining	Speed (m/min)	Feed (mm/rev)	DOC (mm)	WET
UC1	Tough pitch copper C1100	Turning	Rough - Finish	50 - 150	0.02 - 0.05	0.2 - 2.0	●

Using the cutting conditions shown, chips can be segmented and controlled with AM3 chipbreaker.
When machining at large depths of cut and high feed rate, select CL or ZP chipbreakers to suppress chip clogging.

〔 Machining Properties of C1020 Oxygen-free Copper 〕

Stable chip generation may be difficult with a chipbreaker alone, it is recommended to add a Y-axis holder + high pressure coolant

Example of Chip Issues

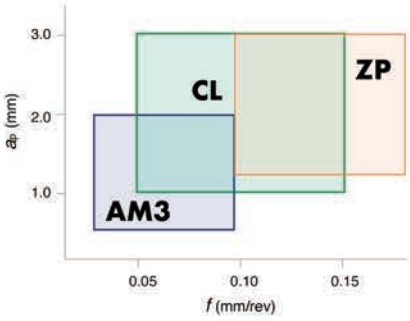


Even if good chip control is obtained at initial stage of machining, sudden chip entanglement can occur leading to tool wear.

Y-axis holder + high-pressure coolant

Chip tangling can be suppressed by Y-axis machining with high-pressure coolant.

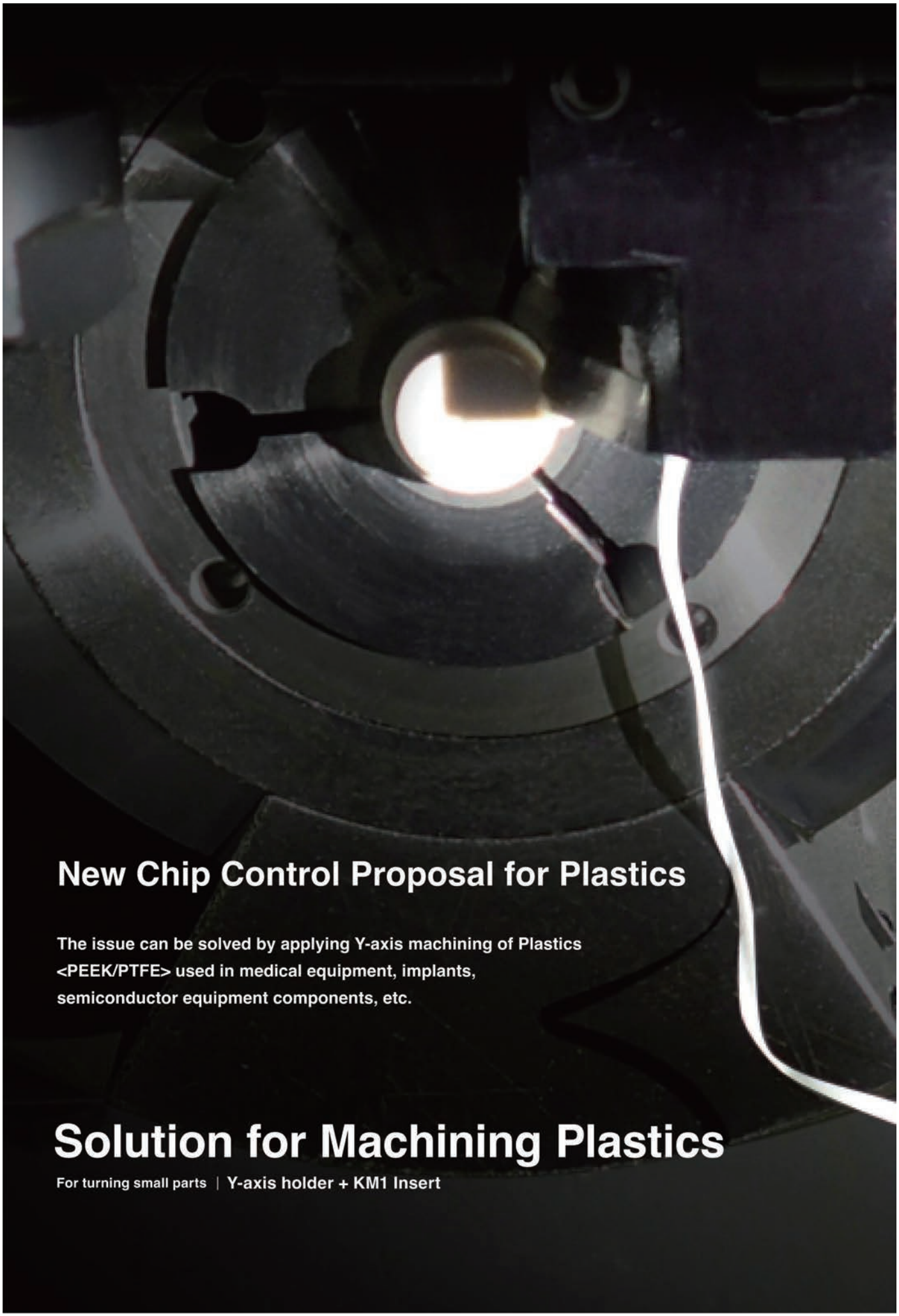
Chipbreaker machining range



Cutting Conditions

Grade	Material	Operation	Machining	Speed (m/min)	Feed (mm/rev)	DOC (mm)	WET
UC1 TM4	Oxygen-free copper C1020	Turning	Rough - Finish	50 - 150	0.02 - 0.20	0.5 - 3.0	●

Refer to content above to select cutting conditions and chipbreaker to obtain good chip control.
If you want longer tool life than PVD Carbide: TM4, use Diamond-Coated Carbide: UC1.



New Chip Control Proposal for Plastics

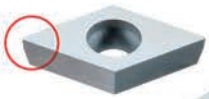
The issue can be solved by applying Y-axis machining of Plastics <PEEK/PTFE> used in medical equipment, implants, semiconductor equipment components, etc.

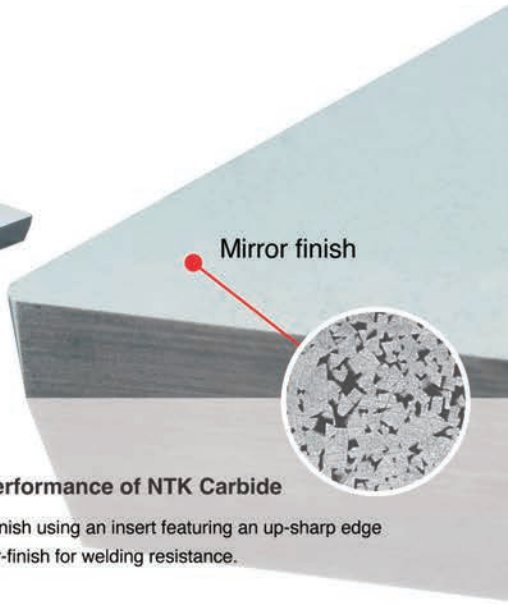
Solution for Machining Plastics

For turning small parts | Y-axis holder + KM1 Insert

Solution for Machining Plastics
The Realization of Stable Machining

Improved chip control with a Y-axis holder
High quality surface finish with KM1





Performance

- **Applying Y-axis machining eliminates chip control issues.**
- **Mirror-finish polished fine grain cemented carbide ensures an excellent surface finish**

Application Area

Automatic lathe (Gang type) machining plastic materials (PEEK/PTFE, etc.)

Machining Performance of NTK Carbide

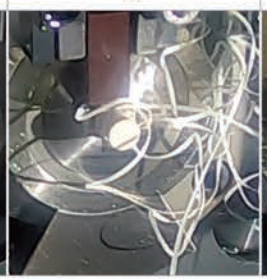
Excellent surface finish using an insert featuring an up-sharp edge and polished mirror-finish for welding resistance.

Recommended Cutting Conditions

Grade	Material	Operation	Machining	Cutting speed (m/min)	Feed (mm/rev)	DOC (mm)	DRY	AIR
KM1	Plastic (PEEK,PTFE,etc.)	Turning	Roughing - Finishing	50 - 150	0.05 - 0.10	0.5 - 3.0	●	●

Chip Control Performance

Material : PEEK(ϕ10) Cutting conditions : v_c=80m/min f=0.05mm/rev a_p=1.00mm

Machining approach	Standard machining		Y-axis machining	
Chipbreaker	Yes	No	Yes	No
Machining image				

Case Study

Medical implant : PEEK

	NTK	Competitor
Tool	KM1 VCGT11T302H No chipbreaker	Carbide VCGT11T302 Molded chipbreaker
Cutting speed (m/min)	100	
Feed (mm/rev)	0.06	
DOC (mm)	2.50	
Coolant	AIR	DRY
Tool life	**80 pcs.**	**40 pcs.**

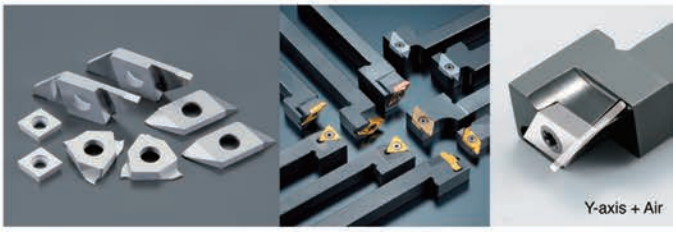
Automotive component : PEEK (with glass fiber)

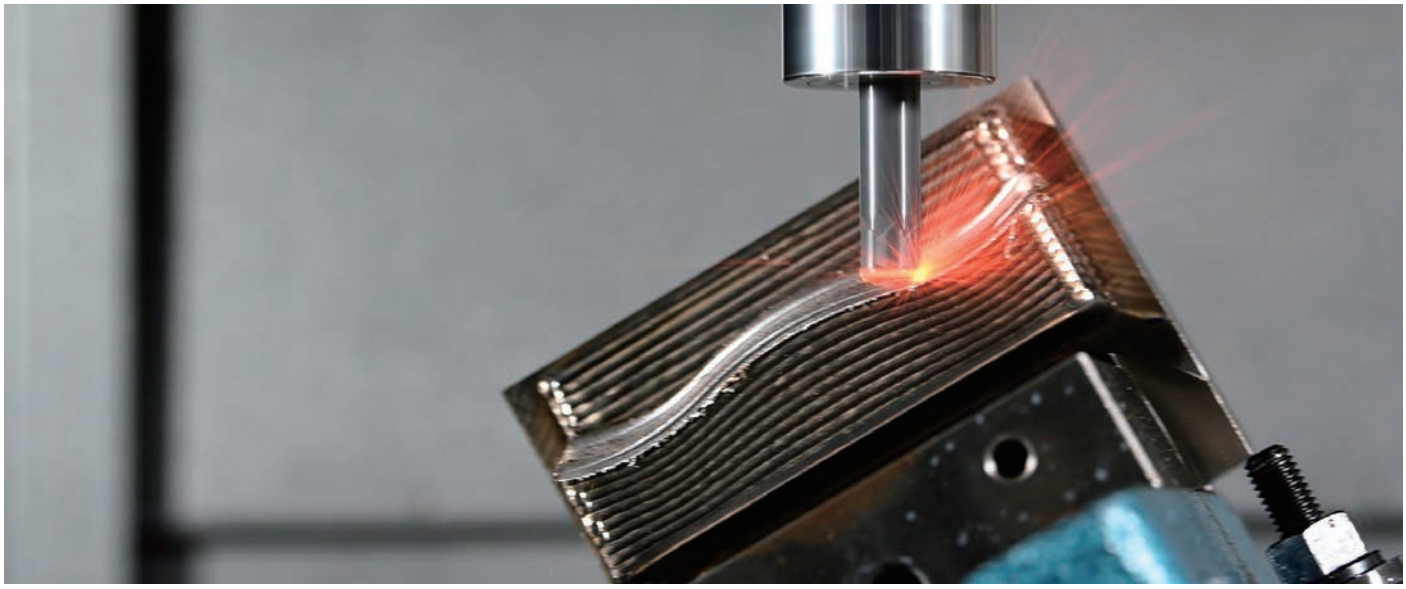
	NTK	Competitor
Tool	KM1 DCGT11T302H No chipbreaker	PVD Carbide VNMG160408 Molded chipbreaker
Cutting speed (m/min)	120	40
Feed (mm/rev)	0.08	0.05
DOC (mm)	0.25	
Coolant	AIR	DRY
Tool life	**3 pcs.**	**1 pc.**

Lineup

Application types : Front turning (ISO) / Back turning / Grooving / Cut-off / Threading / Boring

Standard holder	□ 7 / 8 / 10 / 12 / 16 / 20 * □10~Coolant through available
Y-axis coolant through holder	□ 12 / 16
Boring bar	Minimum machining diameter: Standard holder - from ϕ1mm * Coolant through holder - from ϕ2.2mm available





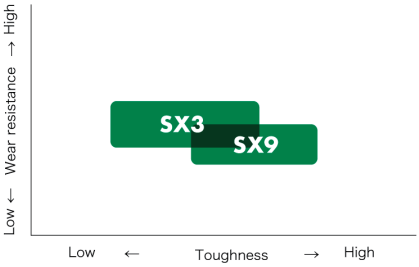
Additive manufacturing workpieces for rough machining | SiAlON ceramics

Additive manufacturing machining

Speedy rough machining of additive manufacturing workpieces (nickel-based alloys)
High-speed machining at about 10 times faster than with carbide tools.

Performance

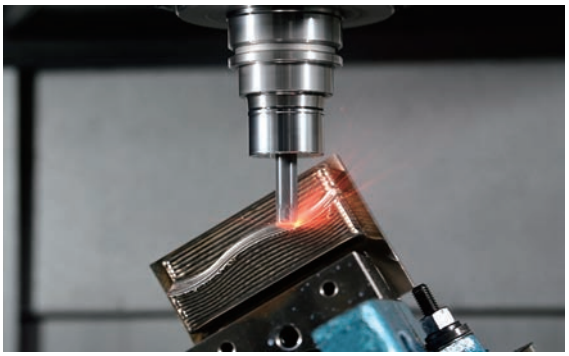
- Highly efficient machining of additionally built nickel-based alloys
- Ceramic grade with excellent toughness
- High-speed and stable machining
- Lineup of milling and end milling tools



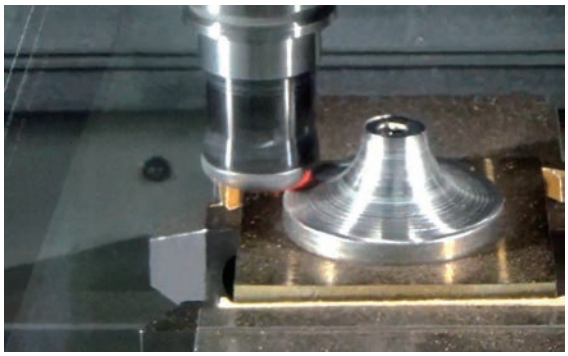
Applications

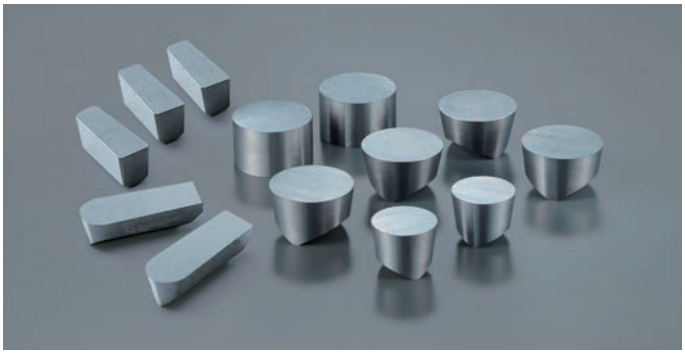
- Workpiece built up by Nickel-based alloys
- Milling/End milling for rough machining

End milling



Helical milling

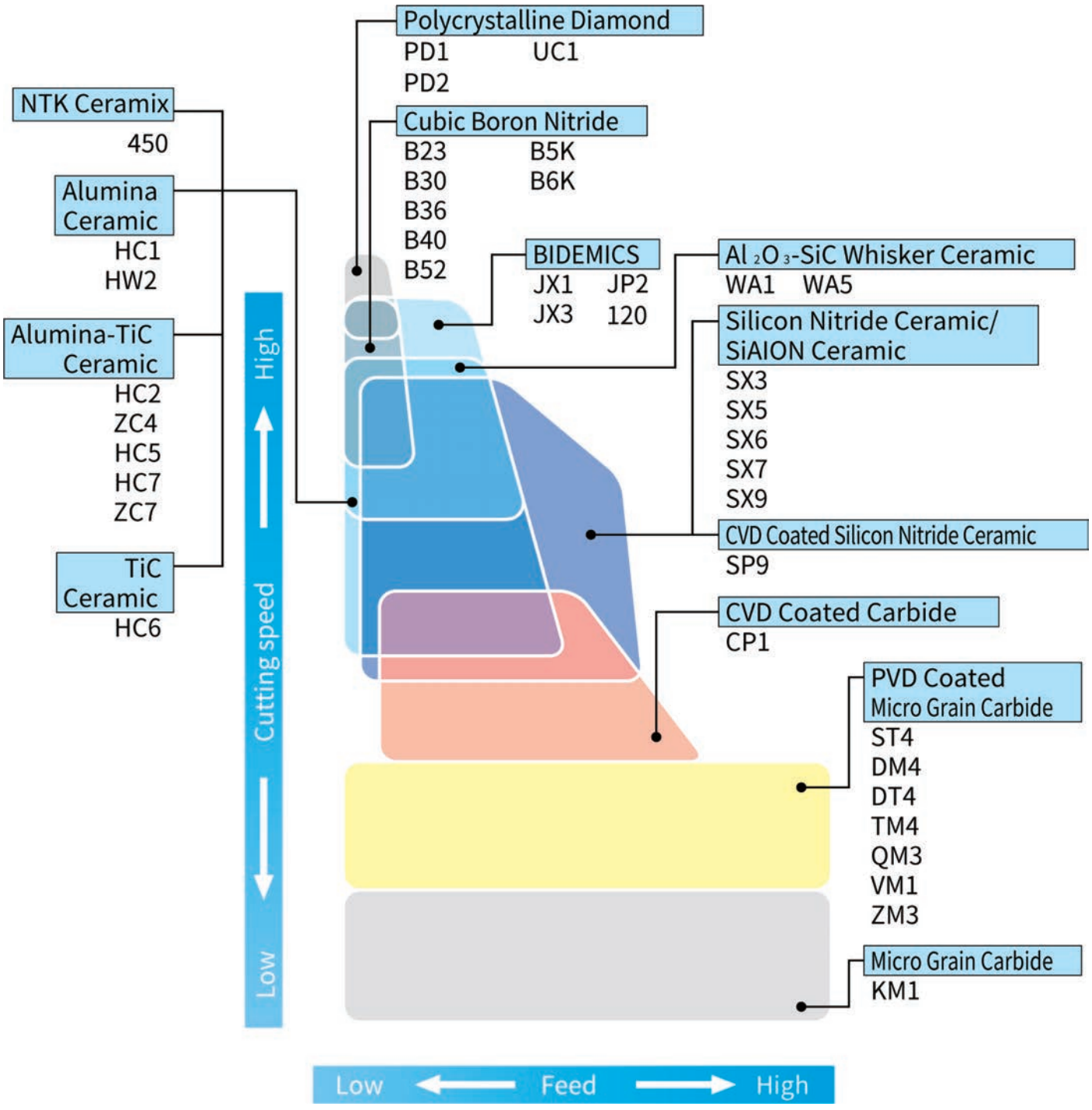




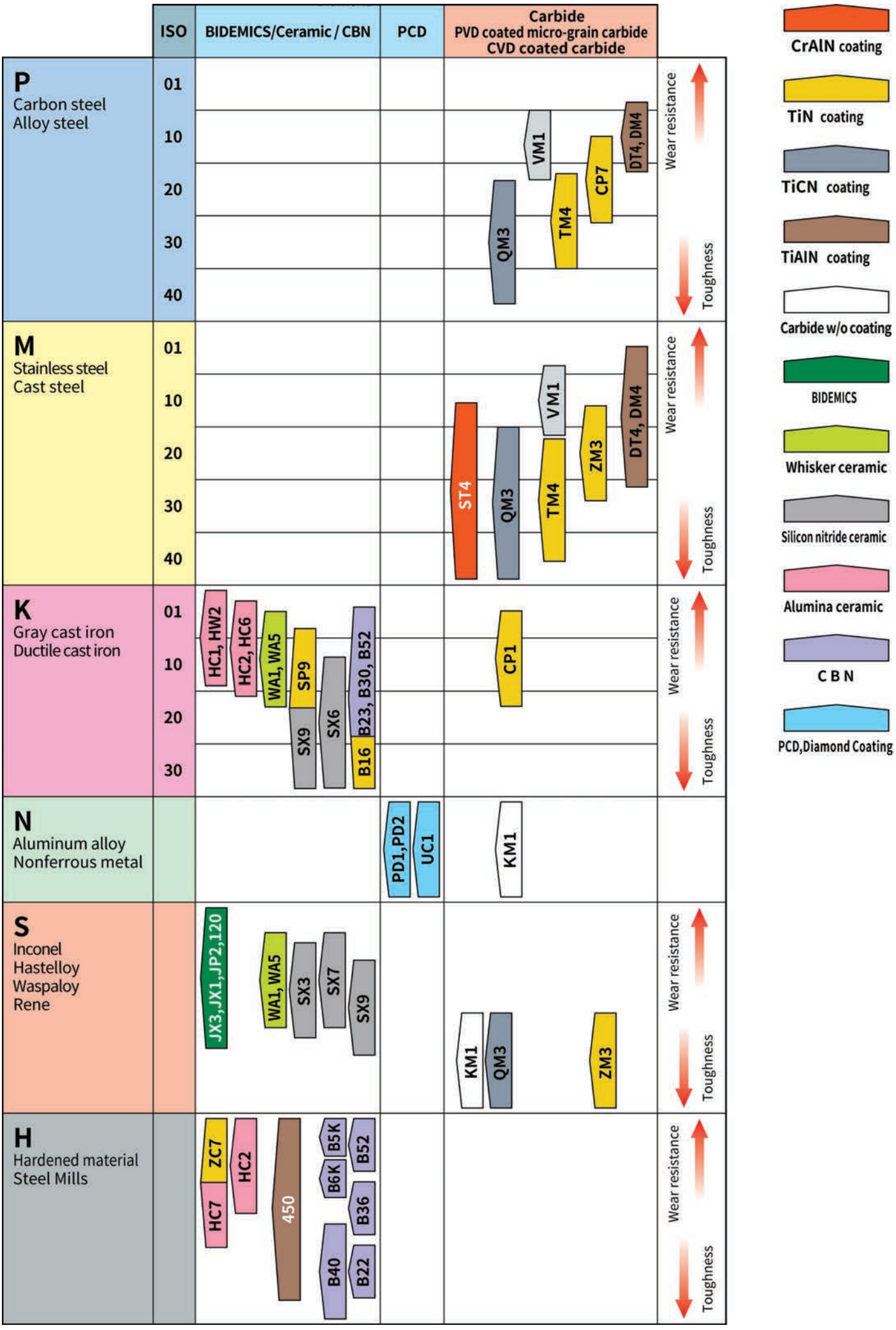
Tool Materials/Selection Guide

Insert Grade Map C02
Application area C03
Recommended Cutting Conditions C04
ISO Insert Code C06
BIDEMICS C10
Ceramics / NTK CeramiX C14
CBN C30
PCD / Diamond Coating C38
Carbides C42
Chipbreakers C54

Application Range of NTK Insert Grades



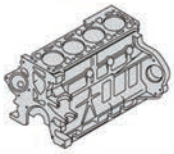
Insert grade recommendation by work material type



Recommended Cutting Conditions

BIDEMICS, Ceramics, CBN, NTK CeramiX

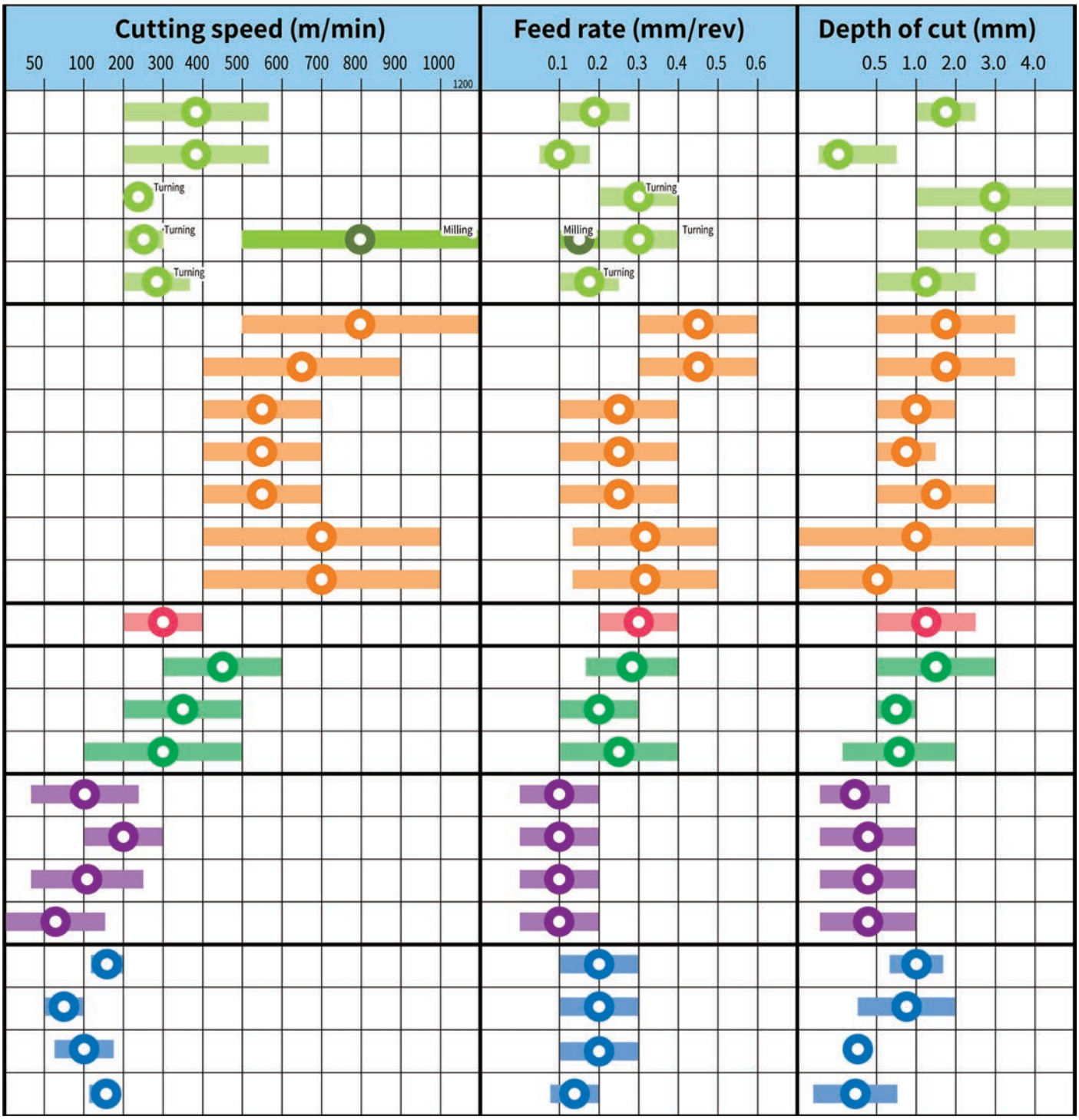
●First Choice ○Second Choice

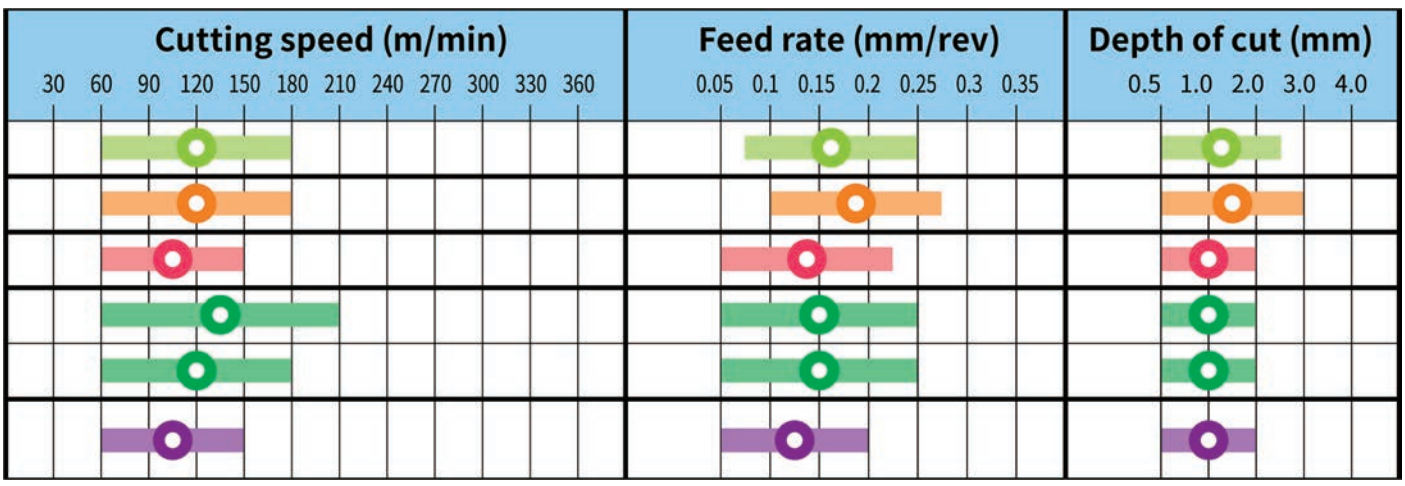
Work material	Tool Grade		Application: Roughing	Application: Semi-finishing	Application: Finishing	Continuous	Light interruption	Interruption	Coolant: Dry	Coolant: Wet
Heat-resistant alloy * Based on Using 12.7mm IC Insert except JP2	BIDEMICS	JX1/ JX3		●	●	●				●
	BIDEMICS	JP2/120		●	●	●				●
	Ceramic	SX5	●				●			● (Turning)
	Ceramic	SX3 / SX7 / SX9	●				●		● (Milling)	● (Turning)
	Ceramic	WA1/WA5	●			●			○	●
Gray cast iron 	Ceramic	SX6	●				●		●	●
	Ceramic	SP9	●	●			●		●	○
	Ceramic	HC1 / HW 2			●	●			●	
	Ceramic	HC2 / HC6			●	●			●	●
	Ceramic	WA1			●		●		●	●
	CBN	B23 /B30		●	●		●		●	●
	CBN	B16	●					●	○	●
Chilled Liners	Ceramic	HW2		●		●			●	
Ductile cast iron	Ceramic	SP9	●				●		○	●
	Ceramic	HC6			●	●			○	●
	CBN	B52			●	●			○	●
Hardened material	Ceramic	450/HC4/ZC7			●	●			●	●
	CBN	B5K / B52			●	●			○	●
	CBN	B6K / B36		●			●		●	●
	CBN	B40	●					●	●	○
Rolls Steel, Cast iron Ductile iron	Ceramic	HC5 / HC7		●			●		●	
Carbide	Ceramic	WA1		●			●		●	
	CBN	B30		●			●		●	
* Based on Using 12.7mm IC Insert CPM	Ceramic	HC5 / ZC4 / HC7		●			●		●	

Carbide

●First Choice ○Second Choice

Work material		Tool Grade		Application: Roughing	Application: Semi-finishing	Continuous	Light interruption	Interruption	Coolant: Dry	Coolant: Wet
400 series Stainless	Hardness (HB) 160-350	Carbide	QM3/DM4/DT4/ST4	●	●		●			●
300 series Stainless	Hardness (HB) 200-350	Carbide	QM3/DM4/DT4/ST4	●	●		●			●
Precipitation Hardness (17-4PH etc)	Hardness (HB) 175-350	Carbide	QM3/DM4/DT4	●	●		●			●
Carbon Steels Alloy Steels	Hardness (HB) 130-300	Carbide	QM3/DM4/DT4	●	●		●			●
	300-400	Carbide	QM3/DM4/DT4	●	●		●			●
Tool Steels	Hardness (HRC) -45 Turning	Carbide	QM3/DM4/DT4	●	●		●			●

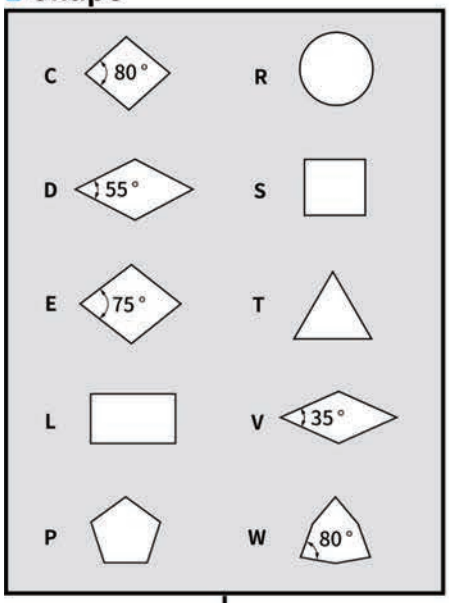

Cutting speed (m/min)
50 100 200 300 400 500 600 700 800 900 1000 1200
Turning
Turning
Turning
Milling
Feed rate (mm/rev)
0.1 0.2 0.3 0.4 0.5 0.6
Turning
Milling
Turning
Turning
Depth of cut (mm)
0.5 1.0 2.0 3.0 4.0


Cutting speed (m/min)
30 60 90 120 150 180 210 240 270 300 330 360
Feed rate (mm/rev)
0.05 0.1 0.15 0.2 0.25 0.3 0.35
Depth of cut (mm)
0.5 1.0 2.0 3.0 4.0

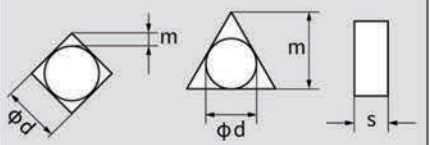
ISO insert code

BIDEMICS / Ceramics

1 Shape



3 Tolerance Class



Symbol	d (mm)	m (mm)	s (mm)
A	±0.025	±0.005	±0.025
F	±0.013	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.013
J	±0.05	±0.05	±0.013
K	±0.05 ~±0.13	±0.013	±0.025
L	±0.05 ~±0.13	±0.025	±0.025
M	±0.05 ~±0.13	±0.08 ~±0.08	±0.013
N	±0.05 ~±0.13	±0.08 ~±0.08	±0.025
U	±0.08 ~±0.25	±0.13 ~±.015	±0.013

Accuracy of J,K,L,M,N,U class by form size
For inserts with apex angles greater than 55°

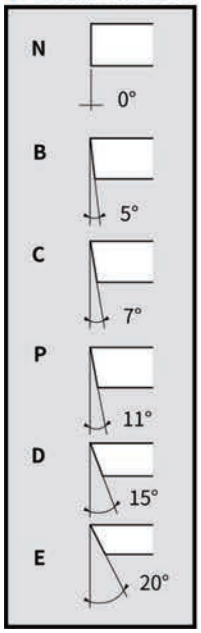
Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.08
9.525	±0.05	±0.08
12.7	±0.08	±0.13
15.875	±0.05	±0.15
19.05	±0.05	±0.15
25.4	±0.13	±0.08

For Class M inserts with apex angles of 55° (D), 35° (V), and 25° (Y)

Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.05
9.525	±0.05	±0.05
12.7	±0.08	±0.15
15.875	±0.05	±0.15
19.05	±0.05	±0.08

	1	2	3	4
Inch	S	N	G	A
Metric	S	N	G	A

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M	40°–60°	W
Special design	X		

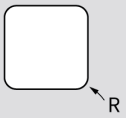
6 Thickness

Thickness S (mm)	Inch	Metric
2.38	1.5	02
3.18	2	03
3.97	2.5	T3
4.76	3	04
5.56	4	06
6.35	5	07
7.94	6	09
12.7	8	12

5 Symbol for Insert Size

Inch		Metric						
Inscribed Circle		C	D	R	S	T	V	W
5.56	2	06	07	06		11	11	04
7.94	3	09	11	09		16	16	06
12.1	4	12	15	12		22	22	08
15.875	5	16	19	15		27	27	10
19.05	6	19	23	19		33	33	13
25.4	8	25	31	25		44	44	17

7 Corner Radius



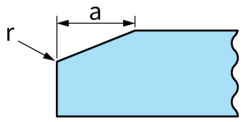
Corner Radius	Inch	Metric
0.4	1	04
0.8	2	08
1.2	3	12
1.6	4	16
2.0	5	20
2.4	6	24
3.2	8	32

4	3	3	T	04	20
5	6	7	8	9	10
12	04	12	T	010	20

8 Edge Condition

Sharp	F
Honed	E
Chamfered	T
Chamfered and Honed	Z
	S
	U
Double Chamfered	K
Double Chamfered and Honed	J
	P
	Q

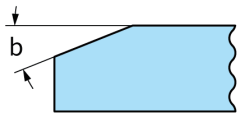
9 Negative Land Width



	Description		a (metric)	r (metric)
	inch	metric		
E	01	002	–	0.03
	02	004	–	0.05
T	02	005	0.05	–
	03	008	0.08	–
	04	010	0.10	–
	05	012	0.13	–
	06	015	0.15	–
	08	020	0.2	0.03
Z	04	010	0.10	0.03
	08	020	0.2	0.05
S	04	010	0.10	0.05
	08	020	0.2	0.08
U	16	040	0.4	–
K	28	070	0.7	–
J	60	150	1.5	0.03
P	71	180	1.8	0.05
Q	95	240	2.4	0.08

Note: K, J, P & Q show its primary land width

10 Negative Land Angle

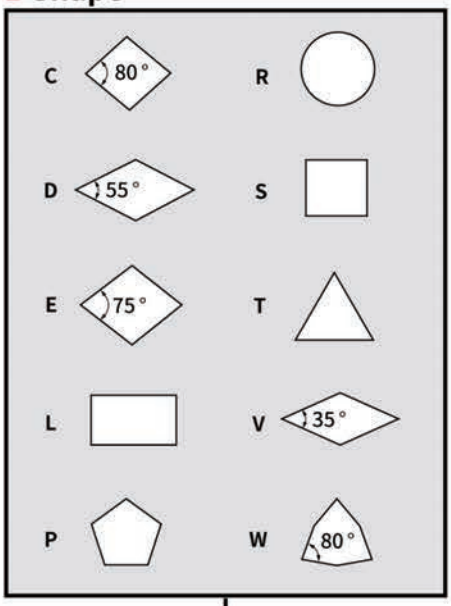


Description	b
10	10°
15	15°
20	20°
25	25°
30	30°

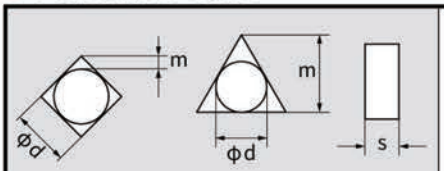
ISO insert code

Carbide

1 Shape



3 Tolerance Class



Symbol	d (mm)	m (mm)	s (mm)
A	±0.025	±0.005	±0.025
F	±0.013	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.013
J	±0.05	±0.05	±0.013
K	±0.05 ~±0.13	±0.013	±0.025
L	±0.05 ~±0.13	±0.025	±0.025
M	±0.05 ~±0.13	±0.08 ~±0.08	±0.013
N	±0.05 ~±0.13	±0.08 ~±0.08	±0.025
U	±0.08 ~±0.25	±0.13 ~±.015	±0.013

Accuracy of J,K,L,M,N,U class by form size
For inserts with apex angles greater than 55°

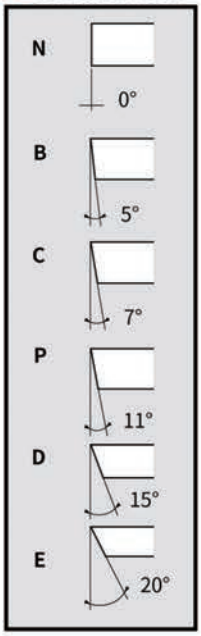
Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.08
9.525	±0.05	±0.08
12.7	±0.08	±0.13
15.875	±0.05	±0.15
19.05	±0.05	±0.15
25.4	±0.13	±0.08

For Class M inserts with apex angles of
55° (D), 35° (V), and 25° (Y)

Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.05
9.525	±0.05	±0.05
12.7	±0.08	±0.15
15.875	±0.05	±0.15
19.05	±0.05	±0.08

	1	2	3	4
Inch	C	C	G	T
Metric	C	C	G	T

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M	40°–60°	W
Special design	X		

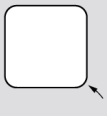
6 Thickness

Thickness S (mm)	Inch	Metric
2.38	1.5	02
3.18	2	03
3.97	2.5	T3
4.76	3	04
5.56	4	06
6.35	5	07
7.94	6	09
12.7	8	12

5 Cutting Edge Length

Inch		Metric						
Inscribed Circle		C	D	R S	T	V	W	
5.56	2	06	07	06	11	11	04	
7.94	3	09	11	09	16	16	06	
12.7	4	12	15	12	22	22	08	
15.875	5	16	19	15	27	27	10	
19.05	6	19	23	19	33	33	13	
25.4	8	25	31	25	44	44	17	

7 Nose Radius

Corner Radius	Inch	Metric
	0.03	01	00
	0.08	04M	01M
	0.1	04	01
	0.18	08M	02M
	0.2	08	02
	0.38	1M	04M
	0.4	1	04
	0.8	2	08

3	2.5	08M	F	N	AM3
5	6	7	8	9	10
09	T3	02M	F	N	AM3

8 Edge Sharpness

F	Up-sharp edge (without any edge preparation)
(Blank)	Non up-sharp edge

9 Hand of Chipbreaker

N	Neutral*
R	Right-hand
L	Left-hand

* Omitted when edge is not "up-sharp"

10 Type of Chipbreaker

11 Wiper insert

"-WP" after chipbreaker

BIDEMICS

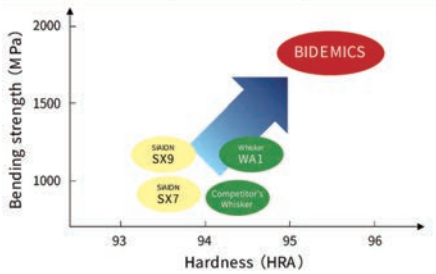
Heat-resistant alloys, which are mainly used in the aircraft industry, have low thermal conductivity, high temperature strength, high work hardening, and high adhesion to tool materials, making them extremely difficult to cut, and improving production efficiency has been a key issue.
BIDEMICS is a new category of material that combines various materials to achieve high strength and high hardness. It enables highly efficient machining that exceeds the performance of conventional carbide and ceramics.

Insert grade, applications, and features

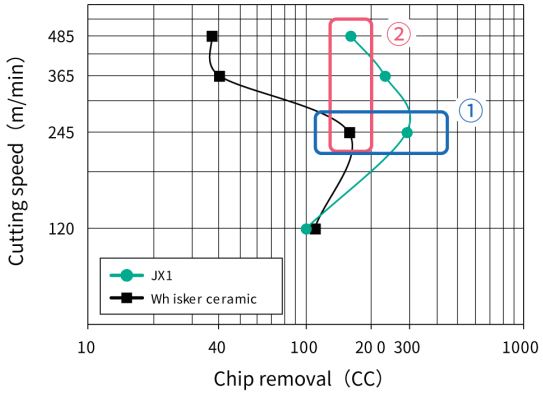
Work material	Grade	Application
S Heat resistant alloy	JX1	Semi-finishing/rough machining of heat-resistant alloys (non scale) Cutting speed up to Vc=500m/min. Longer life and better machined surface compared to ceramic grades
	JX3	Semi-finishing/rough machining of heat-resistant alloys (non scale) Cutting speed up to Vc=480m/min. Longer life and better machined surface compared to ceramic grades
	120	Finish machining of heat-resistant alloys Cutting speed up to Vc=500m/min. Longer life and better machined surface compared to carbide tools
	JP2	Finish machining of heat-resistant alloys Cutting speed up to Vc=480m/min. Longer life and better machined surface compared to carbide tools

Physical properties

Grade	Hardness HRA	Bending Strength MPa	Thermal Conductivity W/m・K
JX1	95.5	1,800	40
WA1	94.5	1.200	35



Machining productivity comparison between JX1 and Whisker Ceramics



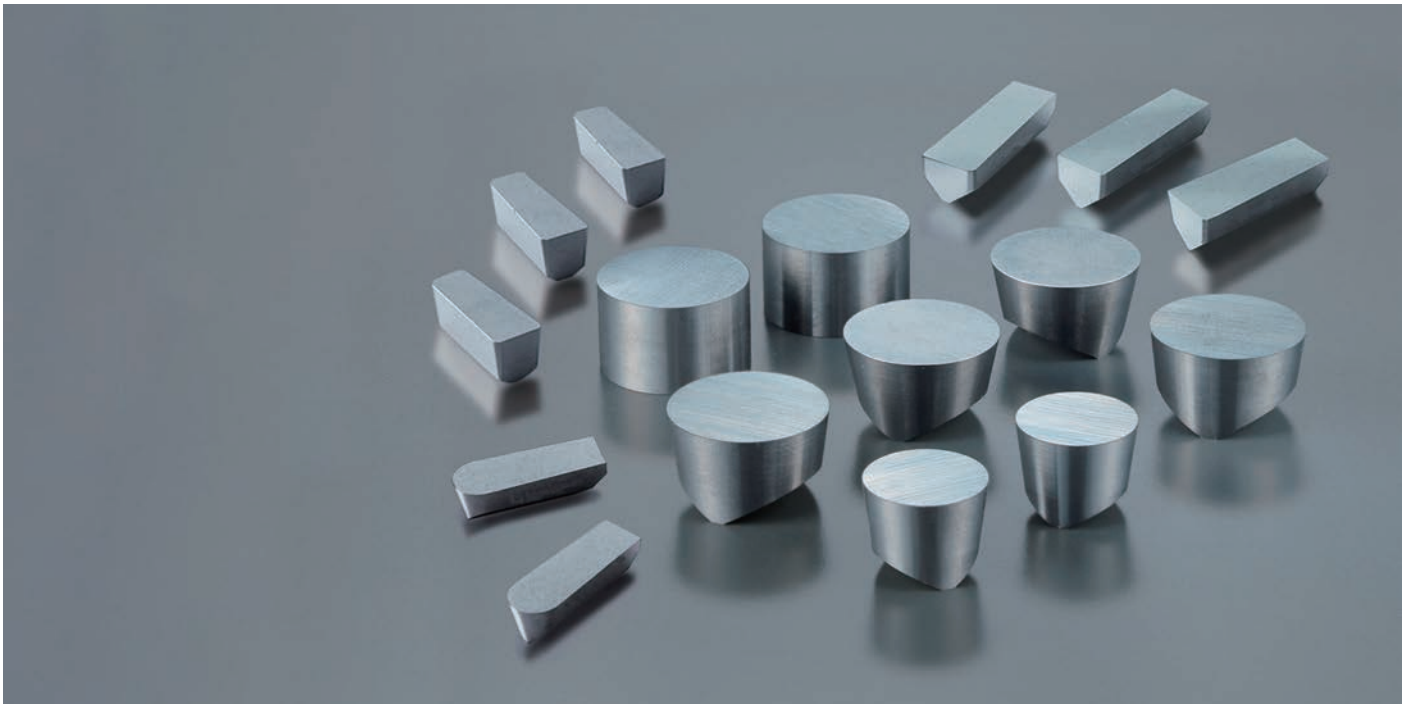
①Longer tool life
JX1/JX3's combination of High Hardness,Superior Thermal Conductivity and Improved Strength compared to Whisker ceramics results in significantly longer tool life when applied at typical Whisker ceramic speeds, feeds, and depth of cut.

②Higher Speeds, More Productivity
JX1/JX3's superior physical properties compared to Whisker ceramic enable you to increase speeds; potentially as much as 2X Whisker ceramic speeds; increasing productivity and potentially offsetting the need for additional equipment to meet increasing demands.

Chips break easily at higher cutting speeds vs the typically continuous chips of HRSA materials. The result is more efficient chip removal.

Recommended Cutting Conditions

Grade	Work material	Application	Process	Cutting speed (m/min)	Feed (mm/rev)	Depth of cut (mm)	Coolant
JX1	heat-resistant alloys	turning	roughing	180-**480**	0.15-0.30	1.0-2.5	WET
JX3			roughing	180-**480**	0.10-0.25	0.5-2.0	WET
120	heat-resistant alloys	turning	finishing	180-**500**	0.05-0.20	0.1-0.7	WET
JP2			finishing	180-**520**	0.10-0.25	0.25-1.0	WET



Heat-resistant alloys for rough to semi-finishing | BIDEMICS

JX1 / JX3

Ultra-high speed machining of heat-resistant alloys at Vc = 480 m/min
Longer life & higher quality machined surface compared to whisker ceramics
Applicable to new materials for aircraft parts

Performance

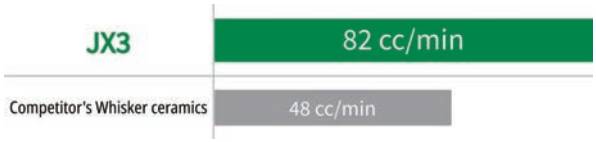
Significantly longer life than whisker ceramics
Twice" the cutting speed is possible. Good machined surfaces are achieved.
Suitable for machining heat-resistant alloys made of powder alloys

Application

Heat-resistant alloys
Turning / Grooving / Profiling
Rough to semi-finishing with non-scale

Case study Turbine disk

Work material	Inconel 718
Cutting speed	Competitor: 200 m/min NTK: 350 m/min
Feed	0.15 mm/rev
Depth of cut	1.5 mm
Coolant	WET



Heat-resistant alloys for finishing | BIDEMICS

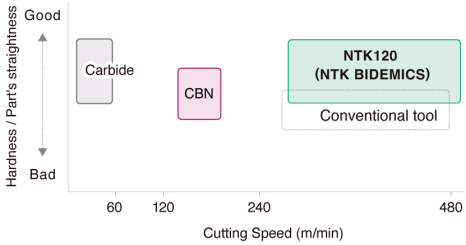
JP2 / 120

For high-speed finishing

Ultra-high-speed finishing of heat-resistant alloy machining.
15 times faster than carbide and 3 times faster than CBN.

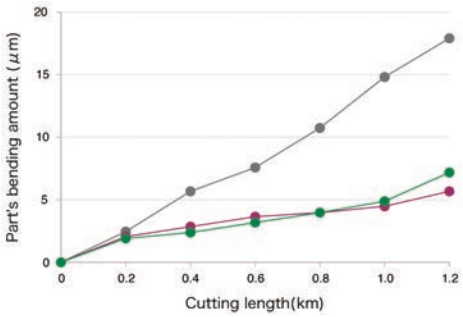
Performance

Improves the wear-resistant performance of BIDEMICS and good for part's straightness performance of workpiece in finishing operations. Finish machining of heat-resistant alloys at a cutting speed of 500 m/min is achieved.



Part's Straightness Performance

[cutting conditions] material: Inconel 718
vc=320m/min (carbide vc=50m/min)
f=0.2mm/rev ap=0.1mm WET

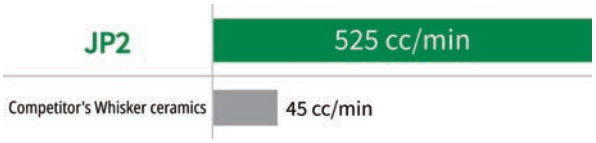


Application

Heat resistant alloys
Finishing

Case study Turbine disk (finishing)

Work material	Inconel 718
Cutting speed	Competitor: 20 m/min NTK: 240 m/min
Feed	0.08 mm/rev
Depth of cut	0.25 mm
Coolant	WET



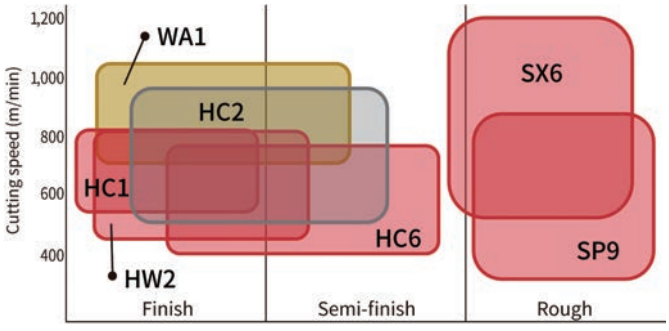
Ceramics / NTK CeramiX

NTK ceramic inserts provide highly efficient machining with excellent high-temperature hardness, heat resistance, and chemical stability.
NTK offers various types and geometries of silicon nitride, alumina, and whisker ceramic inserts to meet the needs of each application and support highly efficient machining and high-speed cutting.

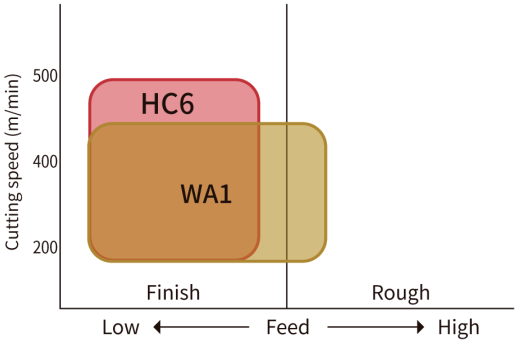
Insert grade, applications, and features

Work material	Grade	Structure	Color	Application	Hardness HRA	Toughness Mpa	Thermal conductivity W/m.K
K Cast iron	HC1	Al_2O_3	White	Semi-finishing of gray cast iron Pipe bead cutting	94	700	17
	HW2	Al_2O_3	Pink	Semi-finishing of gray cast iron / liners Reinforced toughness	94	750	19
	HC6	TiC+Al_2O_3	Black	Semi-finishing of ductile cast iron Semi-finishing of gray cast iron with coolant	94	800	29
	SX6	Si_3N_4	Gray	Turning/milling of gray cast iron Reinforced VB wear resistance	93.5	1,200	29
	SP9	SiAlON	Yellow	Turning of heat-resistant alloy Roughing of gray cast iron High-precision machining by low-resistance edge treatment + CVD coating	93.5	1,200	15
H Hardened material	450	TiAlN coating	Black	Continuous finishing of hardened material (HRC 55-65)	95.5	1200	31
	HC2/HC5	Al_2O_3+TiC	Black	Semi-finishing of hardened materials and gray cast iron	94.5	800	21
	HC4/ZC4	Al_2O_3+TiC	Black / Gold	Finishing of hardened materials (e.g. removal of carburized layers)	95.5	1,000	25
	HC7/ZC7	Al_2O_3+TiC	Black / Gold	Finishing of hardened materials (e.g. removal of carburized layers)	95	1,100	23
S Heat resistant alloy	SX3	SiAlON	Gray	Roughing with scale to Semi-finishing of heat-resistant alloys Excellent balance between wear and chipping resistance	93	1,100	12
	SX5	SiAlON	Gray	Rough turning of heat-resistant alloy (Waspaloy)	92.5	1100	18
	SX7	SiAlON	Gray	Turning/Milling of Heat-Resistant Alloys Good wear resistance	93	900	11
	SX9	SiAlON	Gray	Rough turning/milling of heat-resistant alloys and gray cast iron Excellent chipping resistance	93.5	1,200	15
	WA1	Al_2O_3+SiC	Light green	Turning of heat-resistant alloys/gray cast iron Excellent chipping resistance	94.5	1,200	35
	WA5	Al_2O_3+SiC	Light green	Turning heat-resistant alloys/gray cast iron Excellent wear resistance	94.5	1,200	35

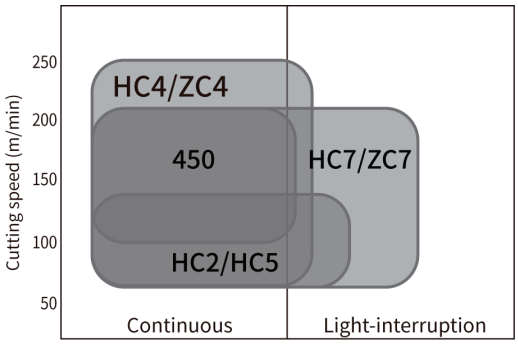
For gray cast iron



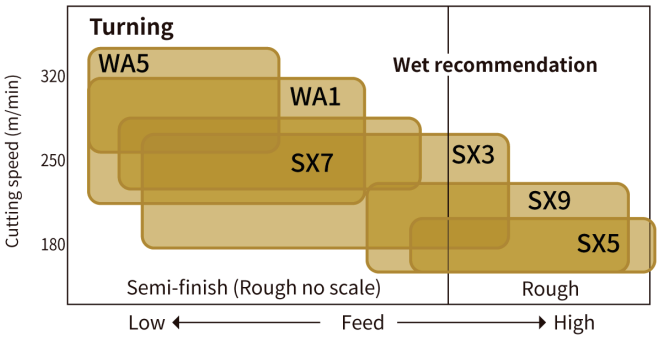
For ductile cast iron

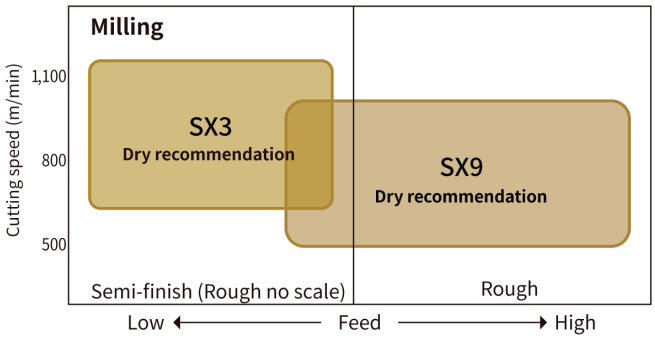


For hardened materials



For heat-resistant alloys





For continuous machining of hardened materials | NTK CeramiX

NTK450

NTK CeramiX, a new material that maximizes the performance of ceramics, is born
Establishing an intermediate position between CBN and ceramics
Higher economic efficiency enables insert cost reduction

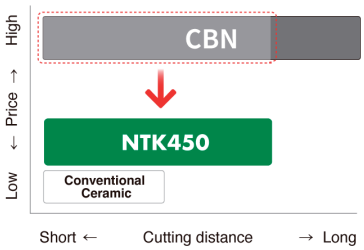
Performance

- Higher wear resistance performance with newly developed coating and dense, homogenized base material structure
- Ideal for small-lot production or single-part production when balancing tooling cost and performance

Application

Hardened materials
Continuous machining HRC55-65

Insert cost and cutting distance

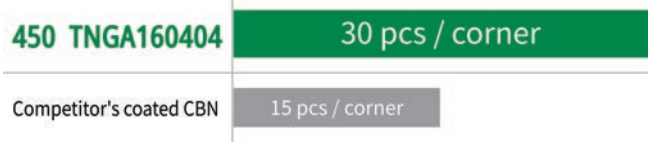


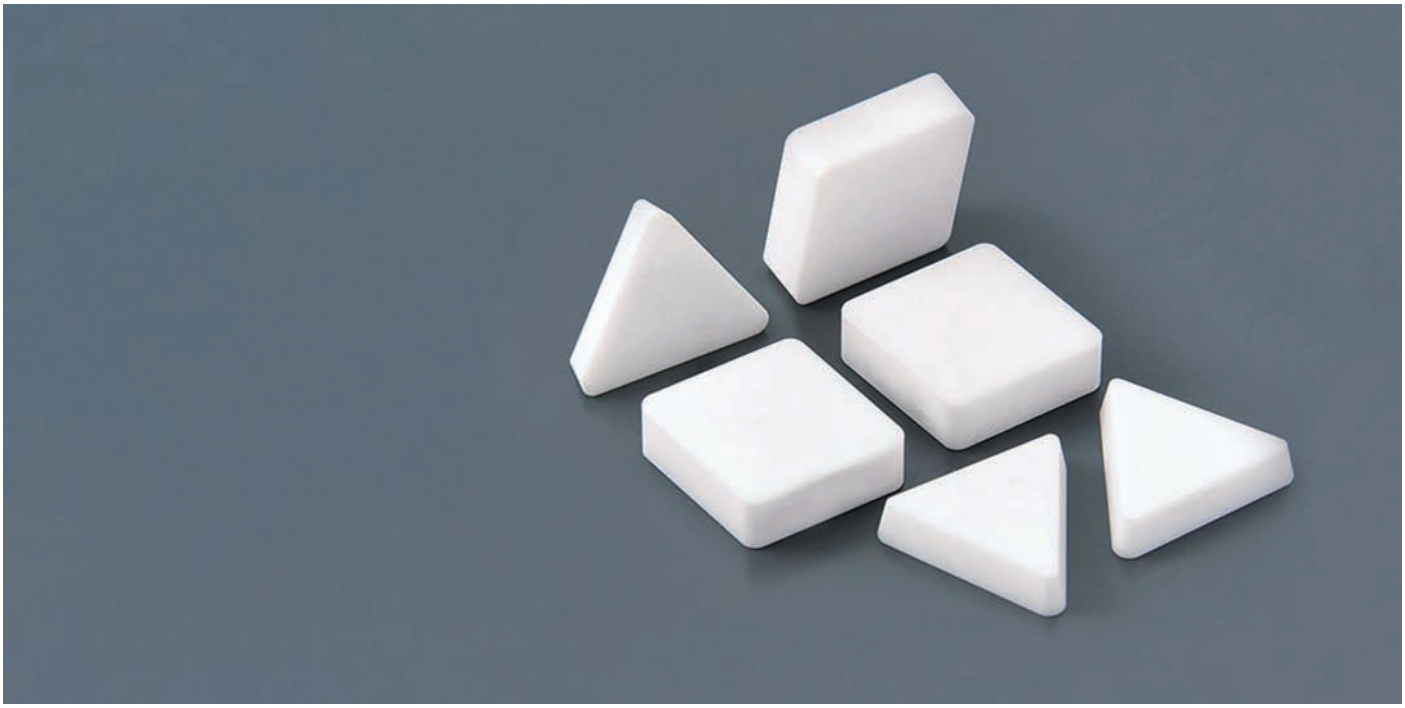
Case study Industrial robot parts machining

NTK CeramiX "450" achieves twice the machining capability of competitor CBN.
In addition, annual tooling costs have been reduced by approximately 70%.

Work material	SCM415 (HRC 58-62)
Cutting speed	200 m/min
Feed	0.05 mm/rev
Depth of cut	0.1mm
Coolant	WET

Machining dia. : φ60





Gray cast iron continuous finishing | Alumina ceramics

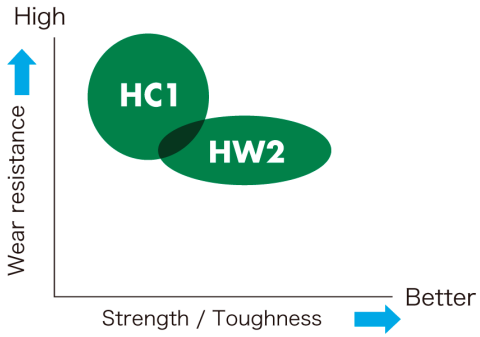
HC1

First recommended grade for finishing ordinary gray cast iron

High-speed machining at Vc = ~700 m/min

Performance

- Dedicated grade for high-speed finishing
- Excellent wear resistance performance
- Highly heat resistant due to high-purity alumina components, ideal for high-speed and high-temperature machining



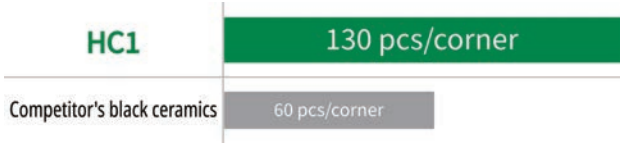
Application

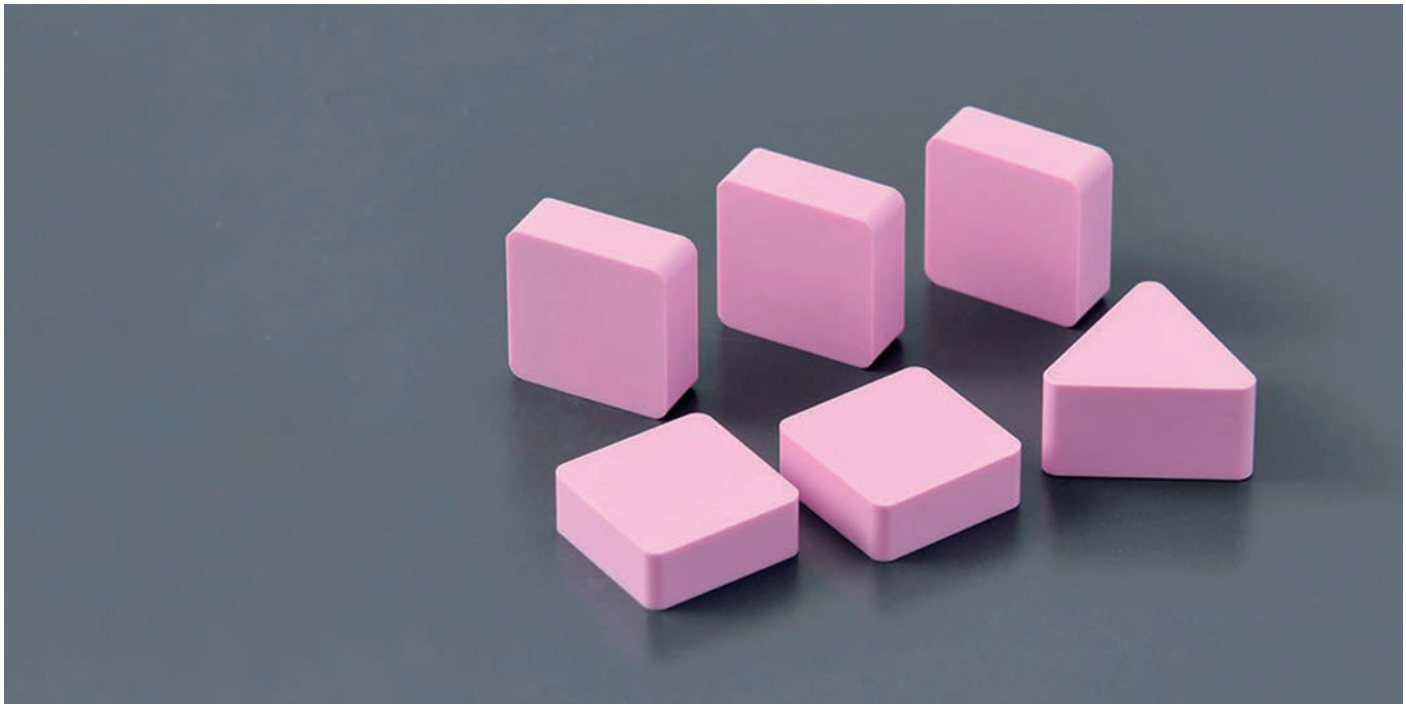
Gray cast iron turning
Finishing

Case study disc brake

HC1 has twice the amount of tool life compared to other competitors' black ceramics.

Work material	FC250
Cutting speed	630 m/min
Feed	0.3 mm/rev
Depth of cut	0.5 mm
Coolant	DRY





Gray cast iron continuous finishing | Alumina ceramics

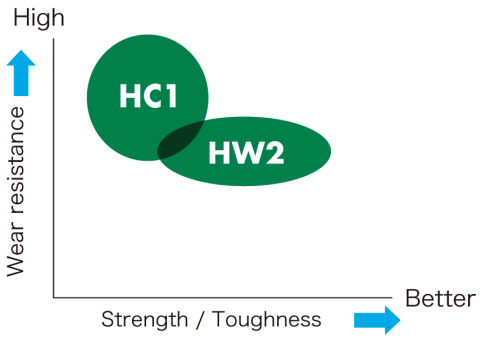
HW2

Stable high-speed finish machining is achieved by alumina particles with excellent high-temperature hardness and strength.

High-speed machining at Vc = ~700 m/min

Performance

- High-speed finishing material
- High-strength and high-toughness grade using high-purity alumina with zirconia added.



Application

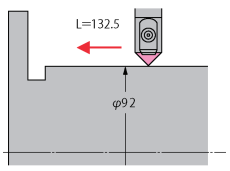
Gray cast iron

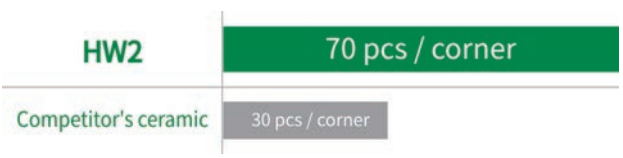
Finishing light interrupted to continuous turning

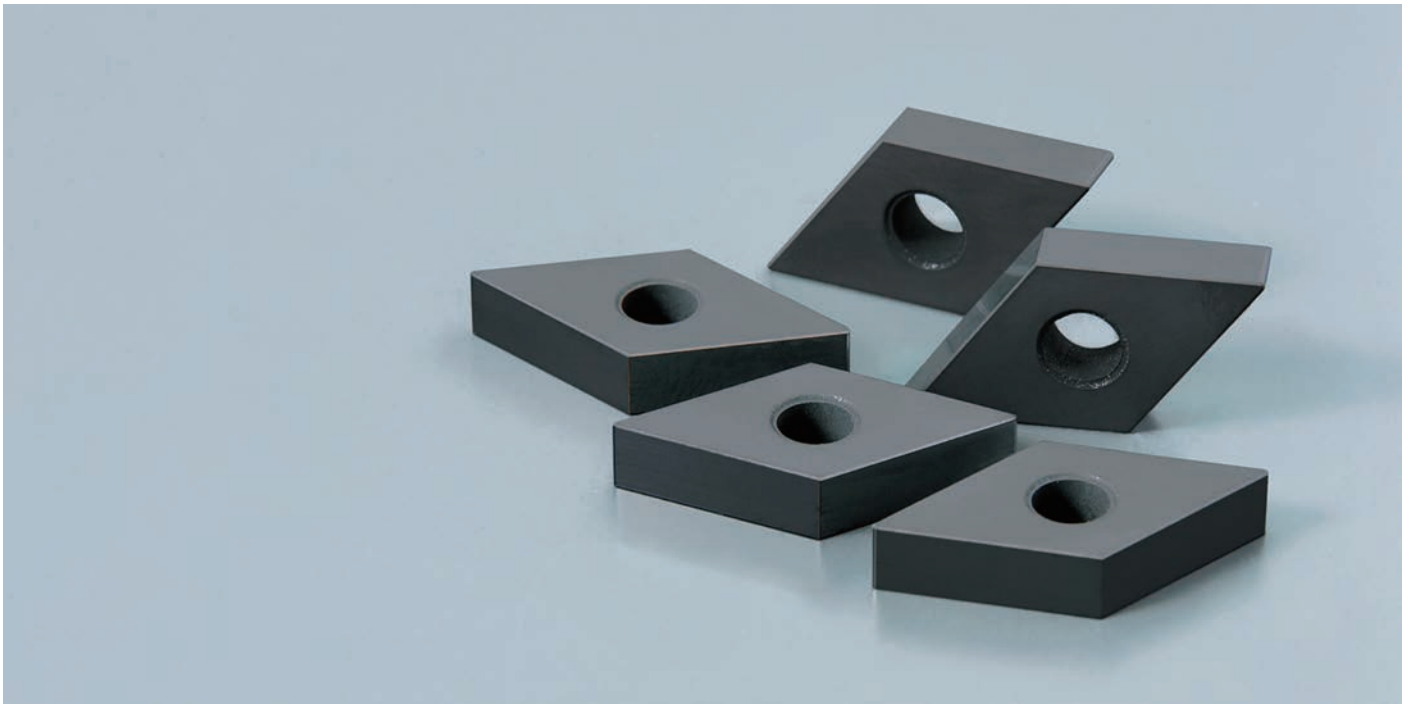
Case study Cylinder liner machining

HW2 has twice the amount of tool life than the competitor's grade, as well as a higher quality machined surface.

Work material	cast iron
Cutting speed	600 m/min
Feed	0.32 mm/rev
Depth of cut	3.0mm
Coolant	DRY







Ductile cast iron finishing | TiC based ceramic + alumina

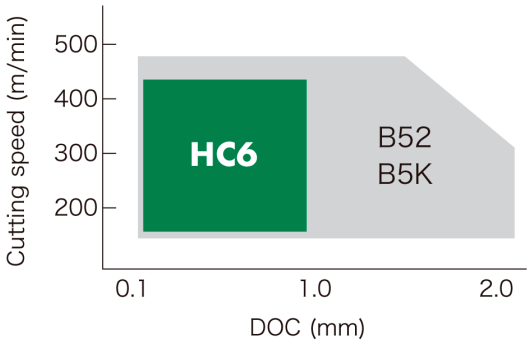
HC6

Ceramic grade specifically designed for ductile iron machining

Ideal for high-speed finishing at Vc = ~400 m/min

Performance

- Specially developed ceramic grade for ductile cast iron machining
- The world's first TiC-based ceramic material put into practical use
- Longer tool life and stable machining even under high-speed machining



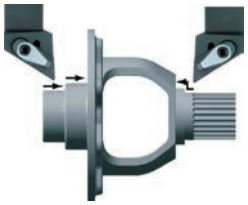
Application

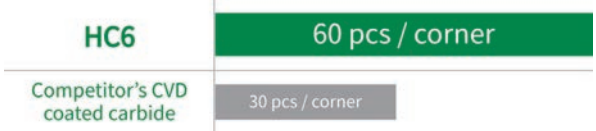
Ductile cast iron
Finish turning

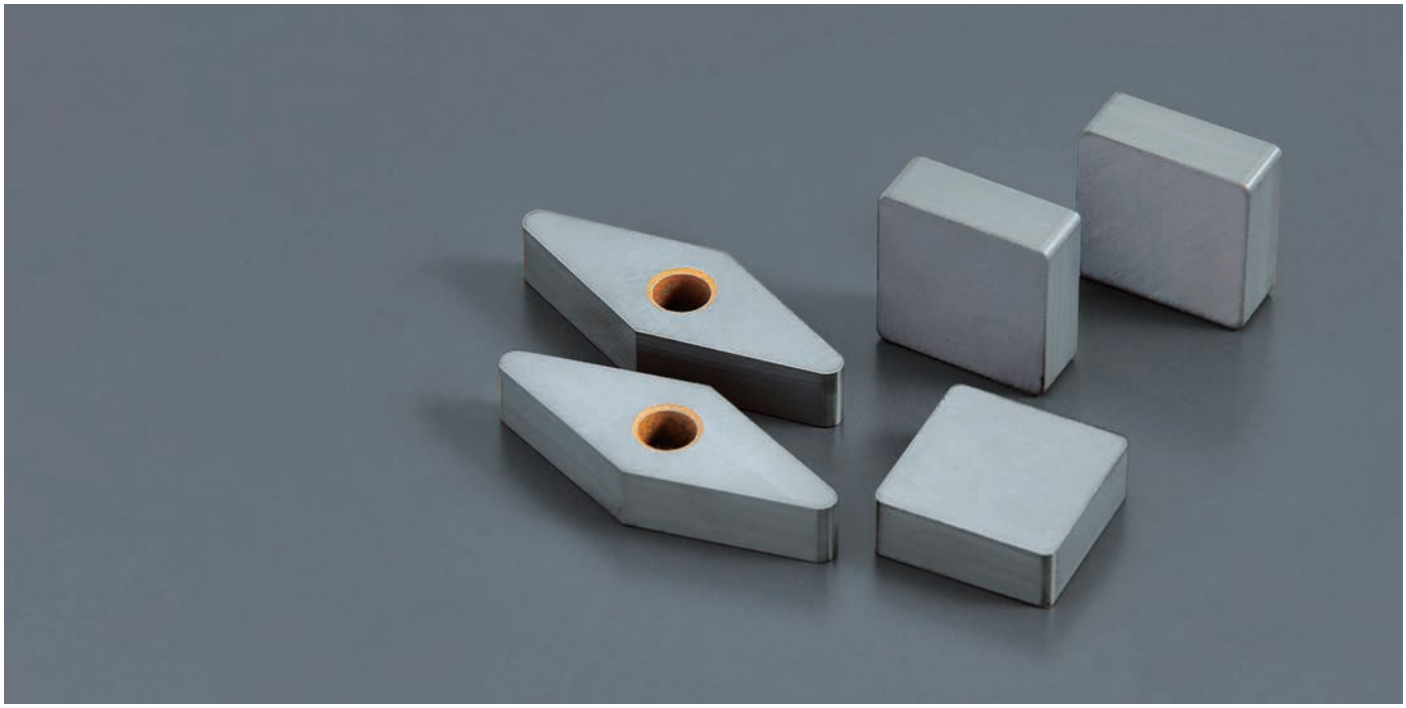
Case study Differential case machining

HC6 has achieved twice the tool life improvement compared to competitor's CVD coated carbide.

Work material	Ductile cast iron
Cutting speed	270 m/min
Feed	0.2 mm/rev
Depth of cut	0.5 mm
Coolant	WET







Gray Cast iron with scale machining, excellent wear resistance | Silicon nitride ceramic

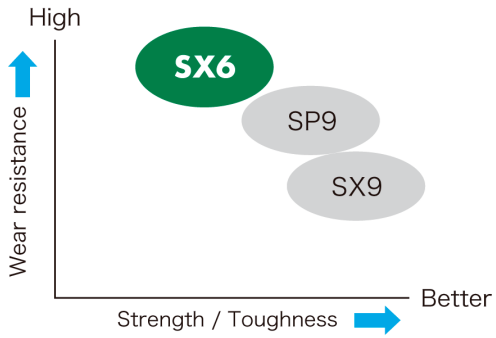
SX6

Machining gray cast iron at Vc = ~1,200 m/min

Outstanding notch wear resistance and thermal shock resistance

Performance

- Significantly reduces the progress of notch wear, achieving high-speed and longer tool life machining.
- Excellent thermal shock resistance, and can be used for WET machining.



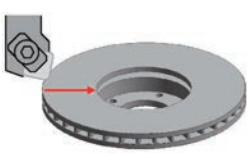
Application

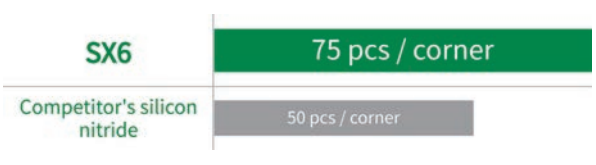
Gray cast iron with scale
Turning / Milling

Case study brake disc

SX6 has a 1.5 times longer tool life than other competitors' silicon nitride.

Work material	FC150 with scale
Cutting speed	1,100 m/min
Feed	0.5 mm/rev
Depth of cut	2.0~3.0 mm
Coolant	WET





Ductile cast iron / Gray cast iron for roughing with scale to finishing | Coated silicon nitride ceramics

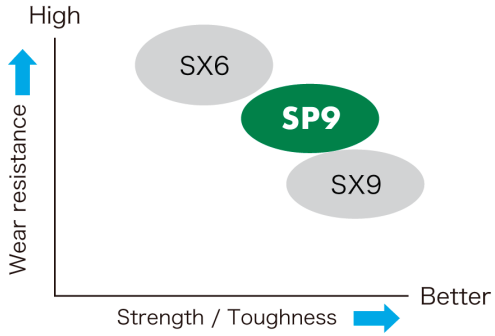
SP9

Excellent chipping resistance and wear resistance due to combination of high toughness material and CVD coating

CVD coating enables longer tool life even in the low-speed range at Vc = 300 m/min.

Performance

- Combination of high-toughness material and CVD coating provides both excellent chipping resistance and wear resistance
- Minimum cutting edge treatment reduces cutting resistance
- Finishing is also available.



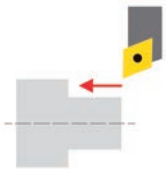
Application

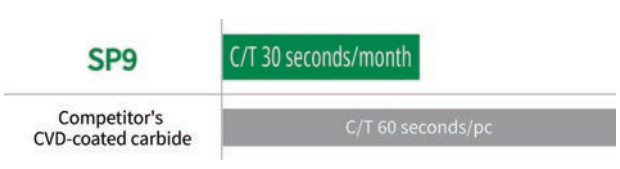
Ductile cast iron / Gray cast iron
Turning / Milling roughing with scale to finishing

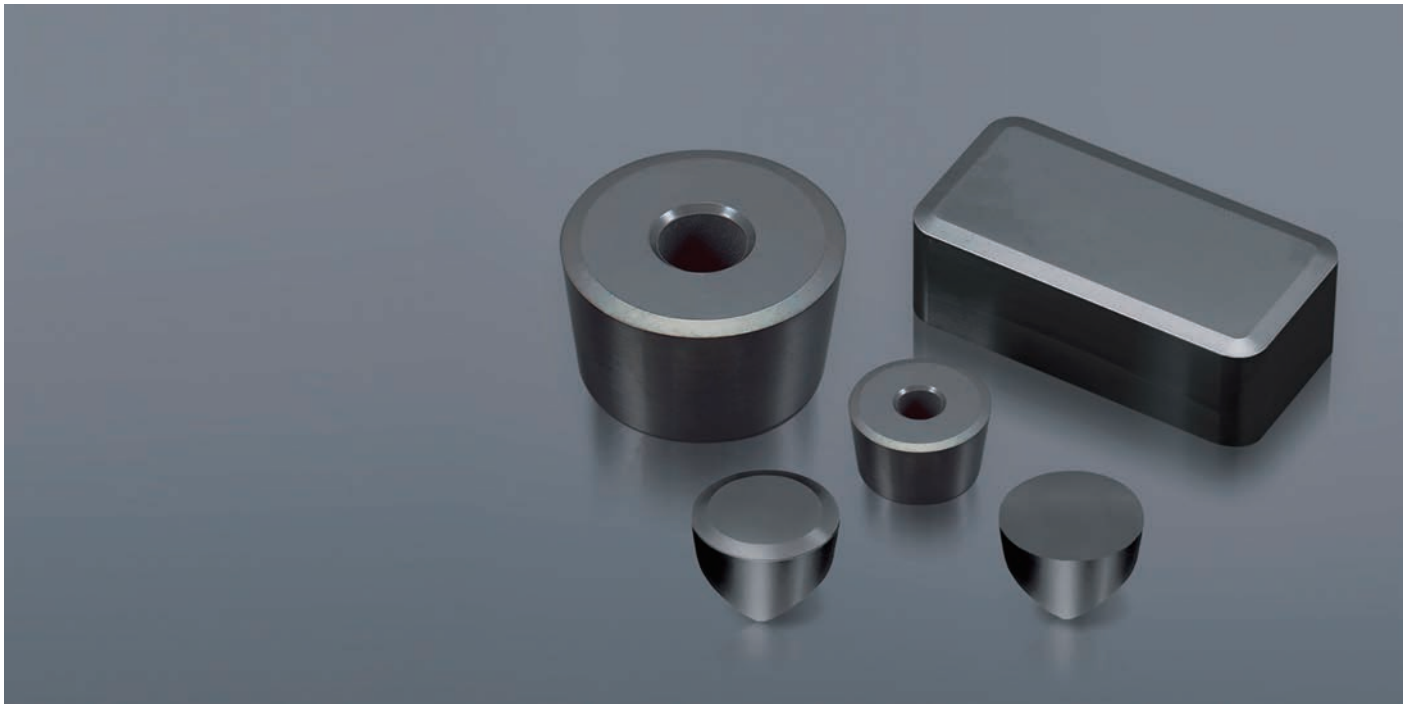
Case study Differential case machining

SP9 can machine faster than other competitors' CVD coated carbide, and the C/T reduced to 1/2.

Work material	Ductile cast iron with scale
Cutting speed	450m/min (SP9) 200m/min (CVD coated carbide)
Feed	0.35 mm/rev
Depth of cut	1.5mm
Coolant	DRY







For continuous machining of gray cast iron and hardened materials | Alumina TiC based ceramics

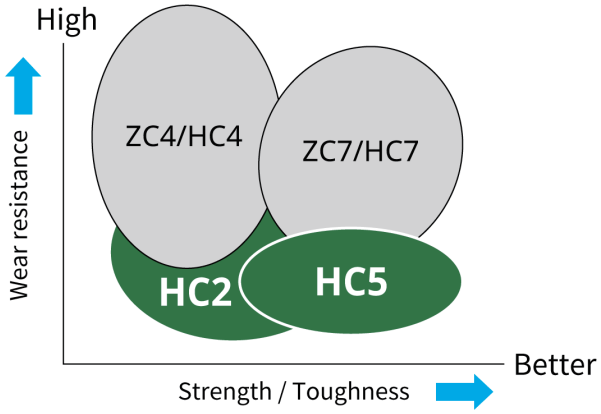
HC2 / HC5

All-purpose grade for machining gray cast iron and hardened materials

Well balanced grade between wear resistance and chipping resistance

Performance

Excellent insert hardness, low plastic deformation at high temperatures, and excellent performance in turning gray cast iron and hardened materials



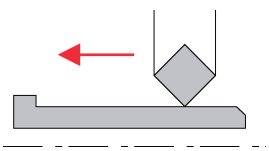
Application

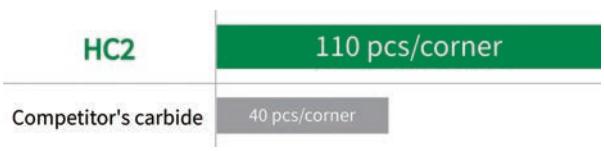
Gray cast iron / Semi to finishing with continuous machining
Hardened materials / Finishing
Hardened and cast iron mill rolls / Semi to finishing

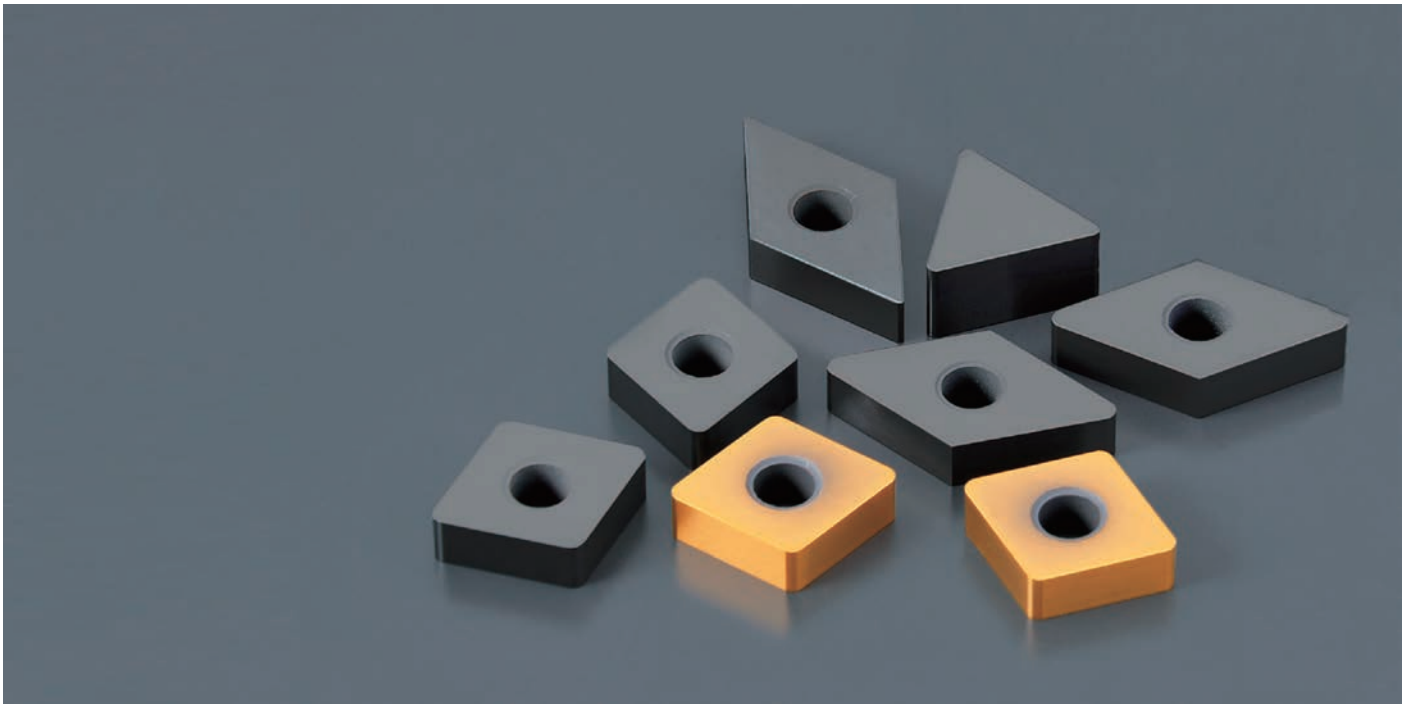
Case study cylinder liner machining

HC2 achieves 1.3 times higher machining efficiency and nearly three times longer tool life than other competitors' carbide.

Work material	Gray cast iron
Cutting speed	600 m/min (HC2) 400 m/min(competitor's carbide)
Feed	0.5 mm/rev
Depth of cut	0.7 mm
Coolant	DRY







Hardened materials for continuous machining | Alumina TiC based ceramics

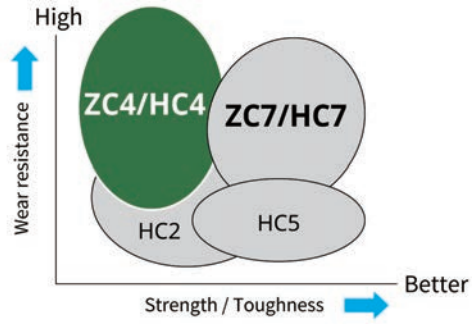
ZC4 / HC4

Ceramic grade best for hardened materials

Excellent performance by increasing the hardness and strength of the insert base material.
Suitable for hardened materials in the range of HRC 55-70

Performance

- Excellent chipping resistance and wear resistance due to combination of high toughness material and CVD coating
- Significant tool cost reductions are achieved by replacing CBN
- Inserts with a wiper flat or a chipbreaker are available to further improve machining efficiency



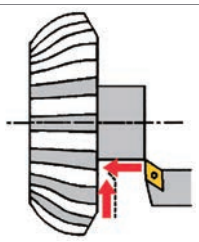
Application

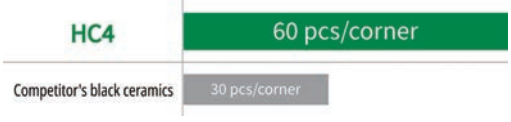
Continuous machining of hardened materials HRC 55-70

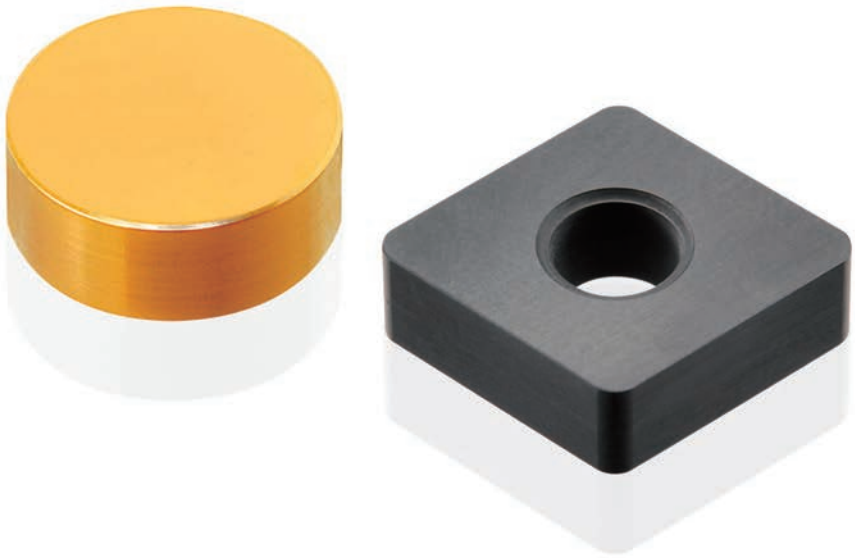
Case study Gear machining

HC4 has superior wear resistance and twice the tool life extension compared to competitors' tool.

Work material	Carburized and hardened steel (HRC 63)
Cutting speed	121 m/min
Feed	0.03~0.04 mm/rev
Depth of cut	0.15 mm
Coolant	DRY







Hardened materials for continuous machining | Alumina TiC based ceramics

ZC7 / HC7

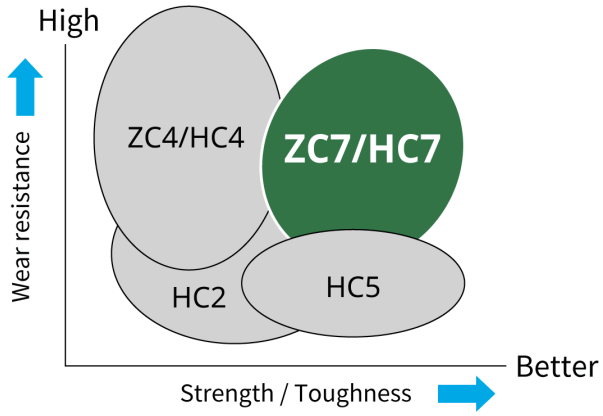
Suitable for work materials with a wide range of hardness

Reduces insert cost by replacing CBN

Suitable for hardened materials with hardness of HRC 30-62

Performance

- Ideal for finishing of hardened materials due to the insert's high temperature hardness and low plastic deformation at high temperatures.
- Reduces tool cost significantly by replacing CBN.
- Inserts with a wiper and chipbreaker types are also available.



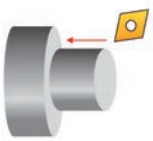
Application

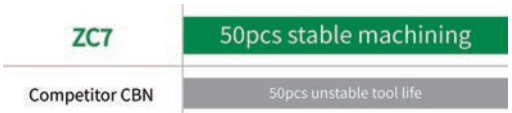
Continuous machining of hardened materials HRC 30-62

Case study Tool parts machining

ZC7 can machine the same number of pieces as CBN and has a stable tool life. Significant cost reductions are now achieved.

Work material	SCr42H
Cutting speed	120 m/min
Feed	0.15 mm/rev
Depth of cut	0.4 mm
Coolant	WET





Heat-resistant alloys for scale to semi-finishing | SiAlON ceramics

SX3

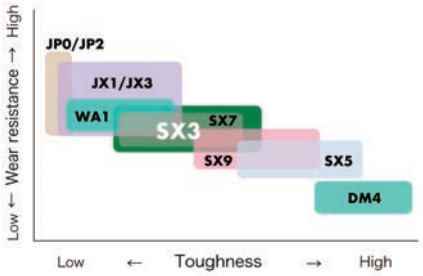
Covers wide range of machining:Roughing with scale to semi-finishing

Ceramic grade combining toughness and wear resistance

High speed and stable machining in turning and milling

Performance

- Excellent wear and chipping resistance. Versatile ceramic grade.
- Covers a wide range of heat-resistant alloy machining from scale to semi-finishing
- High-efficiency machining in milling and turning



Application

Heat-resistant alloys

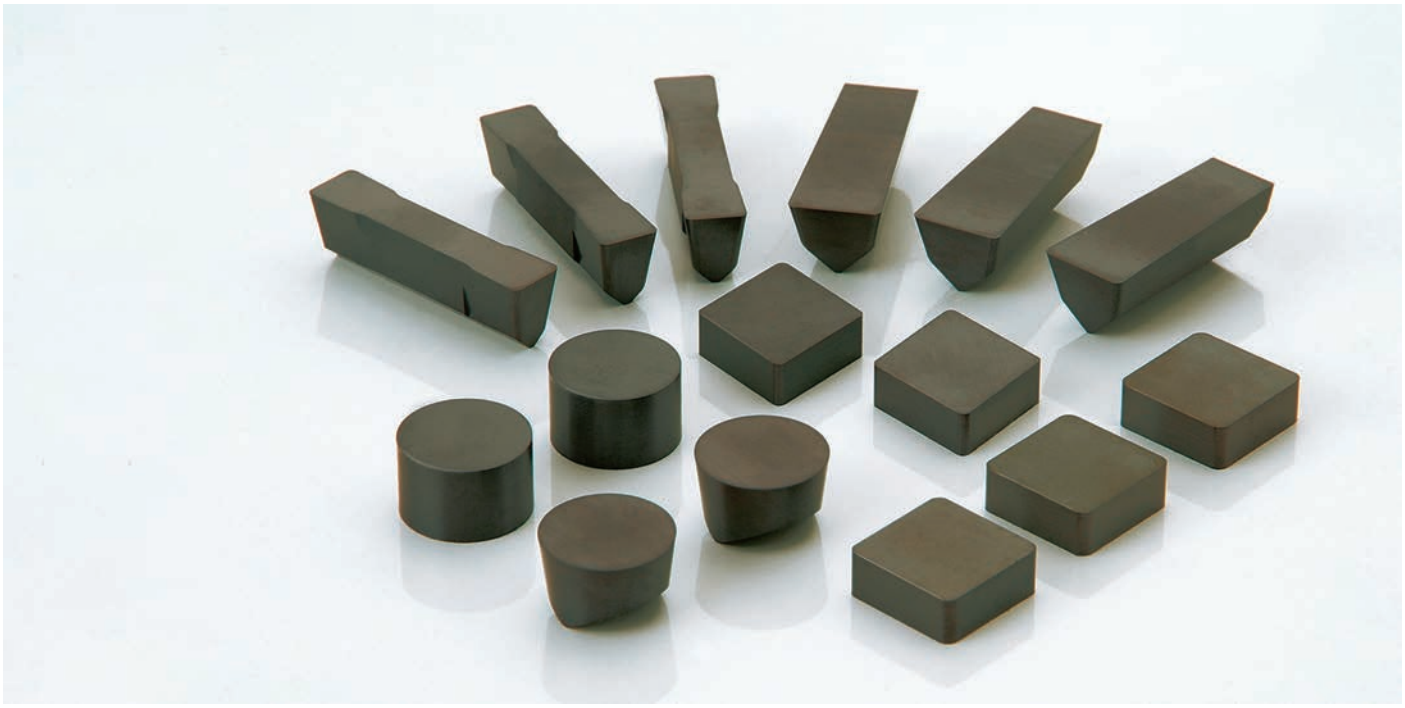
Turning / Profiling / Milling

Roughing with scale to semi-finishing

Case study Rene130 with scale machining

In scale machining, SX3 was in good condition with no defects, whereas the competitor's SiAlON resulted in defects.

Work material	Rene130
Cutting speed	115 m/min
Feed	0.15 mm/rev
Depth of cut	-
Coolant	WET



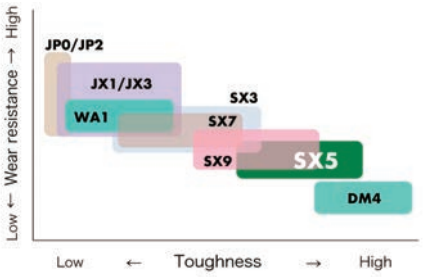
Heat-resistant alloys for scale machining | SiAlON ceramics

SX5 [Made-to-order]

First recommendation for machining through scale
Excellent notch wear resistance ideal for machining scale
Made-to-order

Performance

- Ceramic with the highest fracture resistance
- Best for machining where scale or interruptions exist
- Best grade for roughing Waspaloy with scale



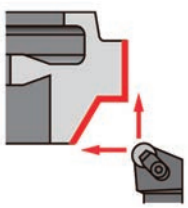
Application

Heat resistant alloys
Turning / grooving through scale

Case study Aircraft part (Roughing with scale)

SX5 insert had more stable performance and no edge chipping compared to the competitor's SiAlON grade.

Work material	Inconel718
Cutting speed	200 m/min
Feed	0.2 mm/rev
Depth of cut	2.5 mm
Coolant	WET



Roughing (no scale) to semi-finishing heat resistant alloys | SiAlON ceramic

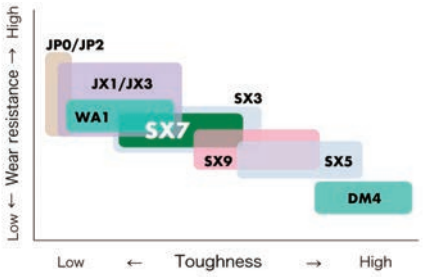
SX7

Better notch resistance than whisker ceramics

Improved boundary wear resistance to prevent cutting edge wear and breakage

Performance

- Better notching resistance compared to whisker ceramics
  No need to program ramping to shift wear on insert
- Better flank wear resistance compared to other SiAlONs.
- Ideal for semi-finishing Inconels and Waspaloy



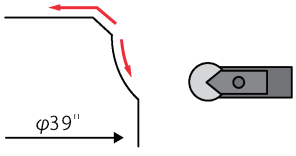
Application

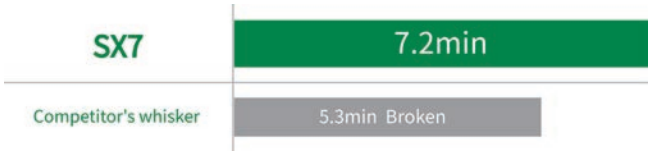
Roughing with no scale to semi-finishing heat resistant alloys
Turning/Grooving/ Milling

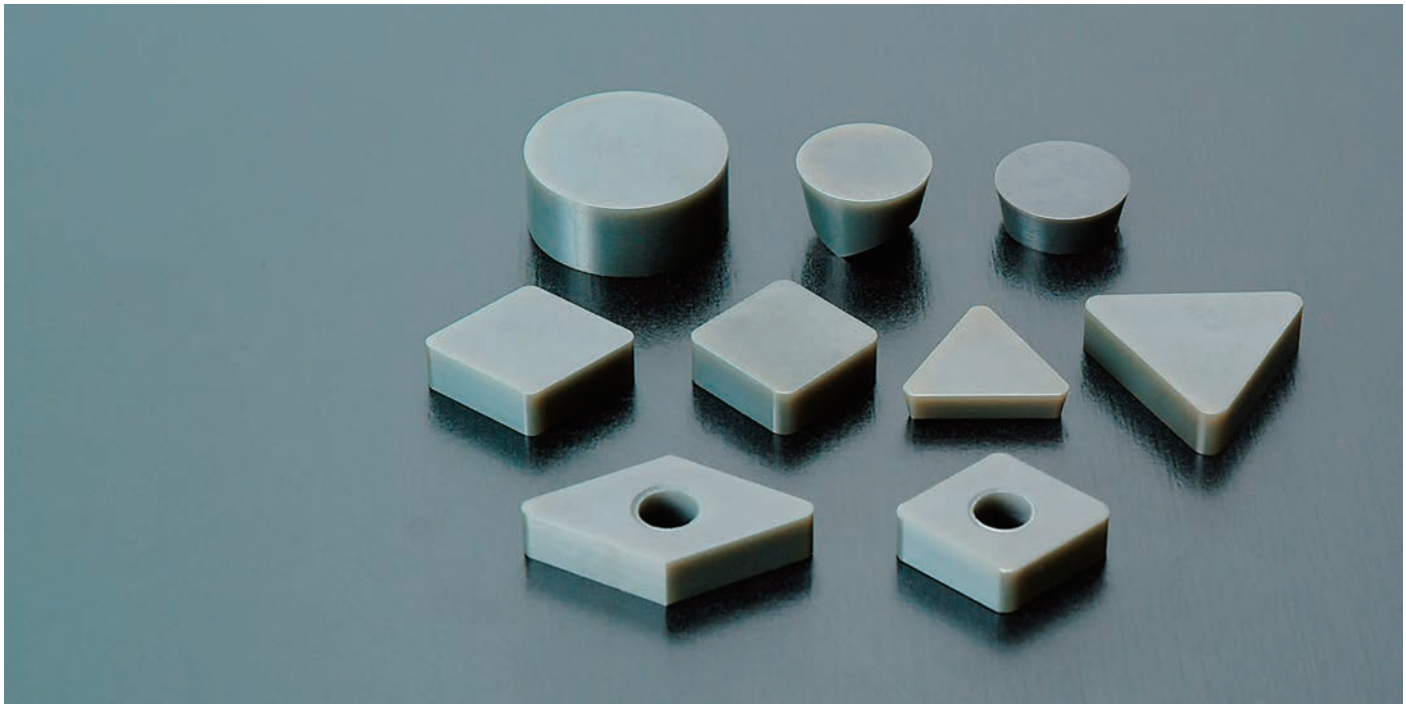
Case study Turbine case (semi-finishing)

SX7 insert achieved more stable machining due to its excellent notching resistance compared to the competitor's whisker insert.

Work material	Waspaloy
Cutting speed	240 m/min
Feed	0.3 mm/rev
Depth of cut	Varied depth of cut
Coolant	WET







Machines through scale on heat resistant alloys | SiAlON ceramic

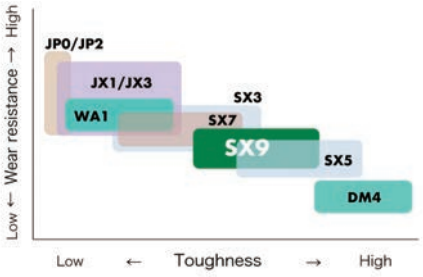
SX9

SiAlON ceramic grade material with improved chipping resistance

Best grade for roughing heat resistant alloys like Inconel 718 with scale

Performance

- SiAlON with excellent notch and flank wear resistance
- Superior toughness compared to whisker ceramics
- Best thermal shock resistance, perfect for milling applications
- Best grade for roughing Inconel with scale



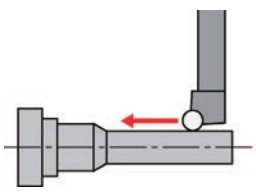
Application

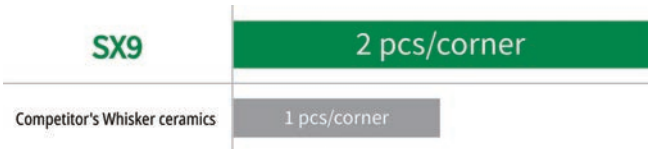
Heat resistant alloys
Turning / Milling / End milling: roughing operations

Case study Aircraft part (with scale)

SX9 is a significant cost advantage and double the tool life compared to competitor's whisker insert.

Work material	Inconel718
Cutting speed	180 m/min
Feed	0.2 mm/rev
Depth of cut	- 0.6 mm
Coolant	WET





Roughing (no scale) to semi-finishing heat resistant alloys | Whisker ceramic

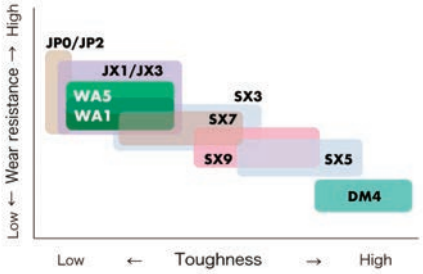
WA1 / WA5

High speed and efficient machining of heat resistant alloys

SiC fibers in the material provide strength, flank wear resistance and thermal shock resistance

Performance

- Alumina ceramic material with enhanced toughness due to the addition of SiC whiskers
- High-speed machining is possible due to flank and notch wear resistance and toughness



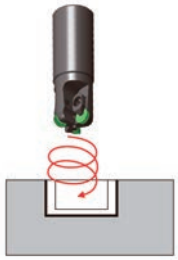
Application

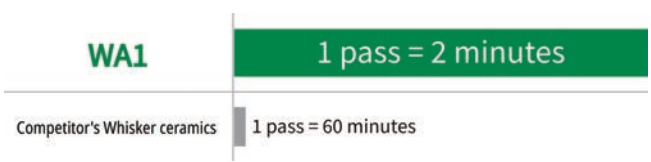
Roughing (no scale) to semi-finishing heat resistant alloys
Turning/Grooving/Milling

Case study Gas turbine case

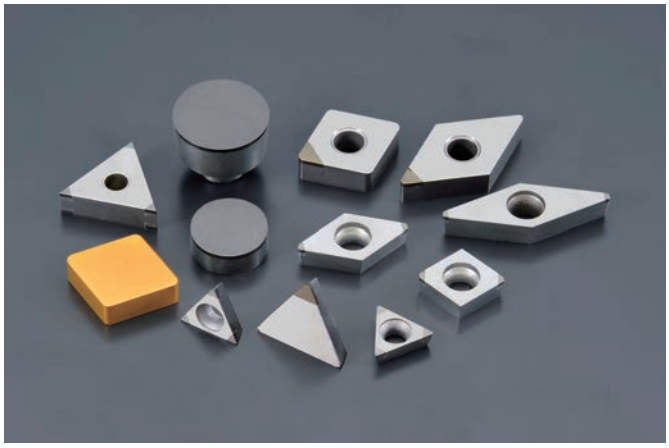
WA1 significantly reduced cycle time compared to the competitor's carbide end mill.

Work material	Inconel718
Cutting speed	800 m/min
Feed	0.10 mm/rev
Depth of cut	2 mm
Coolant	DRY





CBN/Ultra-high pressure sintered body

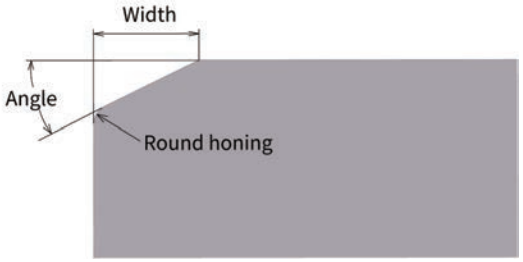


CBN grade inserts are composed mainly of CBN (Cubic Boron Nitride) particles with a special ceramic binder. The material has excellent cutting material properties including high hardness at normal and highly elevated temperatures, as well as little chemical reactions with work materials. CBN inserts can be used for machining hardened materials and high speed machining of cast iron.

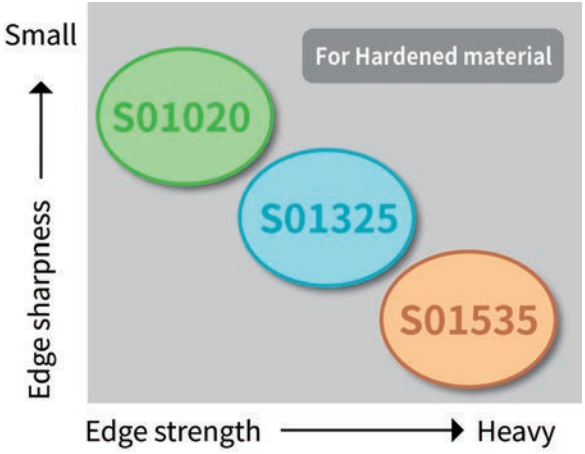
Features

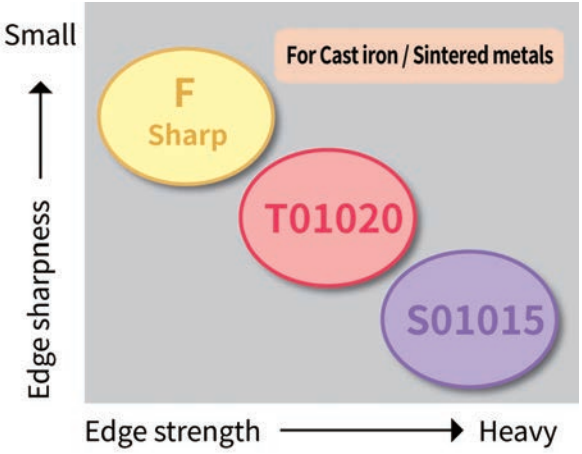
Work material	Grade	Coating	Corner	Application	CBN content	Main binder
H Hardened material	B36	-	multi	Light to heavy interrupted machining of hardened materials	65%	TiCN
	B40	-	multi	Heavy interrupted machining of hardened materials	65%	TiN
	B52	-	multi	Finishing of ductile iron Continuous machining of hardened materials	50%	TiC
	B5K	TiCN	multi	Continuous to light interrupted machining of hardened materials Finishing of ductile iron	50%	TiC
	B6K	TiCN	multi	Middle to heavy interrupted machining of hardened materials	65%	TiCN
K Cast iron	B16	-	solid	Roughing to finishing of gray cast iron Machining of sintered metals	82%	TiN
	B22	-	top-surface	Turning of hardened mill rolls Roughing to finishing of gray cast iron	80%	TiN
	B23	-	multi	Roughing of gray cast iron Machining of sintered metals	90%	Ti
	B30	-	multi	Finishing of gray cast iron Machining of sintered metals	95%	Ti

Edge treatment

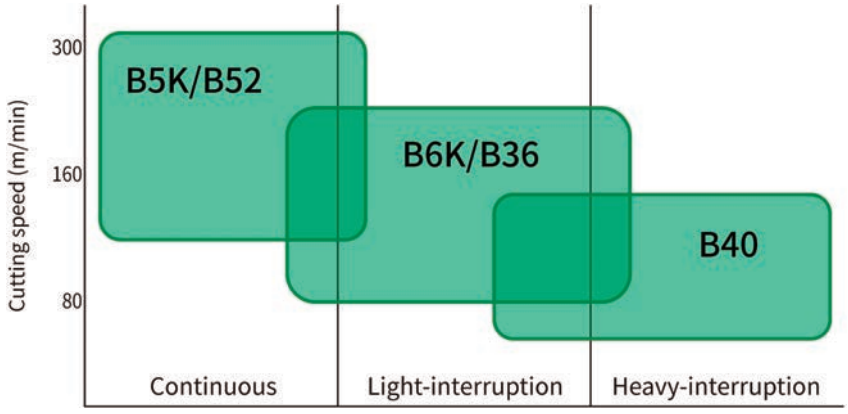


Code	Width	Angle	R-honing
F(sharp-edge)	0.00	0°	none
T01020	0.10	20°	none
S01015	0.10	15°	yes
S01020	0.10	20°	yes
S01325	0.13	25°	yes
S01535	0.15	35°	yes

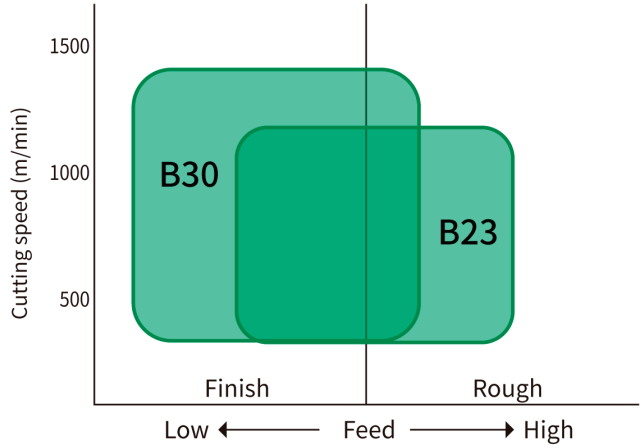




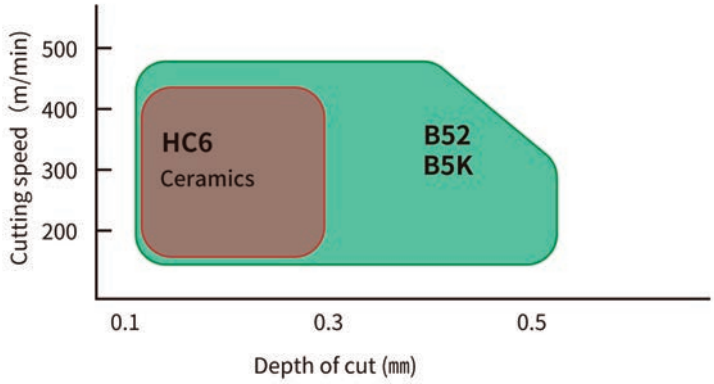
Hardened material



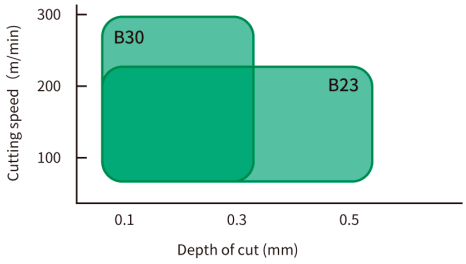
Gray cast iron

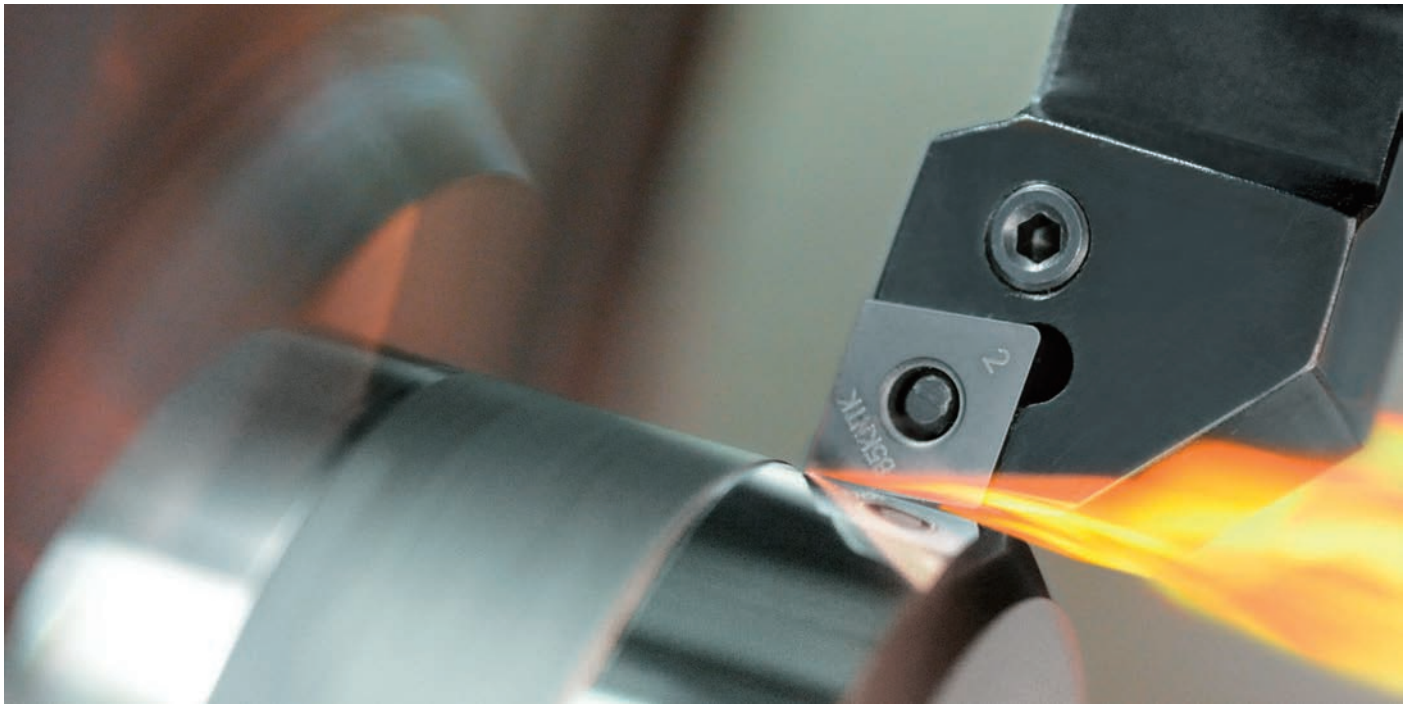


Ductile cast iron



Sintered metals





For continuous machining | CBN for hardened materials

B5K / B52

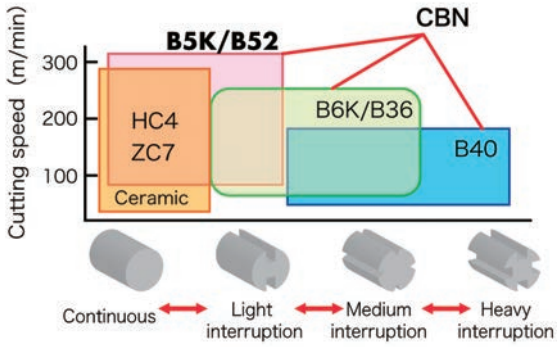
CBN grades ideal for high-precision machining

Roughing to finishing continuous cut operations

Ideal for hardened materials of HRC 60 or higher

Performance

- Excellent wear resistance due to optimum CBN content and special TiC binders
- Continuous machining



Application

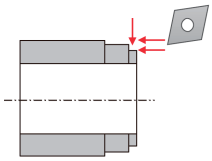
Continuous machining for hardened materials at HRC60 or higher

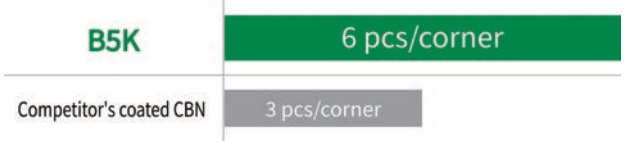
Case study OD Turning of shaft parts

B5K achieved 2 times longer tool life.

Due to dimensional changes and deterioration of the machined surface the competitor's coated CBN needed to be changed.

Work material	SUS440C(HRC58-60)
Cutting speed	150m/min
Feed	0.1mm/rev
Depth of cut	0.2mm
Coolant	DRY





For light to medium interrupted machining | CBN for hardened materials

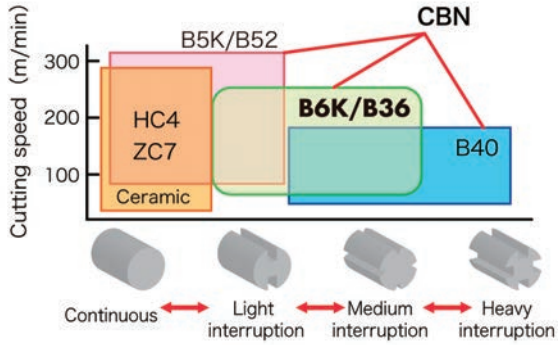
B6K / B36

Recommended for continuous to interrupted cuts

Versatile CBN designed for machining hardened materials at HRC 60 or above with light to medium interruptions

Performance

- CBN with a special TiCN binder achieves a combination of wear resistance and fracture resistance
- Stable performance through light to medium interrupted machining

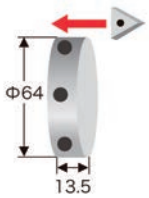


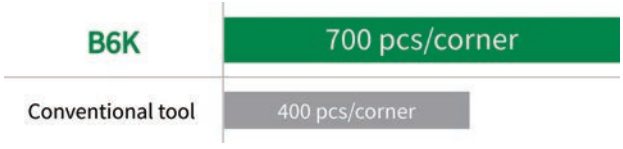
Application

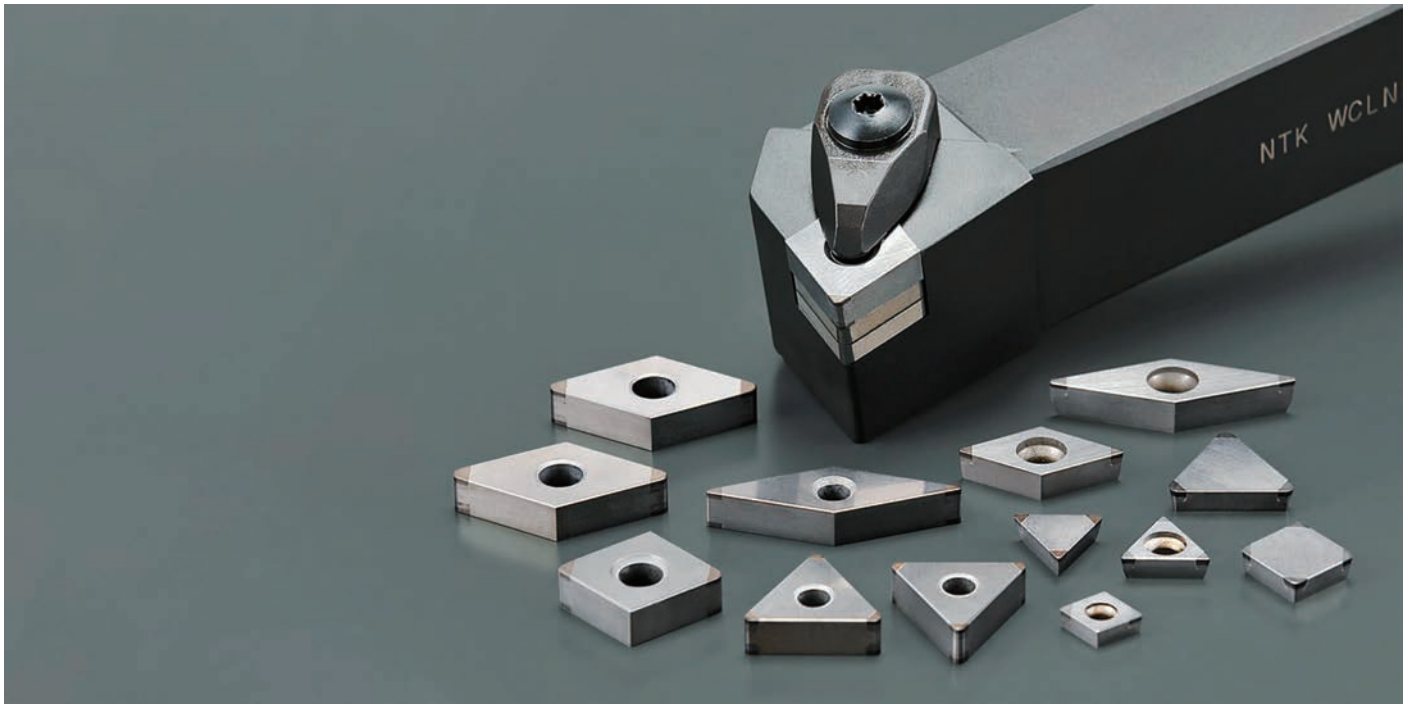
Light to medium interrupted machining of hardened materials of HRC 60 or higher

Case study Interrupted OD turning of machine parts

Work material	STKM(HRC50) interrupted
Cutting speed	210-220m/min
Feed	0.08 mm/rev
Depth of cut	0.2 mm
Coolant	WET







For heavy interrupted machining | CBN for hardened materials

B40

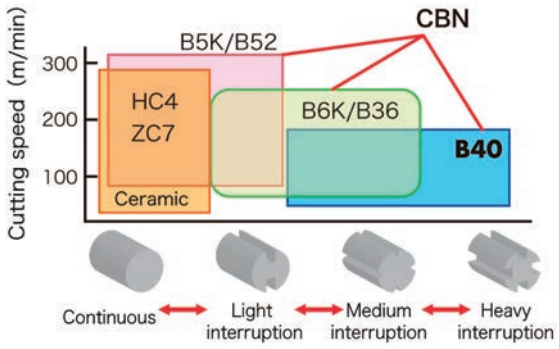
CBN material specialized for heavy intermittent machining

Excellent chipping resistance and stable machining

Best suited for machining of hardened materials over HRC60

Performance

- CBN with a special TiN binder enhances chipping resistance
- CBN material specialized for heavy interrupted machining



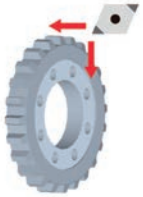
Application

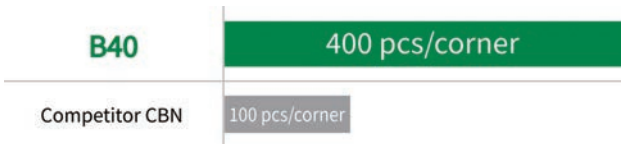
Hardened materials interrupted machining HRC60 or more

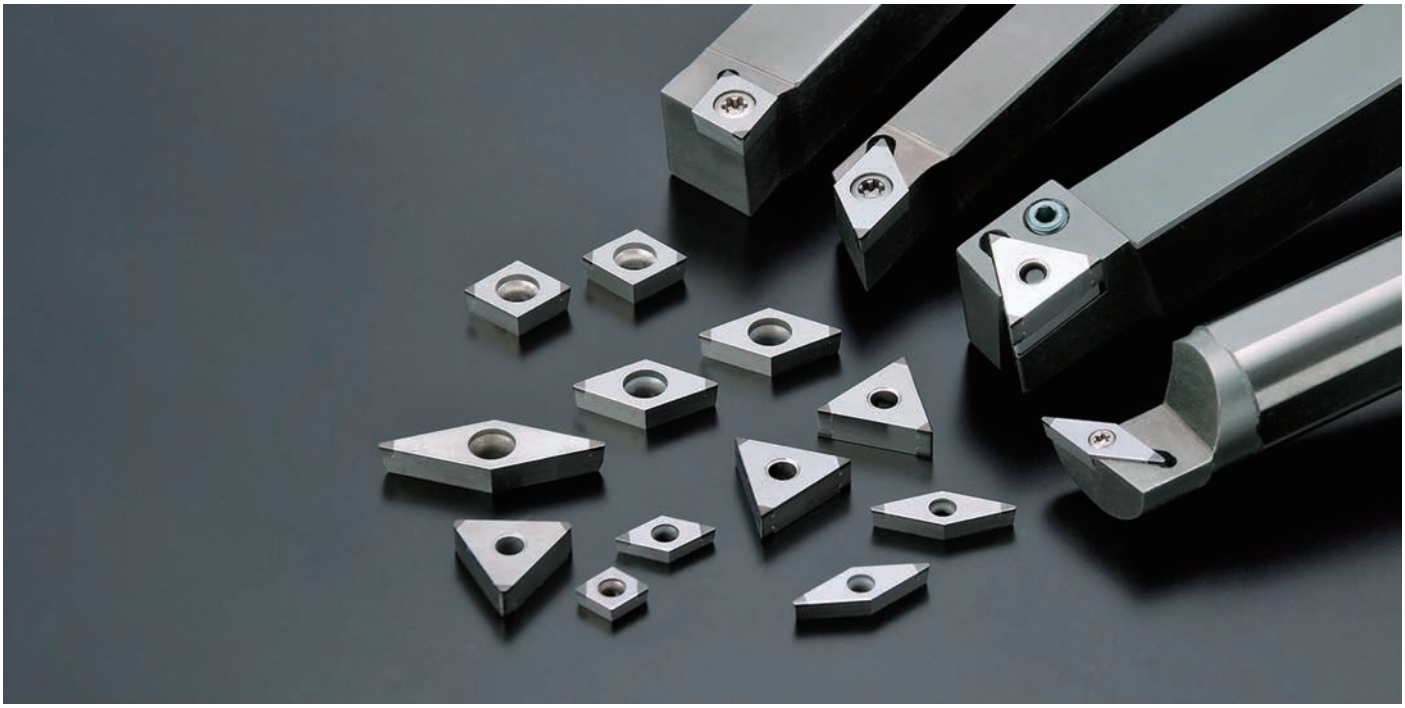
Case study gear parts

Although insert damage due to interrupted machining have been a problem, B40, with its superior resistance to wear, achieved a 4X longer tool life.

Work material	S50C(HRC61)
Cutting speed	28 m/min
Feed	0.12 mm/rev
Depth of cut	0.25 mm
Coolant	WET







High-speed machining of cast iron and sintered alloys | Non-coated CBN

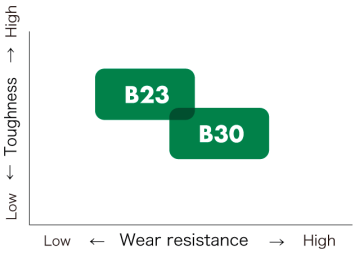
B23 / B30

High-speed machining at Vc=~1,200m/min

Highly efficient machining that significantly outperforms ceramics

Performance

- Specialized in high-speed roughing of gray cast iron
- Ultra high-speed machining at a maximum Vc-1,200m/min

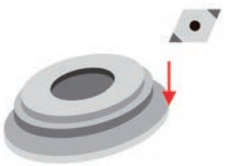


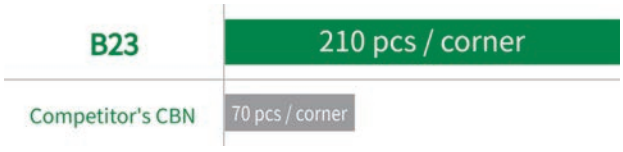
Application

Gray cast iron
Turning scale machining to semi-finishing

Case study Oil pump housing

Work material	FC250
Cutting speed	250 m/min
Feed	0.2 mm/rev
Depth of cut	2.0 mm
Coolant	WET





Gray cast iron for high-speed roughing | Solid type CBN

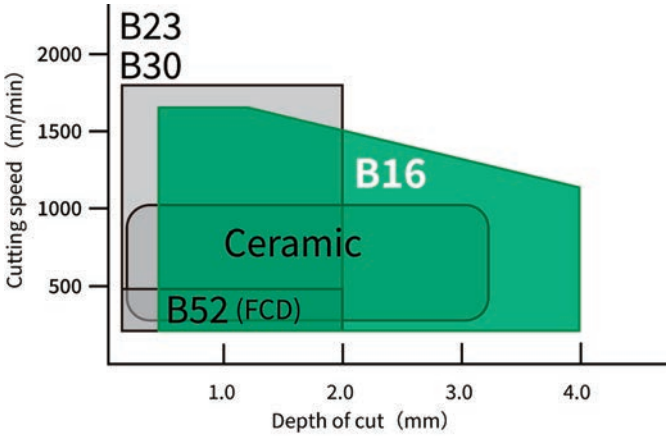
B16

Ideal for high-efficiency machining of cast iron

Solid CBN does not have the depth of cut limitations of brazed CBN, making it ideal for machining with large depths of cut.

Performance

- Succeeded in developing CBN tool materials with a wide range of application areas other than hardened steel by increasing CBN content and using a binder with high bonding strength
- Solid CBN with multi-corner specifications
- Coating makes it easy to identify the corner to be used



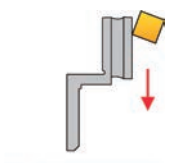
Application

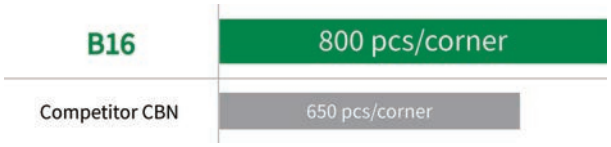
High-speed roughing to finishing of gray cast iron
Machining sintered metal

Case study Roughing for disc brake

B16 has a longer tool life of approximately 1.2 times that of competitors' products.

Work material	FC250
Cutting speed	1000 m/min
Feed	0.7 mm/rev
Depth of cut	1.0 mm
Coolant	WET





For hardened mill rolls turning | Top-surface CBN

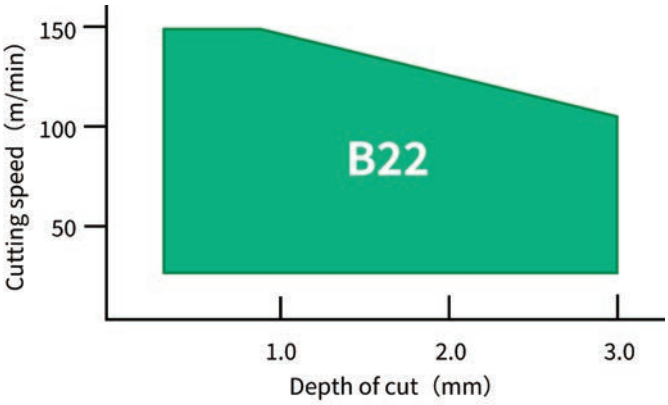
B22

Ideal for machining hardened mill rolls

Since the entire top surface is CBN, there is no limit to the depth of cut as with brazed CBN, making it ideal for machining with a large depth of cut.

Performance

- Multi-corner design with top-surface CBN
- High strength with special binder



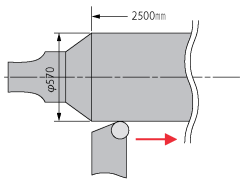
Application

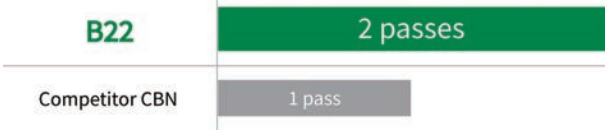
Turning of hardened mill rolls
High-speed roughing to finishing of gray cast iron

Case study Mill rolls

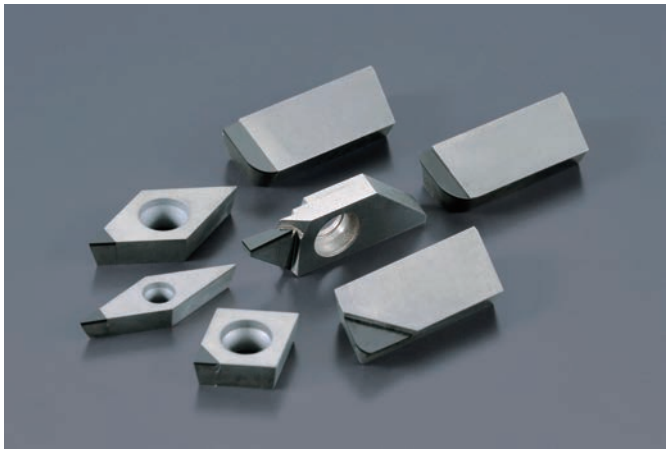
B22 has twice the amount of tool life than other competitors' CBNs.

Work material	High Chromium Cast Iron
Cutting speed	60 m/min
Feed	0.2 mm/rev
Depth of cut	2.0 mm
Coolant	WET





PCD / Diamond sintered grade

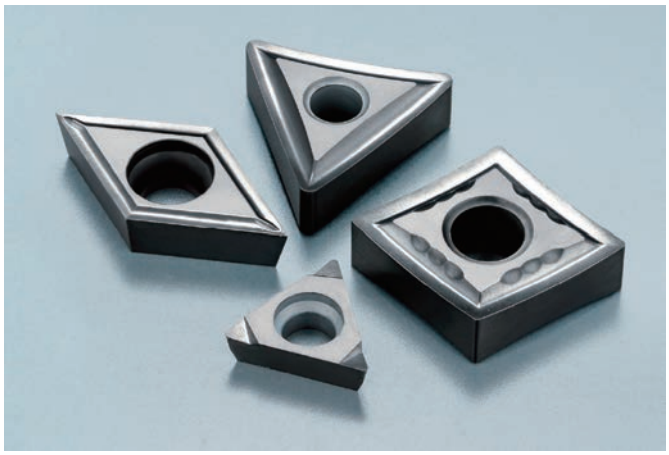


Diamond has low affinity with non-ferrous materials, providing excellent adhesion resistance, a high hardness, and wear resistance, but when used as a cutting tool, it has low strength, which causes a problem with its chipping resistance.

PCD is a material that solves the strength problem without losing the original characteristics of the diamond by sintering the diamond in a fine-grained, polycrystalline state.

Compared to carbide tools used in nonferrous metal machining, PCD enables high-speed machining.

Diamond Coating



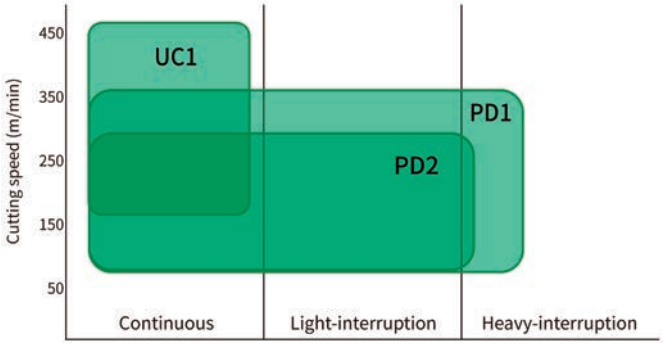
Highly pure diamond layer is precisely coated with high adhesion to our special carbide base material using a state of the art surface treatment technology.

Superior wear resistance compared to conventional PCD tools, especially in difficult-to-machine materials such as carbon and ceramic materials.

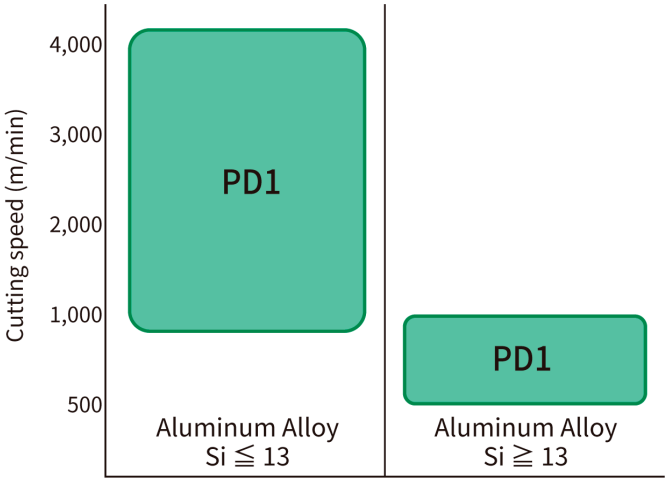
Features

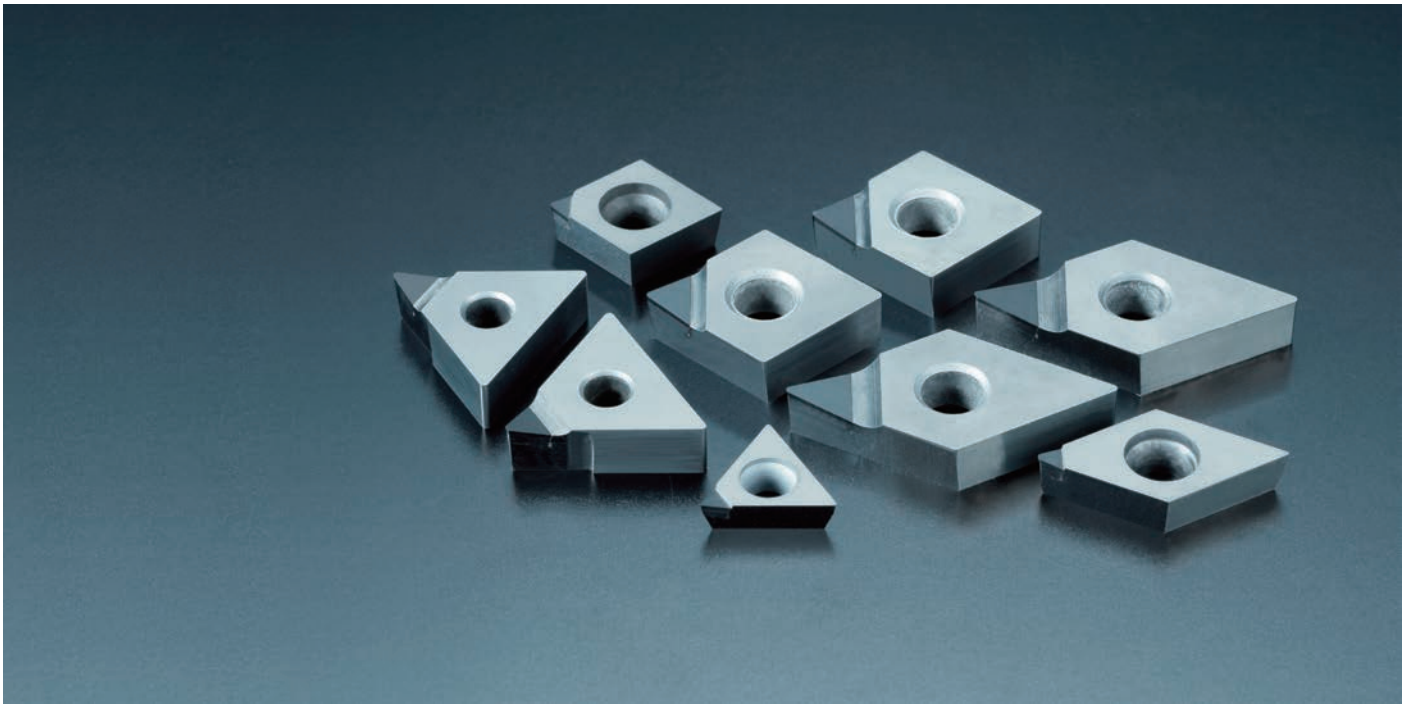
Work material	Grade	Component	Ave. particle size(μm)	Application
N Non-ferrous material	**PD1**	Diamond sintered	10	Machining of non-ferrous metals such as aluminum, brass, resin, copper, carbon, ceramics, etc. Superior adhesion resistance enables high-speed machining compared to carbide
	PD2	Diamond sintered	1	Nonferrous metal machining such as aluminum, brass, resin, copper, carbon, ceramics, etc. Improved sharpness and chipping resistance by ultrafine particle size of carbide base material
	UC1	Diamond Coating	0.1	Nonferrous metal machining such as aluminum, brass, resin, copper, carbon, ceramics, etc. Wear resistance is improved compared to PCD tools by coating a high-purity diamond layer.

Aluminum alloy/brass machining (turning)



Aluminum alloy (Milling)





Non-ferrous material machining | PCD grades

PD1 / PD2

Faster speed capabilities compared to carbide inserts

Optimum machining efficiency for non-ferrous materials PCD demonstrates excellent durability with sharp cutting edge and increased chipping resistance

PCD demonstrates excellent durability with sharp cutting edge and increased chipping resistance

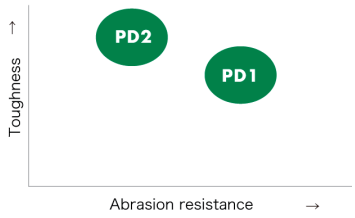
Performance

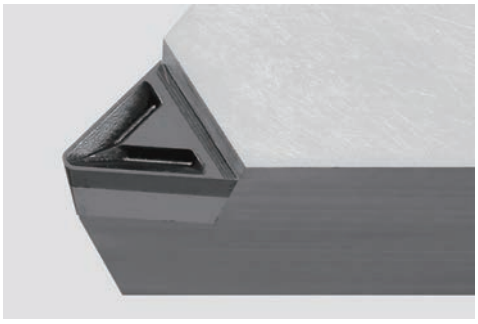
- The hardest fine grain diamond inserts.
- Achieves outstanding edge sharpness and high-speed machining compared to carbide
- The characteristics of diamonds prevent the formation of a built up edge, enabling high-precision and stable machining.

3D molded chipbreaker

Curl & control small chips, and provide high cutting performance.
Suitable for finish machining area (ap=0.5mm)

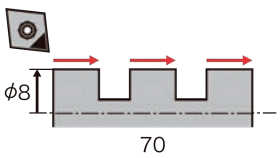
Performance

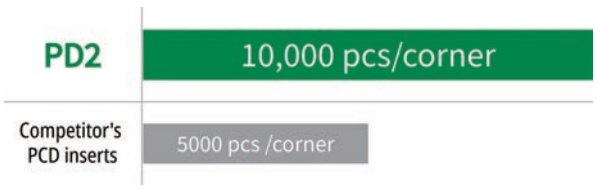


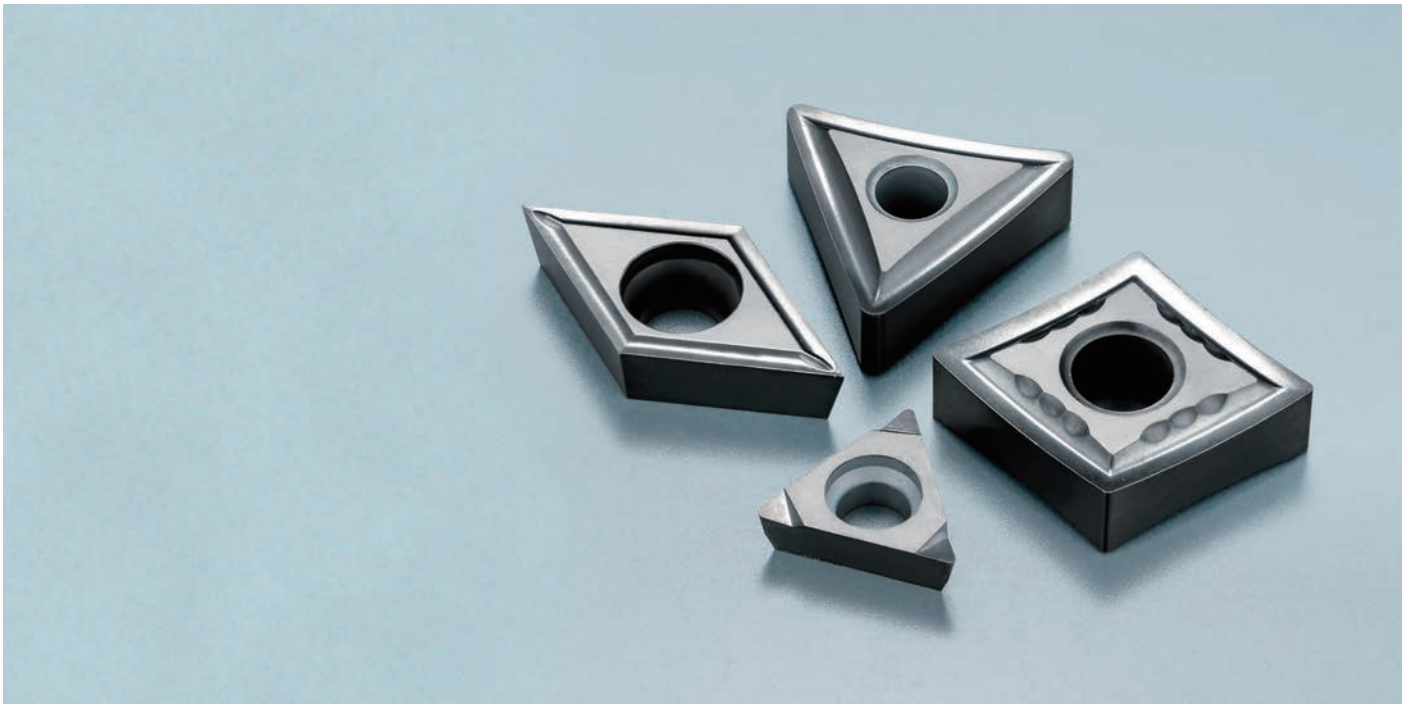


Case study Spool parts

Work material	A6061
Cutting speed	170m/min
Feed	0.06mm/rev
Depth of cut	0.15mm
Coolant	WET







For nonferrous metals and non-metallic machining | Diamond coating

UC1

Ideal for machining difficult-to-machine materials such as carbon and ceramic raw materials

Coated with a high-purity, high-hardness diamond layer with excellent wear resistance

Longer life in difficult-to-machine materials compared to conventional PCD tools and DLC

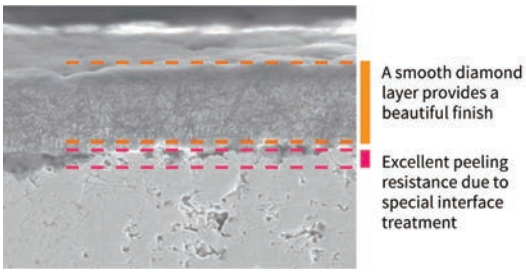
Performance

The dense coating of high-purity, high-hardness diamond layers provides superior wear resistance compared to conventional PCD tools, and can be used for carbon cutting and machining of raw ceramic materials, contributing to cost reduction.

	DLC	PCD	UC1
Binder	none	Co, Ni	none
Diamond grain size	Amorphous	10μm	<0.1μm
Diamond surface roughness	0.25	0.2S	2S
Hardness(GPa)	10	75	90

Good coating adherence

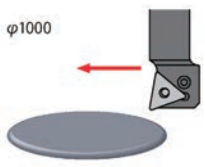
NTK's carbide base material and state of the art surface treatment ensures good coating adherence to reduce flaking which provides stable cutting and long tool life

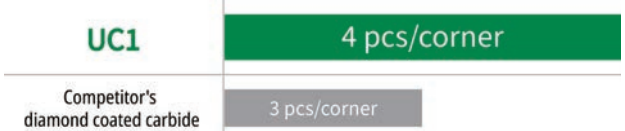


Case study carbon plate

UC1 has a 1.3 times longer tool life than the competitor's diamond coatings.

Work material	Carbon
Cutting speed	300m/min
Feed	0.1~0.4mm/rev
Depth of cut	1.0mm
Coolant	WET



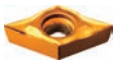
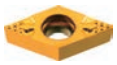
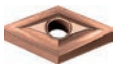
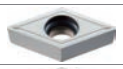
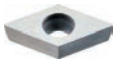


Micro-grain Carbide and PVD/CVD-coated Carbide

Excellence in precision machining and machining of hard-to-cut materials

These material grades use WC micro-grain carbide, the hard base material which is granulated to a micro size 1μm as the substrate. Furthermore, the substrate is coated using a PVD method with TiN, TiCN, and/ or TiAlN. The resulting materials are suitable for machining difficult-to-cut materials and demanding high precision small part applications. Inserts in these grades are tougher and harder than carbide and come with ultra sharp cutting edges. This selection of micro-grain carbide grades exhibit excellent wear resistance and thermal crack resistance.

Features

Work material	Grade		Coating		Application	Physical properties*					
						Density g/cm³	Hardness HRA	Bending strength Mpa	Young's modulus GPa	Thermal expansion coefficient ×10⁻⁶/K	Thermal conductivity W/m.K
M Stainless steel	ST4		thick PVD	CrAlN	Best grade for 304 SS	14.4	91.0	3000	580	5.8	63
	DT4		thin PVD	TiAlN	Excellent oxidation resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63
	TM4		thin PVD	TiN-TiCN	Best combination of wear resistance, toughness and adhesion resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63
	ZM3		thick PVD	TiN	Best adhesion resistance enables high accuracy machining	14.4	91.0	3000	580	5.8	63
	DM4		thick PVD	TiAlN	Best oxidation resistance enables high temperature machining	14.4	91.0	3000	580	5.8	63
P Steel	QM3		thick PVD	TiCN	Best wear resistance enables stable machining	14.4	91.0	3000	580	5.8	63
	VM1		thin PVD	TiCN	Best edge sharpness and good wear resistance	14.8	92.0	2500	640	5.7	84
	CP7		thick CVD	Al_2O_3-TiCN	Roughing to semi-finishing of steel	13.8	90.1	2200	580	-	-
K Cast iron	CP1		thick CVD	Al_2O_3-TiCN	For cast iron and ductile cast iron	14.9	92.0	2400	640	-	-
N Non-ferrous material	KM1		uncoated	-	Best for non-ferrous material with a polished mirror finish surface	14.8	92.0	2500	640	5.7	84
M P N	AC3		thin PVD	TiAlN-TiAlCrN	Developed for solid carbide endmills	14.2	91.0	3000	560	6.1	49

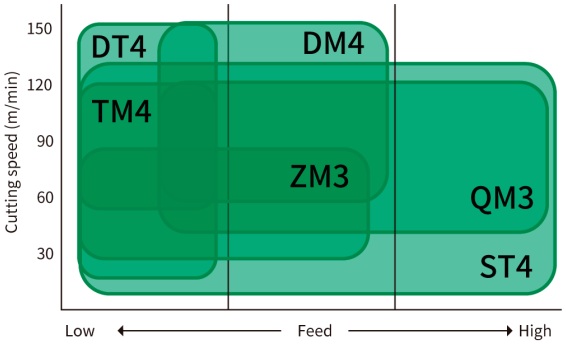
※The values of the base material are indicated.

Coating specifications

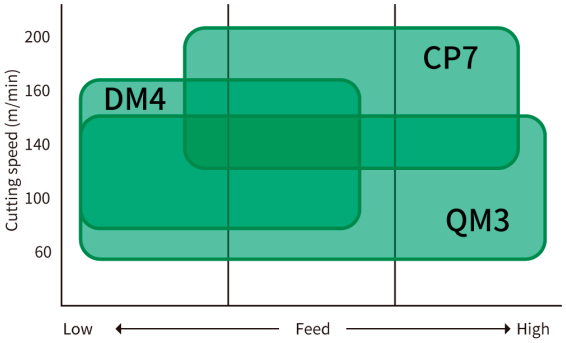
	ST4	QM3	DM4	DT4	TM4	VM1	ZM3
Thickness	Thick	Thick	Thick	Thin	Thin	Thin	Thick
Wear resistance	○	◎	○	○	○	○	
Heat resistance	○		◎	◎			○
Adhesion Resistance	◎				○		◎
Edge Sharpness				○	○	◎	
Composition	CrAlN	TiCN	TiAlN	TiAlN	TiN-TiCN	TiCN	TiN

◎1st choice ○2nd choice

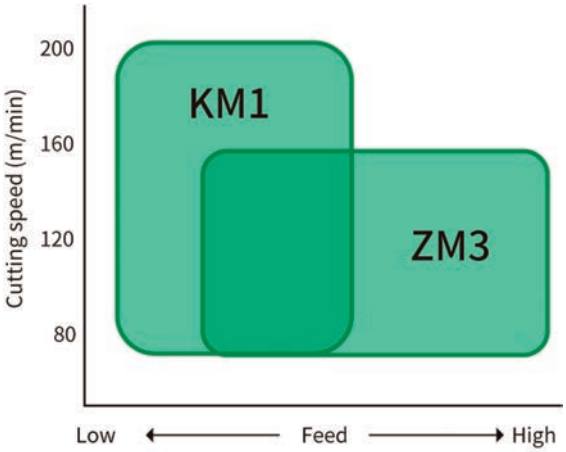
Stainless steel



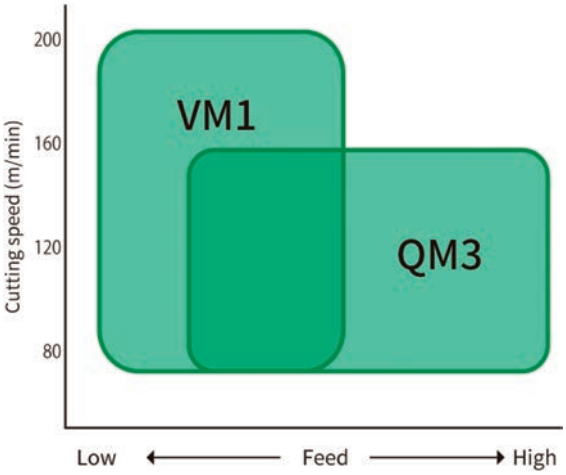
Carbon and alloy steel

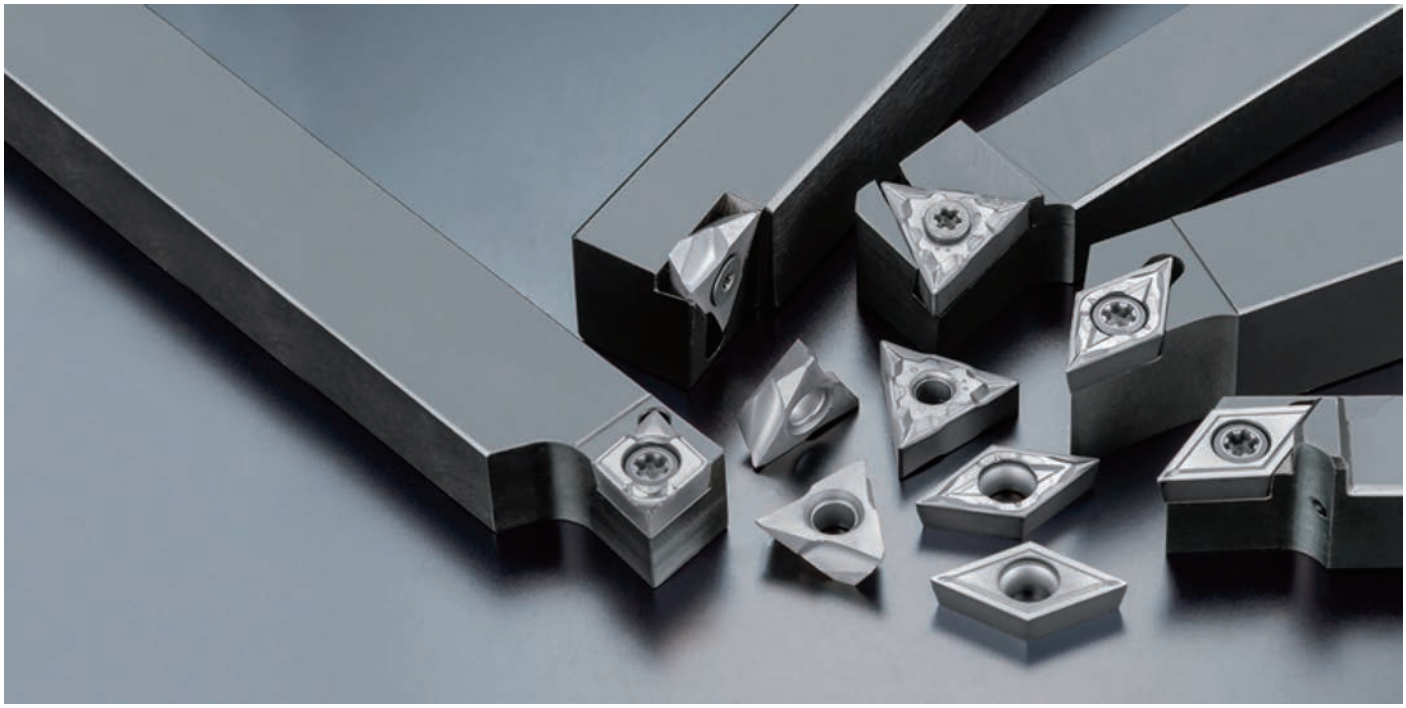


Aluminum and brass



Free-cutting steel





Ideal for stainless steel machining | PVD coated carbide

ST4

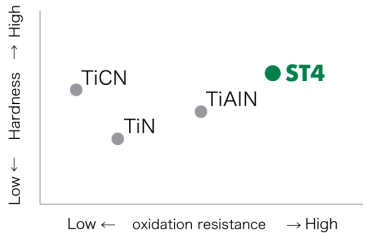
Stable and consistent performance machining tough materials like 304 SS

Solution for stainless steel machining issues like reduced tool life, inconsistency of part dimensions, and poor chip control.

Performance

Unique coating with a high aluminum composition dramatically improves hardness and oxidation resistance.
Extended tool life is achieved by suppressing wear from increased cutting temperatures.

Coating wear and oxidation chart



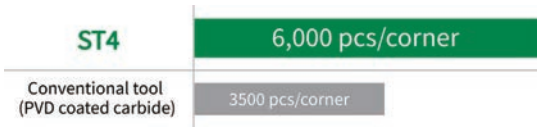
Coating layer adhesion strength

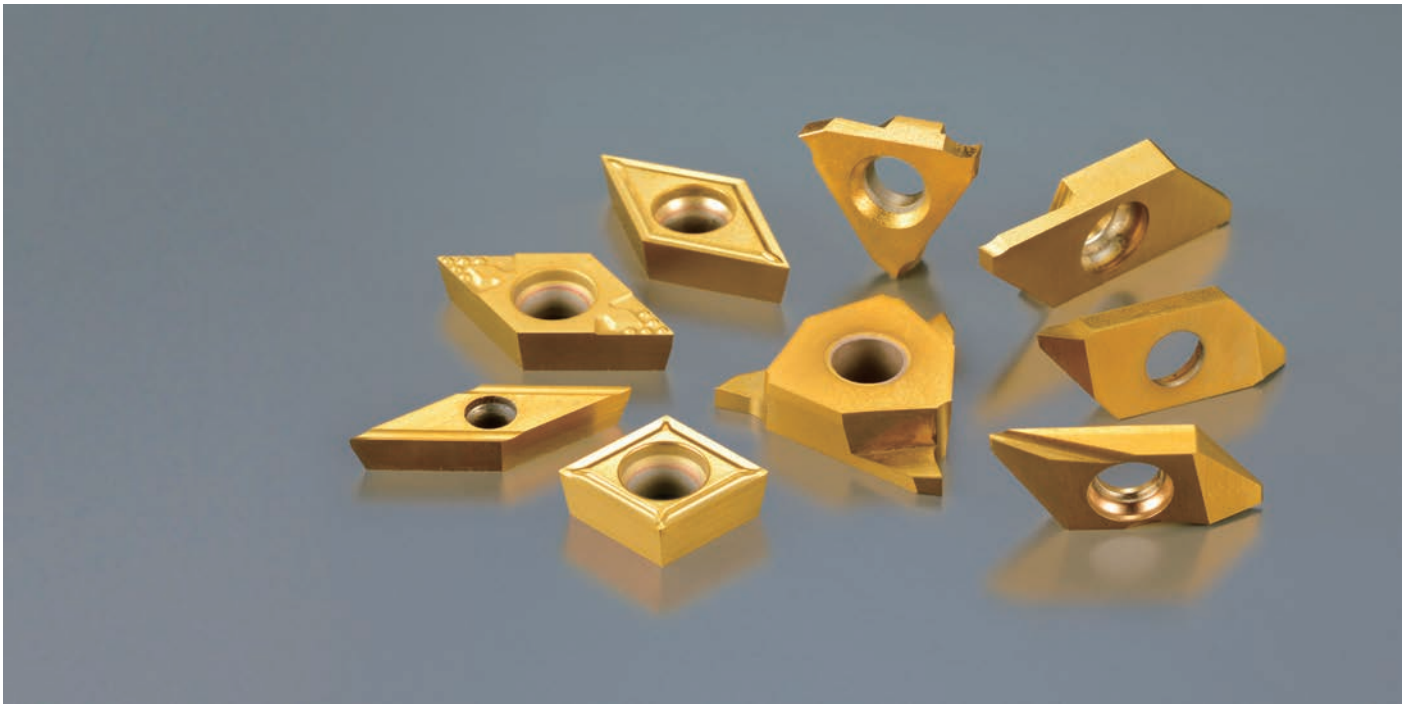
Significantly improved insert surface smoothness and coating adhesion.
Prevents adhesion to the cutting edge, which tends to occur in stainless steel machining, leading to stabilization of dimensional accuracy and machined surfaces.

Case study

ST4 has approximately 1.7 times longer tool life than competitor's tools.

Work material	SUS316L
Cutting speed	60m/min
Feed	End face 0.01mm/rev External 0.03mm/rev
Depth of cut	0.3 - 2.0mm
Coolant	WET





General-purpose machining with excellent adhesion resistance | PVD coated carbide

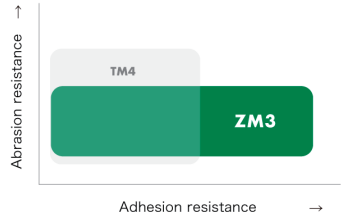
ZM3

Excellent adhesion resistance and dimensional stability, ideal for high-precision machining of small-diameter workpieces

Achieves stable machining with its resistance to built up edge

Performance

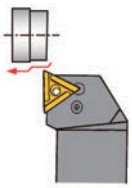
- Stable machining dimensions due to high adhesion of the coating
- Smooth TiN coating provides outstanding adhesion resistance

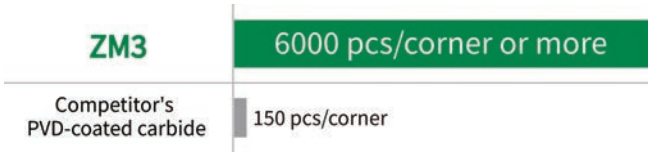


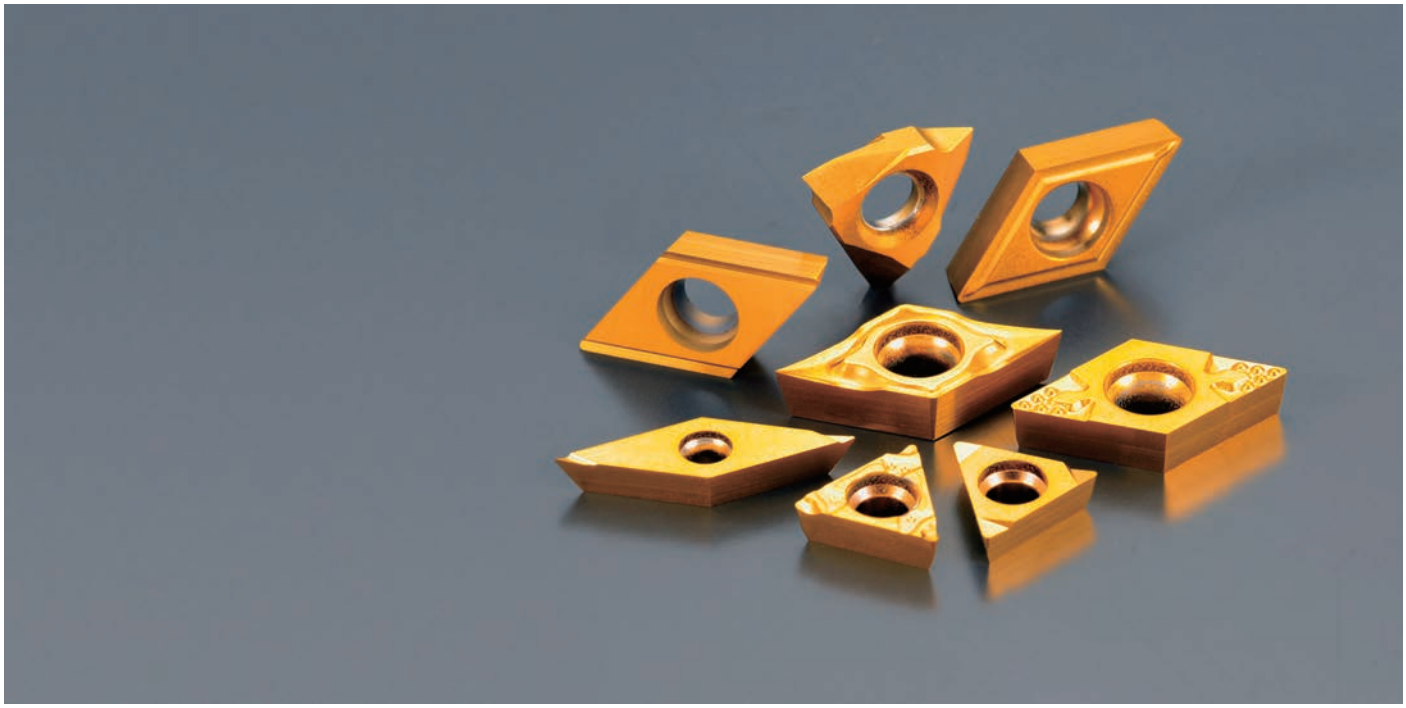
Case study

ZM3 offers outstanding adhesion resistance and dimensional stability with a tool life that is 40 times longer than that of competitor's tools.

Work material	S10C
Cutting speed	100m/min
Feed	0.12mm/rev
Depth of cut	0.3~0.4mm
Coolant	WET







General purpose machining with excellent wear resistance | PVD coated carbide

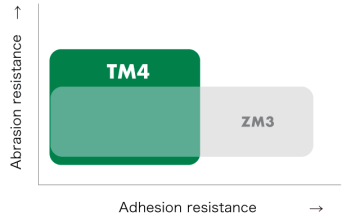
TM4

Versatile grade material for all types of work materials

Easy-to-use grade with excellent sharpness and adhesion resistance

Performance

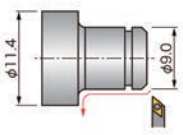
- Excellent workpiece dimensional stability and tool life due to multilayer coating
- A smooth hard coating with excellent adhesion resistance

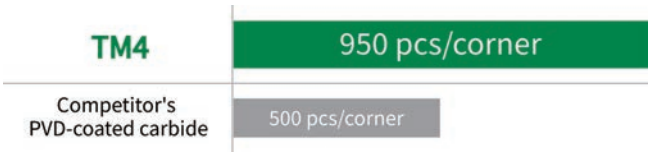


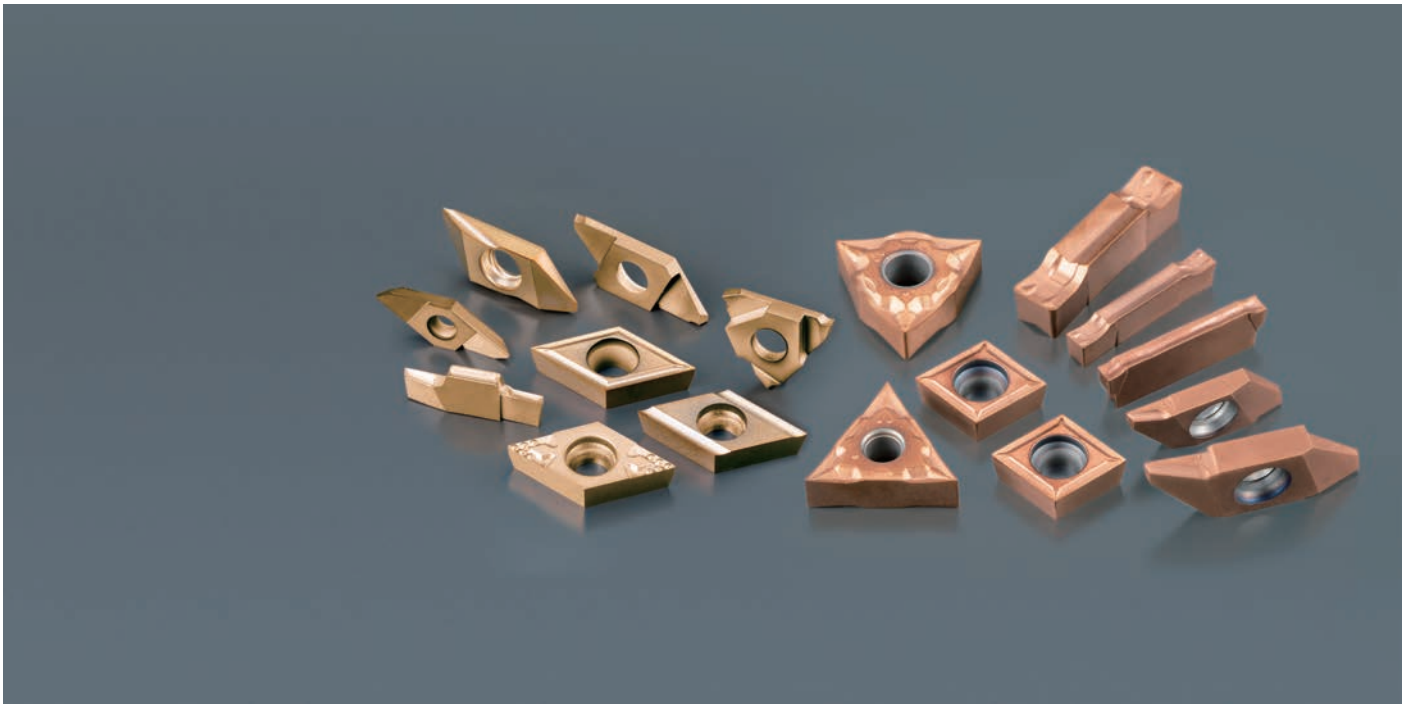
Case study automotive parts

TM4 achieved 1.9 times longer tool life than the competitor's product. Its superior wear resistance ensured long stable machining.

Work material	SUS304
Cutting speed	80m/min
Feed	0.02mm/rev
Depth of cut	-1.2mm
Coolant	WET







Machining difficult-to-cut materials | PVD-coated carbide

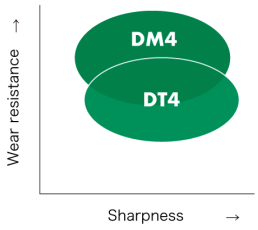
DT4 / DM4

Ideal for machining difficult-to-cut materials such as titanium and heat-resistant alloys

Stable machining even under conditions where cutting heat tends to concentrate on the cutting edge

Performance

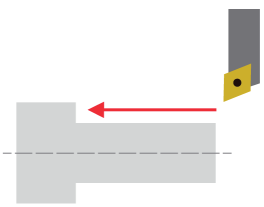
- Thick TiAlN coating reduces cutting tool damage due to machining heat.
- DT4 has a thin coating layer. A sharp cutting edge ideal for machining small diameter parts.
- DM4 has a thick coating layer. A combination of heat resistance and wear resistance makes it ideal for high load machining such as parting and grooving.

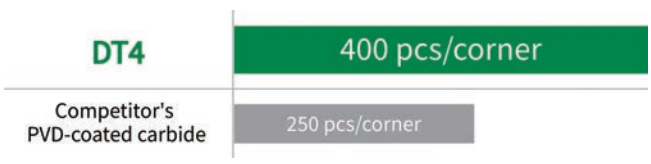


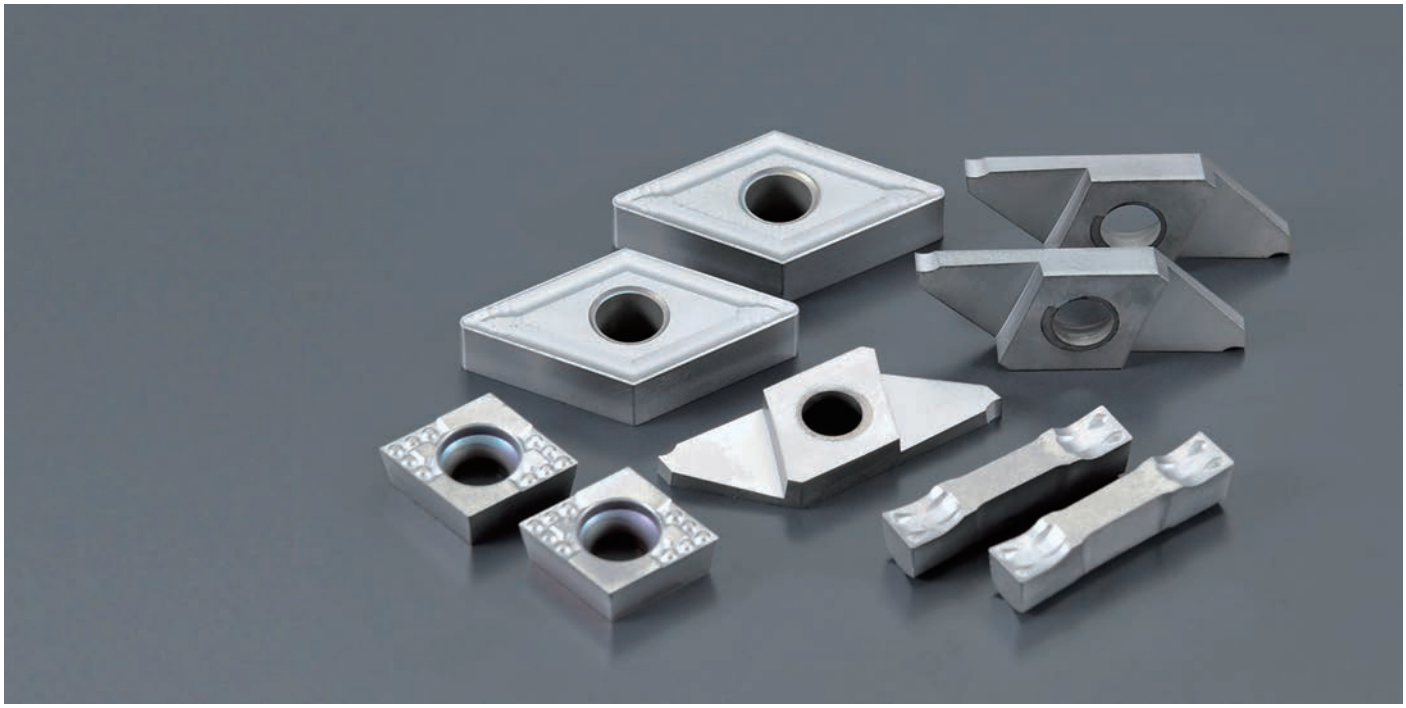
Case study medical screw

DM4 achieved approximately 1.6 times longer tool life than the competitor's product.

Work material	Titanium alloy
Cutting speed	60m/min
Feed	0.02mm/rev
Depth of cut	0.5mm
Coolant	WET







Carbon and alloy steel machining | PVD coated carbide

QM3

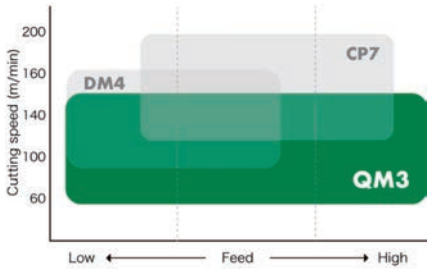
Longer tool life and stable machining of carbon and alloy steels such as S45C and SCM materials

Excellent wear resistance ensures stable machining and extended tool life

Performance

- Combination of tough carbide material and TiCN coating provides excellent chipping resistance.
- Excellent wear resistance, especially in the low speed range.
- Stable machining even in heavy interruptions.

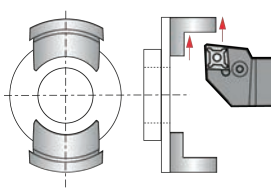
Application area

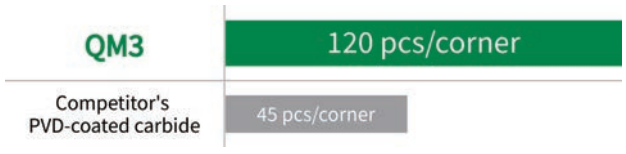


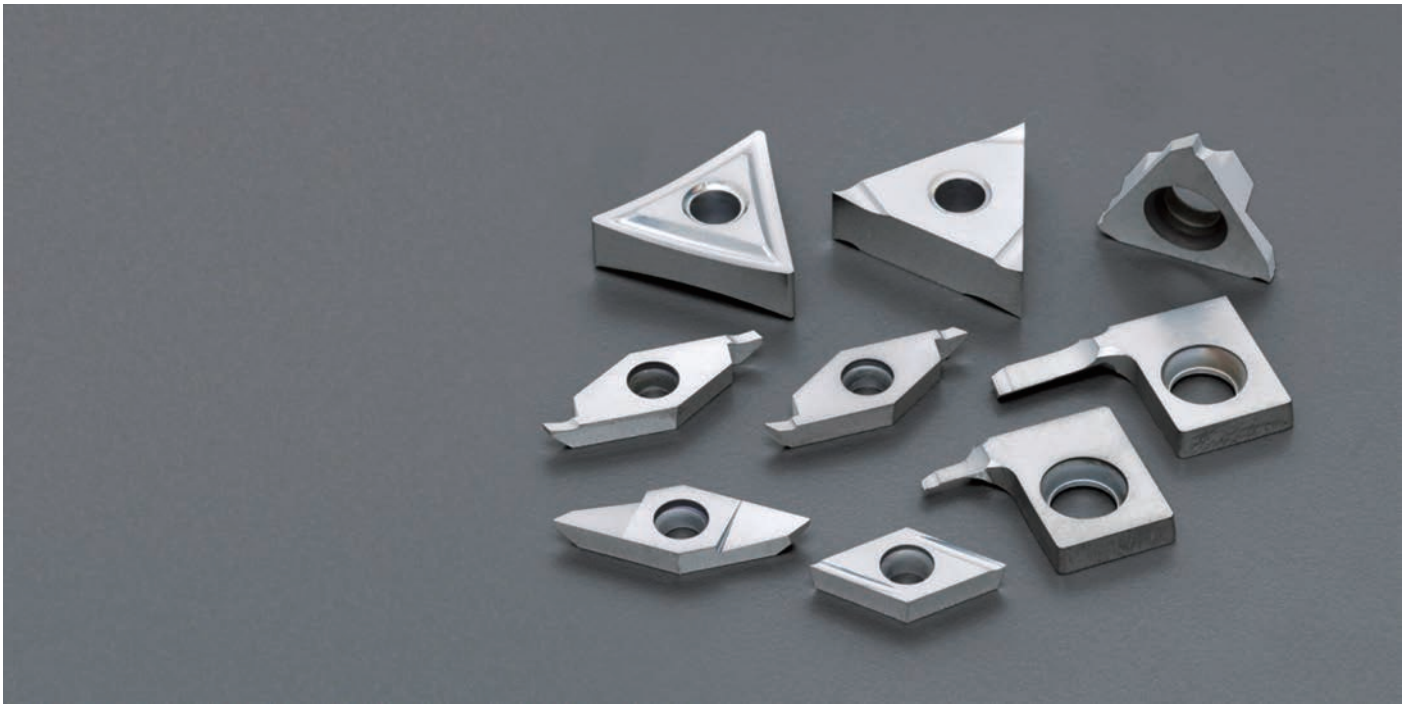
Case study

The combination of QM3 and Z5 chipbreaker extends the tool life by more than 2.5 times, while the competitor's tool experienced unstable tool life.

Work material	S50C
Cutting speed	156m/min
Feed	0.33mm/rev
Depth of cut	1.5mm
Coolant	WET







Free-cutting steel machining | PVD-coated carbide

VM1

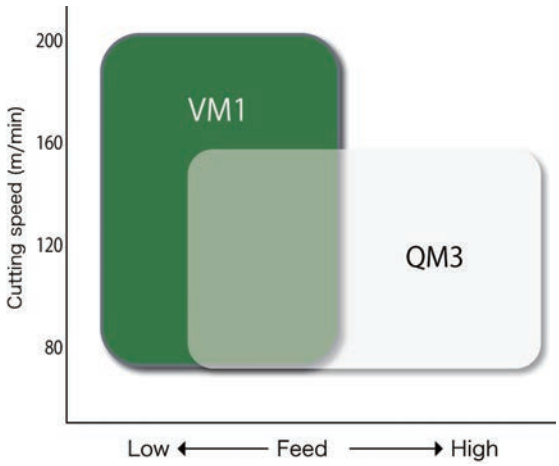
Ideal for machining free-cutting steel (SUM)

Long-tool life machining is achieved by reducing the built up edge on the cutting edge.

Performance

- Thin-layer TiCN coating provides both outstanding sharpness and wear resistance.
- Achieves long tool life and high-precision machining even at high speeds.

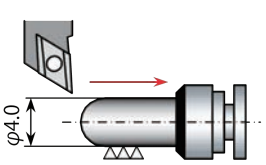
Application area

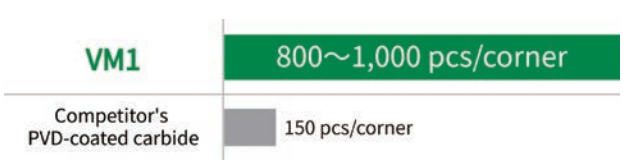


Case study

VM1 is stable in both dimensions and surface finish and has 5 times longer tool life than the competitor's product.

Work material	SUM24L
Cutting speed	140m/min
Feed	0.015mm/rev
Depth of cut	0.1mm
Coolant	WET





High-speed machining of carbon and alloy steel | CVD coated carbide

CP7

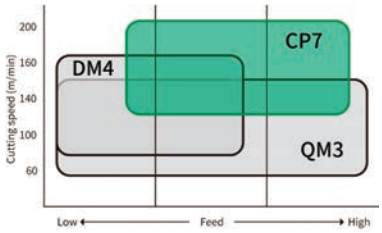
Ideal for high-speed machining of alloy steel and carbon steel

CVD multilayer coating for outstanding performance machining steel

Performance

The CVD multi-layer coating and high strength base material provides excellent wear resistance and toughness that can be used in a wide range of applications.

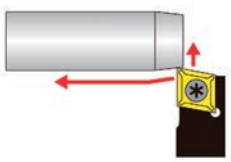
Application area

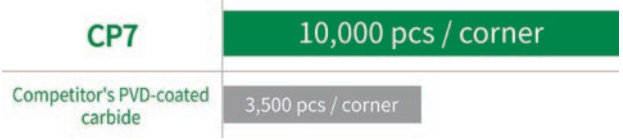


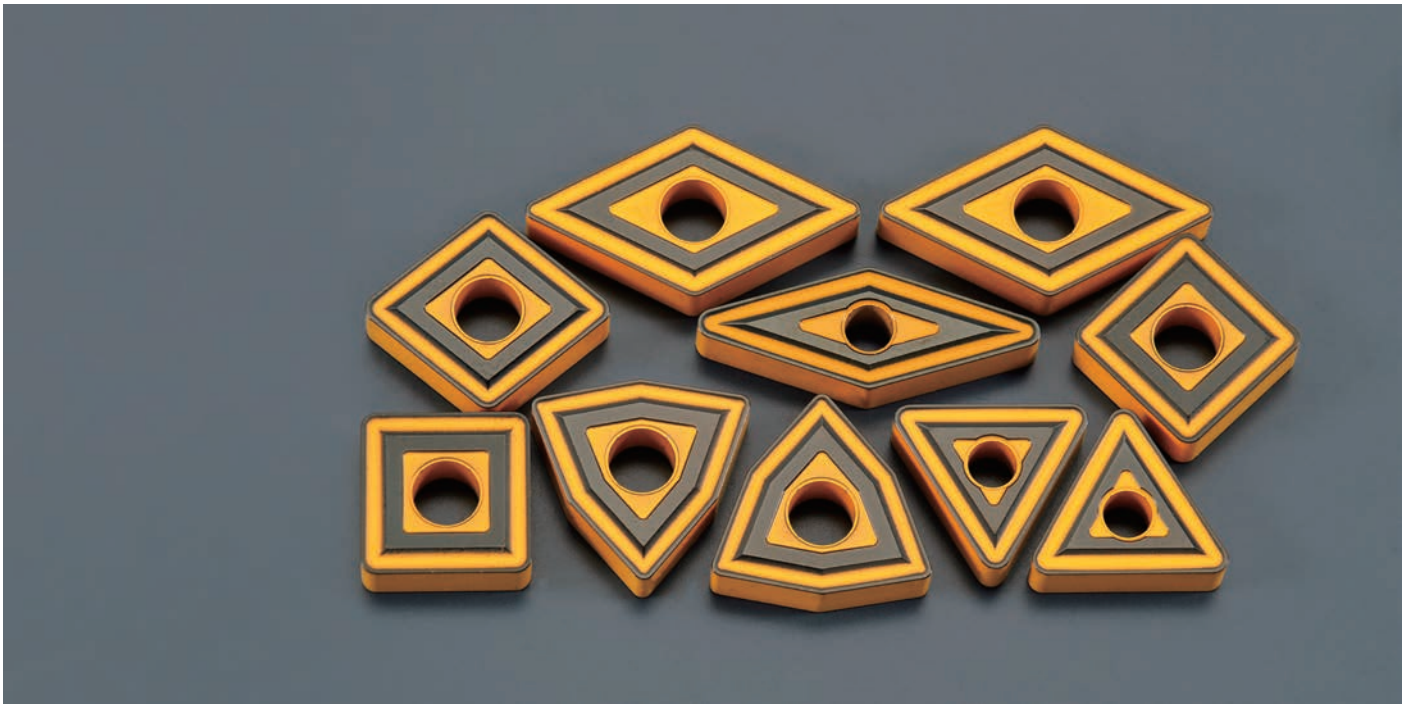
Case study

Achieves approximately 3 times the tool life of the competitor's coated carbide.
Wide range of applications are possible.

Work material	SUJ2
Cutting speed	90m/min
Feed	0.15mm/rev
Depth of cut	0.5mm
Coolant	WET







Grey cast iron and ductile cast iron with scale machining | CVD coated carbide

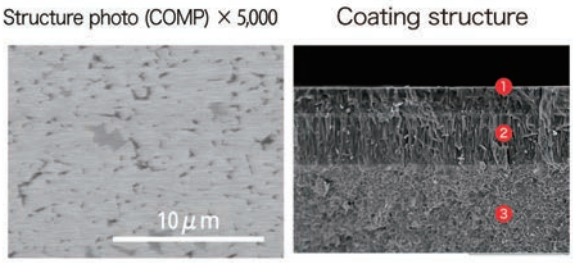
CP1

Achieves high efficiency and stable machining even under conditions where cutting speed cannot be increased

Outstanding wear resistance at Vc=~300m/min

Performance

- Specializing in scale machining of grey and ductile cast iron.
- Excellent wear resistance and stable machining are achieved with a thick TiCN layer and an Al2O3 layer in the coating.
- Unique rake face surface smoothing process provides superior performance in adhesion resistance.



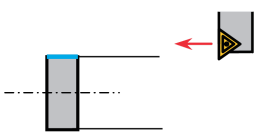
Equivalent to HRA 91.3
Young's modulus: 640GPa

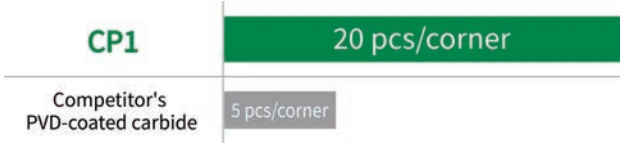
① A very smooth layer of fine grain Al2O3
② Fine column shaped grain TiCN layer
③ Ultra - hard carbide base material

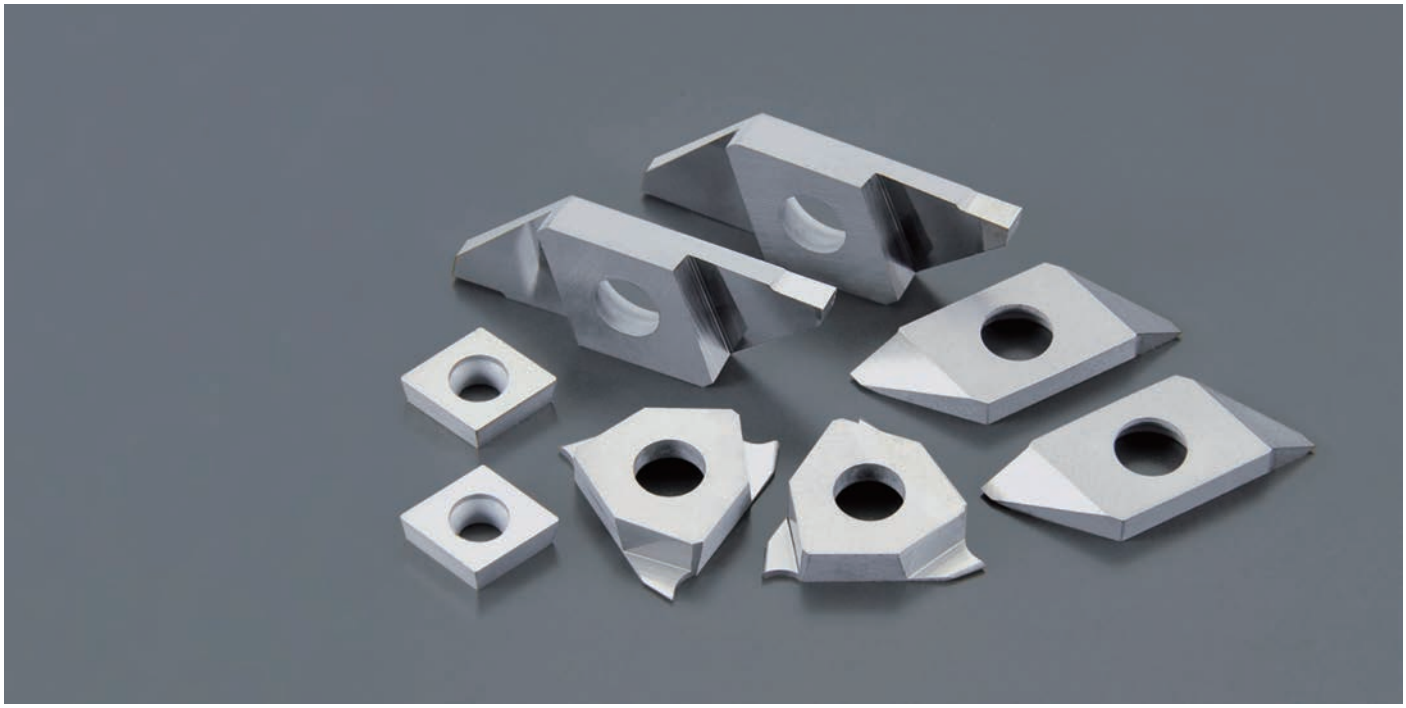
Case study

CP1 achieves higher machining efficiency than competitor's tools.

Work material	FCD450
Cutting speed	200m/min
Feed	0.12mm/rev
Depth of cut	1.0m
Coolant	WET







Nonferrous metal machining, cost effective | Uncoated carbide

KM1

Ideal for machining non-ferrous metals such as aluminum, brass, and resin

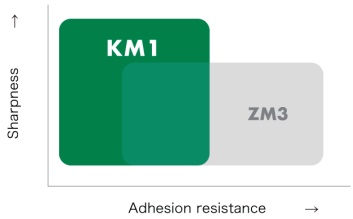
Excellent machined surfaces are achieved by reducing the occurrence of built up edge

Outstanding sharpness solves the problem of a rough machined surface

Performance

- Uncoated fine-grained carbide with excellent sharpness.
- Mirror polished surface reduces built up edge.
- Stable machining dimensions and excellent surface finishes.

KM1 comparison chart



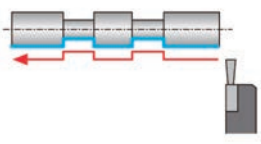
Up sharp edges and mirror finish

Case study

The competitor's product machined 3 roughing passes and a finishing pass. The chips often scratched the workpiece. The cycle time was more than 3 minutes.

The KM1 machined in a single pass, reducing the cycle time to 1 minute and 50 seconds.

Work material	A5056
Cutting speed	90~170m/min
Feed	0.04mm/rev
Depth of cut	0.5~5.0mm
Coolant	WET



End mill tools | PVD coated carbide

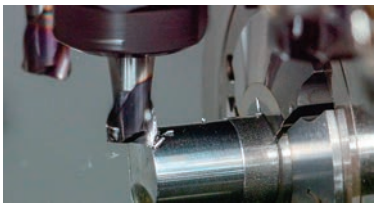
AC3

Developed for solid carbide end milling

Ideal for end milling of small-diameter workpieces that are prone to chattering, or applications that have problems with burrs forming

Performance

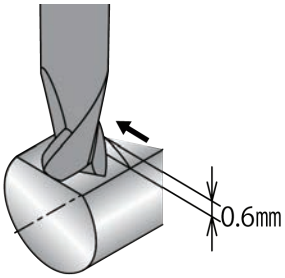
- TiAlN-TiAlCrN coated + fine grain carbide
- Grade with both excellent sharpness and wear resistance required for end milling on CNC type automatic lathes

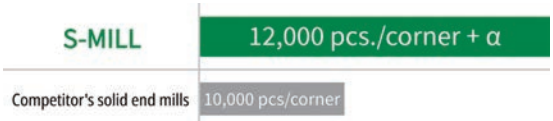


Case study

The current tool created a cloudy machined surface when it reached the end of its tool life. The S-Mill achieved good surface finish and an extended tool life.

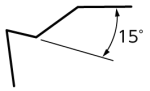
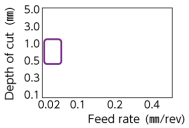
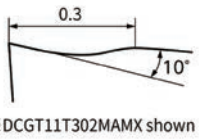
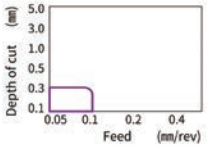
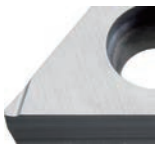
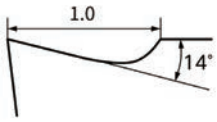
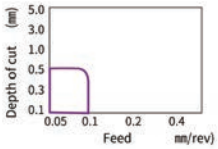
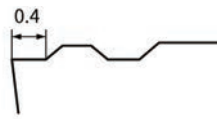
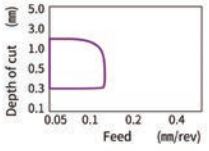
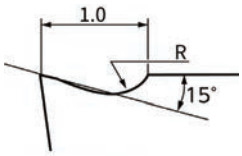
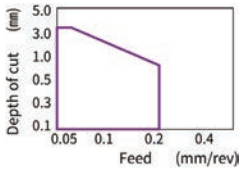
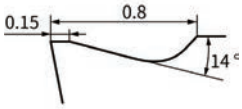
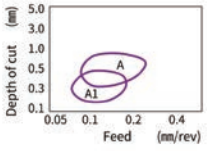
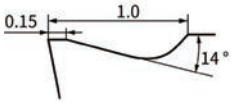
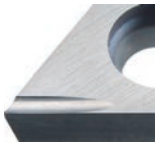
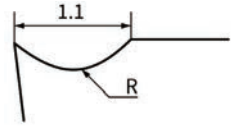
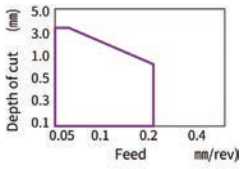
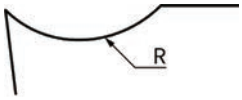
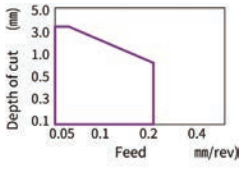
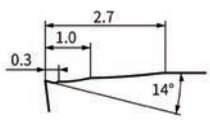
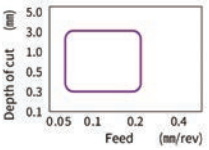
Work material	SUS416F
Cutting speed	3,200rev/min
Feed	140mm/min
Depth of cut	0.6mm
Coolant	WET



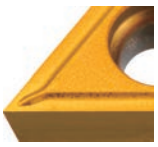
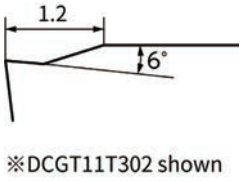
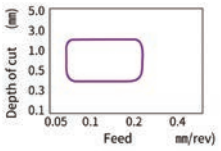
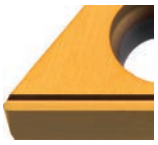
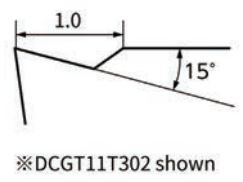
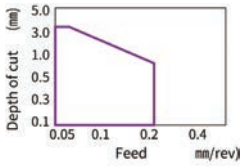
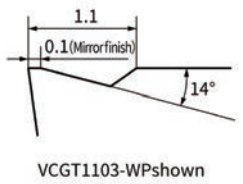
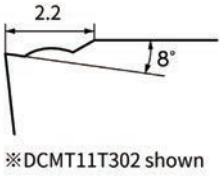
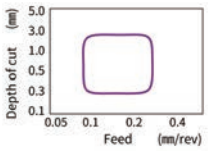
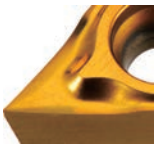
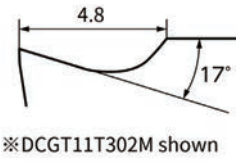
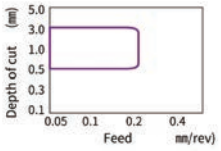
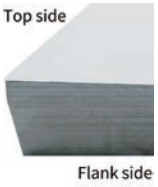
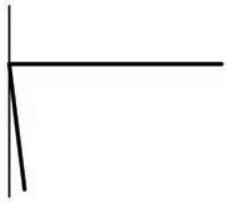


Chipbreaker for turning

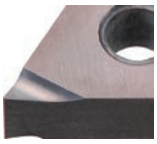
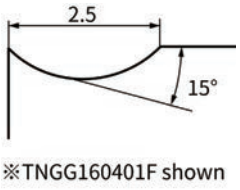
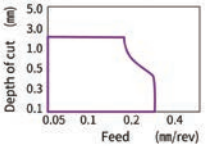
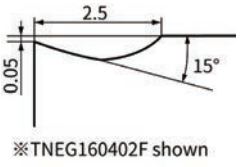
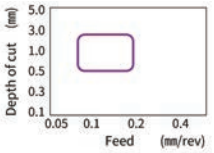
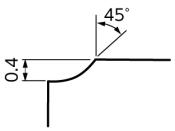
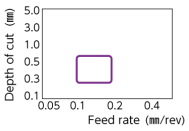
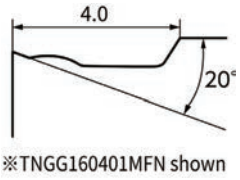
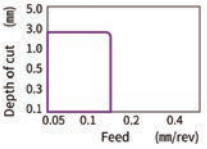
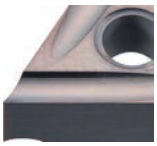
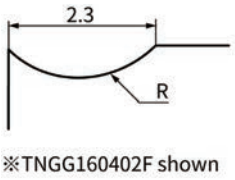
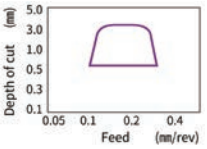
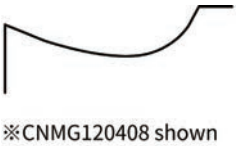
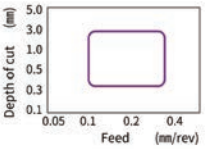
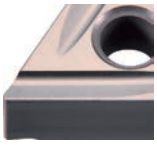
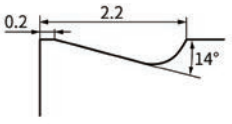
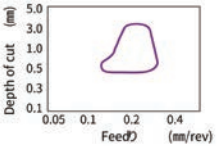
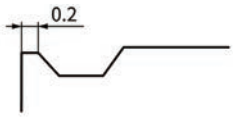
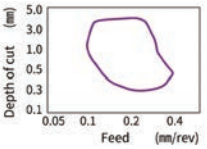
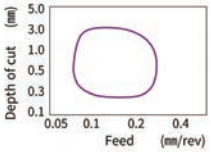
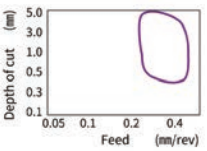
OD turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
Finishing	TMV			• Chipbreaker for Vibration Cutting • Reliably long tool life and stable chip evacuation during vibration cutting	
	AMX		 ※DCGT11T302MAMX shown	• Designed for very light depth of cut	
	KHG		 ※DCET11T302 shown	• Excellent chip control on finishing cuts • For super high-precision machining • Precision tolerance in corner radius: ±0.01	
	AZ7		 ※DCGT11T302MFN shown	• Excellent chip control at light feed and light depth of cut	
	AT		 ※DCGT11T302 shown	• Excellent adhesion resistance with dimensional stability • Best for small diameter parts and for machining low carbon steels	
For light cut	A1		 ※CPGH040102 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	A		 ※CPGH080202 shown		
	UHG		 ※DCET11T3008R shown	• Excellent chip control on finishing cuts • Precision tolerance in corner radius: ±0.01	
	U U1		 ※DCGT11T302 shown	• Sharp cutting edge prevents materials from work hardening [chipbreaker width] U →1.1mm U1→1.6mm	
	YL		 ※DCGT11T302MYL shown	• Great combination of sharpness and toughness • Excellent chip control	

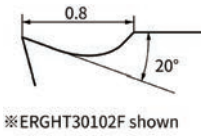
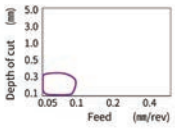
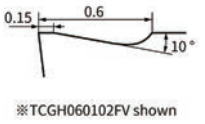
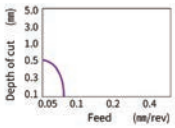
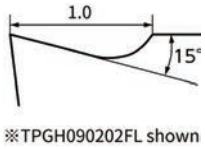
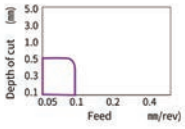
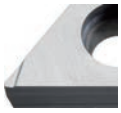
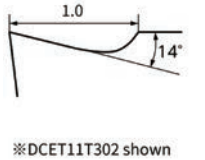
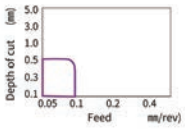
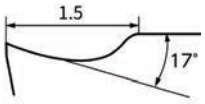
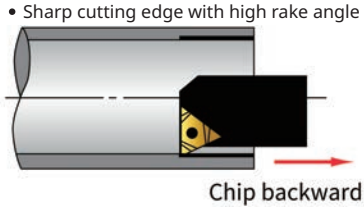
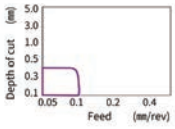
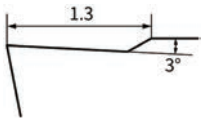
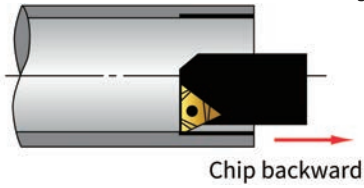
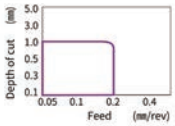
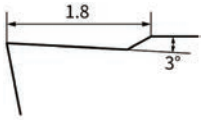
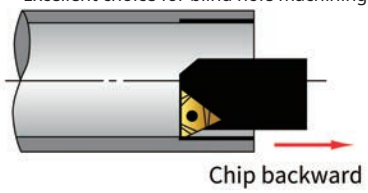
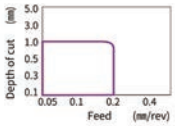
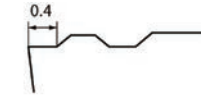
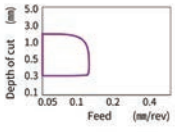
OD turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
For Middle Cut	AM3			• All purpose chipbreaker • Sharp edge with toughness	
	S			• Standard ground chipbreaker with wide cutting condition coverage • Sharp cutting edge with excellent chip control	
	SX				
	AZ8			• Superior cutting quality and versatile breaker with CVD coating	
	CL			• Sharpest molded chipbreaker • Excellent chip control • Less tool pressure	
For non-ferrous	V P H			• Very up-sharp edge with mirror finish • V: Mirror finish on Top and Flank side with R0 nose radius • P: Mirror finish on Top and Flank side • H: Mirror finish on Top side	–

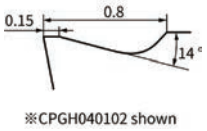
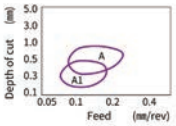
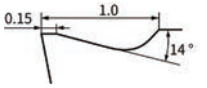
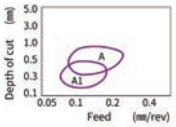
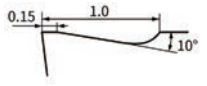
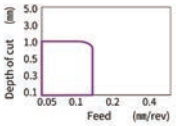
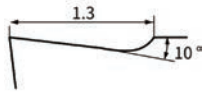
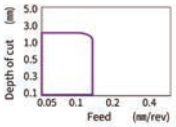
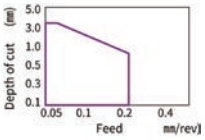
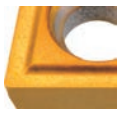
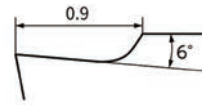
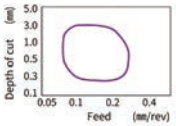
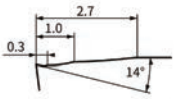
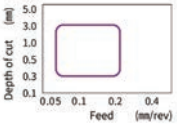
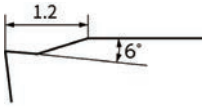
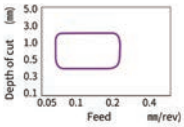
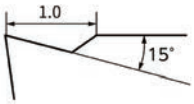
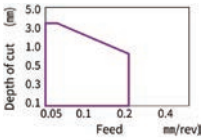
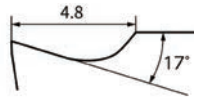
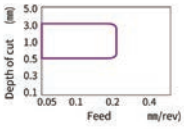
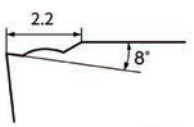
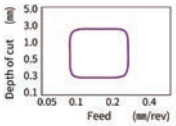
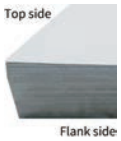
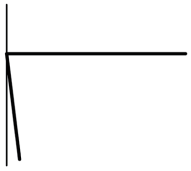
OD turning negative inserts

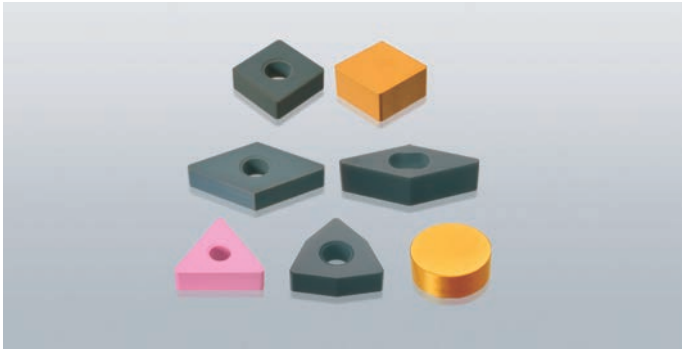
	Name	Chipbreaker geometry		Features	Chip control range
Finishing	DA		 ※TNGG160401F shown	• Excellent chip control and sharp cutting edge	
	D1		 ※TNEG160402F shown	• Excellent chip control and sharp cutting edge	
	AG			• Resolve chip entanglement, which is likely to occur during machining of low-hardness layer	
For light cut	UL		 ※TNGG160401MFN shown	• Negative insert with a positive insert's chipbreaker • Reduced burr • Improved microfinish • Superb advantage in cost per corner over positive inserts	
For Middle Cut	U2		 ※TNGG160402F shown	• Reduced burr and work hardening due to high rake design	
	ZP		 ※CNMG120408 shown	• Double-positive rake and sharp cutting edge • Low tool pressure even at heavy depth of cut	
	C		 ※TNGG160402F shown	• General-purpose chipbreaker with excellent toughness and chip control	
For Rough Cut	Z5		 ※CNMG120408ENB shown	• Very tough insert • Designed for machining with heavy interruption	
	AM1		※VNMG160404 shown	• Tough chipbreaker for roughing with exceptional stability	
	G		※CNMG120408 shown	• Tough chipbreaker for roughing with exceptional stability	

ID turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
Finishing	A2		 ※ERGHT30102F shown	• Control chips at light feed and light depth of cut • Sharp cutting edge due to large rake angle	
	B1		 ※TCGH060102FV shown	• Stable cutting thanks to sharp and tough cutting edge	
	K		 ※TPGH090202FL shown	• Superb chip control on finishing applications • Sharp cutting edge with the high rake angle	
	KHG		 ※DCET11T302 shown	• For super high-precision machining • Precision tolerance in corner radius: ±0.01	
	FG		 ※TPGH110304 shown	• Evacuates chips BACKWARD at light depth of cut • Sharp cutting edge with high rake angle 	
	F05		 ※TPGH060102F shown	• Evacuates chips BACKWARD • Excellent choice for blind hole machining 	
	F1		 ※TPGH110302F shown	• Evacuates chips BACKWARD • Excellent choice for blind hole machining 	
	AZ7		 ※DCGT11T302MFN shown	• Excellent chip control at light feed and light depth of cut	

ID turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
For light cut	A1		 ※CPGH040102 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	A		 ※CPGH080202 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	B2		 ※TPGH090202FV shown	• Stable cutting thanks to sharp and tough cutting edge	
	B3		 ※TPGH090202F shown	• Stable cutting thanks to sharp and tough cutting edge	
	U U1		※DCGT11T302 shown	• Sharp cutting edge prevents materials from work hardening [chipbreaker width] U →1.1mm U1→1.6mm	
	AM5		 ※CPGH060202FN shown	• Provides both good cutting performance and chip control	
	YL		 ※DCGT11T302MYL shown	• Great combination of sharpness and toughness • Covers extremely wide range • Excellent chip control	
For Middle Cut	AM3		 ※DCGT11T302 shown	• All purpose chipbreaker • Sharp edge with toughness	
	S		 ※DCGT11T302 shown	• Standard ground chipbreaker with wide cutting condition coverage	
	CL		 ※DCGT11T302M shown	• Sharpest molded chipbreaker • Less tool pressure	
	AZ8		 ※DCMT11T302 shown	• CVD coated chip breaker with excellent sharpness and high versatility.	
For non-ferrous	V P H			• Very up-sharp edge with mirror finish • V: Mirror finish on Top and Flank side with R0 nose radius • P: Mirror finish on Top and Flank side • H: Mirror finish on Top side	–



Turning Insert

ISO insert code D02

Edge treatment D06

BIDEMICS / Ceramics / NTK CeramiX D08

CBN D22

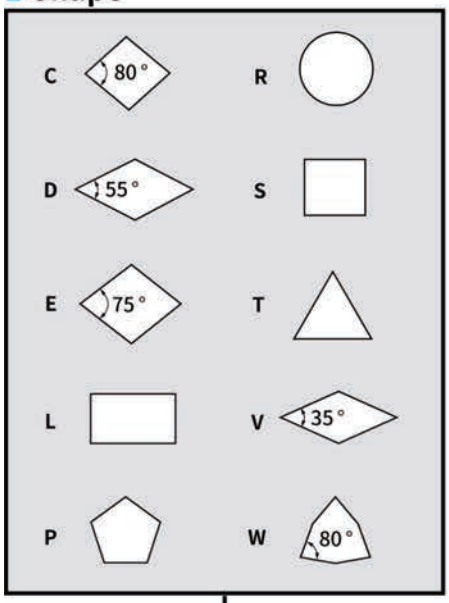
PCD / Diamond coating D34

Carbide D37

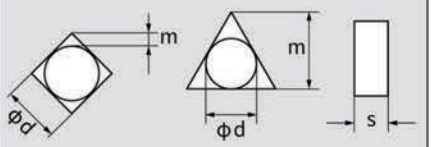
ISO insert code

BIDEMICS / Ceramics

1 Shape



3 Tolerance Class



Symbol	d (mm)	m (mm)	s (mm)
A	±0.025	±0.005	±0.025
F	±0.013	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.013
J	±0.05	±0.05	±0.013
K	±0.05 ~±0.13	±0.013	±0.025
L	±0.05 ~±0.13	±0.025	±0.025
M	±0.05 ~±0.13	±0.08 ~±0.08	±0.013
N	±0.05 ~±0.13	±0.08 ~±0.08	±0.025
U	±0.08 ~±0.25	±0.13 ~±.015	±0.013

Accuracy of J,K,L,M,N,U class by form size
For inserts with apex angles greater than 55°

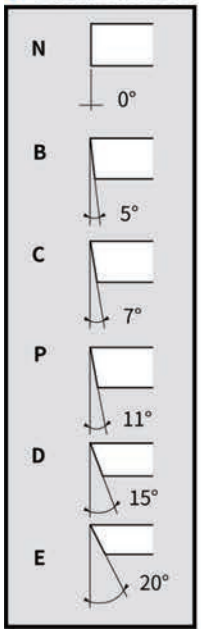
Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.08
9.525	±0.05	±0.08
12.7	±0.08	±0.13
15.875	±0.05	±0.15
19.05	±0.05	±0.15
25.4	±0.13	±0.08

For Class M inserts with apex angles of
55° (D), 35° (V), and 25° (Y)

Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.05
9.525	±0.05	±0.05
12.7	±0.08	±0.15
15.875	±0.05	±0.15
19.05	±0.05	±0.08

	1	2	3	4
Inch	S	N	G	A
Metric	S	N	G	A

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M		
Special design	X	40°–60°	W

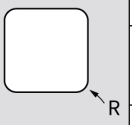
6 Thickness

Thickness S (mm)	Inch	Metric
2.38	1.5	02
3.18	2	03
3.97	2.5	T3
4.76	3	04
5.56	4	06
6.35	5	07
7.94	6	09
12.7	8	12

5 Symbol for Insert Size

Inch		Metric						
Inscribed Circle		C	D	R	S	T	V	W
5.56	2	06	07	06		11	11	04
7.94	3	09	11	09		16	16	06
12.1	4	12	15	12		22	22	08
15.875	5	16	19	15		27	27	10
19.05	6	19	23	19		33	33	13
25.4	8	25	31	25		44	44	17

7 Corner Radius

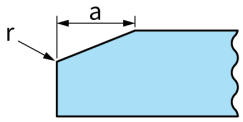
Corner Radius	Inch	Metric
	0.4	1	04
	0.8	2	08
	1.2	3	12
	1.6	4	16
	2.0	5	20
	2.4	6	24
	3.2	8	32

4	3	3	T	04	20
5	6	7	8	9	10
12	04	12	T	010	20

8 Edge Condition

Sharp	F
Honed	E
Chamfered	T
Chamfered and Honed	Z
	S
	U
Double Chamfered	K
Double Chamfered and Honed	J
	P
	Q

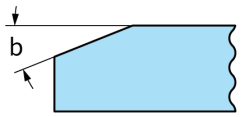
9 Negative Land Width



	Description		a (metric)	r (metric)
	inch	metric		
E	01	002	–	0.03
	02	004	–	0.05
T	02	005	0.05	–
	03	008	0.08	–
	04	010	0.10	–
	05	012	0.13	–
	06	015	0.15	–
	08	020	0.2	0.03
Z	04	010	0.10	0.03
	08	020	0.2	0.05
S	04	010	0.10	0.05
	08	020	0.2	0.08
U	16	040	0.4	–
K	28	070	0.7	–
J	60	150	1.5	0.03
P	71	180	1.8	0.05
Q	95	240	2.4	0.08

Note: K, J, P & Q show its primary land width

10 Negative Land Angle

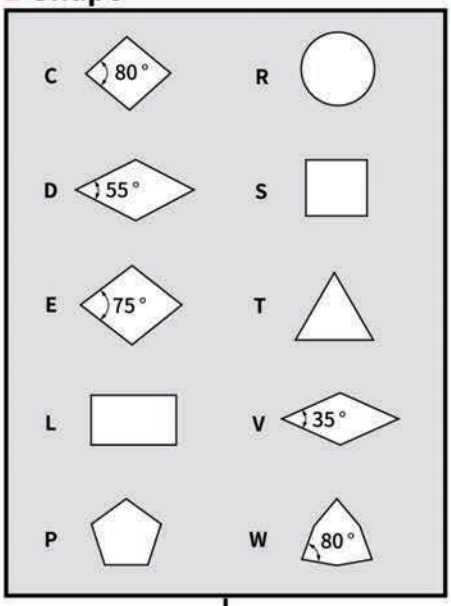


Description	b
10	10°
15	15°
20	20°
25	25°
30	30°

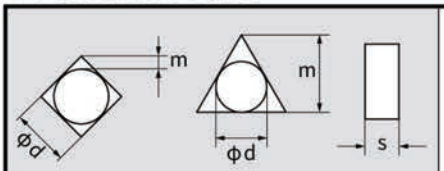
ISO insert code

Carbide

1 Shape



3 Tolerance Class



Symbol	d (mm)	m (mm)	s (mm)
A	±0.025	±0.005	±0.025
F	±0.013	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.013
J	±0.05	±0.05	±0.013
K	±0.05 ~±0.13	±0.013	±0.025
L	±0.05 ~±0.13	±0.025	±0.025
M	±0.05 ~±0.13	±0.08 ~±0.08	±0.013
N	±0.05 ~±0.13	±0.08 ~±0.08	±0.025
U	±0.08 ~±0.25	±0.13 ~±.015	±0.013

Accuracy of J,K,L,M,N,U class by form size
For inserts with apex angles greater than 55°

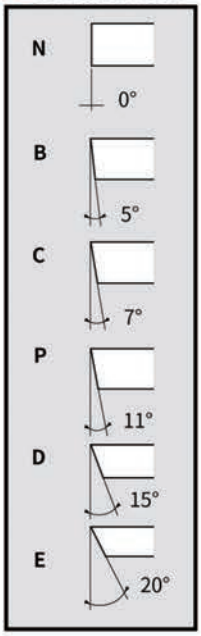
Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.08
9.525	±0.05	±0.08
12.7	±0.08	±0.13
15.875	±0.05	±0.15
19.05	±0.05	±0.15
25.4	±0.13	±0.08

For Class M inserts with apex angles of
55° (D), 35° (V), and 25° (Y)

Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.05
9.525	±0.05	±0.05
12.7	±0.08	±0.15
15.875	±0.05	±0.15
19.05	±0.05	±0.08

	1	2	3	4
Inch	C	C	G	T
Metric	C	C	G	T

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M	40°–60°	W
Special design	X		

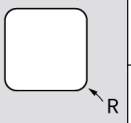
6 Thickness

Thickness S (mm)	Inch	Metric
2.38	1.5	02
3.18	2	03
3.97	2.5	T3
4.76	3	04
5.56	4	06
6.35	5	07
7.94	6	09
12.7	8	12

5 Cutting Edge Length

Inch		Metric					
Inscribed Circle		C	D	R S	T	V	W
5.56	2	06	07	06	11	11	04
7.94	3	09	11	09	16	16	06
12.7	4	12	15	12	22	22	08
15.875	5	16	19	15	27	27	10
19.05	6	19	23	19	33	33	13
25.4	8	25	31	25	44	44	17

7 Nose Radius

Corner Radius	Inch	Metric
	0.03	01	00
	0.08	04M	01M
	0.1	04	01
	0.18	08M	02M
	0.2	08	02
	0.38	1M	04M
	0.4	1	04
	0.8	2	08

3	2.5	08M	F	N	AM3
5	6	7	8	9	10
09	T3	02M	F	N	AM3

8 Edge Sharpness

F	Up-sharp edge (without any edge preparation)
(Blank)	Non up-sharp edge

9 Hand of Chipbreaker

N	Neutral*
R	Right-hand
L	Left-hand

* Omitted when edge is not "up-sharp"

10 Type of Chipbreaker

11 Wiper insert

"-WP" after chipbreaker

Edge treatment specifications BIDEMICS, Ceramic, CBN

C	N	G	A	12	04	04

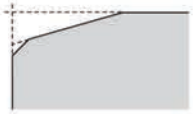
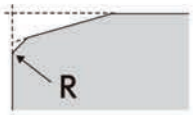
Part No. Designation Code for Inserts → Refer to page D2 - 5

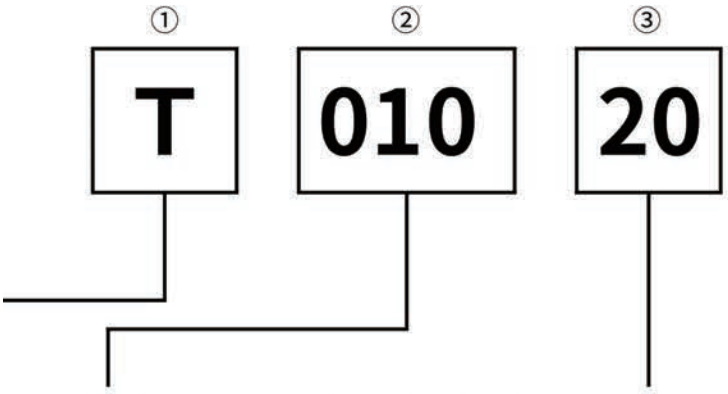
① Codes for major cutting edges

Cutting edge treatment : Chamfering or honing of the cutting edge in order to strengthen the edge or to adjust the cutting performance

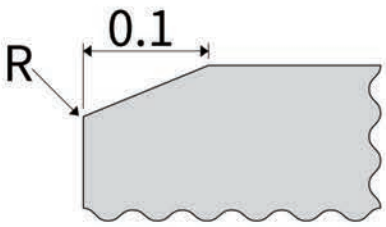
Cutting performance

Strength of cutting edge

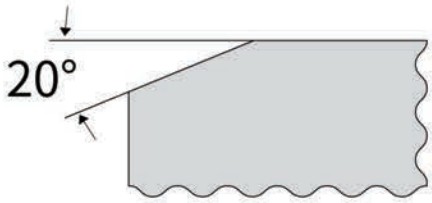
	Code	Shape
Sharp edge	F	
Round honing	E	
Angular grinding	T	
Angular grinding + round honing	Z	
	S	
2-step chamfering	K	
2-step chamfering + round honing	P	



② Edge condition - width and hone.



③ Angle of treatment

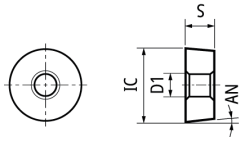


Codes for cutting edges and the shapes

Code	Shape of the cutting edge
E002	Round honing with R = 0.02
E004	Round honing with R = 0.04
E007	Round honing with R = 0.07
EX0004	Round honing with R = 0.02
S01015	Chamfering 0.10 mm x 15 deg. + round honing with R = 0.04 (∗R0.03)
S01020	Chamfering 0.10 mm x 20 deg. + round honing with R = 0.04 (∗R0.03)
S01325	Chamfering 0.13 mm x 25 deg. + round honing with R = 0.04 (∗R0.03)
S01535	Chamfering 0.15 mm x 35 deg. + round honing with R = 0.04 (∗R0.03)
S02025	Chamfering 0.20 mm x 25 deg. + round honing with R = 0.04 (∗R0.03)
T00320	Chamfering 0.03 mm x 20 deg.
T00520	Chamfering 0.05 mm x 20 deg.
T00525	Chamfering 0.05 mm x 25 deg.
T00820	Chamfering 0.08 mm x 20 deg.
T01015	Chamfering 0.10 mm x 15 deg.
T01020	Chamfering 0.10 mm x 20 deg.
T01025	Chamfering 0.10 mm x 25 deg.
T01515	Chamfering 0.15 mm x 15 deg.
T01520	Chamfering 0.15 mm x 20 deg.
T01525	Chamfering 0.15 mm x 25 deg.
T02020	Chamfering 0.20 mm x 20 deg.
T02025	Chamfering 0.20 mm x 25 deg.
Z01015	Chamfering 0.10 mm x 15 deg. + round honing with R = 0.02
Z01025	Chamfering 0.10 mm x 25 deg. + round honing with R = 0.02
Z01030	Chamfering 0.10 mm x 30 deg. + round honing with R = 0.02
Z01520	Chamfering 0.15 mm x 20 deg. + round honing with R = 0.02
Z02025	Chamfering 0.20 mm x 25 deg. + round honing with R = 0.02

∗CBN=R0.03

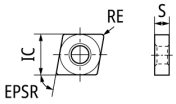
CDH



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	CDH1207P07010	P07010	–	12.7	6.35	6	–	3.18	–	–	–	–								●												
	CDH1909P15015	P15015	–	19.05	9.52	6	–	6.35	–	–	–	–								●												

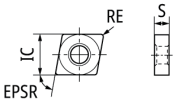
CNGA



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	CNGA120404BQE004	E004	80	12.7	4.76	–	0.4	–	–	–	–	–	●																			
	CNGA120404BQT00520	T00520	80	12.7	4.76	–	0.4	–	–	–	–	–		●																		
	CNGA120404S02025	S02025	80	12.7	4.76	–	0.4	–	–	–	–	–												●								
	CNGA120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–												●								
	CNGA120404X01015	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–					●															
	CNGA120404X01015-10	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–					●															
	CNGA120404Z02025	Z02025	80	12.7	4.76	–	0.4	–	–	–	–	–									●											
	CNGA120408BQE004	E004	80	12.7	4.76	–	0.8	–	–	–	–	–	●																			
	CNGA120408BQT00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–		●																		
	CNGA120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–												●								
	CNGA120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																●			●	
	CNGA120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●	●	
	CNGA120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–								●		●		●								
	CNGA120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	CNGA120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–																●				
	CNGA120408X01015	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–					●															
	CNGA120408X01015-10	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–					●															
	CNGA120408Z02025	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–									●											
	CNGA120412BQE004	E004	80	12.7	4.76	–	1.2	–	–	–	–	–	●																			
	CNGA120412BQT00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–		●																		
	CNGA120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–												●								
	CNGA120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																●			●	
	CNGA120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●	●	
	CNGA120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–						●		●		●		●								
	CNGA120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	CNGA120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–																●				
	CNGA120412X01015	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–					●															
	CNGA120412X01015-10	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–					●															
	CNGA120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–																●			●	
	CNGA120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–																		●		
	CNGA120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																	●			
	CNGA120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–																●				

CNGA-WL with wiper for higher feed

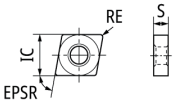


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	CNGA120408WLT01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120412WLT01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–

Wiper Width: R0.4: 0.35mm, R0.8: 0.65mm, R1.2: 0.85mm
Applicable holders: 95° cutting edge angle (C31, CCLN), 75° cutting edge angle (CCBN).

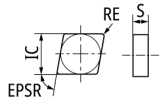
CNGG-AG with chipbreaker



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	CNGG120408Z01030AG	Z01030	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGG120412Z01030AG	Z01030	80	12.7	4.76	–	1.2	–	–	–	–	–

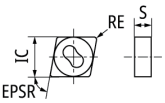
CNGN



Steel																																				
Stainless Steel																																			
Cast Iron																●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																																			
Heat Resistant Alloy	●	●	●	●																			●	●	●	●			●	●
Hardened Material															●			○	●		●	●									
Others (non-metallic)																																			

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics							Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	CNGN120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–									●												
	CNGN120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–												●									
	CNGN120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																●			●		
	CNGN120408T00820	T00820	80	12.7	4.76	–	0.8	–	–	–	–	–																					●
	CNGN120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●	●		
	CNGN120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–								●		●		●									
	CNGN120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																	●				
	CNGN120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–						●										●			●		
	CNGN120408Z02025	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–										●											
	CNGN120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–												●									
	CNGN120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																●			●		
	CNGN120412T00820	T00820	80	12.7	4.76	–	1.2	–	–	–	–	–																					●
	CNGN120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●	●		
	CNGN120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–							●		●		●		●						●		
	CNGN120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																●					
	CNGN120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–						●										●			●		
	CNGN120412Z02025	Z02025	80	12.7	4.76	–	1.2	–	–	–	–	–										●											
	CNGN120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–																			●		
	CNGN120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–																		●			
	CNGN120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																●					
	CNGN120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–																●					
	CNGN120420T01025	T01025	80	12.7	4.76	–	2	–	–	–	–	–											●										
	CNGN120708T00520	T00520	80	12.7	7.94	–	0.8	–	–	–	–	–																			●		
	CNGN120708T02025	T02025	80	12.7	7.94	–	0.8	–	–	–	–	–									●												
	CNGN120712T02025	T02025	80	12.7	7.94	–	1.2	–	–	–	–	–									●												
	CNGN160716T00520	T00520	80	15.875	7.94	–	1.6	–	–	–	–	–																			●		

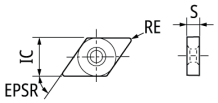
CNGX



Steel																																				
Stainless Steel																																			
Cast Iron																●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																																			
Heat Resistant Alloy	●	●	●	●																			●	●	●	●			●	●
Hardened Material															●			○	●		●	●									
Others (non-metallic)																																			

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics							Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	CNGX120712T02025	T02025	80	12.7	7.94	–	1.2	–	–	–	–	–																		●		
	CNGX120716T02025	T02025	80	12.7	7.94	–	1.6	–	–	–	–	–																		●		

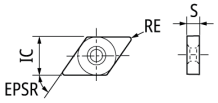
DNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGA150404BQE004	E004	55	12.7	4.76	–	0.4	–	–	–	–	–	●																			
	DNGA150404BQT00520	T00520	55	12.7	4.76	–	0.4	–	–	–	–	–		●																		
	DNGA150404S02025	S02025	55	12.7	4.76	–	0.4	–	–	–	–	–												●								
	DNGA150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–								●		●		●								
	DNGA150404X01015	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–					●															
	DNGA150404X01015-10	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–					●															
	DNGA150404Z02025	Z02025	55	12.7	4.76	–	0.4	–	–	–	–	–									●											
	DNGA150408BQE004	E004	55	12.7	4.76	–	0.8	–	–	–	–	–	●																			
	DNGA150408BQT00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–		●																		
	DNGA150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–								●				●								
	DNGA150408T00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–																●			●	
	DNGA150408T01020	T01020	55	12.7	4.76	–	0.8	–	–	–	–	–																		●		
	DNGA150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–								●		●		●								
	DNGA150408T02020	T02020	55	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	DNGA150408T02025	T02025	55	12.7	4.76	–	0.8	–	–	–	–	–																●				
	DNGA150408X01015	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–					●															
	DNGA150408X01015-10	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–					●															
	DNGA150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–									●											
	DNGA150412BQE004	E004	55	12.7	4.76	–	1.2	–	–	–	–	–	●																			
	DNGA150412BQT00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–		●																		
	DNGA150412S02025	S02025	55	12.7	4.76	–	1.2	–	–	–	–	–												●								
	DNGA150412T01020	T01020	55	12.7	4.76	–	1.2	–	–	–	–	–																		●	●	
	DNGA150412T01025	T01025	55	12.7	4.76	–	1.2	–	–	–	–	–							●					●								
	DNGA150412T02020	T02020	55	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	DNGA150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–																●				
	DNGA150412X01015	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–					●															
	DNGA150412X01015-10	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–					●															

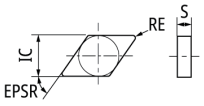
DNGG-AG with chipbreaker



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGG150408Z01030AG	Z01030	55	12.7	4.76	–	0.8	–	–	–	–	–													●							
	DNGG150412Z01030AG	Z01030	55	12.7	4.76	–	1.2	–	–	–	–	–													●							

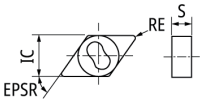
DNGN



	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
Steel																				
Stainless Steel																				
Cast Iron					●	●	●		●		○	○	○	○	●	●	○	○		
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●							●	●	●	●			●	●		
Hardened Material					●		○	●		●	●									
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGN150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–								●												
	DNGN150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–												●								
	DNGN150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–										●		●								
	DNGN150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–									●											
	DNGN150412T00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–																		●		
	DNGN150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–																		●		
	DNGN150712T02025	T02025	55	12.7	7.94	–	1.2	–	–	–	–	–																		●		

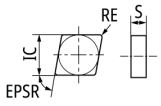
DNGX



	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
Steel																				
Stainless Steel																				
Cast Iron					●	●	●		●		○	○	○	○	●	●	○	○		
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●							●	●	●	●			●	●		
Hardened Material					●		○	●		●	●									
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGX150716T02025	T02025	55	12.7	7.94	–	1.6	–	–	–	–	–																		●		

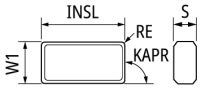
ENGN



	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
Steel																				
Stainless Steel																				
Cast Iron					●	●	●		●		○	○	○	○	●	●	○	○		
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●							●	●	●	●			●	●		
Hardened Material					●		○	●		●	●									
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK	CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	ENGN130708T02025	T02025	75	12.7	7.94	–	0.8	–	–	–	–	–								●												
	ENGN130712T02025	T02025	75	12.7	7.94	–	1.2	–	–	–	–	–								●												

LNM

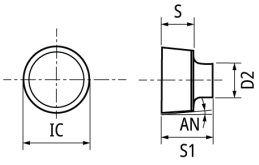


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	LNM6688P16515A	P16515A	90	–	12.7	–	3.2	–	–	38.1	–	19.05
	LNM6688SN2	SN2	90	–	12.7	–	3.2	–	–	38.1	–	19.05
	LNM6688SNX6	SNX6	90	–	12.7	–	3.2	–	–	38.1	–	19.05

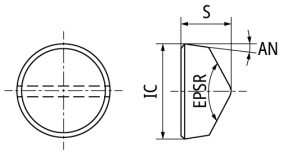
	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

RBGX



Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	RBGX16SP15015	P15015	–	16	8	5	–	–	8	–	13	–
	RBGX16SS15015	S15015	–	16	8	5	–	–	8	–	13	–
	RBGX20SP20015	P20015	–	20	10	5	–	–	10	–	15	–
	RBGX26SP20015	P20015	–	26	10	5	–	–	14	–	15	–
	RBGX26SSN3	S20015	–	26	10	5	–	–	14	–	15	–

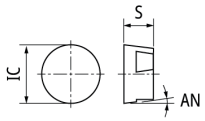
RCGX



Steel																																
Stainless Steel																																
Cast Iron									●	●	●		●				○	○	○	○	●	●	○	○								
Non-Ferrous Material																																
Heat Resistant Alloy	●	●	●	●													●	●	●	●			●	●								
Hardened Material					●						○	●		●	●																	
Others (non-metallic)																																

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	RCGX060400T00520	T00520	120	6.35	4.76	7	–	–	–	–	–	–																			●	●
	RCGX060400T00820	T00820	120	6.35	4.76	7	–	–	–	–	–	–			●	●																
	RCGX060400T02020	T02020	120	6.35	4.76	7	–	–	–	–	–	–											★									★
	RCGX060600P07015	P07015	120	6.35	6.35	7	–	–	–	–	–	–																				★
	RCGX060700T00520	T00520	120	6.35	7.94	7	–	–	–	–	–	–																			●	
	RCGX090700E004	E004	120	9.525	7.94	7	–	–	–	–	–	–			●	●																
	RCGX090700K20015	K20015	120	9.525	7.94	7	–	–	–	–	–	–											★									★
	RCGX090700P07015	P07015	120	9.525	7.86	7	–	–	–	–	–	–								●												
	RCGX090700T00520	T00520	120	9.525	7.94	7	–	–	–	–	–	–													●			●			●	
	RCGX090700T00525	T00525	120	9.525	7.86	7	–	–	–	–	–	–																●			●	
	RCGX090700T00820	T00820	120	9.525	7.94	7	–	–	–	–	–	–			●	●																●
	RCGX090700T01020	T01020	120	9.525	7.94	7	–	–	–	–	–	–																			●	
	RCGX120700E004	E004	120	12.7	7.94	7	–	–	–	–	–	–			●	●																
	RCGX120700K20015	K20015	120	12.7	7.94	7	–	–	–	–	–	–											★									★
	RCGX120700P15015	P15015	120	12.7	7.94	7	–	–	–	–	–	–								●												
	RCGX120700T00520	T00520	120	12.7	7.94	7	–	–	–	–	–	–													●			●			●	
	RCGX120700T00525	T00525	120	12.7	7.94	7	–	–	–	–	–	–																●				
	RCGX120700T00820	T00820	120	12.7	7.94	7	–	–	–	–	–	–			●	●																●
	RCGX120700T01020	T01020	120	12.7	7.94	7	–	–	–	–	–	–																			●	
	RCGX120700Z01520	Z01520	120	12.7	7.94	7	–	–	–	–	–	–																			●	

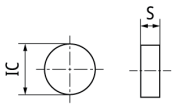
RCGY



Steel																																
Stainless Steel																																
Cast Iron									●	●	●		●				○	○	○	○	●	●	○	○								
Non-Ferrous Material																																
Heat Resistant Alloy	●	●	●	●													●	●	●	●			●	●								
Hardened Material					●						○	●		●	●																	
Others (non-metallic)																																

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	RCGY090603T00525	T00525	–	9.525	6.35	7	–	–	–	–	–	–																			●	
	RCGY120603T00525	T00525	–	12.7	6.35	7	–	–	–	–	–	–																			●	

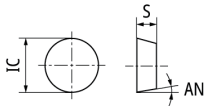
RNGN



	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
			● ● ● ● ○ ○ ○ ○ ● ● ○ ○		● ● ● ● ● ● ● ● ● ●	● ○ ● ● ●	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	RNGN120400S02025	S02025	–	12.7	4.76	–	–	–	–	–	–	–												●							
	RNGN120400T00520	T00520	–	12.7	4.76	–	–	–	–	–	–	–													●					●	
	RNGN120400T00525	T00525	–	12.7	4.76	–	–	–	–	–	–	–															●			●	
	RNGN120400T00820	T00820	–	12.7	4.76	–	–	–	–	–	–	–																			●
	RNGN120400T01020	T01020	–	12.7	4.76	–	–	–	–	–	–	–															●			●	
	RNGN120400T01025	T01025	–	12.7	4.76	–	–	–	–	–	–	–								●				●							
	RNGN120400T02020	T02020	–	12.7	4.76	–	–	–	–	–	–	–																		●		
	RNGN120400T02025	T02025	–	12.7	4.76	–	–	–	–	–	–	–															●					
	RNGN120400Z02025	Z02025	–	12.7	4.76	–	–	–	–	–	–	–									●											
	RNGN120700E002	E002	–	12.7	7.94	–	–	–	–	–	–	–															●					
	RNGN120700E004	E004	–	12.7	7.94	–	–	–	–	–	–	–			●	●										●		●				
	RNGN120700E007	E007	–	12.7	7.94	–	–	–	–	–	–	–								●												
	RNGN120700K20015	K20015	–	12.7	7.94	–	–	–	–	–	–	–												★								★
	RNGN120700S02025	S02025	–	12.7	7.94	–	–	–	–	–	–	–													●							
	RNGN120700T00520	T00520	–	12.7	7.94	–	–	–	–	–	–	–														●			●		●	
	RNGN120700T00525	T00525	–	12.7	7.94	–	–	–	–	–	–	–																	●		●	
	RNGN120700T00820	T00820	–	12.7	7.94	–	–	–	–	–	–	–			●	●												●				●
	RNGN120700T01020	T01020	–	12.7	7.94	–	–	–	–	–	–	–																			●	
	RNGN120700T02025	T02025	–	12.7	7.94	–	–	–	–	–	–	–								●					●							
	RNGN120700Z01520	Z01520	–	12.7	7.94	–	–	–	–	–	–	–																			●	
	RNGN120700Z02025	Z02025	–	12.7	7.94	–	–	–	–	–	–	–									●											
	RNGN150700T00520	T00520	–	15.875	7.94	–	–	–	–	–	–	–																	●			
	RNGN150700T00525	T00525	–	15.875	7.94	–	–	–	–	–	–	–																	●		●	
	RNGN150700T00820	T00820	–	15.875	7.94	–	–	–	–	–	–	–																				●
	RNGN190700K20015	K20015	–	19.05	7.94	–	–	–	–	–	–	–																				●
	RNGN190700T00520	T00520	–	19.05	7.94	–	–	–	–	–	–	–																	●			
	RNGN190700T00525	T00525	–	19.05	7.94	–	–	–	–	–	–	–																	●			
	RNGN190700T00820	T00820	–	19.05	7.94	–	–	–	–	–	–	–																				●
	RNGN190700T01020	T01020	–	19.05	7.94	–	–	–	–	–	–	–																			●	
	RNGN250700T00520	T00520	–	25.4	7.94	–	–	–	–	–	–	–																	●		●	
	RNGN250700T00820	T00820	–	25.4	7.94	–	–	–	–	–	–	–																				●

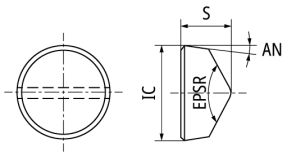
RPGN



	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
			● ● ● ● ○ ○ ○ ○ ● ● ○ ○		● ● ● ● ● ● ● ● ● ●	● ○ ● ● ●	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	RPGN060200T00520	T00520	–	6.35	2.38	11	–	–	–	–	–	–																			●	
	RPGN090300T00520	T00520	–	9.525	3.18	11	–	–	–	–	–	–																			●	
	RPGN120400E004	E004	–	12.7	4.76	11	–	–	–	–	–	–															●					
	RPGN120400EM02X	EM02X	–	12.7	4.76	11	–	–	–	–	–	–																●				
	RPGN120400T00520	T00520	–	12.7	4.76	11	–	–	–	–	–	–																			●	
	RPGN120400T00525	T00525	–	12.7	4.76	11	–	–	–	–	–	–																●				
	RPGN120400T00820	T00820	–	12.7	4.76	11	–	–	–	–	–	–															●					
	RPGN120400T01020	T01020	–	12.7	4.76	11	–	–	–	–	–	–																●			●	

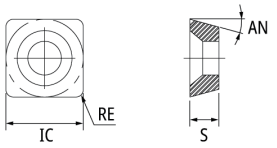
RPGX



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	RPGX060400T00520	T00520	120	6.35	4.76	11	–	–	–	–	–	–
	RPGX090700E004	E004	120	9.525	7.94	11	–	–	–	–	–	–
	RPGX090700T00520	T00520	120	9.525	7.94	11	–	–	–	–	–	–
	RPGX090700T00820	T00820	120	9.525	7.94	11	–	–	–	–	–	–
	RPGX090800T00525	T00525	120	9.525	7.86	11	–	–	–	–	–	–
	RPGX120700E004	E004	120	12.7	7.94	11	–	–	–	–	–	–
	RPGX120700T00520	T00520	120	12.7	7.94	11	–	–	–	–	–	–
	RPGX120700T00525	T00525	120	12.7	7.94	11	–	–	–	–	–	–
	RPGX120700T00820	T00820	120	12.7	7.94	11	–	–	–	–	–	–
	RPGX120700T01020	T01020	120	12.7	7.94	11	–	–	–	–	–	–

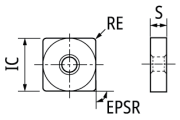
SDCW



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	SDCW120408T01020	T01020	90	12.7	4.76	15	0.8	5.5	–	–	–	–

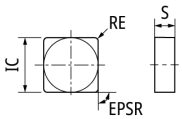
SNGA



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

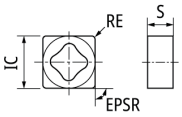
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	SNGA120408S02025	S02025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGA120408T01025	T01025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGA120408T02020	T02020	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGA120412S02025	S02025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGA120412T01025	T01025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGA120412T02020	T02020	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGA120416T02020	T02020	90	12.7	4.76	–	1.6	–	–	–	–	–

SNGN



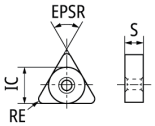
| | | |

SNGX



| | | |

TNGA

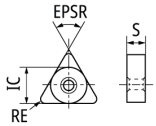


	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
BIDEMICS PVD 120					●		
BIDEMICS PVD JP2					●		
BIDEMICS PVD JX1					●		
BIDEMICS PVD JX3					●		
NTK CeramiX PVD 450						●	
Alumina Ceramics HC1			●				
Alumina Ceramics HW2			●				
Alumina Ceramics HC2			●			○	
Alumina Ceramics HC4						●	
Alumina Ceramics HC6			●				
Alumina Ceramics HC7						●	
Alumina Ceramics ZC7 PVD						●	
Silicon Nitride Ceramics SX3			○		●		
Silicon Nitride Ceramics SX5			○		●		
Silicon Nitride Ceramics SX7			○		●		
Silicon Nitride Ceramics SX9			○		●		
Silicon Nitride Ceramics SX6			●				
Silicon Nitride Ceramics SP9 CVD			●				
Whisker Ceramics WA1			○		●		
Whisker Ceramics WA5			○		●		

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	TNGA160404S02025	S02025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404T01025	T01025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404X01015	X01015	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404X01015-10	X01015	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404Z02025	Z02025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160408S02025	S02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T01025	T01025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T02020	T02020	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T02025	T02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408X01015	X01015	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408X01015-10	X01015	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408Z02025	Z02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160412S02025	S02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T01025	T01025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T02020	T02020	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T02025	T02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412X01015	X01015	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412X01015-10	X01015	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160416T02025	T02025	60	9.525	4.76	–	1.6	–	–	–	–	–

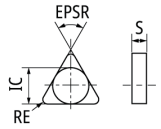
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	TNGG160408Z01030AG	Z01030	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGG160412Z01030AG	Z01030	60	9.525	4.76	–	1.2	–	–	–	–	–

TNGG-AG with chipbreaker



	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
BIDEMICS PVD 120					●		
BIDEMICS PVD JP2					●		
BIDEMICS PVD JX1					●		
BIDEMICS PVD JX3					●		
NTK CeramiX PVD 450						●	
Alumina Ceramics HC1			●				
Alumina Ceramics HW2			●				
Alumina Ceramics HC2			●			○	
Alumina Ceramics HC4						●	
Alumina Ceramics HC6			●				
Alumina Ceramics HC7						●	
Alumina Ceramics ZC7 PVD						●	
Silicon Nitride Ceramics SX3			○		●		
Silicon Nitride Ceramics SX5			○		●		
Silicon Nitride Ceramics SX7			○		●		
Silicon Nitride Ceramics SX9			○		●		
Silicon Nitride Ceramics SX6			●				
Silicon Nitride Ceramics SP9 CVD			●				
Whisker Ceramics WA1			○		●		
Whisker Ceramics WA5			○		●		

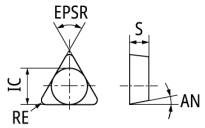
TNGN



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics ZC7 PVD	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics SP9 CVD	Whisker Ceramics WA1	Whisker Ceramics WA5
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm																				
	TNGN110308T00525	T00525	60	6.35	3.18	–	0.8	–	–	–	–	–								●												
	TNGN160304T01025	T01025	60	9.525	3.18	–	0.4	–	–	–	–	–								●												
	TNGN160404T01025	T01025	60	9.525	4.76	–	0.4	–	–	–	–	–								●												
	TNGN160404Z02025	Z02025	60	9.525	4.76	–	0.4	–	–	–	–	–										●										
	TNGN160408S02025	S02025	60	9.525	4.76	–	0.8	–	–	–	–	–													●							
	TNGN160408T00820	T00820	60	9.525	4.76	–	0.8	–	–	–	–	–																				●
	TNGN160408T01020	T01020	60	9.525	4.76	–	0.8	–	–	–	–	–																		●	●	
	TNGN160408T01025	T01025	60	9.525	4.76	–	0.8	–	–	–	–	–						●		●		●			●						●	
	TNGN160408T02020	T02020	60	9.525	4.76	–	0.8	–	–	–	–	–																		●		
	TNGN160408T02025	T02025	60	9.525	4.76	–	0.8	–	–	–	–	–																	●			
	TNGN160408Z02025	Z02025	60	9.525	4.76	–	0.8	–	–	–	–	–										●										
	TNGN160412S02025	S02025	60	9.525	4.76	–	1.2	–	–	–	–	–													●							
	TNGN160412T00820	T00820	60	9.525	4.76	–	1.2	–	–	–	–	–																				●
	TNGN160412T01020	T01020	60	9.525	4.76	–	1.2	–	–	–	–	–																		●		
	TNGN160412T01025	T01025	60	9.525	4.76	–	1.2	–	–	–	–	–						●		●		●			●						●	
	TNGN160412T02020	T02020	60	9.525	4.76	–	1.2	–	–	–	–	–																		●		
	TNGN160412T02025	T02025	60	9.525	4.76	–	1.2	–	–	–	–	–																	●			
	TNGN160412Z02025	Z02025	60	9.525	4.76	–	1.2	–	–	–	–	–										●										
	TNGN160416T01020	T01020	60	9.525	4.76	–	1.6	–	–	–	–	–																		●		
	TNGN160416T01025	T01025	60	9.525	4.76	–	1.6	–	–	–	–	–						●	●	●												
	TNGN160416T02020	T02020	60	9.525	4.76	–	1.6	–	–	–	–	–																		●		
	TNGN160416T02025	T02025	60	9.525	4.76	–	1.6	–	–	–	–	–																	●			
	TNGN160420T01025	T01025	60	9.525	4.76	–	2	–	–	–	–	–						●		●												
	TNGN160420T02020	T02020	60	9.525	4.76	–	2	–	–	–	–	–																		●		
	TNGN160708T02025	T02025	60	9.525	7.94	–	0.8	–	–	–	–	–								●												
	TNGN160712T02025	T02025	60	9.525	7.94	–	1.2	–	–	–	–	–								●												
	TNGN220416T00520	T00520	60	12.7	4.76	–	1.6	–	–	–	–	–																			●	
	TNGN220716T00520	T00520	60	12.7	7.94	–	1.6	–	–	–	–	–																			●	

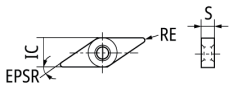
TPGN



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics ZC7 PVD	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics SP9 CVD	Whisker Ceramics WA1	Whisker Ceramics WA5
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm																				
	TPGN090204T00525	T00525	60	5.56	2.38	11	0.4	–	–	–	–	–								●												
	TPGN090208T00525	T00525	60	5.56	2.38	11	0.8	–	–	–	–	–								●												
	TPGN110304T00525	T00525	60	6.35	3.18	11	0.4	–	–	–	–	–								●												
	TPGN110304T01025	T01025	60	6.35	3.18	11	0.4	–	–	–	–	–													●							
	TPGN110308T00525	T00525	60	6.35	3.18	11	0.8	–	–	–	–	–								●												
	TPGN110308T01025	T01025	60	6.35	3.18	11	0.8	–	–	–	–	–													●							
	TPGN160304T01025	T01025	60	9.525	3.18	11	0.4	–	–	–	–	–								●					●							
	TPGN160304Z01025	Z01025	60	9.525	3.18	11	0.4	–	–	–	–	–										●										
	TPGN160308T01025	T01025	60	9.525	3.18	11	0.8	–	–	–	–	–								●			●		●							
	TPGN160308Z01025	Z01025	60	9.525	3.18	11	0.8	–	–	–	–	–										●										
	TPGN160312T01025	T01025	60	9.525	3.18	11	1.2	–	–	–	–	–							●													

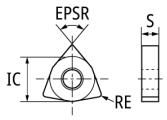
VNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	VNGA160404BQE004	E004	35	9.525	4.76	–	0.4	–	–	–	–	–	●																			
	VNGA160404BQT00520	T00520	35	9.525	4.76	–	0.4	–	–	–	–	–		●																		
	VNGA160404S02025	S02025	35	9.525	4.76	–	0.4	–	–	–	–	–												●								
	VNGA160404T01020	T01020	35	9.525	4.76	–	0.4	–	–	–	–	–																	●			
	VNGA160404T01025	T01025	35	9.525	4.76	–	0.4	–	–	–	–	–									●	●		●								
	VNGA160404X01015	X01015	35	9.525	4.76	–	0.4	–	–	–	–	–					●															
	VNGA160404X01015-10	X01015	35	9.525	4.76	–	0.4	–	–	–	–	–					●															
	VNGA160404Z02025	Z02025	35	9.525	4.76	–	0.4	–	–	–	–	–									●											
	VNGA160408BQE004	E004	35	9.525	4.76	–	0.8	–	–	–	–	–	●																			
	VNGA160408BQT00520	T00520	35	9.525	4.76	–	0.8	–	–	–	–	–		●																		
	VNGA160408S02025	S02025	35	9.525	4.76	–	0.8	–	–	–	–	–												●								
	VNGA160408T00520	T00520	35	9.525	4.76	–	0.8	–	–	–	–	–																			●	
	VNGA160408T01020	T01020	35	9.525	4.76	–	0.8	–	–	–	–	–																	●	●		
	VNGA160408T01025	T01025	35	9.525	4.76	–	0.8	–	–	–	–	–									●	●		●								
	VNGA160408X01015	X01015	35	9.525	4.76	–	0.8	–	–	–	–	–					●															
	VNGA160408X01015-10	X01015	35	9.525	4.76	–	0.8	–	–	–	–	–					●															
	VNGA160408Z02025	Z02025	35	9.525	4.76	–	0.8	–	–	–	–	–									●											
	VNGA160412BQT00520	T00520	35	9.525	4.76	–	1.2	–	–	–	–	–		●																		
	VNGA160412S02025	S02025	35	9.525	4.76	–	1.2	–	–	–	–	–												●								
	VNGA160412T01020	T01020	35	9.525	4.76	–	1.2	–	–	–	–	–																	●	●		
	VNGA160412T01025	T01025	35	9.525	4.76	–	1.2	–	–	–	–	–												●								
	VNGA160412X01015	X01015	35	9.525	4.76	–	1.2	–	–	–	–	–					●															
	VNGA160412X01015-10	X01015	35	9.525	4.76	–	1.2	–	–	–	–	–					●															
	VNGA160412Z02025	Z02025	35	9.525	4.76	–	1.2	–	–	–	–	–									●											
	VNGA220424T01020	T01020	35	12.7	4.76	–	2.4	–	–	–	–	–																			●	

WNGA

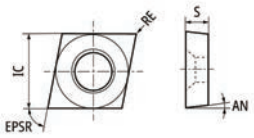


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	WNGA080408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																			●	
	WNGA080408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●		
	WNGA080408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	WNGA080412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																			●	
	WNGA080412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●		
	WNGA080412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	WNGA080416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																	●			

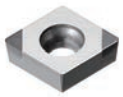
CBN

CCGW

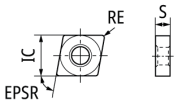


Steel																					
Stainless Steel																					
Cast Iron											●	●	●	●			○	○			
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material															●	●	●	●	●		
Others (non-metallic)																					

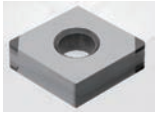
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	CCGW060202PDFNX	Up-sharp edge	80	6.35	2.38	7	0.2	–	2.3	2	–				●				●	
	CCGW060202PDS01015	S01015	80	6.35	2.38	7	0.2	–	2.3	2	–					●		●	●	
	CCGW060202PDS01325	S01325	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060202PDS01535	S01535	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060204PDFNX	Up-sharp edge	80	6.35	2.38	7	0.4	–	2.3	2	–				●					
	CCGW060204PDS01015	S01015	80	6.35	2.38	7	0.4	–	2.3	2	–					●		●	●	
	CCGW060204PDS01325	S01325	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060204PDS01535	S01535	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060208PDFNX	Up-sharp edge	80	6.35	2.38	7	0.8	–	2.2	2	–								●	
	CCGW060208PDS01015	S01015	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01325	S01325	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01535	S01535	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDT01520	T01520	80	6.35	2.38	7	0.8	–	2.2	2	–					●				
	CCGW09T302PDFNX	Up-sharp edge	80	9.525	3.97	7	0.2	–	2.3	2	–				●				●	
	CCGW09T302PDS01015	S01015	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01325	S01325	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01535	S01535	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T304PDFNX	Up-sharp edge	80	9.525	3.97	7	0.4	–	2.3	2	–				●				●	
	CCGW09T304PDS01015	S01015	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01325	S01325	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01535	S01535	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T308PDFNX	Up-sharp edge	80	9.525	3.97	7	0.8	–	2.2	2	–				●					
	CCGW09T308PDS01015	S01015	80	9.525	3.97	7	0.8	–	2.2	2	–							●	●	
	CCGW09T308PDS01535	S01535	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T308PTS01325	S01325	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T312PDFNX	Up-sharp edge	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PDS01015	S01015	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PTS01325	S01325	80	9.525	3.97	7	1.2	–	2.7	2	–					●				



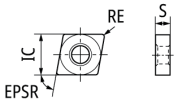
CNGA



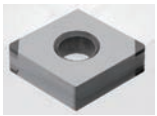
	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
			● ● ● ●			● ● ● ● ●	○ ○

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	CNGA120402PQS01015	S01015	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01325	S01325	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01535	S01535	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQT01020	T01020	80	12.7	4.76	–	0.2	–	2.3	4	–				●					
	CNGA120404PDFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	2	–				●				●	
	CNGA120404PQFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	4	–				●				●	
	CNGA120404PQS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01020	S01020	80	12.7	4.76	–	0.4	–	2.3	4	–			●						
	CNGA120404PQS01325	S01325	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQT01020	T01020	80	12.7	4.76	–	0.4	–	2.3	4	–				●					
	CNGA120408PDFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	2	–				●					
	CNGA120408PQFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	4	–				●				●	
	CNGA120408PQS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01020	S01020	80	12.7	4.76	–	0.8	–	2.2	4	–			●						
	CNGA120408PQS01325	S01325	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQT00515	T00515	80	12.7	4.76	–	0.8	–	2.2	4	–					●				
	CNGA120408PQT01020	T01020	80	12.7	4.76	–	0.8	–	2.2	4	–				●					
	CNGA120412PDFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	2	–				●					
	CNGA120412PQFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	4	–				●				●	
	CNGA120412PQS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01020	S01020	80	12.7	4.76	–	1.2	–	2.7	4	–			●						
	CNGA120412PQS01325	S01325	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQT00515	T00515	80	12.7	4.76	–	1.2	–	2.7	4	–					●				
	CNGA120412PQT01020	T01020	80	12.7	4.76	–	1.2	–	2.7	4	–				●					
	CNGA120416PQS01015	S01015	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQS01020	S01020	80	12.7	4.76	–	1.6	–	2.6	4	–			●						
	CNGA120416PQS01325	S01325	80	12.7	4.76	–	1.6	–	2.6	4	–					●	●	●	●	
	CNGA120416PQS01535	S01535	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQT01020	T01020	80	12.7	4.76	–	1.6	–	2.6	4	–				●					
	CNGA120420PQS01015	S01015	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQS01020	S01020	80	12.7	4.76	–	2	–	2.6	4	–			●						
	CNGA120420PQS01325	S01325	80	12.7	4.76	–	2	–	2.6	4	–					●	●	●	●	
	CNGA120420PQS01535	S01535	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQT01020	T01020	80	12.7	4.76	–	2	–	2.6	4	–				●					

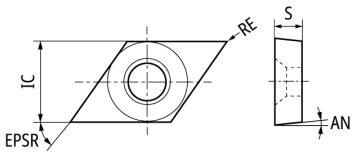
CNGA-W with wiper for higher feed



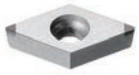
	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
			● ● ● ●			● ● ● ● ●	○ ○

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	CNGA120404PQWS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120404PQWS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120408PQWS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120408PQWS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120412PQWS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	
	CNGA120412PQWS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	

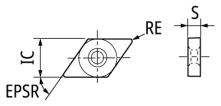
Wiper Width: 0.25mm
Applicable holders: 95°cutting edge angle (C31, CCLN) .



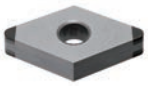
Steel																					
Stainless Steel																					
Cast Iron											●	●	●	●				○	○		
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material															●	●	●	●	●		
Others (non-metallic)																					

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	**DCGW070202PDFNX**	Up-sharp edge	55	6.35	2.38	7	0.2	–	2.4	2	–								●	
	DCGW070202PDS01015	S01015	55	6.35	2.38	7	0.2	–	2.4	2	–								●	
	DCGW070202PDS01535	S01535	55	6.35	2.38	7	0.2	–	2.4	2	–							●		
	DCGW070204PDFNX	Up-sharp edge	55	6.35	2.38	7	0.4	–	2.2	2	–				●				●	
	DCGW070204PDS01015	S01015	55	6.35	2.38	7	0.4	–	2.2	2	–								●	
	DCGW070204PDS01535	S01535	55	6.35	2.38	7	0.4	–	2.2	2	–							●		
	DCGW070208PDFNX	Up-sharp edge	55	6.35	2.38	7	0.8	–	1.9	2	–								●	
	DCGW070208PDS01015	S01015	55	6.35	2.38	7	0.8	–	1.9	2	–							●	●	
	DCGW070208PDS01535	S01535	55	6.35	2.38	7	0.8	–	1.9	2	–							●		
	DCGW070208PTS01325	S01325	55	6.35	2.38	7	0.8	–	1.9	2	–							●		
	DCGW11T301PDS01015	S01015	55	9.525	3.97	7	0.1	–	2.3	2	–								●	
	DCGW11T302PDFNX	Up-sharp edge	55	9.525	3.97	7	0.2	–	2.4	2	–				●				●	
	DCGW11T302PDS01015	S01015	55	9.525	3.97	7	0.2	–	2.4	2	–					●		●	●	●
	DCGW11T302PTS01325	S01325	55	9.525	3.97	7	0.2	–	2.4	2	–					●		●	●	
	DCGW11T302PDS01535	S01535	55	9.525	3.97	7	0.2	–	2.4	2	–					●		●	●	
	DCGW11T304PDFNX	Up-sharp edge	55	9.525	3.97	7	0.4	–	2.2	2	–				●				●	
	DCGW11T304PDS01015	S01015	55	9.525	3.97	7	0.4	–	2.2	2	–					●		●	●	●
	DCGW11T304PDS01535	S01535	55	9.525	3.97	7	0.4	–	2.2	2	–					●		●	●	
	DCGW11T304PDT01015	T01015	55	9.525	3.97	7	0.4	–	2.2	2	–					●				
	DCGW11T304PTS01325	S01325	55	9.525	3.97	7	0.4	–	2.2	2	–					●		●	●	
	DCGW11T308PDFNX	Up-sharp edge	55	9.525	3.97	7	0.8	–	1.9	2	–								●	
	DCGW11T308PDS01015	S01015	55	9.525	3.97	7	0.8	–	1.9	2	–							●	●	
	DCGW11T308PTS01325	S01325	55	9.525	3.97	7	0.8	–	1.9	2	–							●	●	
	DCGW11T308PDS01535	S01535	55	9.525	3.97	7	0.8	–	1.9	2	–							●	●	
	DCGW11T312PDS01015	S01015	55	9.525	3.97	7	1.2	–	2.6	2	–								●	

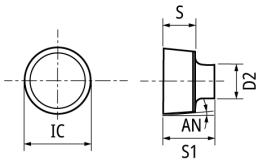
DNGA

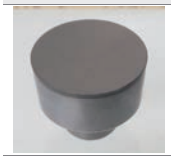


Steel																					
Stainless Steel																					
Cast Iron											●	●	●	●					○	○	
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material															●	●	●	●	●		
Others (non-metallic)																					

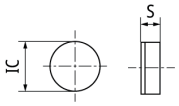
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	PVD B16	B22	B23	CBN B30	B36	PVD B6K	B40	B52	PVD B5K
	**DNGA150402PQS01015**	S01015	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01325	S01325	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01535	S01535	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQT01020	T01020	55	12.7	4.76	–	0.2	–	2.4	4	–				●					
	DNGA150404PDFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	2	–				●					
	DNGA150404PQFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	4	–				●				●	
	DNGA150404PQS01015	S01015	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01020	S01020	55	12.7	4.76	–	0.4	–	2.2	4	–			●						
	DNGA150404PQS01325	S01325	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01535	S01535	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQT01020	T01020	55	12.7	4.76	–	0.4	–	2.2	4	–				●					
	DNGA150408PDFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	2	–				●					
	DNGA150408PQFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	4	–				●				●	
	DNGA150408PQS01015	S01015	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01020	S01020	55	12.7	4.76	–	0.8	–	1.9	4	–			●						
	DNGA150408PQS01325	S01325	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01535	S01535	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQT01020	T01020	55	12.7	4.76	–	0.8	–	1.9	4	–				●					
	DNGA150412PDFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	2	–				●					
	DNGA150412PQFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	4	–								●	
	DNGA150412PQS01015	S01015	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01020	S01020	55	12.7	4.76	–	1.2	–	2.6	4	–			●						
	DNGA150412PQS01325	S01325	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01535	S01535	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQT01020	T01020	55	12.7	4.76	–	1.2	–	2.6	4	–				●					
	DNGA150416PQS01015	S01015	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01020	S01020	55	12.7	4.76	–	1.6	–	2.2	4	–			●						
	DNGA150416PQS01325	S01325	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01535	S01535	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQT01020	T01020	55	12.7	4.76	–	1.6	–	2.2	4	–				●					
	DNGA150420PQS01015	S01015	55	12.7	4.76	–	2	–	2.4	4	–						●			
	DNGA150420PQS01325	S01325	55	12.7	4.76	–	2	–	2.4	4	–					●	●			
	DNGA150420PQS01535	S01535	55	12.7	4.76	–	2	–	2.4	4	–						●			
	DNGA150602PQS01015	S01015	55	12.7	6.35	–	0.2	–	2.4	4	–								●	
	DNGA150604PQS01015	S01015	55	12.7	6.35	–	0.4	–	2.2	4	–								●	
	DNGA150604PQS01325	S01325	55	12.7	6.35	–	0.4	–	2.2	4	–					●				
	DNGA150604PQT01020	T01020	55	12.7	6.35	–	0.4	–	2.2	4	–				●					
	DNGA150608PQS01015	S01015	55	12.7	6.35	–	0.8	–	1.9	4	–								●	
	DNGA150608PQS01325	S01325	55	12.7	6.35	–	0.8	–	1.9	4	–					●				
	DNGA150608PQT01020	T01020	55	12.7	6.35	–	0.8	–	1.9	4	–				●					
	DNGA150612PQS01015	S01015	55	12.7	6.35	–	1.2	–	2.6	4	–								●	
	DNGA150612PQS01325	S01325	55	12.7	6.35	–	1.2	–	2.6	4	–					●				
	DNGA150612PQT01020	T01020	55	12.7	6.35	–	1.2	–	2.6	4	–				●					
	DNGA150616PQS01015	S01015	55	12.7	6.35	–	1.6	–	2.2	4	–								●	
	DNGA150616PQS01325	S01325	55	12.7	6.35	–	1.6	–	2.2	4	–					●				
	DNGA150616PQT01020	T01020	55	12.7	6.35	–	1.6	–	2.2	4	–				●					

RBGX



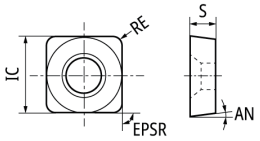
																		CBN					
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
Steel																							
Stainless Steel																							
Cast Iron												●	●	●	●				○	○			
Non-Ferrous Material																							
Heat Resistant Alloy																							
Hardened Material																●	●	●	●	●			
Others (non-metallic)																							
	RBGX16S	S01015	–	16	8	5	–	8	–	–	13		●										
	RBGX20S	S01015	–	20	10	5	–	10	–	–	15		●										

RN.N



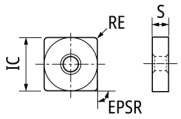
																		CBN					
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K			
Steel																							
Stainless Steel																							
Cast Iron												●	●	●	●				○	○			
Non-Ferrous Material																							
Heat Resistant Alloy																							
Hardened Material																●	●	●	●	●			
Others (non-metallic)																							
	RNMN120300ST01025	T01025	–	12.7	3.18	–	–	–	–	–	–	●											
	RNMN120400ST01025	T01025	–	12.7	4.76	–	–	–	–	–	–	●											
	RNGN120400S	Z01015	–	12.7	4.76	–	–	–	–	–	–		●										

SCGW

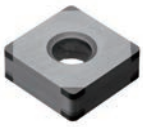


																		CBN					
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K			
Steel																							
Stainless Steel																							
Cast Iron												●	●	●	●				○	○			
Non-Ferrous Material																							
Heat Resistant Alloy																							
Hardened Material																●	●	●	●	●			
Others (non-metallic)																							
	SCGW09T304PQZ01015	Z01015	90	9.525	3.97	7	0.4	–	1.5	4	–				●								
	SCGW09T308PQZ01015	Z01015	90	9.525	3.97	7	0.8	–	1.3	4	–				●								

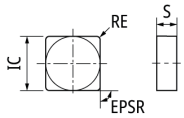
SNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	CBN PVD B6K	B40	B52	CBN PVD B5K
	SNGA120402PES01325	S01325	90	12.7	4.76	–	0.2	–	2.3	8	–					●		●	●	
	SNGA120404PES01015	S01015	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PES01020	S01020	90	12.7	4.76	–	0.4	–	2.3	8	–			●						
	SNGA120404PES01325	S01325	90	12.7	4.76	–	0.4	–	2.3	8	–					●				
	SNGA120404PES01535	S01535	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PET01020	T01020	90	12.7	4.76	–	0.4	–	2.3	8	–				●					
	SNGA120408PES01015	S01015	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PES01020	S01020	90	12.7	4.76	–	0.8	–	2.3	8	–			●						
	SNGA120408PES01325	S01325	90	12.7	4.76	–	0.8	–	2.3	8	–					●				
	SNGA120408PES01535	S01535	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PET01020	T01020	90	12.7	4.76	–	0.8	–	2.3	8	–				●					
	SNGA120412PES01015	S01015	90	12.7	4.76	–	1.2	–	2.8	8	–				●			●	●	
	SNGA120412PES01020	S01020	90	12.7	4.76	–	1.2	–	2.8	8	–			●						
	SNGA120412PES01325	S01325	90	12.7	4.76	–	1.2	–	2.8	8	–					●				
	SNGA120412PES01535	S01535	90	12.7	4.76	–	1.2	–	2.8	8	–							●	●	
	SNGA120412PET01020	T01020	90	12.7	4.76	–	1.2	–	2.8	8	–				●					
	SNGA120416PES01015	S01015	90	12.7	4.76	–	1.6	–	2.8	8	–								●	
	SNGA120416PES01325	S01325	90	12.7	4.76	–	1.6	–	2.8	8	–					●				
	SNGA120416PET01020	T01020	90	12.7	4.76	–	1.6	–	2.8	8	–				●					

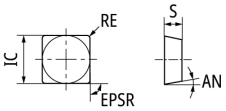
SNMN



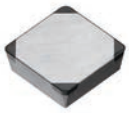
Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	CBN PVD B6K	B40	B52	CBN PVD B5K
	SNMN090308ST00525	T00525	90	9.525	3.18	–	0.8	–	–	8	–	●								
	SNMN090312ST01025	T01025	90	9.525	3.18	–	1.2	–	–	8	–	●								
	SNMN120308ST01025	T01025	90	12.7	3.18	–	0.8	–	–	8	–	●								
	SNMN120312ST01025	T01025	90	12.7	3.18	–	1.2	–	–	8	–	●								
	SNMN120408ST01025	T01025	90	12.7	4.76	–	0.8	–	–	8	–	●								
	SNMN120412ST02025	T02025	90	12.7	4.76	–	1.2	–	–	8	–	●								
	SNMN120416ST02025	T02025	90	12.7	4.76	–	1.6	–	–	8	–	●								

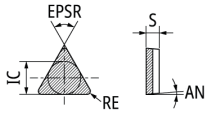
SPGN



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	**SPGN090304PQS01015**	S01015	90	9.525	3.18	11	0.4	–	2.3	4	–							●	●	
	SPGN090304PQS01020	S01020	90	9.525	3.18	11	0.4	–	2.3	4	–			●						
	SPGN090304PQS01535	S01535	90	9.525	3.18	11	0.4	–	2.3	4	–							●	●	
	SPGN090304PQT01020	T01020	90	9.525	3.18	11	0.4	–	2.3	4	–				●					
	SPGN090308PQS01015	S01015	90	9.525	3.18	11	0.8	–	2.3	4	–							●	●	
	SPGN090308PQS01020	S01020	90	9.525	3.18	11	0.8	–	2.3	4	–			●						
	SPGN090308PQS01535	S01535	90	9.525	3.18	11	0.8	–	2.3	4	–							●	●	
	SPGN090308PQT01020	T01020	90	9.525	3.18	11	0.8	–	2.3	4	–				●					
	SPGN090312PQS01015	S01015	90	9.525	3.18	11	1.2	–	2.8	4	–							●	●	
	SPGN090312PQS01020	S01020	90	9.525	3.18	11	1.2	–	2.8	4	–			●						
	SPGN090312PQS01535	S01535	90	9.525	3.18	11	1.2	–	2.8	4	–							●	●	
	SPGN090312PQT01020	T01020	90	9.525	3.18	11	1.2	–	2.8	4	–				●					

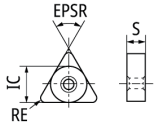
TBGN



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	TBGN060102SS01015	S01015	60	3.97	1.59	5	0.2	–	6.5	3	–								●	
	TBGN060104SS01015	S01015	60	3.97	1.59	5	0.4	–	6.3	3	–								●	
	TBGN060108SS01015	S01015	60	3.97	1.59	5	0.8	–	5.7	3	–								●	

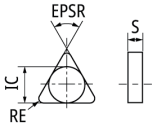
TNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TNGA160401PHFNX	Up-sharp edge	60	9.525	4.76	–	0.1	–	2.1	6	–								●	
	TNGA160401PHS01015	S01015	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01325	S01325	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01535	S01535	60	9.525	4.76	–	0.1	–	2.1	6	–							●	●	
	TNGA160402PHFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	6	–				●				●	
	TNGA160402PHS01015	S01015	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01325	S01325	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01535	S01535	60	9.525	4.76	–	0.2	–	2.2	6	–					●		●	●	●
	TNGA160402PTFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	3	–				●					
	TNGA160404PHFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	6	–								●	
	TNGA160404PHS01015	S01015	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01020	S01020	60	9.525	4.76	–	0.4	–	2	6	–			●						
	TNGA160404PHS01325	S01325	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01535	S01535	60	9.525	4.76	–	0.4	–	2	6	–				●	●	●	●	●	●
	TNGA160404PHT01020	T01020	60	9.525	4.76	–	0.4	–	2	6	–				●					
	TNGA160404PTFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	3	–				●					
	TNGA160408PHFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	6	–								●	
	TNGA160408PHS01015	S01015	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01020	S01020	60	9.525	4.76	–	0.8	–	1.7	6	–			●						
	TNGA160408PHS01325	S01325	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01535	S01535	60	9.525	4.76	–	0.8	–	1.7	6	–				●	●	●	●	●	●
	TNGA160408PHT01020	T01020	60	9.525	4.76	–	0.8	–	1.7	6	–				●					
	TNGA160408PTFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	3	–				●					
	TNGA160412PHFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	6	–				●				●	
	TNGA160412PHS01015	S01015	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01020	S01020	60	9.525	4.76	–	1.2	–	2.3	6	–			●						
	TNGA160412PHS01325	S01325	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01535	S01535	60	9.525	4.76	–	1.2	–	2.3	6	–				●	●	●	●	●	●
	TNGA160412PHT01020	T01020	60	9.525	4.76	–	1.2	–	2.3	6	–				●					
	TNGA160412PTFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	3	–				●					
	TNGA160416PHS01015	S01015	60	9.525	4.76	–	1.6	–	2.1	6	–						●		●	●
	TNGA160416PHS01325	S01325	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHS01535	S01535	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHT01020	T01020	60	9.525	4.76	–	1.6	–	2.1	6	–				●					
	TNGA220412PHS01015	S01015	60	12.7	4.76	–	1.2	–	2.3	6	–							●		
	TNGA220412PHS01535	S01535	60	12.7	4.76	–	1.2	–	2.3	6	–							●		

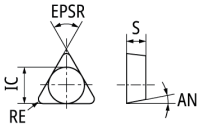
TNMN



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

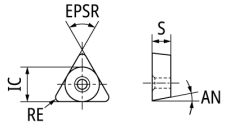
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TNMN110312ST01025	T01025	60	6.35	3.18	–	1.2	–	–	6	–	●								
	TNMN160408ST01025	T01025	60	9.525	4.76	–	0.8	–	–	6	–	●								
	TNMN160412ST01025	T01025	60	9.525	4.76	–	1.2	–	–	6	–	●								
	TNMN160412ST02025	T02025	60	9.525	4.76	–	1.2	–	–	6	–	●								

TPGN

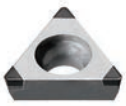


Steel																				
Stainless Steel																				
Cast Iron											●	●	●	●				○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

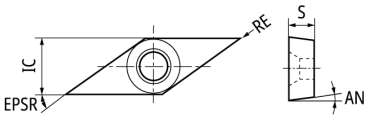
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TPGN110302PTS01015	S01015	60	6.35	3.18	11	0.2	–	2.2	3	–								●	
	TPGN110302PTS01020	S01020	60	6.35	3.18	11	0.2	–	2.2	3	–							●		
	TPGN110302PTS01325	S01325	60	6.35	3.18	11	0.2	–	2.2	3	–							●	●	
	TPGN110302PTS01535	S01535	60	6.35	3.18	11	0.2	–	2.2	3	–							●	●	
	TPGN110304PTS01015	S01015	60	6.35	3.18	11	0.4	–	2	3	–							●	●	
	TPGN110304PTS01020	S01020	60	6.35	3.18	11	0.4	–	2	3	–							●		
	TPGN110304PTS01325	S01325	60	6.35	3.18	11	0.4	–	2	3	–							●	●	
	TPGN110304PTS01535	S01535	60	6.35	3.18	11	0.4	–	2	3	–							●	●	
	TPGN110304PTT01020	T01020	60	6.35	3.18	11	0.4	–	2	3	–				●					
	TPGN110308PTS01015	S01015	60	6.35	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN110308PTS01020	S01020	60	6.35	3.18	11	0.8	–	1.7	3	–							●		
	TPGN110308PTS01325	S01325	60	6.35	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN110308PTS01535	S01535	60	6.35	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN110308PTT01020	T01020	60	6.35	3.18	11	0.8	–	1.7	3	–				●					
	TPGN110312PTS01015	S01015	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN110312PTS01020	S01020	60	6.35	3.18	11	1.2	–	2.3	3	–							●		
	TPGN110312PTS01325	S01325	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN110312PTS01535	S01535	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN110312PTT01020	T01020	60	6.35	3.18	11	1.2	–	2.3	3	–				●					
	TPGN160302PTS01015	S01015	60	9.525	3.18	11	0.2	–	2.2	3	–							●	●	
	TPGN160302PTS01325	S01325	60	9.525	3.18	11	0.2	–	2.2	3	–							●	●	
	TPGN160302PTS01535	S01535	60	9.525	3.18	11	0.2	–	2.2	3	–							●	●	
	TPGN160304PTS01015	S01015	60	9.525	3.18	11	0.4	–	2	3	–							●	●	
	TPGN160304PTS01020	S01020	60	9.525	3.18	11	0.4	–	2	3	–							●		
	TPGN160304PTS01325	S01325	60	9.525	3.18	11	0.4	–	2	3	–							●	●	
	TPGN160304PTS01535	S01535	60	9.525	3.18	11	0.4	–	2	3	–							●	●	
	TPGN160304PTT01020	T01020	60	9.525	3.18	11	0.4	–	2	3	–				●					
	TPGN160308PTS01015	S01015	60	9.525	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN160308PTS01020	S01020	60	9.525	3.18	11	0.8	–	1.7	3	–							●		
	TPGN160308PTS01325	S01325	60	9.525	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN160308PTS01535	S01535	60	9.525	3.18	11	0.8	–	1.7	3	–							●	●	
	TPGN160308PTT01020	T01020	60	9.525	3.18	11	0.8	–	1.7	3	–				●					
	TPGN160312PTS01015	S01015	60	9.525	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN160312PTS01020	S01020	60	9.525	3.18	11	1.2	–	2.3	3	–							●		
	TPGN160312PTS01325	S01325	60	9.525	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN160312PTS01535	S01535	60	9.525	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGN160312PTT01020	T01020	60	9.525	3.18	11	1.2	–	2.3	3	–				●					



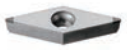
Steel																				
Stainless Steel																				
Cast Iron											●	●	●	●				○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	TPGW090202PTS01015	S01015	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090202PTS01325	S01325	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090202PTS01535	S01535	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090204PTS01015	S01015	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090204PTS01325	S01325	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090204PTS01535	S01535	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090208PTS01015	S01015	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW090208PTS01325	S01325	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW090208PTS01535	S01535	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW090312PTS01015	S01015	60	5.56	3.18	11	1.2	–	2.3	3	–					●			●	
	TPGW090312PTS01325	S01325	60	5.56	3.18	11	1.2	–	2.3	3	–					●			●	
	TPGW090312PTS01535	S01535	60	5.56	3.18	11	1.2	–	2.3	3	–					●			●	
	TPGW110302PTS01015	S01015	60	6.35	3.18	11	0.2	–	2.2	3	–					●		●	●	
	TPGW110302PTS01325	S01325	60	6.35	3.18	11	0.2	–	2.2	3	–					●			●	
	TPGW110302PTS01535	S01535	60	6.35	3.18	11	0.2	–	2.2	3	–					●		●	●	
	TPGW110302PTT01020	T01020	60	6.35	3.18	11	0.2	–	2.2	3	–				●					
	TPGW110304PTS01015	S01015	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTS01325	S01325	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTS01535	S01535	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTT01020	T01020	60	6.35	3.18	11	0.4	–	2	3	–				●					
	TPGW110304PTT01515	T01515	60	6.35	3.18	11	0.4	–	2	3	–			●	●					
	TPGW110308PTS01015	S01015	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTS01325	S01325	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTS01535	S01535	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTT01020	T01020	60	6.35	3.18	11	0.8	–	1.7	3	–				●					
	TPGW110308PTT01515	T01515	60	6.35	3.18	11	0.8	–	1.7	3	–			●						
	TPGW110312PTS01015	S01015	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTS01325	S01325	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTS01535	S01535	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTT01020	T01020	60	6.35	3.18	11	1.2	–	2.3	3	–				●					
	TPGW110312PTT01515	T01515	60	6.35	3.18	11	1.2	–	2.3	3	–			●						

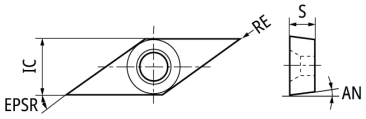
VBGW



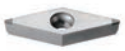
Steel																				
Stainless Steel																				
Cast Iron											●	●	●	●			○	○		
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	**VBGW110302PDFNX**	Up-sharp edge	35	6.35	3.18	5	0.2	–	2.6	2	–				●					
	VBGW110302PDS01015	S01015	35	6.35	3.18	5	0.2	–	2.6	2	–					●			●	
	VBGW110302PDS01535	S01535	35	6.35	3.18	5	0.2	–	2.6	2	–					●			●	
	VBGW110302PDS01325	S01325	35	6.35	3.18	5	0.2	–	2.6	2	–					●			●	
	VBGW110304PDFNX	Up-sharp edge	35	6.35	3.18	5	0.4	–	2.5	2	–				●					
	VBGW110304PDS01015	S01015	35	6.35	3.18	5	0.4	–	2.5	2	–					●			●	
	VBGW110304PDS01535	S01535	35	6.35	3.18	5	0.4	–	2.5	2	–					●			●	
	VBGW110304PDT01020	T01020	35	6.35	3.18	5	0.4	–	2.5	2	–				●					
	VBGW110304PDS01325	S01325	35	6.35	3.18	5	0.4	–	2.5	2	–					●			●	
	VBGW110308PDS01015	S01015	35	6.35	3.18	5	0.8	–	1.6	2	–								●	
	VBGW110308PDS01535	S01535	35	6.35	3.18	5	0.8	–	1.6	2	–								●	
	VBGW110308PDT01020	T01020	35	6.35	3.18	5	0.8	–	1.6	2	–				●					
	VBGW110308PDS01325	S01325	35	6.35	3.18	5	0.8	–	1.6	2	–								●	
	VBGW110312PDS01015	S01015	35	6.35	3.18	5	1.2	–	2.7	2	–								●	
	VBGW110312PDS01535	S01535	35	6.35	3.18	5	1.2	–	2.7	2	–								●	
	VBGW110312PDT01020	T01020	35	6.35	3.18	5	1.2	–	2.7	2	–				●					
	VBGW110312PDS01325	S01325	35	6.35	3.18	5	1.2	–	2.7	2	–								●	
	VBGW160402PDS01015	S01015	35	9.525	4.76	5	0.2	–	2.6	2	–								●	
	VBGW160402PDS01535	S01535	35	9.525	4.76	5	0.2	–	2.6	2	–								●	
	VBGW160402PDS01325	S01325	35	9.525	4.76	5	0.2	–	2.6	2	–								●	
	VBGW160404PDS01015	S01015	35	9.525	4.76	5	0.4	–	2.5	2	–								●	
	VBGW160404PDS01535	S01535	35	9.525	4.76	5	0.4	–	2.5	2	–								●	
	VBGW160404PDS01325	S01325	35	9.525	4.76	5	0.4	–	2.5	2	–								●	
	VBGW160408PDS01015	S01015	35	9.525	4.76	5	0.8	–	1.6	2	–					●			●	
	VBGW160408PDS01535	S01535	35	9.525	4.76	5	0.8	–	1.6	2	–					●			●	
	VBGW160408PDS01325	S01325	35	9.525	4.76	5	0.8	–	1.6	2	–					●			●	
	VBGW160412PDS01015	S01015	35	9.525	4.76	5	1.2	–	2.7	2	–								●	
	VBGW160412PDS01535	S01535	35	9.525	4.76	5	1.2	–	2.7	2	–								●	
	VBGW160412PDS01325	S01325	35	9.525	4.76	5	1.2	–	2.7	2	–								●	

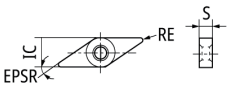
VCGW



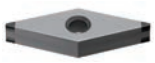
Steel																					
Stainless Steel																					
Cast Iron											●	●	●	●				○	○		
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material															●	●	●	●	●		
Others (non-metallic)																					

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	VCGW080202PDS01015	S01015	35	4.76	2.38	7	0.2	–	2.6	2	–								●	
	VCGW080204PDS01015	S01015	35	4.76	2.38	7	0.4	–	2.5	2	–								●	
	VCGW080208PDS01015	S01015	35	4.76	2.38	7	0.8	–	1.6	2	–								●	
	VCGW110302PDS01015	S01015	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110302PDS01535	S01535	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110304PDS01015	S01015	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110304PDS01535	S01535	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110308PDS01015	S01015	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110308PDS01535	S01535	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110312PDS01015	S01015	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	
	VCGW110312PDS01535	S01535	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	
	VCGW160402PDS01015	S01015	35	9.525	4.76	7	0.2	–	2.6	2	–							●		
	VCGW160402PDS01535	S01535	35	9.525	4.76	7	0.2	–	2.6	2	–							●		
	VCGW160404PDS01015	S01015	35	9.525	4.76	7	0.4	–	2.5	2	–							●	●	
	VCGW160404PDS01535	S01535	35	9.525	4.76	7	0.4	–	2.5	2	–							●	●	
	VCGW160404PDT01020	T01020	35	9.525	4.76	7	0.4	–	2.5	2	–				●					
	VCGW160408PDS01015	S01015	35	9.525	4.76	7	0.8	–	1.6	2	–							●	●	
	VCGW160408PDS01535	S01535	35	9.525	4.76	7	0.8	–	1.6	2	–							●	●	
	VCGW160408PDT01020	T01020	35	9.525	4.76	7	0.8	–	1.6	2	–				●					
	VCGW160412PDS01015	S01015	35	9.525	4.76	7	1.2	–	2.7	2	–							●	●	
	VCGW160412PDS01535	S01535	35	9.525	4.76	7	1.2	–	2.7	2	–							●	●	
	VCGW160412PDT01020	T01020	35	9.525	4.76	7	1.2	–	2.7	2	–				●					

VNGA

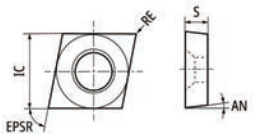


Steel																					
Stainless Steel																					
Cast Iron											●	●	●	●				○	○		
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material															●	●	●	●	●		
Others (non-metallic)																					

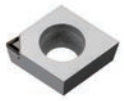
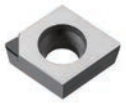
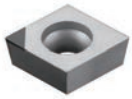
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	VNGA160401PQS01015	S01015	35	9.525	4.76	–	0.1	–	2.7	4	–								●	
	VNGA160401PQS01535	S01535	35	9.525	4.76	–	0.1	–	2.7	4	–							●		
	VNGA160402PDFNX	Up-sharp edge	35	9.525	4.76	–	0.2	–	2.6	2	–				●					
	VNGA160402PQFNX	Up-sharp edge	35	9.525	4.76	–	0.2	–	2.6	4	–				●					
	VNGA160402PQS01015	S01015	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQS01325	S01325	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQS01535	S01535	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQT01020	T01020	35	9.525	4.76	–	0.2	–	2.6	4	–				●					
	VNGA160404PDFNX	Up-sharp edge	35	9.525	4.76	–	0.4	–	2.5	2	–				●					
	VNGA160404PQFNX	Up-sharp edge	35	9.525	4.76	–	0.4	–	2.5	4	–				●				●	
	VNGA160404PQS01015	S01015	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQS01325	S01325	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQS01535	S01535	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQT01020	T01020	35	9.525	4.76	–	0.4	–	2.5	4	–				●					
	VNGA160408PDFNX	Up-sharp edge	35	9.525	4.76	–	0.8	–	1.6	2	–				●					
	VNGA160408PQFNX	Up-sharp edge	35	9.525	4.76	–	0.8	–	1.6	4	–				●				●	
	VNGA160408PQS01015	S01015	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQS01325	S01325	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQS01535	S01535	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQT01020	T01020	35	9.525	4.76	–	0.8	–	1.6	4	–				●					
	VNGA160412PDFNX	Up-sharp edge	35	9.525	4.76	–	1.2	–	2.7	2	–				●					
	VNGA160412PQS01015	S01015	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQS01325	S01325	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQS01535	S01535	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQT01020	T01020	35	9.525	4.76	–	1.2	–	2.7	4	–				●					

PCD / Diamond Coating

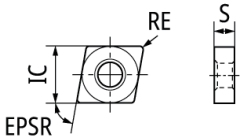
CCM.



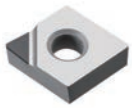
Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	● ● ●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**CCMT060201PBF**	Up-sharp edge	80	6.35	2.38	7	0.1	1		●	
	CCMT060202PBF	Up-sharp edge	80	6.35	2.38	7	0.2	1		●	
	CCMT060204PBF	Up-sharp edge	80	6.35	2.38	7	0.4	1		●	
	CCMT09T301PBF	Up-sharp edge	80	9.525	3.97	7	0.1	1		●	
	CCMT09T302PBF	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PBF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMT09T302PF**	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMW09T301**	Up-sharp edge	80	9.525	3.97	7	0.1	1	●		
	CCMW09T302	Up-sharp edge	80	9.525	3.97	7	0.2	1	●		
	CCMW09T304	Up-sharp edge	80	9.525	3.97	7	0.4	1	●		
	CCMW09T308	Up-sharp edge	80	9.525	3.97	7	0.8	1	●		

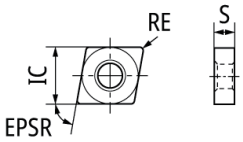
CNM.



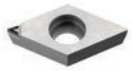
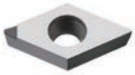
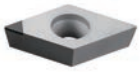
Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	● ● ●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	CNMG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	4			●
	CNMG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	4			●
	**CNMX120404PF**	Up-sharp edge	80	12.7	4.76	–	0.4	1		●	
	CNMX120408PF	Up-sharp edge	80	12.7	4.76	–	0.8	1		●	

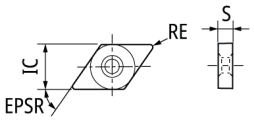
DCM.



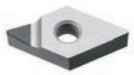
	PD1	PD2	Diamond Coating UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	DCMT070201PBF	Up-sharp edge	55	6.35	2.38	7	0.1	1		●	
	DCMT070202PBF	Up-sharp edge	55	6.35	2.38	7	0.2	1		●	
	DCMT11T301PBF	Up-sharp edge	55	9.525	3.97	7	0.1	1		●	
	DCMT11T302PBF	Up-sharp edge	55	9.525	3.97	7	0.2	1		●	
	DCMT11T304PBF	Up-sharp edge	55	9.525	3.97	7	0.4	1		●	
	DCMT070201PF	Up-sharp edge	55	6.35	2.38	7	0.1	1		●	
	DCMT070202PF	Up-sharp edge	55	6.35	2.38	7	0.2	1		●	
	DCMT11T302PF	Up-sharp edge	55	9.525	3.97	7	0.2	1		●	
	DCMT11T304PF	Up-sharp edge	55	9.525	3.97	7	0.4	1		●	
	DCMW11T301	Up-sharp edge	55	9.525	3.97	7	0.1	1	●		
	DCMW11T302	Up-sharp edge	55	9.525	3.97	7	0.2	1	●		
	DCMW11T304	Up-sharp edge	55	9.525	3.97	7	0.4	1	●		
	DCMW11T308	Up-sharp edge	55	9.525	3.97	7	0.8	1	●		
	DCMT11T301FNAM3	Up-sharp edge	55	9.525	3.97	7	0.1	2			●
	DCMT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	2			●
	DCMT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	2			●

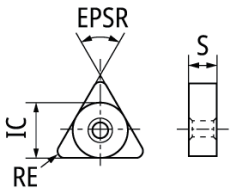
DNMX



	PD1	PD2	Diamond Coating UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	DNMX150404PF	Up-sharp edge	55	12.7	4.76	–	0.4	1		●	
	DNMX150408PF	Up-sharp edge	55	12.7	4.76	–	0.8	1		●	

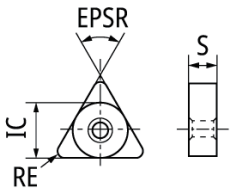
TNMX



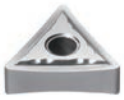
	PD1	PD2	Diamond Coating UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	TNMX160404PF	Up-sharp edge	60	9.525	4.76	–	0.4	1		●	
	TNMX160408PF	Up-sharp edge	60	9.525	4.76	–	0.8	1		●	

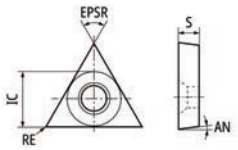
TNMG



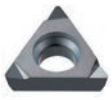
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**TNMG160402FNZP**	Up-sharp edge	60	9.525	4.76	–	0.2	6			●
	TNMG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	6			●
	TNMG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	6			●

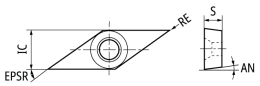
TPM.



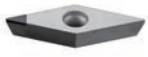
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**TPMH110302FRF1**	Up-sharp edge	60	6.35	3.18	11	0.2	3			●
	TPMH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	3			●
	TPMT090201PBF	Up-sharp edge	60	5.56	2.38	11	0.1	1		●	
	TPMT090202PBF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PBF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110301PBF	Up-sharp edge	60	6.35	3.18	11	0.1	1		●	
	TPMT110302PBF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PBF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	
	TPMT090202PF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110302PF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	

VCMW

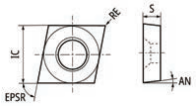


Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

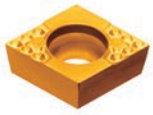
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**VCMW110301**	Up-sharp edge	35	6.35	3.18	7	0.1	1	●		
	VCMW110302	Up-sharp edge	35	6.35	3.18	7	0.2	1	●		
	VCMW110304	Up-sharp edge	35	6.35	3.18	7	0.4	1	●		

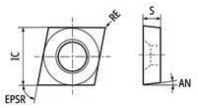
Carbide

CC..

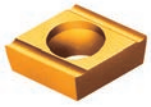
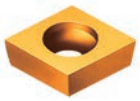


Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

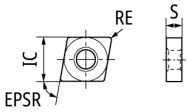
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	CCGT09T300YL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●					
	CCGT09T301MYL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●					
	CCGT09T302MYL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●					
	CCGT09T304MYL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●					
	CCGT09T308MYL	Up-sharp edge	80	9.525	3.97	7	0.78	–	●	●	●	●	●					
	CCGT060201MCL	Up-sharp edge	80	6.35	2.38	7	0.08	–	●	●	●	●	●					
	CCGT060202MCL	Up-sharp edge	80	6.35	2.38	7	0.18	–	●	●	●	●	●					
	CCGT09T300CL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●					
	CCGT09T301MCL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●					
	CCGT09T302MCL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●					
	CCGT09T304MCL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●					
	CCGT060200FNAM3	Up-sharp edge	80	6.35	2.38	7	0.03	–			●		●	●				
	CCGT060201MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.08	–	●		●	●	●					
	CCGT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●			
	CCGT060202MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.18	–	●		●	●	●					
	CCGT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–							●			
	CCGT060204MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.38	–	●		●	●	●					
	CCGT09T300FNAM3	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●				
	CCGT09T301MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.08	–	●		●	●	●	●	●			
	CCGT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●				
	CCGT09T302MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.18	–	●		●	●	●	●	●			
	CCGT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–				●		●				
	CCGT09T304MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.38	–	●		●	●	●	●	●			
	CCMT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–		●								
	CCMT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–		●								
	CCMT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–		●								
	CCMT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–		●								
	CCMT09T308FNAM3	Up-sharp edge	80	9.525	3.97	7	0.8	–		●								
	CCGT060200AZ7	Up-sharp edge	80	6.35	2.38	7	0.03	–				●						
	CCGT060201MAZ7	Up-sharp edge	80	6.35	2.38	7	0.08	–				●						
	CCGT060202MAZ7	Up-sharp edge	80	6.35	2.38	7	0.18	–				●						
	CCGT09T300AZ7	Up-sharp edge	80	9.525	3.97	7	0.03	–			●	●	●		●			
	CCGT09T301MAZ7	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●		●			
	CCGT09T302MAZ7	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●		●			
	CCGT09T304MAZ7	Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●		●			
	CCMT060202E002AZ8	E002	80	6.35	2.38	7	0.2	–									●	
	CCMT060204E004AZ8	E004	80	6.35	2.38	7	0.4	–									●	
	CCMT060208E004AZ8	E004	80	6.35	2.38	7	0.8	–									●	
	CCMT09T302E002AZ8	E002	80	6.35	2.38	7	0.2	–									●	
	CCMT09T304E004AZ8	E004	80	6.35	2.38	7	0.4	–									●	
	CCMT09T308E004AZ8	E004	80	6.35	2.38	7	0.8	–									●	
	CCGT060200RS	Up-sharp edge	80	6.35	2.38	7	0.03	–			●			●	●			
	CCGT060200LS	Up-sharp edge	80	6.35	2.38	7	0.03	–						●	●			
	CCGT060201MRS	Up-sharp edge	80	6.35	2.38	7	0.08	–			●	●						
	CCGT060201RS	Up-sharp edge	80	6.35	2.38	7	0.1	–						●	●			
	CCGT060201LS	Up-sharp edge	80	6.35	2.38	7	0.1	–						●	●			
	CCGT060202MRS	Up-sharp edge	80	6.35	2.38	7	0.18	–			●	●						
	CCGT060202RS	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●			
	CCGT060202LS	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●			
	CCGT060204RS	Up-sharp edge	80	6.35	2.38	7	0.4	–										
	CCGT09T300RS	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●	●			
	CCGT09T300LS	Up-sharp edge	80	9.525	3.97	7	0.03	–						●				
	CCGT09T301MRS	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●					
	CCGT09T301RS	Up-sharp edge	80	9.525	3.97	7	0.1	–				●		●	●			
	CCGT09T301LS	Up-sharp edge	80	9.525	3.97	7	0.1	–						●	●			
	CCGT09T302MRS	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●					
	CCGT09T302RS	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●	●			
	CCGT09T302LS	Up-sharp edge	80	9.525	3.97	7	0.2	–						●				



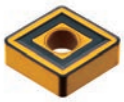
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			

Shape	Item Number (ISO)		CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	CCGT09T304MRS		Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●				
	CCGT09T304RS		Up-sharp edge	80	9.525	3.97	7	0.4	–				●						
	CCGT060200RU		Up-sharp edge	80	6.35	2.38	7	0.03	–			●				●			
	CCGT060201RU		Up-sharp edge	80	6.35	2.38	7	0.1	–			●				●			
	CCGT060201LU		Up-sharp edge	80	6.35	2.38	7	0.1	–							●			
	CCGT060202RU		Up-sharp edge	80	6.35	2.38	7	0.2	–			●				●			
	CCGT060202LU		Up-sharp edge	80	6.35	2.38	7	0.2	–							●			
	CCGT09T300RU1		Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●		●			
	CCGT09T300LU1		Up-sharp edge	80	9.525	3.97	7	0.03	–							●			
	CCGT09T301RU1		Up-sharp edge	80	9.525	3.97	7	0.1	–			●		●		●			
	CCGT09T301LU1		Up-sharp edge	80	9.525	3.97	7	0.1	–							●			
	CCGT09T302RU1		Up-sharp edge	80	9.525	3.97	7	0.2	–			●		●		●			
	CCGT09T302LU1		Up-sharp edge	80	9.525	3.97	7	0.2	–							●			
	CCGT09T304RU1		Up-sharp edge	80	9.525	3.97	7	0.4	–			●		●		●			
	CCGT09T304LU1		Up-sharp edge	80	9.525	3.97	7	0.4	–							●			
	CCET0602005RKHG		Up-sharp edge	80	6.35	2.38	7	0.05	–						●				
	CCET0602005LKHG		Up-sharp edge	80	6.35	2.38	7	0.05	–						●				
	CCET0602008RKHG		Up-sharp edge	80	6.35	2.38	7	0.08	–						●				
	CCET0602008LKHG		Up-sharp edge	80	6.35	2.38	7	0.08	–						●				
	CCET0602018RKHG		Up-sharp edge	80	6.35	2.38	7	0.18	–						●				
	CCET0602018LKHG		Up-sharp edge	80	6.35	2.38	7	0.18	–						●				
	CCET060202RKHG		Up-sharp edge	80	6.35	2.38	7	0.2	–						●				
	CCET060202LKHG		Up-sharp edge	80	6.35	2.38	7	0.2	–						●				
	CCET09T3005RKHG		Up-sharp edge	80	9.525	3.97	7	0.05	–					●	●				
	CCET09T3005LKHG		Up-sharp edge	80	9.525	3.97	7	0.05	–						●				
	CCET09T3008RKHG		Up-sharp edge	80	9.525	3.97	7	0.08	–					●	●				
	CCET09T3008LKHG		Up-sharp edge	80	9.525	3.97	7	0.08	–						●				
	CCET09T3018RKHG		Up-sharp edge	80	9.525	3.97	7	0.18	–					●	●				
	CCET09T3018LKHG		Up-sharp edge	80	9.525	3.97	7	0.18	–						●				
	CCET09T302RKHG		Up-sharp edge	80	9.525	3.97	7	0.2	–					●	●				
	CCET09T302LKHG		Up-sharp edge	80	9.525	3.97	7	0.2	–						●				
	CCGT060201FRF1		Up-sharp edge	80	6.35	2.38	7	0.1	–	●			●	●					
	CCGT060202FRF1		Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●					
	CCGT060204FRF1		Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●					
	CCGT09T302FRF1		Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●					
	CCGT09T304FRF1		Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●					
	CCGW09T30V	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0	–						●				
	CCGW09T300FN		Up-sharp edge	80	9.525	3.97	7	0.03	–							●			
	CCGW09T300H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.03	–										●
	CCGW09T301FN		Up-sharp edge	80	9.525	3.97	7	0.1	–							●			
	CCGW09T301H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.1	–										●
	CCGW09T301P	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.1	–						●				
	CCGW09T302H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.2	–										●
	CCGW09T302MP		Up-sharp edge	80	9.525	3.97	7	0.18	–			●							
	CCGW09T302P	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.2	–						●				

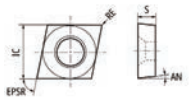
CN.G



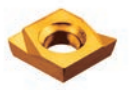
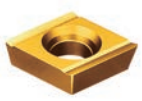
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron										●									
Non-Ferrous Material					○		○				●								
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

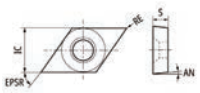
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	CNGG120404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●						
	CNGG120408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●						
	CNGG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●				
	CNGG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●				
	CNMG120408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●							
	CNMG120408G	–	80	12.7	4.76	–	0.8	–								●			
	CNMG120412G	–	80	12.7	4.76	–	1.2	–								●			
	CNMG120416G	–	80	12.7	4.76	–	1.6	–								●			

CP..

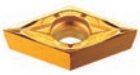
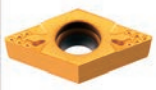
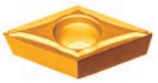


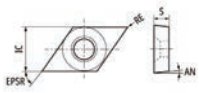
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron										●									
Non-Ferrous Material					○		○				●								
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	CPGH060202FNAM5	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●				
	CPGH080202FNAM5	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●				
	CPGM090302FNAM5	Up-sharp edge	80	9.525	3.18	11	0.2	–					●		●				
	CPGM090304FNAM5	Up-sharp edge	80	9.525	3.18	11	0.4	–					●		●				
	CPGM090308FNAM5	Up-sharp edge	80	9.525	3.18	11	0.8	–					●		●				
	CPGH040101FRF1	Up-sharp edge	80	4.76	1.59	11	0.1	–	●			●	●						
	CPGH040102FRF1	Up-sharp edge	80	4.76	1.59	11	0.2	–	●			●	●						
	CPGH040104FRF1	Up-sharp edge	80	4.76	1.59	11	0.4	–	●			●	●						
	CPGH060202FRF1	Up-sharp edge	80	6.35	2.38	11	0.2	–	●			●	●						
	CPGH060204FRF1	Up-sharp edge	80	6.35	2.38	11	0.4	–	●			●	●						
	CPGH040101LS	Up-sharp edge	80	4.76	1.59	11	0.1	–				●	●						
	CPGH040102LS	Up-sharp edge	80	4.76	1.59	11	0.2	–				●	●						
	CPGH040104LS	Up-sharp edge	80	4.76	1.59	11	0.4	–				●	●						
	CPGH060202LS	Up-sharp edge	80	6.35	2.38	11	0.2	–				●	●						
	CPGH060204LS	Up-sharp edge	80	6.35	2.38	11	0.4	–				●	●						
	CPGH060202FLA	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●				
	CPGH060204FLA	Up-sharp edge	80	6.35	2.38	11	0.4	–					●		●				
	CPGH080202FLA	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●				
	CPGH080204FLA	Up-sharp edge	80	6.35	2.38	11	0.4	–					●		●				
	CPGH040102FLA1	Up-sharp edge	80	4.76	1.59	11	0.2	–					●		●				
	CPGH040104FLA1	Up-sharp edge	80	4.76	1.59	11	0.4	–					●		●				

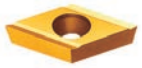
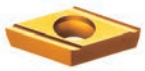
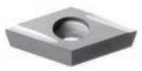
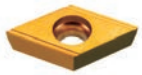
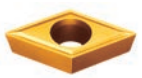


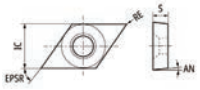
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												●
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	DCGT11T301MRTMV	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●			●						
	DCGT11T301MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●			●						
	DCGT11T302MRTMV	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●			●						
	DCGT11T302MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●			●						
	DCGT11T304MRTMV	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●			●						
	DCGT11T304MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●			●						
	DCGT070201MYL	Up-sharp edge	55	6.35	2.38	7	0.08	–		●		●							
	DCGT070202MYL	Up-sharp edge	55	6.35	2.38	7	0.18	–		●		●							
	DCGT070204MYL	Up-sharp edge	55	6.35	2.38	7	0.38	–		■		■							
	DCGT11T300YL	Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●						
	DCGT11T301MYL	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●	●	●	●						
	DCGT11T302MYL	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●	●	●	●						
	DCGT11T304MYL	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●	●	●	●						
	DCGT11T308MYL	Up-sharp edge	55	9.525	3.97	7	0.78	–	●	●	●	●	●						
	DCGT070201MCL	Up-sharp edge	55	6.35	2.38	7	0.08	–	●	●	●	●	●						
	DCGT070202MCL	Up-sharp edge	55	6.35	2.38	7	0.18	–	●	●	●	●	●						
	DCGT070204MCL	Up-sharp edge	55	6.35	2.38	7	0.38	–	●	●	●	●	●						
	DCGT11T301MCL	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●	●	●	●						
	DCGT11T302MCL	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●	●	●	●						
	DCGT11T304MCL	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●	●	●	●						
	DCGT070200FNAM3	Up-sharp edge	55	6.35	2.38	7	0.03	–			●		●	●	●				
	DCGT070201FNAM3	Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●				
	DCGT070202FNAM3	Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●				
	DCGT070204FNAM3	Up-sharp edge	55	6.35	2.38	7	0.4	–						●	●				
	DCGT070201MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.08	–	●		●	●	●						
	DCGT070202MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.18	–	●		●	●	●						
	DCGT070204MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.38	–	●		●	●	●						
	DCGT11T300FNAM3	Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●				
	DCGT11T301MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.08	–	●		●	●	●	●	●				
	DCGT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	–				●		●	●				
	DCGT11T302MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.18	–	●		●	●	●	●	●				
	DCGT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	–				●		●	●				
	DCGT11T304MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.38	–	●		●	●	●	●	●				
	DCMT070202FNAM3	Up-sharp edge	55	6.35	2.38	7	0.2	–		●									
	DCMT070204FNAM3	Up-sharp edge	55	6.35	2.38	7	0.4	–		●									
	DCMT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	–		●									
	DCMT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	–		●									
	DCMT11T308FNAM3	Up-sharp edge	55	9.525	3.97	7	0.8	–		●									
	DCGT070201MAMX	Up-sharp edge	55	6.35	2.38	7	0.08	–		●	●		●						
	DCGT070202MAMX	Up-sharp edge	55	6.35	2.38	7	0.18	–		●	●		●						
	DCGT070204MAMX	Up-sharp edge	55	6.35	2.38	7	0.38	–		●	●		●						
	DCGT11T301MAMX	Up-sharp edge	55	9.525	3.97	7	0.08	–		●	●		●						
	DCGT11T302MAMX	Up-sharp edge	55	9.525	3.97	7	0.18	–		●	●		●						
	DCGT11T304MAMX	Up-sharp edge	55	9.525	3.97	7	0.38	–		●	●		●						
	DCGT070200AZ7	Up-sharp edge	55	6.35	2.38	7	0.03	–				●							
	DCGT070201MAZ7	Up-sharp edge	55	6.35	2.38	7	0.08	–				●							
	DCGT070202MAZ7	Up-sharp edge	55	6.35	2.38	7	0.18	–				●							
	DCGT11T300AZ7	Up-sharp edge	55	9.525	3.97	7	0.03	–			●	●	●		●				
	DCGT11T301MAZ7	Up-sharp edge	55	9.525	3.97	7	0.08	–			●	●	●		●				
	DCGT11T302MAZ7	Up-sharp edge	55	9.525	3.97	7	0.18	–			●	●	●		●				
	DCGT11T304MAZ7	Up-sharp edge	55	9.525	3.97	7	0.38	–			●	●	●		●				
	DCGT11T308AZ7	Up-sharp edge	55	9.525	3.97	7	0.8	–			●	●			●				
	DCMT11T304E004AZ8	E004	55	9.525	3.97	7	0.4	–									●		
	DCMT11T308E004AZ8	E004	55	9.525	3.97	7	0.8	–									●		

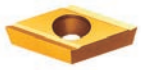
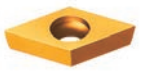
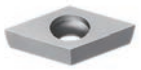


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○			●								
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

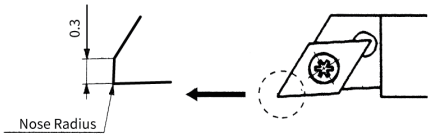
Shape	Item Number		CECC	EPSR	IC	S	AN	RE	BS	Carbide										Uncoated
										PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD		
	(ISO)			°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7		KM1
	DCGT070200RS		Up-sharp edge	55	6.35	2.38	7	0.03	–			●			●	●				
	DCGT070200LS		Up-sharp edge	55	6.35	2.38	7	0.03	–						●	●				
	DCGT070201MRS		Up-sharp edge	55	6.35	2.38	7	0.08	–			●	●							
	DCGT070201RS		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●				
	DCGT070201LS		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●				
	DCGT070202MRS		Up-sharp edge	55	6.35	2.38	7	0.18	–			●	●							
	DCGT070202RS		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●				
	DCGT070202LS		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●				
	DCGT070204RS		Up-sharp edge	55	6.35	2.38	7	0.4	–						●					
	DCGT11T300RS		Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●				
	DCGT11T300LS		Up-sharp edge	55	9.525	3.97	7	0.03	–						●					
	DCGT11T301MRS		Up-sharp edge	55	9.525	3.97	7	0.08	–			●	●	●						
	DCGT11T301RS		Up-sharp edge	55	9.525	3.97	7	0.1	–				●		●	●				
	DCGT11T301LS		Up-sharp edge	55	9.525	3.97	7	0.1	–						●					
	DCGT11T302MRS		Up-sharp edge	55	9.525	3.97	7	0.18	–			●	●	●						
	DCGT11T302RS		Up-sharp edge	55	9.525	3.97	7	0.2	–				●		●	●				
	DCGT11T302LS		Up-sharp edge	55	9.525	3.97	7	0.2	–						●					
	DCGT11T304MRS		Up-sharp edge	55	9.525	3.97	7	0.38	–			●	●	●						
	DCGT11T304RS		Up-sharp edge	55	9.525	3.97	7	0.4	–				●							
	DCGT070200RU		Up-sharp edge	55	6.35	2.38	7	0.03	–						●	●				
	DCGT070201RU		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●				
	DCGT070202RU		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●				
	DCGT070202LU		Up-sharp edge	55	6.35	2.38	7	0.2	–							●				
	DCGT11T300RU1		Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●				
	DCGT11T300LU1		Up-sharp edge	55	9.525	3.97	7	0.03	–							●				
	DCGT11T301RU1		Up-sharp edge	55	9.525	3.97	7	0.1	–			●		●	●	●				
	DCGT11T301LU1		Up-sharp edge	55	9.525	3.97	7	0.1	–							●				
	DCGT11T302RU1		Up-sharp edge	55	9.525	3.97	7	0.2	–			●		●	●	●				
	DCGT11T302LU1		Up-sharp edge	55	9.525	3.97	7	0.2	–							●				
	DCGT11T304RU1		Up-sharp edge	55	9.525	3.97	7	0.4	–			●		●	●	●				
	DCGT11T304LU1		Up-sharp edge	55	9.525	3.97	7	0.4	–							●				
	DCET0702005RKHG		Up-sharp edge	55	6.35	2.38	7	0.05	–						●					
	DCET0702005LKHG		Up-sharp edge	55	6.35	2.38	7	0.05	–						●					
	DCET0702008RKHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●					
	DCET0702008LKHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●					
	DCET0702018RKHG		Up-sharp edge	55	6.35	2.38	7	0.18	–						●					
	DCET0702018LKHG		Up-sharp edge	55	6.35	2.38	7	0.18	–						●					
	DCET070202RKHG		Up-sharp edge	55	6.35	2.38	7	0.2	–						●					
	DCET070202LKHG		Up-sharp edge	55	6.35	2.38	7	0.2	–						●					
	DCET11T3005RKHG		Up-sharp edge	55	9.525	3.97	7	0.05	–					●	●					
	DCET11T3005LKHG		Up-sharp edge	55	9.525	3.97	7	0.05	–						●					
	DCET11T3008RKHG		Up-sharp edge	55	9.525	3.97	7	0.08	–					●	●					
	DCET11T3008LKHG		Up-sharp edge	55	9.525	3.97	7	0.08	–						●					
	DCET11T3018RKHG		Up-sharp edge	55	9.525	3.97	7	0.18	–					●	●					
	DCET11T3018LKHG		Up-sharp edge	55	9.525	3.97	7	0.18	–						●					
	DCET11T302RKHG		Up-sharp edge	55	9.525	3.97	7	0.2	–					●	●					
	DCET11T302LKHG		Up-sharp edge	55	9.525	3.97	7	0.2	–						●					
	DCET0702008RUHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●					
	DCET11T3008RUHG		Up-sharp edge	55	9.525	3.97	7	0.08	–						●					
	DCET11T301MRAT	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.08	–					●						
	DCET11T302MRAT	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.18	–					●						
	DCGT11T3005AM3-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)		●	●	●							
	DCGT11T3015AM3-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)		●	●	●							
	DCGT0702005RS-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)				●		●	●				
	DCGT0702005LS-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)							●				
	DCGT0702015RS-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)				●			●				
	DCGT0702015LS-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)							●				
	DCGT11T3005RS-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)				●		●	●				
	DCGT11T3015RS-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)				●			●				



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

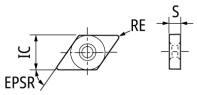
Shape	Item Number (ISO)		CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	DCGT0702005RU-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)				●		●	●			
	DCGT0702015RU-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)				●			●			
	DCGT11T3005RU1-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)				●		●	●			
	DCGT11T3015RU1-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)				●			●			
	DCGW07020V	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0	–						●				
	DCGW070200FN		Up-sharp edge	55	6.35	2.38	7	0.03	–							●			
	DCGW070200H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.03	–										●
	DCGW070201FN		Up-sharp edge	55	6.35	2.38	7	0.1	–							●			
	DCGW070201H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.1	–										●
	DCGW070202H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.2	–										●
	DCGW11T30V	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0	–						●				
	DCGW11T300FN		Up-sharp edge	55	9.525	3.97	7	0.03	–							●			
	DCGW11T300H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.03	–										●
	DCGW11T301FN		Up-sharp edge	55	9.525	3.97	7	0.1	–							●			
	DCGW11T301H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.1	–										●
	DCGW11T302H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.2	–										●
	DCGW0702005RH-WP	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)										●
	DCGW11T3005RH-WP	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)										●

Features of DC.T-WP insert

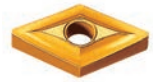
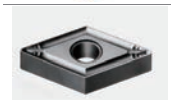


NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SDJC, CH-SDUL and DS-SDUL.

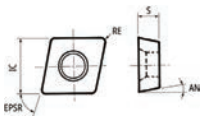
DN.G



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	**DNGG150404FNZP**	Up-sharp edge	55	12.7	4.76	–	0.4	–		●		●			●			
	DNGG150408FNZP	Up-sharp edge	55	12.7	4.76	–	0.8	–		●		●			●			
	**DNMG150408T00525Z5**	T00525	55	12.7	4.76	–	0.8	–		●		●						
	DNMG150404TNG	T01025	55	12.7	4.76	–	0.4	–				●						
	DNMG150404G	–	55	12.7	4.76	–	0.4	–								●		
	DNMG150408G	–	55	12.7	4.76	–	0.8	–								●		
	DNMG150412G	–	55	12.7	4.76	–	1.2	–								●		

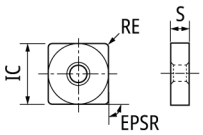
ERGH



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	ERGHT30101FRF1	Up-sharp edge	75	3.97	1.59	9	0.1	–	●			●	●					
	ERGHT30102FRF1	Up-sharp edge	75	3.97	1.59	9	0.2	–	●			●	●					
	ERGHT30104FRF1	Up-sharp edge	75	3.97	1.59	9	0.4	–	●			●	●					
	ERGHT30102FRA2	Up-sharp edge	75	3.97	1.59	9	0.2	–					●		●			
	ERGHT30102FLA2	Up-sharp edge	75	3.97	1.59	9	0.2	–					●		●			
	ERGHT30104FRA2	Up-sharp edge	75	3.97	1.59	9	0.4	–					●					
	ERGHT30104FLA2	Up-sharp edge	75	3.97	1.59	9	0.4	–					●		●			

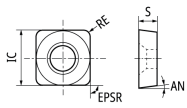
SNMG



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

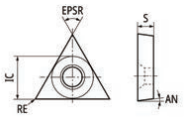
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									Uncoated
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	SNMG120408T00525Z5	T00525	90	12.7	4.76	–	0.8	–		●		●						
	SNMG120408G	–	90	12.7	4.76	–	0.8	–								●		
	SNMG120412G	–	90	12.7	4.76	–	1.2	–								●		
	SNMG120416G	–	90	12.7	4.76	–	1.6	–								●		

SDEW



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

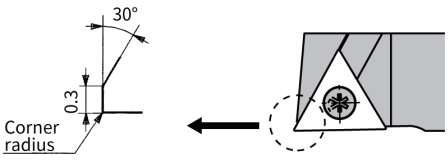
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									Uncoated
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	SDEW060202FN	Up-sharp edge	90	6.35	2.38	15	0.2	–							●			



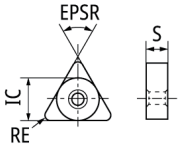
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	(ISO)		°	mm	mm	°	mm	mm										
	TCGH060101FRF05	Up-sharp edge	60	3.97	1.59	7	0.1	–	●			●	●					
	TCGH060102FLF05	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060102FRF05	Up-sharp edge	60	3.97	1.59	7	0.2	–	●			●	●		●			
	TCGH060104FRF05	Up-sharp edge	60	3.97	1.59	7	0.4	–	●			●	●		●			
	TCGT090201RS	Up-sharp edge	60	5.56	2.38	7	0.1	–						●	●			
	TCGT090201LS	Up-sharp edge	60	5.56	2.38	7	0.1	–						●				
	TCGT090202RS	Up-sharp edge	60	5.56	2.38	7	0.2	–							●			
	TCGT110201RS	Up-sharp edge	60	6.35	2.38	7	0.1	–						●	●			
	TCGT110201LS	Up-sharp edge	60	6.35	2.38	7	0.1	–						●				
	TCGT090201RU	Up-sharp edge	60	5.56	2.38	7	0.1	–							●			
	TCGT090202RU	Up-sharp edge	60	5.56	2.38	7	0.2	–							●			
	TCGH060102FLK	Up-sharp edge	60	3.97	1.59	7	0.2	–					●					
	TCGH060104FLK	Up-sharp edge	60	3.97	1.59	7	0.4	–					●					
	TCGH060102FLB1	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060104FLB1	Up-sharp edge	60	3.97	1.59	7	0.4	–					●		●			
	TCGT0902005RS-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902005LS-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902015RS-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT0902015LS-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT1102005RS-WP	Up-sharp edge	60	6.35	2.38	7	0.05	(0.3)							●			
	TCGT1102015RS-WP	Up-sharp edge	60	6.35	2.38	7	0.15	(0.3)							●			
	TCGT0902005RU-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902015RU-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT1102005RU1-WP	Up-sharp edge	60	6.35	2.38	7	0.05	(0.3)							●			
	TCGT1102015RU1-WP	Up-sharp edge	60	6.35	2.38	7	0.15	(0.3)							●			
	TCGW06T108FN	Up-sharp edge	60	3.97	1.98	7	0.8	–							●			
	TCGW090200FN	Up-sharp edge	60	5.56	2.38	7	0.03	–							●			
	TCGW090201FN	Up-sharp edge	60	5.56	2.38	7	0.1	–							●			
	TCGW110200FN	Up-sharp edge	60	6.35	2.38	7	0.03	–							●			
	TCGW110201FN	Up-sharp edge	60	6.35	2.38	7	0.1	–							●			

Features of TCGT-WP insert



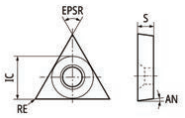
NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: STAC



Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TNGG160401MFNUL	Up-sharp edge	60	9.525	4.76	–	0.1	–	●	●		●	●					
	TNGG160402MFNUL	Up-sharp edge	60	9.525	4.76	–	0.2	–	●	●		●	●					
	TNGG160404MFNUL	Up-sharp edge	60	9.525	4.76	–	0.4	–	●	●		●	●					
	TNGG160408MFNUL	Up-sharp edge	60	9.525	4.76	–	0.8	–	●	●		●	●					
	TNGG160402FNZP	Up-sharp edge	60	9.525	4.76	–	0.2	–		●		●	●	●	●			
	TNGG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	–		●		●	●	●	●			
	TNGG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	–		●		●		●	●			
	TNMG160408G	–	60	9.525	4.76	–	0.8	–								●		
	TNMG160412G	–	60	9.525	4.76	–	1.2	–								●		
	TNMG160404T00525Z5	T00525	60	9.525	4.76	–	0.4	–		●		●						
	TNMG160408T00525Z5	T00525	60	9.525	4.76	–	0.8	–		●		●						
	TNEG160402FLD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160402FRD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160404FLD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160404FRD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160408FLD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNEG160408FRD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNGG160401FRU2	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			
	TNGG160402FLU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160402FRU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160404FLU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160404FRU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160408FLU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160408FRU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160402FRC	Up-sharp edge	60	9.525	4.76	–	0.2	–							●			
	TNGG160401FRDA	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			

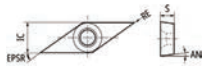
TPGH



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TPGH090202RFG	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●					
	TPGH090204RFG	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●					
	TPGH110302RFG	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●					
	TPGH110304RFG	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●					
	TPGH080202FRF1	Up-sharp edge	60	4.76	2.38	11	0.2	–					●	●	●			
	TPGH080204FRF1	Up-sharp edge	60	4.76	2.38	11	0.4	–					●	●	●			
	TPGH090201FRF1	Up-sharp edge	60	5.56	2.38	11	0.1	–	●			●	●					
	TPGH090202FRF1	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●	●	●			
	TPGH090204FRF1	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●	●	●			
	TPGH090208FRF1	Up-sharp edge	60	5.56	2.38	11	0.8	–	●			●	●		●			
	TPGH110302FRF1	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●	●	●			
	TPGH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●	●	●			
	TPGH110308FRF1	Up-sharp edge	60	6.35	3.18	11	0.8	–	●			●	●		●			
	TPGH090202FLK	Up-sharp edge	60	5.56	2.38	11	0.2	–					●					
	TPGH090204FLK	Up-sharp edge	60	5.56	2.38	11	0.4	–					●					
	TPGH090208FLK	Up-sharp edge	60	5.56	2.38	11	0.8	–					●					
	TPGH090202FLB2	Up-sharp edge	60	5.56	2.38	11	0.2	–					●		●			
	TPGH090204FLB2	Up-sharp edge	60	5.56	2.38	11	0.4	–					●		●			
	TPGH090208FLB2	Up-sharp edge	60	5.56	2.38	11	0.8	–					●		●			
	TPGH080202FLB3	Up-sharp edge	60	4.76	2.38	11	0.2	–					●		●			
	TPGH080204FLB3	Up-sharp edge	60	4.76	2.38	11	0.4	–					●		●			

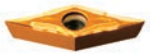
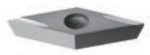
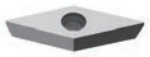
VBGT



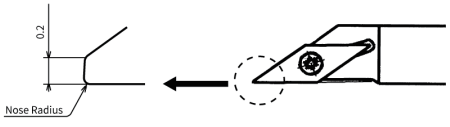
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	VBGT160402FNYL	Up-sharp edge	35	9.525	4.76	5	0.2	–	●	●			●					
	VBGT160404FNYL	Up-sharp edge	35	9.525	4.76	5	0.4	–	●	●			●					
	VBGT160408FNYL	Up-sharp edge	35	9.525	4.76	5	0.8	–	●	●			●					

Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

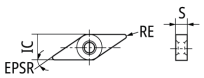
Shape	Item Number (ISO)		CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	VCGT110301MYL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MYL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110304MYL		Up-sharp edge	35	6.35	3.18	7	0.38	–	●	●	●	●	●					
	VCGT110202MCL		Up-sharp edge	35	6.35	2.38	7	0.18	–		●	●	●	●					
	VCGT110301MCL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MCL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110300FNAM3		Up-sharp edge	35	6.35	3.18	7	0.03	–			●		●	●				
	VCGT110301MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.08	–	●		●	●	●	●				
	VCGT110301FNAM3		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.18	–	●		●	●	●	●				
	VCGT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCGT110304MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.38	–	●		●	●	●	●				
	VCMT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–		●								
	VCMT110304FNAM3		Up-sharp edge	35	6.35	3.18	7	0.4	–		●								
	VCGT110300AZ7		Up-sharp edge	35	6.35	3.18	7	0.03	–				●			●			
	VCGT110301MAZ7		Up-sharp edge	35	6.35	3.18	7	0.08	–				●			●			
	VCGT110302MAZ7		Up-sharp edge	35	6.35	3.18	7	0.18	–				●			●			
	VCGT110304MAZ7		Up-sharp edge	35	6.35	3.18	7	0.38	–				●			●			
	VCGT130300FR2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130300FL2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130301FR2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130301FL2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT110300RU		Up-sharp edge	35	6.35	3.18	7	0.03	–						●	●			
	VCGT110301MRU		Up-sharp edge	35	6.35	3.18	7	0.08	–			●							
	VCGT110301RU		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MRU		Up-sharp edge	35	6.35	3.18	7	0.18	–			●							
	VCGT110302RU		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCET1103008RUHG		Up-sharp edge	35	6.35	3.18	7	0.08	–						●				
	VCGT1103005RU-WP		Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RU-WP		Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGT1103005RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGW110300H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.03	–										●
	VCGW110301H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	–										●
	VCGW110302H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.2	–										●

Features of VCGT-WP insert



NTK WP style inserts have a wiper facet design.
The insert has a 0.2mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SVAC

VN.G



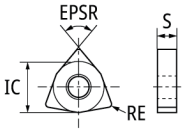
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	VNGG160402FNZP	Up-sharp edge	35	9.525	4.76	–	0.2	–		●		●						
	VNGG160404FNZP	Up-sharp edge	35	9.525	4.76	–	0.4	–		●		●						
	VNGG160408FNZP	Up-sharp edge	35	9.525	4.76	–	0.8	–		●		●						
	VNMG160404G	–	35	9.525	4.76	–	0.4	–								●		
	VNMG160408G	–	35	9.525	4.76	–	0.8	–								●		
	VNMG160412G	–	35	9.525	4.76	–	1.2	–								●		
	VNMG160404T00525AM1	T00525	35	9.525	4.76	–	0.4	–		●		●						
	VNMG160408T00525AM1	T00525	35	9.525	4.76	–	0.8	–		●		●						

VP.T

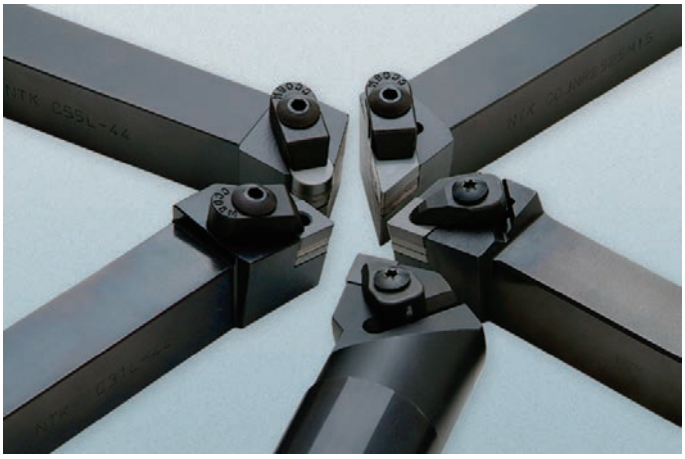
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	VPET0802005LKHG	Up-sharp edge	35	4.76	2.38	11	0.05	–						●				
	VPET0802008RKHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●		●	●				
	VPET0802008LKHG	Up-sharp edge	35	4.76	2.38	11	0.08	–						●				
	VPET0802018RKHG	Up-sharp edge	35	4.76	2.38	11	0.18	–					●	●				
	VPET0802018LKHG	Up-sharp edge	35	4.76	2.38	11	0.18	–						●				
	VPET080202RKHG	Up-sharp edge	35	4.76	2.38	11	0.2	–					●	●				
	VPET080202LKHG	Up-sharp edge	35	4.76	2.38	11	0.2	–						●				
	VPET1103005RKHG	Up-sharp edge	35	6.35	3.18	11	0.05	–					●	●				
	VPET1103005LKHG	Up-sharp edge	35	6.35	3.18	11	0.05	–						●				
	VPET1103008RKHG	Up-sharp edge	35	6.35	3.18	11	0.08	–					●	●				
	VPET1103008LKHG	Up-sharp edge	35	6.35	3.18	11	0.08	–						●				
	VPET1103018RKHG	Up-sharp edge	35	6.35	3.18	11	0.18	–					●	●				
	VPET1103018LKHG	Up-sharp edge	35	6.35	3.18	11	0.18	–						●				
	VPET110302RKHG	Up-sharp edge	35	6.35	3.18	11	0.2	–					●	●				
	VPET110302LKHG	Up-sharp edge	35	6.35	3.18	11	0.2	–						●				
	VPET0802008LUHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●							
	VPET0802008RUHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●							
	VPGT110300FNAM3	Up-sharp edge	35	6.35	3.18	11	0.03	–			●		●					
	VPGT110301MFNAM3	Up-sharp edge	35	6.35	3.18	11	0.08	–	●		●	●	●					
	VPGT110302MFNAM3	Up-sharp edge	35	6.35	3.18	11	0.18	–	●		●	●	●					



Steel	○	●	●	●	●	●	●		●								
Stainless Steel	●	○	○	○	●	○	●		●								
Cast Iron								●									
Non-Ferrous Material					○		○										
Heat Resistant Alloy		●	○	○													
Hardened Material		○	○	○													
Others (non-metallic)																	●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	WNGG080404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●					
	WNGG080408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●					
	WNGG080404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●			
	WNGG080408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●			
	WNMG080408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●						
	WNMG080412T00525Z5	T00525	80	12.7	4.76	–	1.2	–		●		●						
	WNMG080408G	–	80	12.7	4.76	–	0.8	–								●		
	WNMG080412G	–	80	12.7	4.76	–	1.2	–								●		



General Turning Toolholders

Selection Guide E02

Holder Identification System E03

Structures and Features of NTK Toolholders for General Turning E04

For CN..Inserts E05

For DN..Inserts E14

For SN..Inserts E21

For VN..Inserts E32

For TN..Inserts E36

For WN..Inserts E45

For RN..Inserts E47

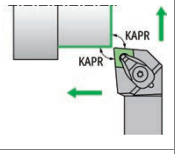
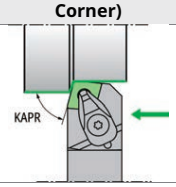
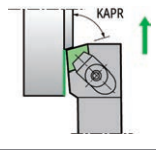
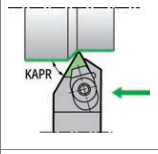
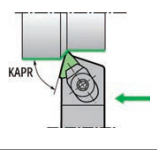
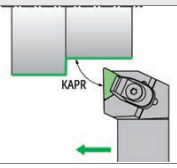
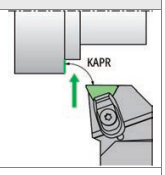
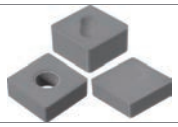
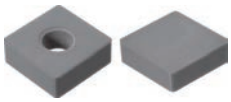
For CDH..Inserts E51

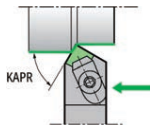
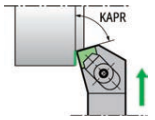
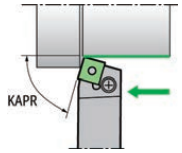
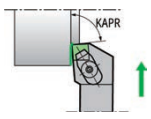
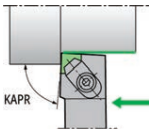
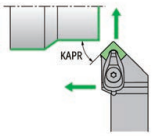
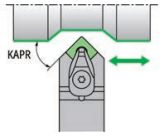
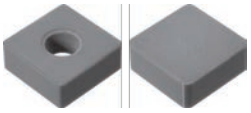
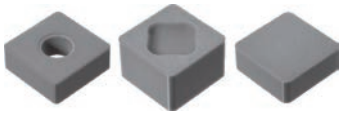
For RCGX/RPGX..Inserts E52

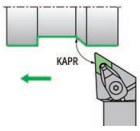
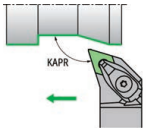
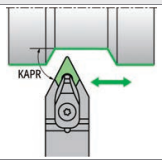
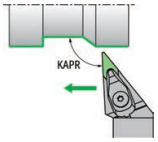
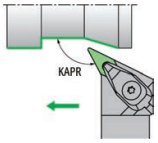
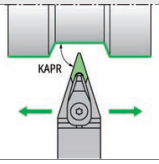
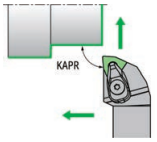
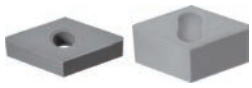
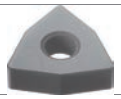
For RCGY..Inserts E57

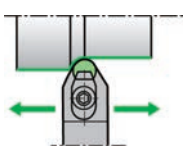
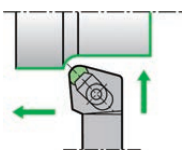
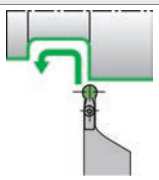
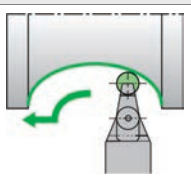
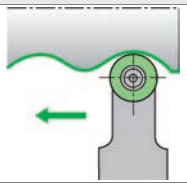
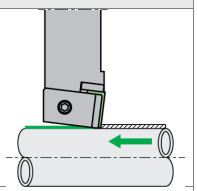
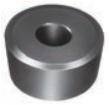
For TSN..Inserts E58

Selection Guide

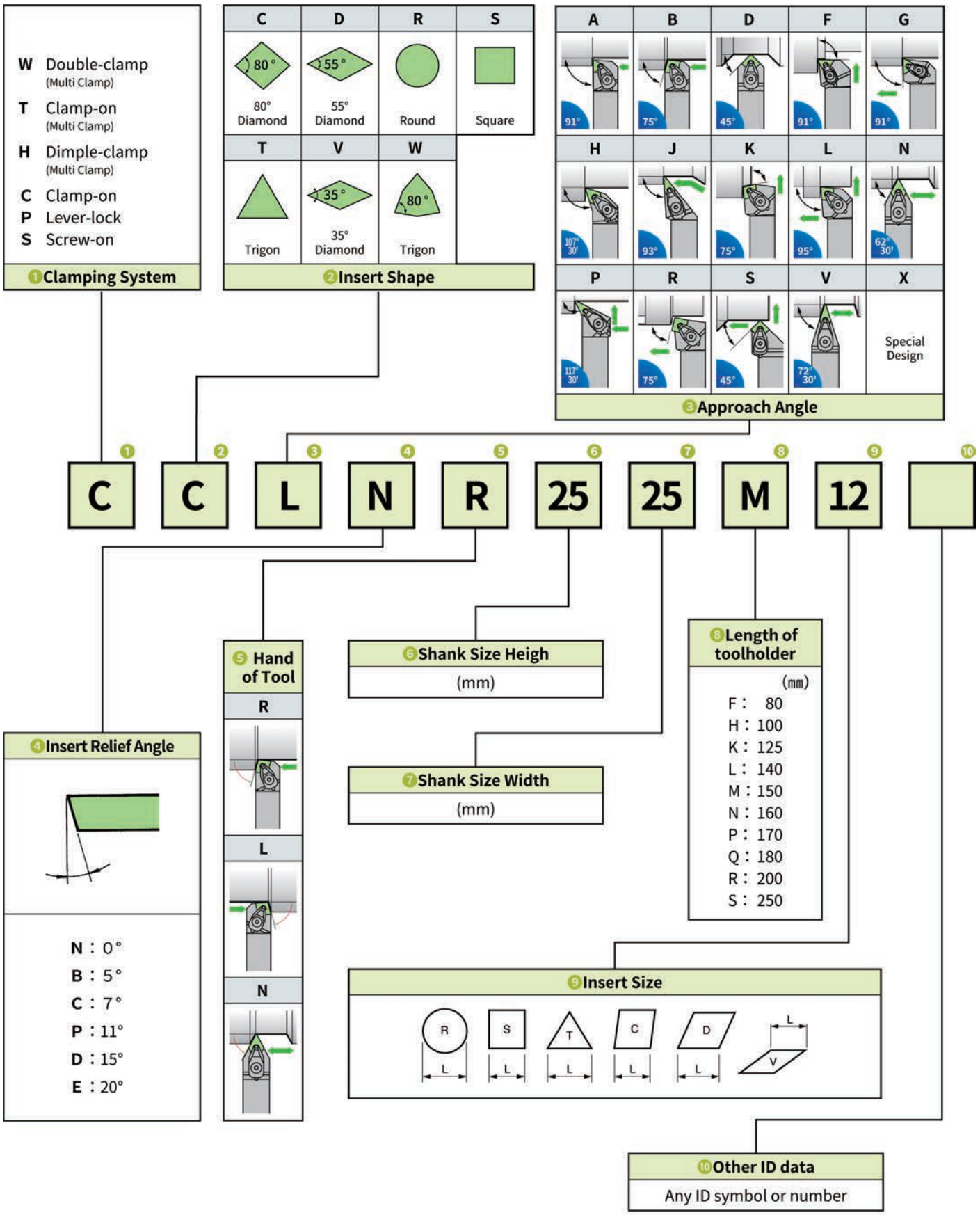
Lead Angle (KAPR)		95°	75° (Using 100° Corner)	75°	60°	75°	91°	91°
Tooling								
Insert shape		CNGN/CNGX/CNGA	CNGN/CNGA		TNGN/TNGA			
								
Perfect for Ceramic Insert	Multi Clamp	WCLN/TCLN/HCLN →E5	WCBN/TCBN →E7				WTGN/TTGN →E36	WTFN/TTFN →E36
	Clamp On	CCLN/C31 →E5,E7	CCBN →E8	CCKN →E8	C24 →E39	C23 →E39	C21/C22 →E37	C25 →E38
For Insert in General	Lever Lock	PCLN →E6						

Lead Angle (KAPR)		60°	75°	75°	85°	85°	45°	45°
Tooling								
Insert shape		SNGA/SNGN					SNGA/SNGX/SNGN	
								
Perfect for Ceramic Insert	Multi Clamp						WSSN/TSSN/HSSN →E21	WSDN/TSDN/HSDN →E21
	Clamp On	C13 →E24	C15 →E25	C11/C16 →E25,E26	C17 →E26	CSHN →E27	CSSN/C12 →E22,E23	CSDN/C14 →E22,E23
For Insert in General	Lever Lock			PSBN →E24				PSDN →E22

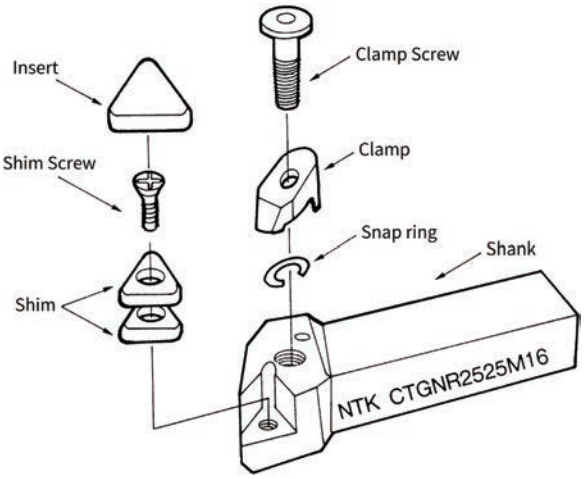
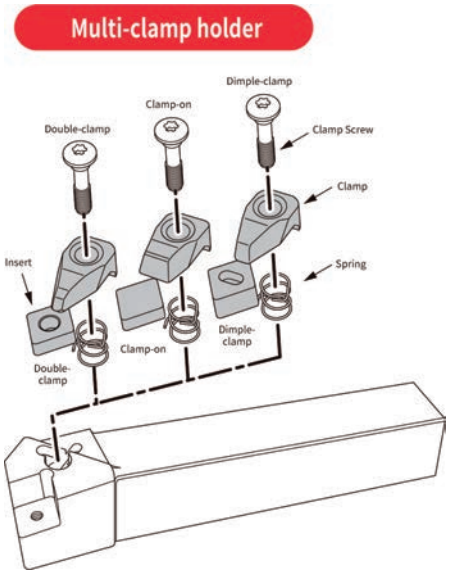
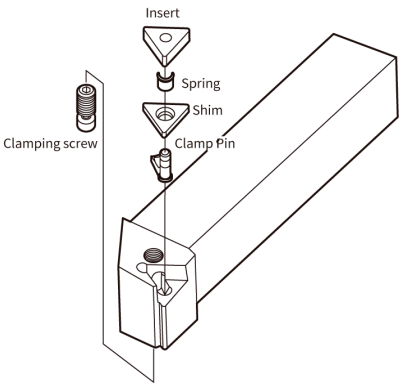
Lead Angle (KAPR)		93°	107°30'	62°30'	93°	117°30'	72°30'	95°
Tooling								
Insert shape		DNGA/DNGX			VNGA/VNGX			WNGA
								
Perfect for Ceramic Insert	Multi Clamp	WDJN/HDJN →E14	WDHN/HDHN →E15	WDNN/HDNN →E16	WVJN/HVJN →E32	WVPN/HVPN →E32	WVVNN/HVVN →E33	WWLN/WWLN-2 →E45
	Clamp On							
For Insert in General	Lever Lock	PDJN →E15						

Lead Angle (KAPR)		-	-	-	-	-	-
Tooling							
Insert shape		RNGN		RCGY	RCGX/RPGX	CDH	TSN
							
Perfect for Ceramic Insert	Multi Clamp	CRDNN/C54 →E47,E48	CRGN/C55 →E47,E48	CRXC →E57	CRDCN →E52		HN..ATS/BTS →E58
	Clamp On					HRCD →E51	
	Blade				GTWP →E53 GKWP →E54		

Holder Identification System

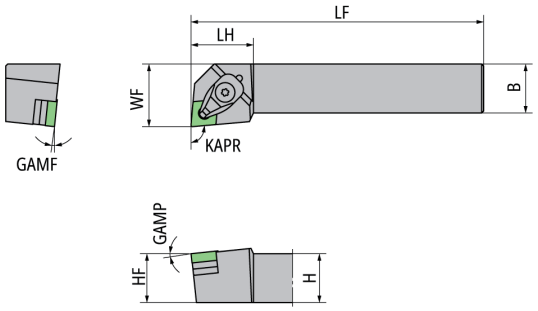


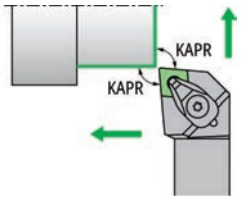
Parts and Features of NTK Toolholders for General Turning

Series	Parts	Features
C type : Clamp-on		• Secures the insert with high clamping force • Excellent in indexing accuracy • Suitable for heavy-duty applications including interrupted cut machining • Clamping system for ceramic cutting tools
W type : Double-clamp T type : Clamp-on H type : Dimple-clamp		• Shim screw clamping methods can be utilized by a simple clamp shim • Best for ceramic tools, improved system with stronger and more accurate clamping • Prevents insert breakage by optimizing the clamping force • Allows for highly accurate machining with highly repeatable accuracy • Inserts can be easily changed as clamping is possible from the top and bottom of the tool • Recommended Tightening Torque For LLR-T20 3.0Nm : Double-clamp 7.5Nm : Clamp-on,Dimple-clamp For LLR-T15 5.0Nm
P type : Lever lock		• General-purpose toolholder • Allows for smooth chip control without damaging the clamping mechanism • For inserts of all material grades however not recommended for ceramics

CN..series/Toolholders

WCLN/TCLN/HCLN Multi Clamp Toolholders





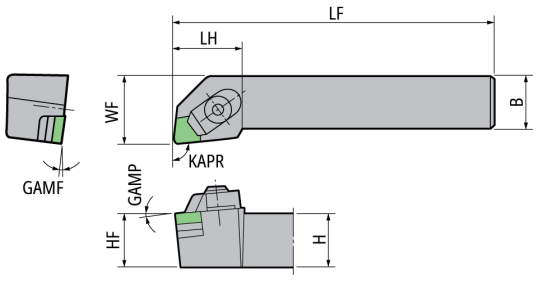
● Diagram shows right-hand tool

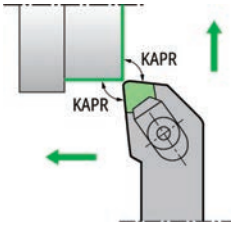
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682570	**WCLNR2525M12**	●	R	25	6	6	25	25	95	150	32	32	CN..1204..	(CN..1207..)
5682604	**WCLNR3225P12**	●	R	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)
5682588	**WCLNL2525M12**	●	L	25	6	6	25	25	95	150	32	32	CN..1204..	(CN..1207..)
5682612	**WCLNL3225P12**	●	L	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)
5701610	**TCLNR2525M12**	●	R	25	6	6	25	25	95	150	32	32	CN..1204..	(CN..1207..)
5701131	**TCLNR3225P12**	●	R	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)
5701628	**TCLNL2525M12**	●	L	25	6	6	25	25	95	150	32	32	CN..1204..	(CN..1207..)
5701636	**TCLNL3225P12**	●	L	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)
5701149	**HCLNR2525M12**	●	R	25	6	6	25	25	95	150	32	32	CNGX1207..	–
5701875	**HCLNR3225P12**	●	R	25	6	6	32	32	95	170	32	32	CNGX1207..	–
5701156	**HCLNL2525M12**	●	L	25	6	6	25	25	95	150	32	32	CNGX1207..	–
5701883	**HCLNL3225P12**	●	L	25	6	6	32	32	95	170	32	32	CNGX1207..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WCLNR2525M12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WCLNR3225P12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WCLNL2525M12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WCLNL3225P12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TCLNR2525M12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TCLNR3225P12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TCLNL2525M12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TCLNL3225P12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HCLNR2525M12	HC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HCLNR3225P12	HC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HCLNL2525M12	HC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HCLNL3225P12	HC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

CCLN





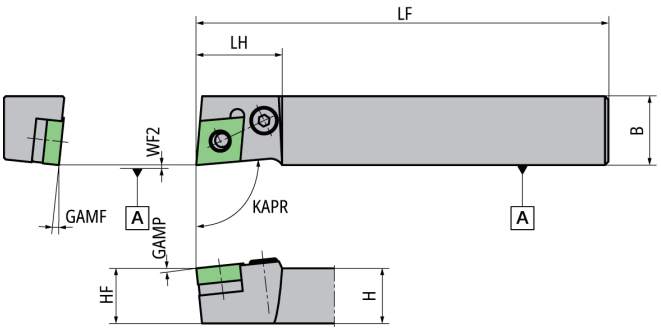
● Diagram shows right-hand tool

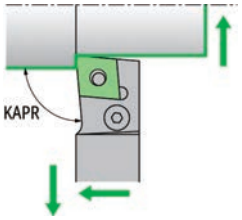
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5700315	**CCLNR3225P12**	●	R	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)
5700299	**CCLNL3225P12**	●	L	25	6	6	32	32	95	170	32	32	CN..1204..	(CN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CCLNR3225P12	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08
CCLNL3225P12	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08

PCLN-N





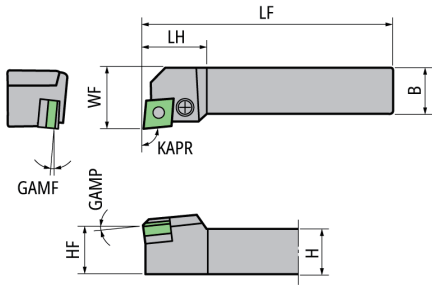
● Diagram shows right-hand tool

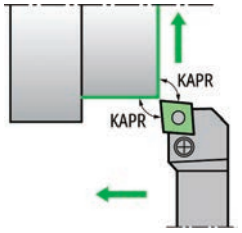
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage
5259056	**PCLNR1620X43N**	●	R	20	6	6	16	16	95	120	25	0	CN..1204..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp screw)	Clamp Pin	Spring
PCLNR1620X43N	LSC42	LCS4CA	LW-3	LCL4	LSP4

PCLN





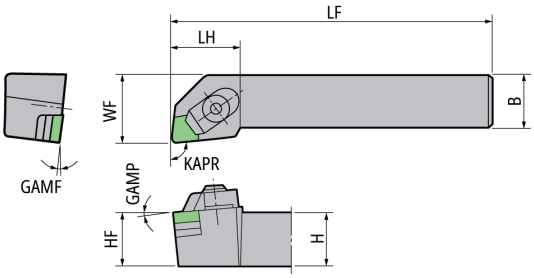
● Diagram shows right-hand tool

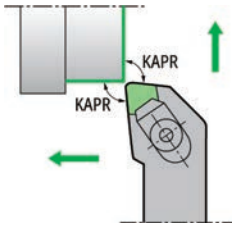
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage
5321997	**PCLNR2020K43**	●	R	20	6	6	20	20	95	125	28	25	CN..1204..
5322011	**PCLNR2525M43**	●	R	25	6	6	25	25	95	150	28	32	CN..1204..
5322003	**PCLNL2020K43**	●	L	20	6	6	20	20	95	125	28	25	CN..1204..
5322029	**PCLNL2525M43**	●	L	25	6	6	25	25	95	150	28	32	CN..1204..

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Wrench (for Clamp screw)	Clamp Pin	Spring
PCLNR2020K43	–	LSC42	LCS4	LW-3	LCL4	LSP4
PCLNR2525M43	–	LSC42	LCS4	LW-3	LCL4	LSP4
PCLNL2020K43	–	LSC42	LCS4	LW-3	LCL4	LSP4
PCLNL2525M43	–	LSC42	LCS4	LW-3	LCL4	LSP4

C31





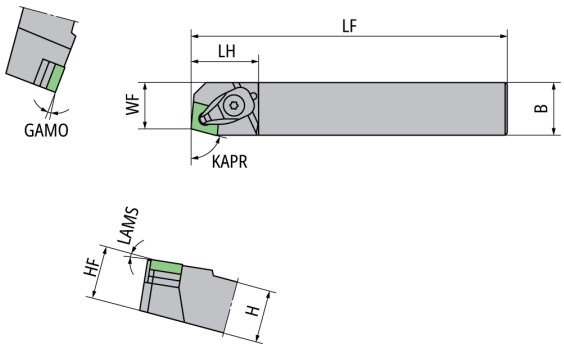
● Diagram shows right-hand tool

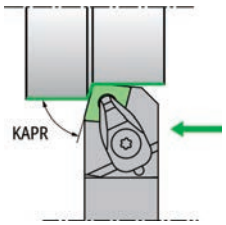
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5538301	**C31R-44**	●	R	25	6	6	25	25	95	160	32	32	CN..1204..	(CN..1207..)
5601422	**C31R-45**	●	R	25	6	6	32	32	95	160	32	32	CN..1204..	(CN..1207..)
5538293	**C31L-33**	●	L	19	6	6	19	19	95	140	32	25	CN..1204..	–
5538319	**C31L-44**	●	L	25	6	6	25	25	95	160	32	32	CN..1204..	(CN..1207..)
5601430	**C31L-45**	●	L	25	6	6	32	32	95	160	32	32	CN..1204..	(CN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Clamp)	Wrench (for Shim)	Snap
C31R-44	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08
C31R-45	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08
C31L-33	CC08M	ACN422	BS0829W	M3*12	LW-4	SR08
C31L-44	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08
C31L-45	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08

WCBN/TCBN Multi Clamp Toolholders





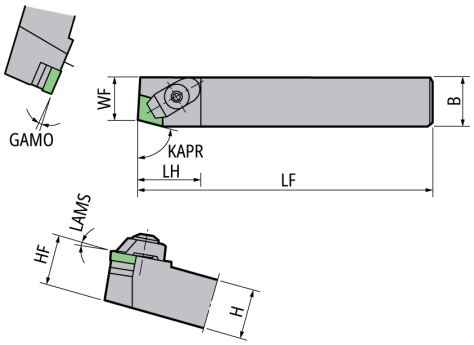
● Diagram shows right-hand tool

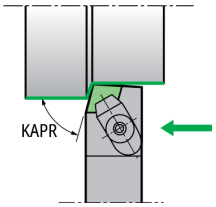
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5682620	**WCBNR2525M12**	●	R	25	6	25	25	75	6	150	32	22	CN..1204..	(CN..1207..)
5682638	**WCBNL2525M12**	●	L	25	6	25	25	75	6	150	32	22	CN..1204..	(CN..1207..)
5701644	**TCBNR2525M12**	●	R	25	6	25	25	75	6	150	32	22	CN..1204..	(CN..1207..)
5701651	**TCBNL2525M12**	●	L	25	6	25	25	75	6	150	32	22	CN..1204..	(CN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)
WCBNR2525M12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10
WCBNL2525M12	DC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10
TCBNR2525M12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10
TCBNL2525M12	TC6CN	ACN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10

CCBN





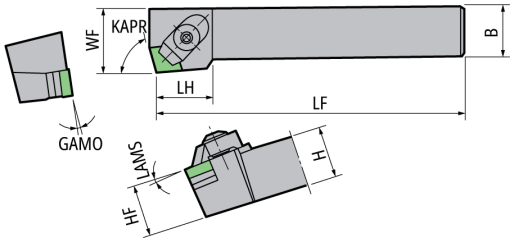
● Diagram shows right-hand tool

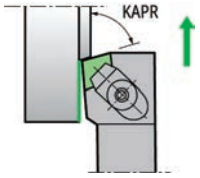
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5830617	**CCBNR2525M12**	●	R	25	6	25	25	75	6	150	32	22	CN..1204..	(CN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CCBNR2525M12	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08

CCKN





● Diagram shows right-hand tool

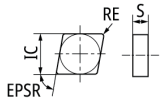
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5613690	**CCKNR2525M12**	●	R	25	6	25	25	75	6	150	30	32	CN..1204..	(CN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CCKNR2525M12	CC08M	ACN422	BS0835W	M3*12	LW-4	SR08

CN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

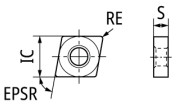
CNGN



Steel																																
Stainless Steel																																
Cast Iron															●	●	●		●			○	○	○	○	●	●	○		○		
Non-Ferrous Material																																
Heat Resistant Alloy													●	●	●	●							●	●	●	●			●		●	
Hardened Material															●			○	●		●	●										
Others (non-metallic)																																

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics							Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	CNGN120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–								●		●										
	CNGN120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–												●								
	CNGN120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																●			●	
	CNGN120408T00820	T00820	80	12.7	4.76	–	0.8	–	–	–	–	–																				●
	CNGN120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●	●	
	CNGN120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–								●		●		●								
	CNGN120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	CNGN120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–						●										●			●	
	CNGN120408Z02025	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–										●										
	CNGN120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–												●								
	CNGN120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																●			●	
	CNGN120412T00820	T00820	80	12.7	4.76	–	1.2	–	–	–	–	–																				●
	CNGN120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●	●	
	CNGN120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–								●		●		●								
	CNGN120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	CNGN120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–																●			●	
	CNGN120412Z02025	Z02025	80	12.7	4.76	–	1.2	–	–	–	–	–										●										
	CNGN120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–																			●	
	CNGN120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–																		●		
	CNGN120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																	●			
	CNGN120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–																●				
	CNGN120420T01025	T01025	80	12.7	4.76	–	2	–	–	–	–	–											●									
	CNGN120708T00520	T00520	80	12.7	7.94	–	0.8	–	–	–	–	–																			●	
	CNGN120708T02025	T02025	80	12.7	7.94	–	0.8	–	–	–	–	–									●											
	CNGN120712T02025	T02025	80	12.7	7.94	–	1.2	–	–	–	–	–									●											

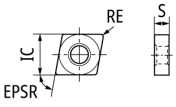
CNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS JX1	BIDEMICS JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	CNGA120404BQE004	E004	80	12.7	4.76	–	0.4	–	–	–	–	–	●																			
	CNGA120404BQT00520	T00520	80	12.7	4.76	–	0.4	–	–	–	–	–		●																			
	CNGA120404S02025	S02025	80	12.7	4.76	–	0.4	–	–	–	–	–												●								
	CNGA120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–												●								
	CNGA120404X01015	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–					●															
	CNGA120404X01015-10	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–					●															
	CNGA120404Z02025	Z02025	80	12.7	4.76	–	0.4	–	–	–	–	–									●											
	CNGA120408BQE004	E004	80	12.7	4.76	–	0.8	–	–	–	–	–	●																			
	CNGA120408BQT00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–		●																			
	CNGA120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–												●								
	CNGA120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																	●		●	
	CNGA120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●	●	
	CNGA120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–								●		●		●								
	CNGA120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●		
	CNGA120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–																	●			
◆	**CNGA120408X01015**	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–					●															
◆	**CNGA120408X01015-10**	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–					●															
◆	**CNGA120408Z02025**	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–									●											
	CNGA120412BQE004	E004	80	12.7	4.76	–	1.2	–	–	–	–	–	●																			
	CNGA120412BQT00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–		●																			
	CNGA120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–												●								
	CNGA120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																	●		●	
	CNGA120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●	●	
	CNGA120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–						●		●		●		●								
	CNGA120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●		
	CNGA120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	CNGA120412X01015	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–					●															
	CNGA120412X01015-10	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–					●															
	CNGA120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–																	●		●	
	CNGA120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–																		●		
	CNGA120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																		●		
	CNGA120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–																	●			

CNGA-WL with wiper for higher feed



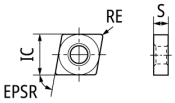
Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS JX1	BIDEMICS JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
◆	**CNGA120408WLT01025**	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–												●								
◆	**CNGA120412WLT01025**	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–												●								

Wiper Width: R0.4: 0.35mm, R0.8: 0.65mm, R1.2: 0.85mm

Applicable holders: 95° cutting edge angle (C31, CCLN), 75° cutting edge angle (CCBN).

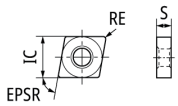
CNGG-AG with chipbreaker



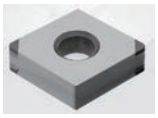
| | | |

CN.. series/Inserts CBN

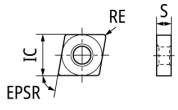
CNGA



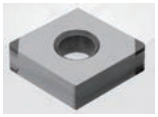
Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	CNGA120402PQS01015	S01015	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01325	S01325	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01535	S01535	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQT01020	T01020	80	12.7	4.76	–	0.2	–	2.3	4	–				●					
	CNGA120404PDFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	2	–				●				●	
	CNGA120404PQFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	4	–				●				●	
	CNGA120404PQS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01020	S01020	80	12.7	4.76	–	0.4	–	2.3	4	–			●						
	CNGA120404PQS01325	S01325	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQT01020	T01020	80	12.7	4.76	–	0.4	–	2.3	4	–				●					
	CNGA120408PDFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	2	–				●					
	CNGA120408PQFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	4	–				●				●	
	CNGA120408PQS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01020	S01020	80	12.7	4.76	–	0.8	–	2.2	4	–			●						
	CNGA120408PQS01325	S01325	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQT00515	T00515	80	12.7	4.76	–	0.8	–	2.2	4	–					●				
	CNGA120408PQT01020	T01020	80	12.7	4.76	–	0.8	–	2.2	4	–				●					
	CNGA120412PDFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	2	–				●					
	CNGA120412PQFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	4	–				●				●	
	CNGA120412PQS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01020	S01020	80	12.7	4.76	–	1.2	–	2.7	4	–			●						
	CNGA120412PQS01325	S01325	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQT00515	T00515	80	12.7	4.76	–	1.2	–	2.7	4	–					●				
	CNGA120412PQT01020	T01020	80	12.7	4.76	–	1.2	–	2.7	4	–				●					
	CNGA120416PQS01015	S01015	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQS01020	S01020	80	12.7	4.76	–	1.6	–	2.6	4	–			●						
	CNGA120416PQS01325	S01325	80	12.7	4.76	–	1.6	–	2.6	4	–					●	●	●	●	
	CNGA120416PQS01535	S01535	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQT01020	T01020	80	12.7	4.76	–	1.6	–	2.6	4	–				●					
	CNGA120420PQS01015	S01015	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQS01020	S01020	80	12.7	4.76	–	2	–	2.6	4	–			●						
	CNGA120420PQS01325	S01325	80	12.7	4.76	–	2	–	2.6	4	–					●	●	●	●	
	CNGA120420PQS01535	S01535	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQT01020	T01020	80	12.7	4.76	–	2	–	2.6	4	–				●					

CNGA-W with wiper for higher feed



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

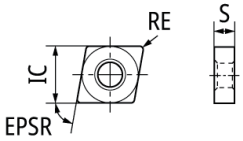
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	CNGA120404PQWS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120404PQWS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120408PQWS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120408PQWS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120412PQWS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	
	CNGA120412PQWS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	

Wiper Width: 0.25mm

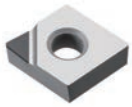
Applicable holders: 95°cutting edge angle (C31, CCLN).

CN.. series/Inserts PCD / Diamond Coating

CNM.

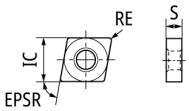


Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

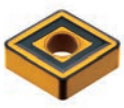
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	CNMG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	4			●
	CNMG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	4			●
	CNMX120404PF	Up-sharp edge	80	12.7	4.76	–	0.4	1		●	
	CNMX120408PF	Up-sharp edge	80	12.7	4.76	–	0.8	1		●	

CN.. series/Inserts Carbide

CN..

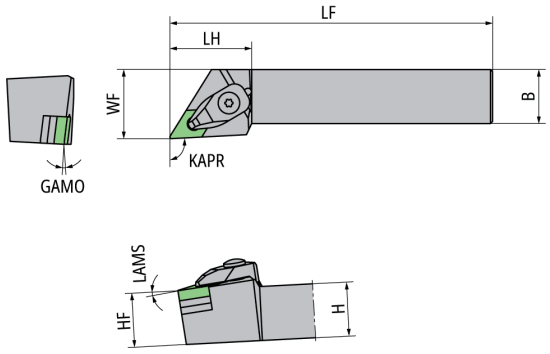


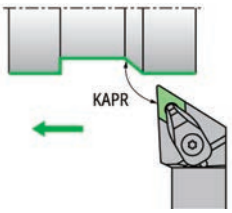
Steel	○	●	●	●	●	●	●		●								
Stainless Steel	●	○	○	○	●	○	●		●								
Cast Iron								●									
Non-Ferrous Material					○		○										●
Heat Resistant Alloy		●	○	○													
Hardened Material		○	○	○													
Others (non-metallic)																	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	CNGG120404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●					
	CNGG120408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●					
	CNGG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●			
	CNGG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●			
	CNMG120408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●						
	CNMG120408G	–	80	12.7	4.76	–	0.8	–								●		
	CNMG120412G	–	80	12.7	4.76	–	1.2	–								●		
	CNMG120416G	–	80	12.7	4.76	–	1.6	–								●		

DN.. series/Toolholders

WDJN/HDJN Multi Clamp Toolholders





● Diagram shows right-hand tool

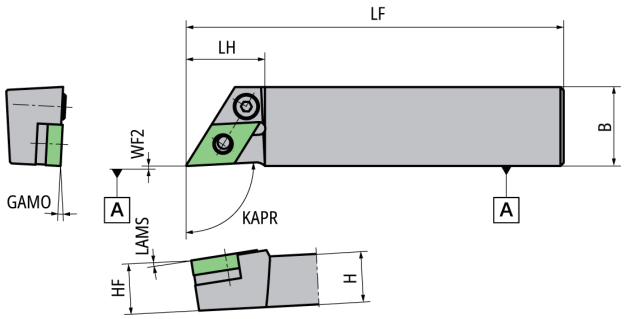
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5682729	**WDJNR2525M15**	●	R	25	6	25	25	93	6	150	38	32	DN..1504..	(DN..1507..)
5682745	**WDJNR3225P15**	●	R	25	6	32	32	93	6	170	38	32	DN..1504..	(DN..1507..)
5682737	**WDJNL2525M15**	●	L	25	6	25	25	93	6	150	38	32	DN..1504..	(DN..1507..)
5682752	**WDJNL3225P15**	●	L	25	6	32	32	93	6	170	38	32	DN..1504..	(DN..1507..)
5701263	**HDJNR2525M15**	●	R	25	6	25	25	93	6	150	38	32	DNGX1507..	–
5701289	**HDJNR3225P15**	●	R	25	6	32	32	93	6	170	38	32	DNGX1507..	–
5701271	**HDJNL2525M15**	●	L	25	6	25	25	93	6	150	38	32	DNGX1507..	–
5701297	**HDJNL3225P15**	●	L	25	6	32	32	93	6	170	38	32	DNGX1507..	–

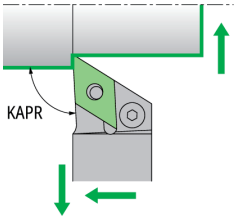
E General Turning Toolholders

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for shim)	Wrench (for Clamp screw)	Wrench (for shim)	Spring
WDJNR2525M15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WDJNR3225P15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WDJNL2525M15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WDJNL3225P15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDJNR2525M15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDJNR3225P15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDJNL2525M15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDJNL3225P15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

PDJN-N





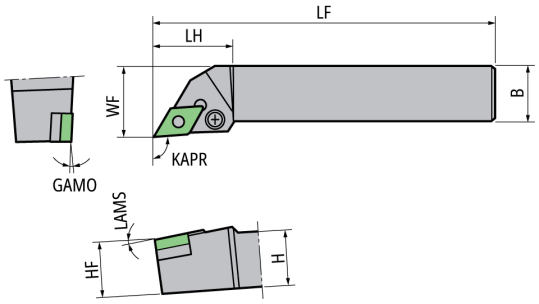
● Diagram shows right-hand tool

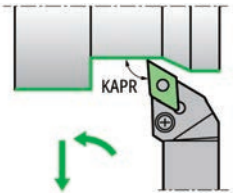
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF2 mm	Insert Gage
5259072	**PDJNR1625X43N**	●	R	25	6	16	16	93	6	120	25	0	DN..1504..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp)	Clamp Pin	Spring
PDJNR1625X43N	LSD42	LCS4CA	LW-3	LCL4	LSP4

PDJN





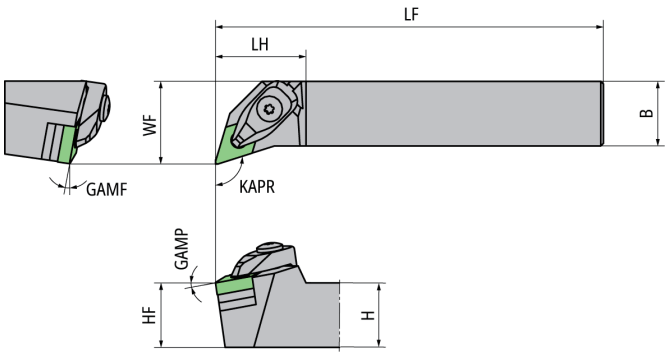
● Diagram shows right-hand tool

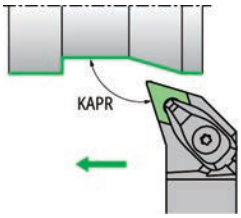
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5322037	**PDJNR2020K43**	●	R	20	6	20	20	93	6	125	32	25	DN..1504..
5682463	**PDJNR2525M43**	●	R	25	6	25	25	93	6	150	32	32	DN..1504..
5322045	**PDJNL2020K43**	●	L	20	6	20	20	93	6	125	32	25	DN..1504..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp)	Clamp Pin	Spring
PDJNR2020K43	LSD42	LCS4	LW-3	LCL4	LSP4
PDJNR2525M43	LSD42	LCS4	LW-3	LCL4	LSP4
PDJNL2020K43	LSD42	LCS4	LW-3	LCL4	LSP4

WDHN/HDHN Multi Clamp Toolholders





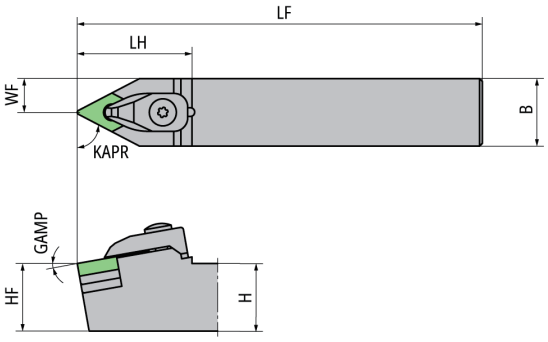
● Diagram shows right-hand tool

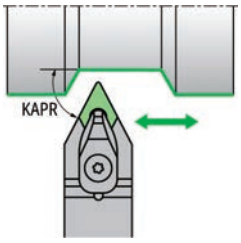
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682778	**WDHNR2525M15**	●	R	25	8	8	25	25	107.5	150	35	32	DN..1504..	(DN..1507..)
5682786	**WDHNL2525M15**	●	L	25	8	8	25	25	107.5	150	35	32	DN..1504..	(DN..1507..)
5701313	**HDHNR2525M15**	●	R	25	8	8	25	25	107.5	150	35	32	DNGX1507..	–
5701321	**HDHNL2525M15**	●	L	25	8	8	25	25	107.5	150	35	32	DNGX1507..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WDHNR2525M15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WDHNL2525M15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDHNR2525M15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDHNL2525M15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

WDNN/HDNN Multi Clamp Toolholders





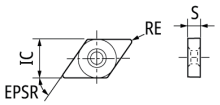
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682760	**WDNNN2525M15**	●	N	25	10	25	25	62.5	150	42.5	12.5	DN..1504..	(DN..1507..)
5701305	**HDNNN2525M15**	●	N	25	10	25	25	62.5	150	42.5	12.5	DNGX1507..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WDNNN2525M15	DC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HDNNN2525M15	HC6DN	ADN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

DN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

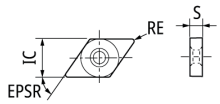
DNGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	DNGN150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGN150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150412T00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGN150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGN150712T02025	T02025	55	12.7	7.94	–	1.2	–	–	–	–	–

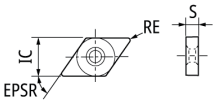
DNGA



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	DNGA150404BQE004	E004	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404BQT00520	T00520	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404S02025	S02025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404X01015	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404X01015-10	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404Z02025	Z02025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150408BQE004	E004	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408BQT00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T01020	T01020	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T02020	T02020	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T02025	T02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408X01015	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408X01015-10	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150412BQE004	E004	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412BQT00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412S02025	S02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T01020	T01020	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T01025	T01025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T02020	T02020	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412X01015	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412X01015-10	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–

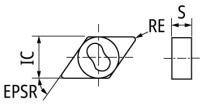
DNGG-AG with chipbreaker



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGG150408Z01030AG	Z01030	55	12.7	4.76	–	0.8	–	–	–	–	–												●							
	DNGG150412Z01030AG	Z01030	55	12.7	4.76	–	1.2	–	–	–	–	–												●							

DNGX

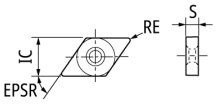


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

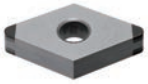
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	DNGX150716T02025	T02025	55	12.7	7.94	–	1.6	–	–	–	–	–																		●		

DN.. series/Inserts CBN

DNGA

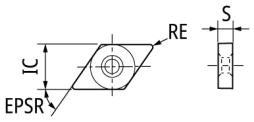


Steel																				
Stainless Steel																				
Cast Iron											●	●	●	●				○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

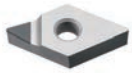
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	**DNGA150402PQS01015**	S01015	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01325	S01325	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01535	S01535	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQT01020	T01020	55	12.7	4.76	–	0.2	–	2.4	4	–				●					
	DNGA150404PDFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	2	–				●					
	DNGA150404PQFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	4	–				●				●	
	DNGA150404PQS01015	S01015	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01020	S01020	55	12.7	4.76	–	0.4	–	2.2	4	–			●						
	DNGA150404PQS01325	S01325	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01535	S01535	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQT01020	T01020	55	12.7	4.76	–	0.4	–	2.2	4	–				●					
	DNGA150408PDFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	2	–				●					
	DNGA150408PQFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	4	–				●				●	
	DNGA150408PQS01015	S01015	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01020	S01020	55	12.7	4.76	–	0.8	–	1.9	4	–			●						
	DNGA150408PQS01325	S01325	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01535	S01535	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQT01020	T01020	55	12.7	4.76	–	0.8	–	1.9	4	–				●					
	DNGA150412PDFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	2	–				●					
	DNGA150412PQFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	4	–								●	
	DNGA150412PQS01015	S01015	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01020	S01020	55	12.7	4.76	–	1.2	–	2.6	4	–			●						
	DNGA150412PQS01325	S01325	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01535	S01535	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQT01020	T01020	55	12.7	4.76	–	1.2	–	2.6	4	–				●					
	DNGA150416PQS01015	S01015	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01020	S01020	55	12.7	4.76	–	1.6	–	2.2	4	–			●						
	DNGA150416PQS01325	S01325	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01535	S01535	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQT01020	T01020	55	12.7	4.76	–	1.6	–	2.2	4	–				●					
	DNGA150420PQS01015	S01015	55	12.7	4.76	–	2	–	2.4	4	–						●			
	DNGA150420PQS01325	S01325	55	12.7	4.76	–	2	–	2.4	4	–					●	●			
	DNGA150420PQS01535	S01535	55	12.7	4.76	–	2	–	2.4	4	–						●			

DN.. series/Inserts PCD / Diamond Coating

DNMX

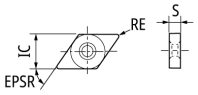


Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	

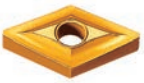
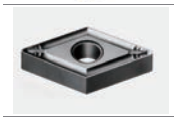
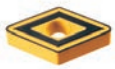
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	DNMX150404PF	Up-sharp edge	55	12.7	4.76	–	0.4	1		●	
	DNMX150408PF	Up-sharp edge	55	12.7	4.76	–	0.8	1		●	

DN.. series/Inserts Carbide

DN..

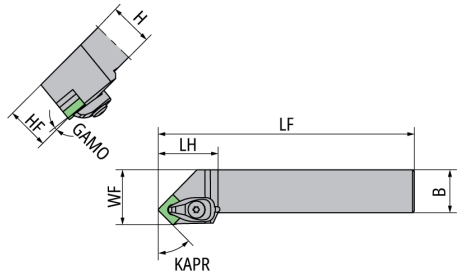


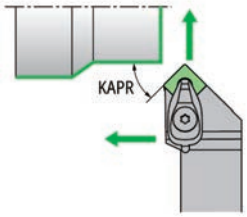
Steel	○	●	●	●	●	●	●		●								
Stainless Steel	●	○	○	○	●	○	●		●								
Cast Iron										●							
Non-Ferrous Material					○		○										●
Heat Resistant Alloy		●	○	○													
Hardened Material		○	○	○													
Others (non-metallic)																	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	DNGG150404FNZP	Up-sharp edge	55	12.7	4.76	–	0.4	–		●		●			●			
	DNGG150408FNZP	Up-sharp edge	55	12.7	4.76	–	0.8	–		●		●			●			
	DNMG150408T00525Z5	T00525	55	12.7	4.76	–	0.8	–		●		●						
	DNMG150404TNG	T01025	55	12.7	4.76	–	0.4	–				●						
	DNMG150404G	–	55	12.7	4.76	–	0.4	–								●		
	DNMG150408G	–	55	12.7	4.76	–	0.8	–								●		
	DNMG150412G	–	55	12.7	4.76	–	1.2	–								●		

SN..series/Toolholders

WSSN/TSSN/HSSN Multi Clamp Toolholders





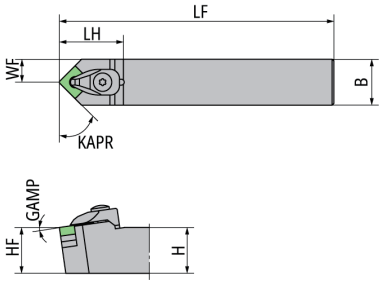
● Diagram shows right-hand tool

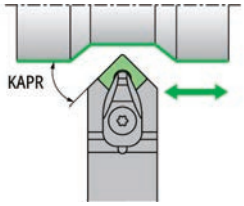
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682901	**WSSNR2525M12**	●	R	25	8	25	25	45	150	35	32	SN..1204..	(SN..1207..)
5682919	**WSSNL2525M12**	●	L	25	8	25	25	45	150	35	32	SN..1204..	(SN..1207..)
5701768	**TSSNR2525M12**	●	R	25	8	25	25	45	150	35	32	SN..1204..	(SN..1207..)
5701776	**TSSNL2525M12**	●	L	25	8	25	25	45	150	35	32	SN..1204..	(SN..1207..)
5701487	**HSSNR2525M12**	●	R	25	8	25	25	45	150	35	32	SNGX1207..	–
5701495	**HSSNL2525M12**	●	L	25	8	25	25	45	150	35	32	SNGX1207..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WSSNR2525M12	DC6CN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WSSNL2525M12	DC6CN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TSSNR2525M12	TC6CN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TSSNL2525M12	TC6CN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HSSNR2525M12	HC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HSSNL2525M12	HC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

WSDN/TSDN/HSDN Multi Clamp Toolholders



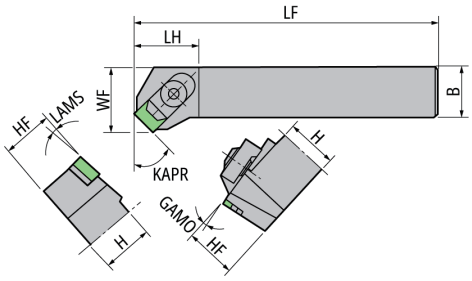


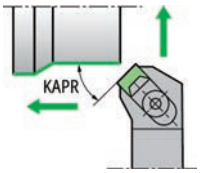
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682935	**WSDNN2525M12**	●	N	25	8	25	25	45	150	35	12.5	SN..1204..	(SN..1207..)
5682943	**WSDNN3225P12**	●	N	25	8	32	32	45	170	35	12.5	SN..1204..	(SN..1207..)
5701784	**TSDNN2525M12**	●	N	25	8	25	25	45	150	35	12.5	SN..1204..	(SN..1207..)
5701792	**TSDNN3225P12**	●	N	25	8	32	32	45	170	35	12.5	SN..1204..	(SN..1207..)
5701503	**HSDNN2525M12**	●	N	25	8	25	25	45	150	35	12.5	SNGX1207..	–
5701511	**HSDNN3225P12**	●	N	25	8	32	32	45	170	35	12.5	SNGX1207..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WSDNN2525M12	DC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WSDNN3225P12	DC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TSDNN2525M12	TC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
TSDNN3225P12	TC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HSDNN2525M12	HC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HSDNN3225P12	HC6SN	ASN423	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

CSSN





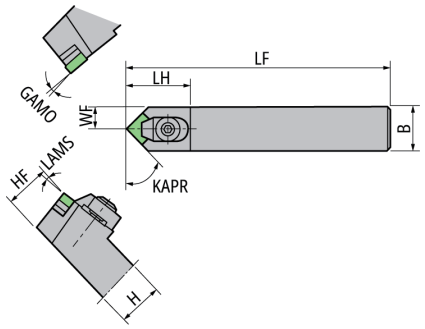
● Diagram shows right-hand tool

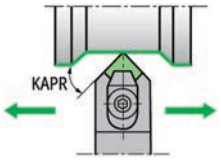
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5700448	**CSSNL2525M12**	●	L	25	8	25	25	45	8	150	31	32	SN..1204..	(SN..1207..)
5857172	**CSSNL3225P12**	●	L	25	8	32	32	45	8	170	31	32	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CSSNL2525M12	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
CSSNL3225P12	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

CSDNN



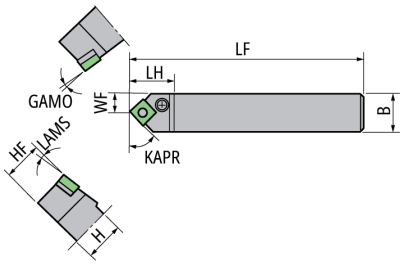


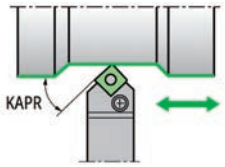
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5700349	**CSDNN2525M12**	●	N	25	6	25	25	45	6	150	35	12.5	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CSDNN2525M12	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

PSDN



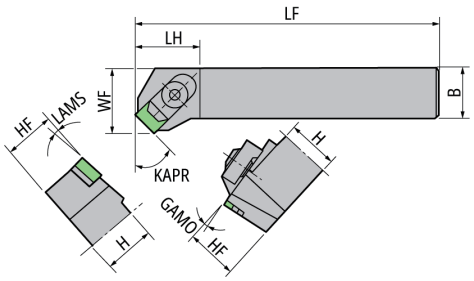


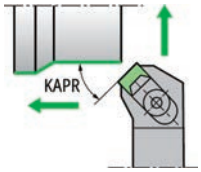
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5523451	**PSDNN2020K43**	●	N	20	6	20	20	45	6	125	30	10	SN..1204..
5764006	**PSDNN2525M43**	●	N	25	6	25	25	45	6	150	30	12.5	SN..1204..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp screw)	Clamp Pin	Spring
PSDNN2020K43	LSS42	LCS4	LW-3	LCL4	LSP4
PSDNN2525M43	LSS42	LCS4	LW-3	LCL4	LSP4

C12





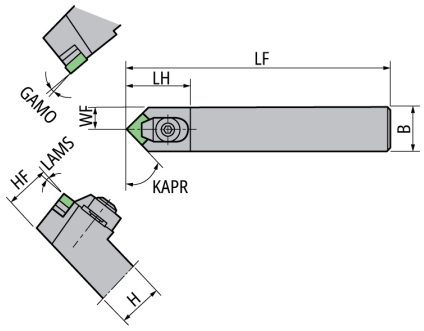
● Diagram shows right-hand tool

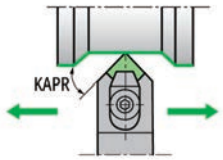
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538178	**C12R-33**	●	R	19	8	19	19	45	8	140	28	27	SN..1204..	–
5538194	**C12R-44**	●	R	25	8	25	25	45	8	160	31	35	SN..1204..	(SN..1207..)
5620869	**C12R-45**	●	R	25	8	32	32	45	8	160	31	35	SN..1204..	(SN..1207..)
5538186	**C12L-33**	●	L	19	8	19	19	45	8	140	28	27	SN..1204..	–
5538202	**C12L-44**	●	L	25	8	25	25	45	8	160	31	35	SN..1204..	(SN..1207..)
5637277	**C12L-45**	●	L	25	8	32	32	45	8	160	31	35	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C12R-33	CC08MS	ASN423	BS0829W	M3*12	LW-4	SR08
C12R-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C12R-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C12L-33	CC08MS	ASN423	BS0829W	M3*12	LW-4	SR08
C12L-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C12L-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

C14



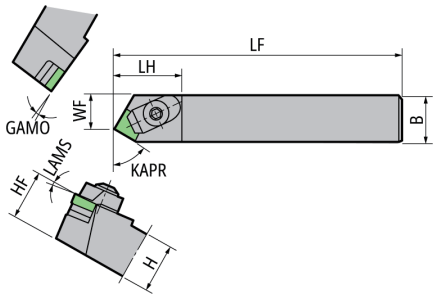


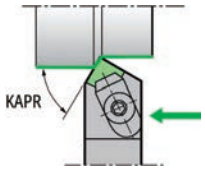
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538327	**C14M-33**	●	N	19	6	19	19	45	6	140	35	9.5	SN..1204..	–
5538335	**C14M-34**	●	N	19	6	25	25	45	6	160	35	9.5	SN..1204..	(SN..1207..)
5538343	**C14M-44**	●	N	25	6	25	25	45	6	160	35	12.5	SN..1204..	(SN..1207..)
5638036	**C14M-45**	●	N	25	6	32	32	45	6	160	35	12.5	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C14M-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C14M-34	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C14M-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C14M-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

C13





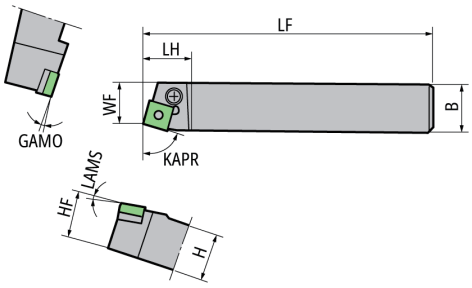
● Diagram shows right-hand tool

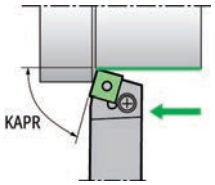
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538244	**C13R-33**	●	R	19	6	19	19	60	6	140	35	12.5	SN..1204..	(SN..1207..)
5538269	**C13R-34**	●	R	19	6	25	25	60	6	160	35	12.5	SN..1204..	(SN..1207..)
5538277	**C13R-44**	●	R	25	6	25	25	60	6	160	35	18.5	SN..1204..	(SN..1207..)
5684816	**C13R-45**	●	R	25	6	33	32	60	6	160	35	18.5	SN..1204..	(SN..1207..)
5538251	**C13L-33**	●	L	19	6	19	19	60	6	140	35	12.5	SN..1204..	–
5538285	**C13L-44**	●	L	25	6	25	25	60	6	160	35	18.5	SN..1204..	(SN..1207..)
5802863	**C13L-45**	●	L	25	6	32	32	60	6	160	35	18.5	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C13R-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C13R-34	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C13R-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C13R-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C13L-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C13L-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C13L-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

PSBN





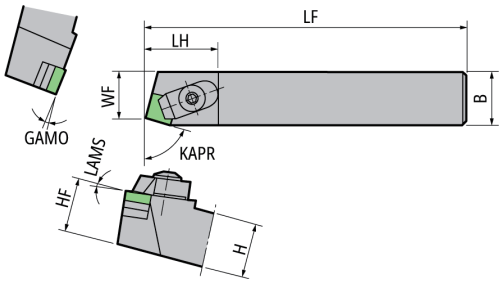
● Diagram shows right-hand tool

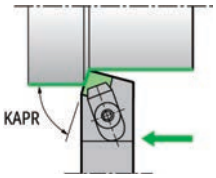
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5934492	**PSBNL2020K43**	●	L	20	6	20	20	75	6	125	28	17	SN..1204..
5934518	**PSBNR2020K43**	●	R	20	6	20	20	75	6	125	28	17	SN..1204..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp screw)	Clamp Pin	Spring
PSBNL2020K43	LSS42	LCS4	LW-3	LCL4	LSP4
PSBNR2020K43	LSS42	LCS4	LW-3	LCL4	LSP4

C11





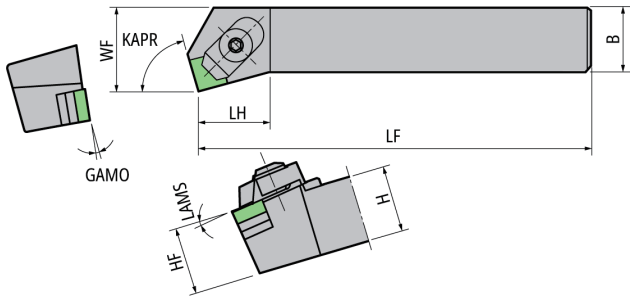
● Diagram shows right-hand tool

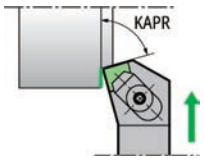
EDP	Item Number	Stock	Hand	B	GAMO	H	HF	KAPR	LAMS	LF	LH	WF	Insert Gage	
				mm	°	mm	mm	°	°	mm	mm	mm		
5538608	**C11R-33**	●	R	19	6	19	19	75	6	140	34	15.5	SN..1204..	(SN..1207..)
5538624	**C11R-34**	●	R	19	6	25	25	75	6	160	34	15.5	SN..1204..	(SN..1207..)
5538632	**C11R-44**	●	R	25	6	25	25	75	6	160	34	21.5	SN..1204..	(SN..1207..)
5778170	**C11R-45**	●	R	25	6	32	32	75	6	160	34	21.5	SN..1204..	(SN..1207..)
5538616	**C11L-33**	●	L	19	6	19	19	75	6	140	34	15.5	SN..1204..	–
5538640	**C11L-44**	●	L	25	6	25	25	75	6	160	34	21.5	SN..1204..	(SN..1207..)
5710876	**C11L-45**	●	L	25	6	32	32	75	6	160	34	21.5	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Shim)	Snap
C11R-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C11R-34	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C11R-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C11R-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C11L-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C11L-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C11L-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

C15





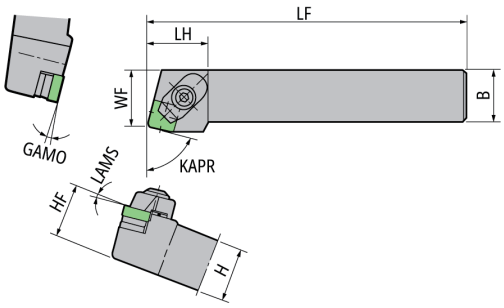
● Diagram shows right-hand tool

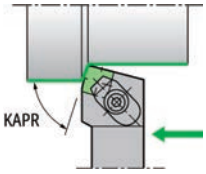
EDP	Item Number	Stock	Hand	B	GAMO	H	HF	KAPR	LAMS	LF	LH	WF	Insert Gage	
				mm	°	mm	mm	°	°	mm	mm	mm		
5566070	**C15R-33**	●	R	19	6	19	19	75	6	140	29	25	SN..1204..	–
5538236	**C15R-44**	●	R	25	6	25	25	75	6	160	28	31	SN..1204..	(SN..1207..)
5802848	**C15R-45**	●	R	25	6	32	32	75	6	160	28	31	SN..1204..	(SN..1207..)
5538210	**C15L-33**	●	L	19	6	19	19	75	6	140	29	25	SN..1204..	–
5538228	**C15L-34**	●	L	19	6	25	25	75	6	160	29	25	SN..1204..	(SN..1207..)
5576863	**C15L-44**	●	L	25	6	25	25	75	6	160	28	31	SN..1204..	(SN..1207..)
5759865	**C15L-45**	●	L	25	6	32	32	75	6	160	28	31	SN..1204..	(SN..1207..)
5538368	**C16L-33**	●	L	19	6	19	19	75	6	140	32	22	SN..1204..	–
5538384	**C16L-44**	●	L	25	6	25	25	75	6	160	25	25	SN..1204..	(SN..1207..)
5746862	**C16L-45**	●	L	25	6	32	32	75	6	160	25	25	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C15R-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C15R-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C15R-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C15L-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C15L-34	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C15L-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C15L-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C16L-33	CC08MS	ASN423	BS0829W	M3*12	LW-4	SR08
C16L-44	CC08MS	ASN423	BS0835W	M3*12	LW-4	SR08
C16L-45	CC08MS	ASN423	BS0835W	M3*12	LW-4	SR08

C16





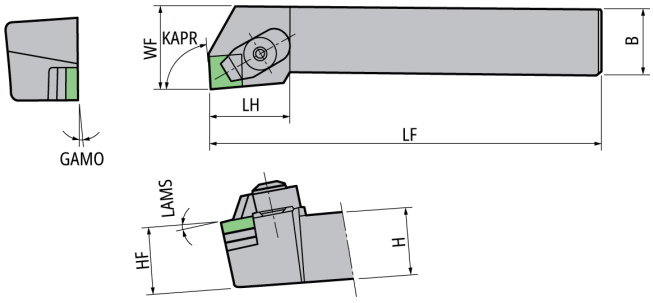
● Diagram shows right-hand tool

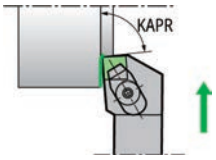
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538350	**C16R-33**	●	R	19	6	19	19	75	6	140	32	22	SN..1204..	–
5538376	**C16R-44**	●	R	25	6	25	25	75	6	160	25	25	SN..1204..	(SN..1207..)
5684824	**C16R-45**	●	R	25	6	32	32	75	6	160	25	25	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C16R-33	CC08MS	ASN423	BS0829W	M3*12	LW-4	SR08
C16R-44	CC08MS	ASN423	BS0835W	M3*12	LW-4	SR08
C16R-45	CC08MS	ASN423	BS0835W	M3*12	LW-4	SR08

C17





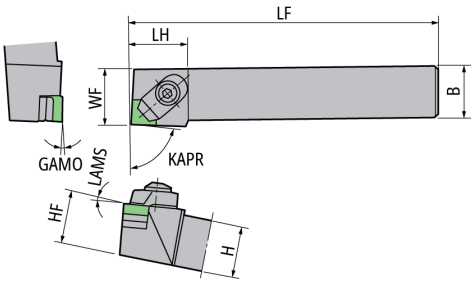
● Diagram shows right-hand tool

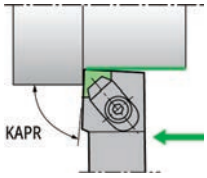
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538145	**C17R-33**	●	R	19	6	19	19	85	6	140	30	24	SN..1204..	–
5538152	**C17R-44**	●	R	25	6	25	25	85	6	160	30	30	SN..1204..	(SN..1207..)
5755400	**C17R-45**	●	R	25	6	32	32	85	6	160	30	30	SN..1204..	(SN..1207..)
5538160	**C17L-44**	●	L	25	6	25	25	85	6	160	30	30	SN..1204..	(SN..1207..)
5743281	**C17L-45**	●	L	25	6	32	32	85	6	160	30	30	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C17R-33	CC08M	ASN423	BS0829W	M3*12	LW-4	SR08
C17R-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C17R-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C17L-44	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
C17L-45	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

CSHN





● Diagram shows right-hand tool

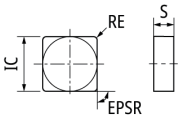
EDP	Item Number	Stock	Hand	B	GAMO	H	HF	KAPR	LAMS	LF	LH	WF	Insert Gage	
				mm	°	mm	mm	°	°	mm	mm	mm		
5692488	**CSHNR2525M12**	●	R	25	6	25	25	85	6	150	30	27	SN..1204..	(SN..1207..)
5692470	**CSHNL2525M12**	●	L	25	6	25	25	85	6	150	30	27	SN..1204..	(SN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CSHNR2525M12	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08
CSHNL2525M12	CC08M	ASN423	BS0835W	M3*12	LW-4	SR08

SN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

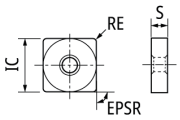
SNGN



Steel																																
Stainless Steel																																
Cast Iron																●	●	●		●		○	○	○	○	●	●	○		○		
Non-Ferrous Material																																
Heat Resistant Alloy																●	●	●	●									●		●		
Hardened Material																			●			○	●		●	●						
Others (non-metallic)																																

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	SNGN120404T01025	T01025	90	12.7	4.76	–	0.4	–	–	–	–	–								●												
	SNGN120408S02025	S02025	90	12.7	4.76	–	0.8	–	–	–	–	–												●								
	SNGN120408T00520	T00520	90	12.7	4.76	–	0.8	–	–	–	–	–																			●	
	SNGN120408T00820	T00820	90	12.7	4.76	–	0.8	–	–	–	–	–																				●
	SNGN120408T01020	T01020	90	12.7	4.76	–	0.8	–	–	–	–	–																		●		
	SNGN120408T01025	T01025	90	12.7	4.76	–	0.8	–	–	–	–	–						●		●		●		●							●	
	SNGN120408T02020	T02020	90	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	SNGN120408T02025	T02025	90	12.7	4.76	–	0.8	–	–	–	–	–																●				
	SNGN120408Z02025	Z02025	90	12.7	4.76	–	0.8	–	–	–	–	–									●											
	SNGN120412S02025	S02025	90	12.7	4.76	–	1.2	–	–	–	–	–												●								
	SNGN120412T00520	T00520	90	12.7	4.76	–	1.2	–	–	–	–	–																			●	
	SNGN120412T00820	T00820	90	12.7	4.76	–	1.2	–	–	–	–	–																				●
	SNGN120412T01020	T01020	90	12.7	4.76	–	1.2	–	–	–	–	–																		●	●	
	SNGN120412T01025	T01025	90	12.7	4.76	–	1.2	–	–	–	–	–						●		●		●		●							●	
	SNGN120412T02020	T02020	90	12.7	4.76	–	1.2	–	–	–	–	–																	●	●		
	SNGN120412T02025	T02025	90	12.7	4.76	–	1.2	–	–	–	–	–																●				
	SNGN120412Z02025	Z02025	90	12.7	4.76	–	1.2	–	–	–	–	–									●											
	SNGN120416S02025	S02025	90	12.7	4.76	–	1.6	–	–	–	–	–												●								
	SNGN120416T00520	T00520	90	12.7	4.76	–	1.6	–	–	–	–	–																			●	
	SNGN120416T01020	T01020	90	12.7	4.76	–	1.6	–	–	–	–	–																		●	●	
	SNGN120416T01025	T01025	90	12.7	4.76	–	1.6	–	–	–	–	–						●		●		●		●							●	
	SNGN120416T02020	T02020	90	12.7	4.76	–	1.6	–	–	–	–	–																	●			
	SNGN120416T02025	T02025	90	12.7	4.76	–	1.6	–	–	–	–	–																●				
	SNGN120416Z02025	Z02025	90	12.7	4.76	–	1.6	–	–	–	–	–									●											
	SNGN120420T01020	T01020	90	12.7	4.76	–	2	–	–	–	–	–																		●		
	SNGN120420T01025	T01025	90	12.7	4.76	–	2	–	–	–	–	–								●		●										
	SNGN120420T02020	T02020	90	12.7	4.76	–	2	–	–	–	–	–																	●			
	SNGN120420T02025	T02025	90	12.7	4.76	–	2	–	–	–	–	–						●													●	
	SNGN120424T01025	T01025	90	12.7	4.76	–	2.4	–	–	–	–	–								●												
	SNGN120424T02020	T02020	90	12.7	4.76	–	2.4	–	–	–	–	–																	●			
	SNGN120708T02025	T02025	90	12.7	7.94	–	0.8	–	–	–	–	–						●		●												
	SNGN120712S02025	S02025	90	12.7	7.94	–	1.2	–	–	–	–	–								●												
	SNGN120712T02025	T02025	90	12.7	7.94	–	1.2	–	–	–	–	–								●												
	SNGN120716T02025	T02025	90	12.7	7.94	–	1.6	–	–	–	–	–							●													

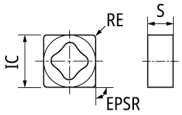
SNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	SNGA120408S02025	S02025	90	12.7	4.76	–	0.8	–	–	–	–	–												●							
	SNGA120408T01025	T01025	90	12.7	4.76	–	0.8	–	–	–	–	–												●							
	SNGA120408T02020	T02020	90	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	SNGA120412S02025	S02025	90	12.7	4.76	–	1.2	–	–	–	–	–												●							
	SNGA120412T01025	T01025	90	12.7	4.76	–	1.2	–	–	–	–	–												●							
	SNGA120412T02020	T02020	90	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	SNGA120416T02020	T02020	90	12.7	4.76	–	1.6	–	–	–	–	–																	●			

SNGX

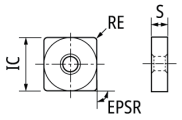


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

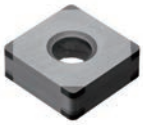
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	SNGX120712T02025	T02025	90	12.7	7.94	–	1.2	–	–	–	–	–																		●		
	SNGX120716T02025	T02025	90	12.7	7.94	–	1.6	–	–	–	–	–																		●		

SN.. series/Inserts CBN

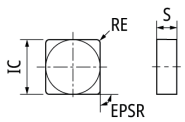
SNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	SNGA120402PES01325	S01325	90	12.7	4.76	–	0.2	–	2.3	8	–					●		●	●	
	SNGA120404PES01015	S01015	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PES01020	S01020	90	12.7	4.76	–	0.4	–	2.3	8	–			●						
	SNGA120404PES01325	S01325	90	12.7	4.76	–	0.4	–	2.3	8	–					●				
	SNGA120404PES01535	S01535	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PET01020	T01020	90	12.7	4.76	–	0.4	–	2.3	8	–				●					
	SNGA120408PES01015	S01015	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PES01020	S01020	90	12.7	4.76	–	0.8	–	2.3	8	–			●						
	SNGA120408PES01325	S01325	90	12.7	4.76	–	0.8	–	2.3	8	–					●				
	SNGA120408PES01535	S01535	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PET01020	T01020	90	12.7	4.76	–	0.8	–	2.3	8	–				●					
	SNGA120412PES01015	S01015	90	12.7	4.76	–	1.2	–	2.8	8	–				●			●	●	
	SNGA120412PES01020	S01020	90	12.7	4.76	–	1.2	–	2.8	8	–			●						
	SNGA120412PES01325	S01325	90	12.7	4.76	–	1.2	–	2.8	8	–					●				
	SNGA120412PES01535	S01535	90	12.7	4.76	–	1.2	–	2.8	8	–							●	●	
	SNGA120412PET01020	T01020	90	12.7	4.76	–	1.2	–	2.8	8	–				●					
	SNGA120416PES01015	S01015	90	12.7	4.76	–	1.6	–	2.8	8	–								●	
	SNGA120416PES01325	S01325	90	12.7	4.76	–	1.6	–	2.8	8	–					●				
	SNGA120416PET01020	T01020	90	12.7	4.76	–	1.6	–	2.8	8	–				●					

SNMN

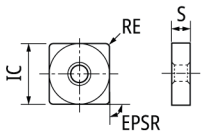


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	SNMN120408ST01025	T01025	90	12.7	4.76	–	0.8	–	–	8	–	●								
	SNMN120412ST02025	T02025	90	12.7	4.76	–	1.2	–	–	8	–	●								
	SNMN120416ST02025	T02025	90	12.7	4.76	–	1.6	–	–	8	–	●								

SN.. series/Inserts Carbide

SNMG

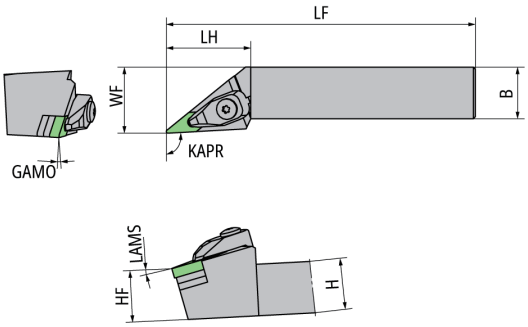


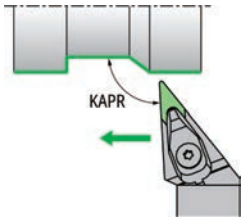
Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	SNMG120408T00525Z5	T00525	90	12.7	4.76	–	0.8	–		●		●						
	SNMG120408G	–	90	12.7	4.76	–	0.8	–								●		
	SNMG120412G	–	90	12.7	4.76	–	1.2	–								●		
	SNMG120416G	–	90	12.7	4.76	–	1.6	–								●		

VN..series/Toolholders

WVJN/HVJN Multi Clamp Toolholders





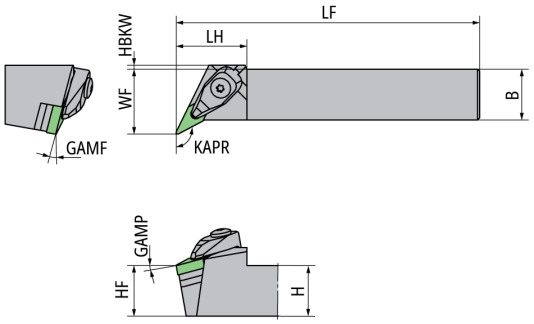
● Diagram shows right-hand tool

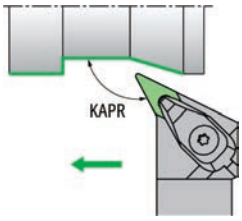
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5682828	**WVJNR2525M16**	●	R	25	6	25	25	93	13	150	41	32	VN..1604..	(VN..1607..)
5682844	**WVJNR3225P16**	●	R	25	6	32	32	93	13	170	41	32	VN..1604..	(VN..1607..)
5682836	**WVJNL2525M16**	●	L	25	6	25	25	93	13	150	41	32	VN..1604..	(VN..1607..)
5682851	**WVJNL3225P16**	●	L	25	6	32	32	93	13	170	41	32	VN..1604..	(VN..1607..)
5701396	**HVJNR2525M16**	●	R	25	6	25	25	93	13	150	41	32	VNGX1607..	–
5701420	**HVJNR3225P16**	●	R	25	6	32	32	93	13	170	41	32	VNGX1607..	–
5701412	**HVJNL2525M16**	●	L	25	6	25	25	93	13	150	41	32	VNGX1607..	–
5701438	**HVJNL3225P16**	●	L	25	6	32	32	93	13	170	41	32	VNGX1607..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WVJNR2525M16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WVJNR3225P16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WVJNL2525M16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WVJNL3225P16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVJNR2525M16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVJNR3225P16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVJNL2525M16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVJNL3225P16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

WVPN/HVPN Multi Clamp Toolholders





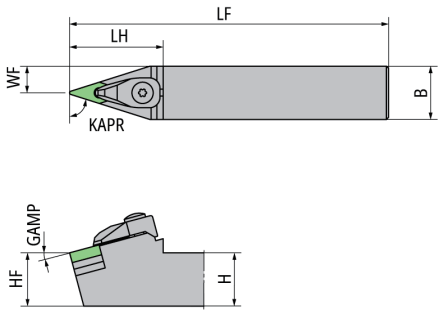
● Diagram shows right-hand tool

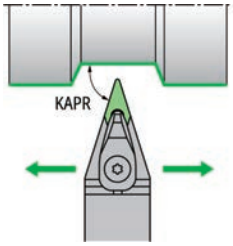
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HBKW mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5682885	**WVPNR2525M16**	●	R	25	10	10	25	2	25	117.5	150	35	32	VN..1604..	(VN..1607..)
5682893	**WVPNL2525M16**	●	L	25	10	10	25	2	25	117.5	150	35	32	VN..1604..	(VN..1607..)
5701461	**HVPNR2525M16**	●	R	25	10	10	25	2	25	117.5	150	35	32	VNGX1607..	–
5701479	**HVPNL2525M16**	●	L	25	10	10	25	2	25	117.5	150	35	32	VNGX1607..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WVPNR2525M16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WVPNL2525M16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVPNR2525M16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVPNL2525M16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

WVVN/HVVN Multi Clamp Toolholders





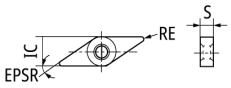
EDP	Item Number	Stock	Hand	B	GMAP	H	HF	KAPR	LF	LH	WF	Insert Gage	
				mm	°	mm	mm	°	mm	mm	mm		
5682877	**WVVNN2525M16**	●	N	25	15	25	25	72.5	150	44	12.5	VN..1604..	(VN..1607..)
5701453	**HVVNN2525M16**	●	N	25	15	25	25	72.5	150	44	12.5	VNGX1607..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WVVNN2525M16	DC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
HVVNN2525M16	HC6VN	AVN323	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

VN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

VNGA

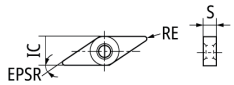


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

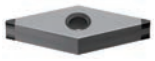
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	VNGA160404BQE004	E004	35	9.525	4.76	–	0.4	–	–	–	–	–	●																			
	VNGA160404BQT00520	T00520	35	9.525	4.76	–	0.4	–	–	–	–	–		●																			
	VNGA160404S02025	S02025	35	9.525	4.76	–	0.4	–	–	–	–	–												●								
	VNGA160404T01020	T01020	35	9.525	4.76	–	0.4	–	–	–	–	–																	●			
	VNGA160404T01025	T01025	35	9.525	4.76	–	0.4	–	–	–	–	–									●		●		●							
	VNGA160404X01015	X01015	35	9.525	4.76	–	0.4	–	–	–	–	–					●															
	VNGA160404X01015-10	X01015	35	9.525	4.76	–	0.4	–	–	–	–	–					●															
	VNGA160404Z02025	Z02025	35	9.525	4.76	–	0.4	–	–	–	–	–										●										
	VNGA160408BQE004	E004	35	9.525	4.76	–	0.8	–	–	–	–	–	●																			
	VNGA160408BQT00520	T00520	35	9.525	4.76	–	0.8	–	–	–	–	–		●																			
	VNGA160408S02025	S02025	35	9.525	4.76	–	0.8	–	–	–	–	–												●								
	VNGA160408T00520	T00520	35	9.525	4.76	–	0.8	–	–	–	–	–																			●	
	VNGA160408T01020	T01020	35	9.525	4.76	–	0.8	–	–	–	–	–																	●	●		
	VNGA160408T01025	T01025	35	9.525	4.76	–	0.8	–	–	–	–	–									●		●		●							
	VNGA160408X01015	X01015	35	9.525	4.76	–	0.8	–	–	–	–	–					●															
	VNGA160408X01015-10	X01015	35	9.525	4.76	–	0.8	–	–	–	–	–					●															
	VNGA160408Z02025	Z02025	35	9.525	4.76	–	0.8	–	–	–	–	–										●										
	VNGA160412BQT00520	T00520	35	9.525	4.76	–	1.2	–	–	–	–	–		●																			
	VNGA160412S02025	S02025	35	9.525	4.76	–	1.2	–	–	–	–	–												●								
	VNGA160412T01020	T01020	35	9.525	4.76	–	1.2	–	–	–	–	–																	●	●		
	VNGA160412T01025	T01025	35	9.525	4.76	–	1.2	–	–	–	–	–												●								
	VNGA160412X01015	X01015	35	9.525	4.76	–	1.2	–	–	–	–	–					●															
	VNGA160412X01015-10	X01015	35	9.525	4.76	–	1.2	–	–	–	–	–					●															
	VNGA160412Z02025	Z02025	35	9.525	4.76	–	1.2	–	–	–	–	–										●										
	VNGA220424T01020	T01020	35	12.7	4.76	–	2.4	–	–	–	–	–																			●	

VN.. series/Inserts CBN

VNGA

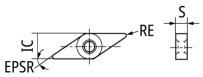


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

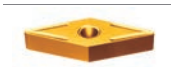
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36 PVD	B6K PVD	B40	B52	B5K PVD
	VNGA160401PQS01015	S01015	35	9.525	4.76	–	0.1	–	2.7	4	–								●	
	VNGA160401PQS01535	S01535	35	9.525	4.76	–	0.1	–	2.7	4	–							●		
	VNGA160402PDFNX	Up-sharp edge	35	9.525	4.76	–	0.2	–	2.6	2	–				●					
	VNGA160402PQFNX	Up-sharp edge	35	9.525	4.76	–	0.2	–	2.6	4	–				●					
	VNGA160402PQS01015	S01015	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQS01325	S01325	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQS01535	S01535	35	9.525	4.76	–	0.2	–	2.6	4	–					●		●	●	●
	VNGA160402PQT01020	T01020	35	9.525	4.76	–	0.2	–	2.6	4	–				●					
	VNGA160404PDFNX	Up-sharp edge	35	9.525	4.76	–	0.4	–	2.5	2	–				●					
	VNGA160404PQFNX	Up-sharp edge	35	9.525	4.76	–	0.4	–	2.5	4	–				●				●	
	VNGA160404PQS01015	S01015	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQS01325	S01325	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQS01535	S01535	35	9.525	4.76	–	0.4	–	2.5	4	–					●	●	●	●	●
	VNGA160404PQT01020	T01020	35	9.525	4.76	–	0.4	–	2.5	4	–				●					
	VNGA160408PDFNX	Up-sharp edge	35	9.525	4.76	–	0.8	–	1.6	2	–				●					
	VNGA160408PQFNX	Up-sharp edge	35	9.525	4.76	–	0.8	–	1.6	4	–				●				●	
	VNGA160408PQS01015	S01015	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQS01325	S01325	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQS01535	S01535	35	9.525	4.76	–	0.8	–	1.6	4	–					●	●	●	●	●
	VNGA160408PQT01020	T01020	35	9.525	4.76	–	0.8	–	1.6	4	–				●					
	VNGA160412PDFNX	Up-sharp edge	35	9.525	4.76	–	1.2	–	2.7	2	–				●					
	VNGA160412PQS01015	S01015	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQS01325	S01325	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQS01535	S01535	35	9.525	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	VNGA160412PQT01020	T01020	35	9.525	4.76	–	1.2	–	2.7	4	–				●					

VN.. series/Inserts Carbide

VN..

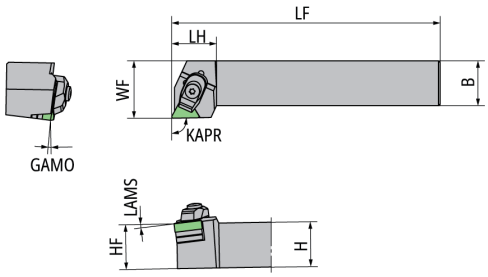


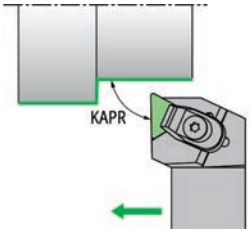
Steel	○ ● ● ● ● ● ● ● ●
Stainless Steel	● ○ ○ ○ ● ○ ● ●
Cast Iron	●
Non-Ferrous Material	○ ○ ●
Heat Resistant Alloy	● ○ ○
Hardened Material	○ ○ ○
Others (non-metallic)	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	VNGG160402FNZP	Up-sharp edge	35	9.525	4.76	–	0.2	–		●		●						
	VNGG160404FNZP	Up-sharp edge	35	9.525	4.76	–	0.4	–		●		●						
	VNGG160408FNZP	Up-sharp edge	35	9.525	4.76	–	0.8	–		●		●						
	VNMG160404G	–	35	9.525	4.76	–	0.4	–								●		
	VNMG160408G	–	35	9.525	4.76	–	0.8	–								●		
	VNMG160412G	–	35	9.525	4.76	–	1.2	–								●		
	VNMG160404T00525AM1	T00525	35	9.525	4.76	–	0.4	–		●		●						
	VNMG160408T00525AM1	T00525	35	9.525	4.76	–	0.8	–		●		●						

TN.. series/Toolholders

WTGN/TTGN Multi Clamp Toolholders





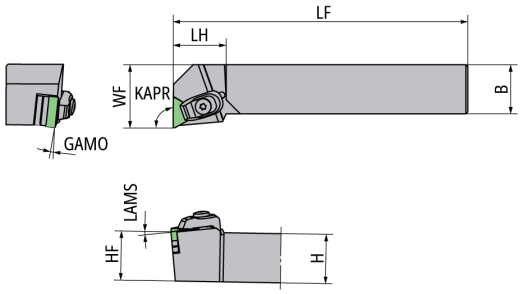
● Diagram shows right-hand tool

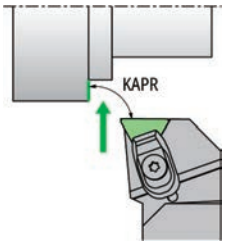
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5682976	**WTGNR2525M16**	●	R	25	6	25	25	91	6	150	25	32	TN..1604..	(TN..1607..)
5682984	**WTGNL2525M16**	●	L	25	6	25	25	91	6	150	25	32	TN..1604..	(TN..1607..)
5701826	**TTGNR2525M16**	●	R	25	6	25	25	91	6	150	25	32	TN..1604..	(TN..1607..)
5701834	**TTGNL2525M16**	●	L	25	6	25	25	91	6	150	25	32	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WTGNR2525M16	DC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
WTGNL2525M16	DC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
TTGNR2525M16	TC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
TTGNL2525M16	TC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D

WTFN/TTFN Multi Clamp Toolholders





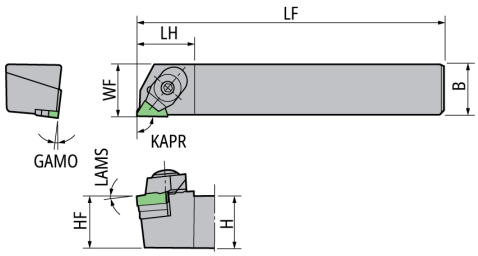
● Diagram shows right-hand tool

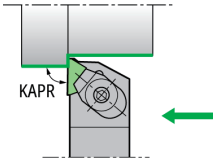
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5682992	**WTFNR2525M16**	●	R	25	6	25	25	91	6	150	27	32	TN..1604..	(TN..1607..)
5683008	**WTFNL2525M16**	●	L	25	6	25	25	91	6	150	27	32	TN..1604..	(TN..1607..)
5701859	**TTFNR2525M16**	●	R	25	6	25	25	91	6	150	27	32	TN..1604..	(TN..1607..)
5701867	**TTFNL2525M16**	●	L	25	6	25	25	91	6	150	27	32	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WTFNR2525M16	DC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
WTFNL2525M16	DC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
TTFNR2525M16	TC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D
TTFNL2525M16	TC5TN	ATN323	AOS-5*26W	FSS15-3.0*12	LLR-T15	LLR-T10	ASGL5-D

C21





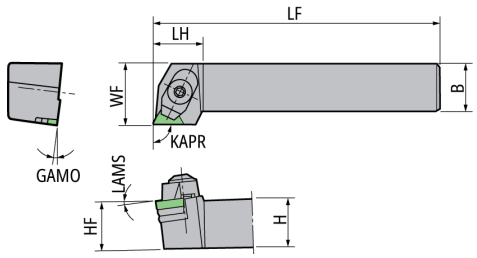
● Diagram shows right-hand tool

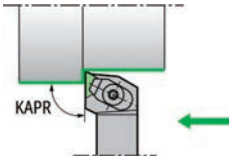
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538426	**C21R-33**	●	R	19	6	19	19	91	6	140	28	19	TN..1604..	–
5538442	**C21R-44**	●	R	25	6	25	25	91	6	160	28	25	TN..1604..	(TN..1607..)
5760558	**C21R-45**	●	R	25	6	32	32	91	6	160	28	25	TN..1604..	(TN..1607..)
5538434	**C21L-34**	●	L	19	6	25	25	91	6	160	28	19	TN..1604..	(TN..1607..)
5538459	**C21L-44**	●	L	25	6	25	25	91	6	160	28	25	TN..1604..	(TN..1607..)
5650411	**C21L-45**	●	L	25	6	32	32	91	6	160	28	25	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C21R-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C21R-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C21R-45	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C21L-34	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C21L-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C21L-45	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08

C22





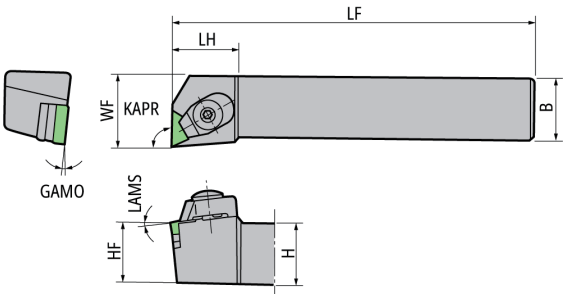
● Diagram shows right-hand tool

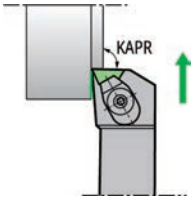
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538467	**C22R-33**	●	R	19	6	19	19	91	6	140	25	25	TN..1604..	–
5538483	**C22R-34**	●	R	19	6	25	25	91	6	160	25	25	TN..1604..	(TN..1607..)
5538491	**C22R-44**	●	R	25	6	25	25	91	6	160	25	30	TN..1604..	(TN..1607..)
5695630	**C22R-45**	●	R	25	6	32	32	91	6	160	25	30	TN..1604..	(TN..1607..)
5538475	**C22L-33**	●	L	19	6	19	19	91	6	140	25	25	TN..1604..	–
5538509	**C22L-44**	●	L	25	6	25	25	91	6	160	25	30	TN..1604..	(TN..1607..)
5692231	**C22L-45**	●	L	25	6	32	32	91	6	160	25	30	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C22R-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C22R-34	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C22R-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C22R-45	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C22L-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C22L-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C22L-45	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08

C25





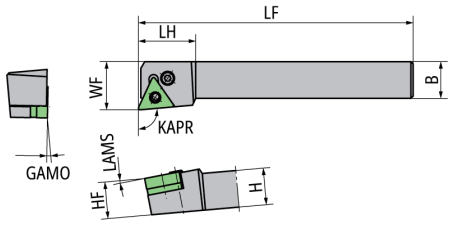
● Diagram shows right-hand tool

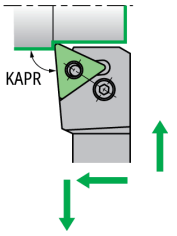
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538566	**C25R-33**	●	R	19	6	19	19	91	6	140	25	25	TN..1604..	–
5576954	**C25R-34**	●	R	19	6	25	25	91	6	160	25	25	TN..1604..	(TN..1607..)
5538582	**C25R-44**	●	R	25	6	25	25	91	6	160	28	30	TN..1604..	(TN..1607..)
5720875	**C25R-45**	●	R	25	6	32	32	91	6	160	28	30	TN..1604..	(TN..1607..)
5538574	**C25L-33**	●	L	19	6	19	19	91	6	140	25	25	TN..1604..	–
5538590	**C25L-44**	●	L	25	6	25	25	91	6	160	28	30	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C25R-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C25R-34	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C25R-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C25R-45	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C25L-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C25L-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08

PTLN





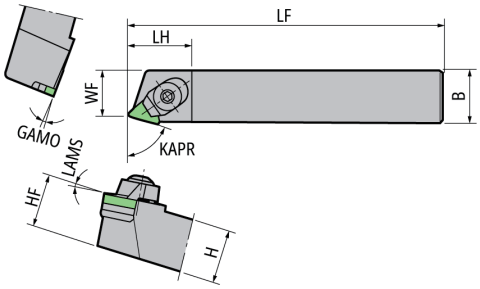
● Diagram shows right-hand tool

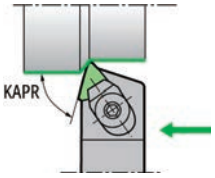
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5552336	**PTLNR2020L33**	●	R	20	6	20	20	95	6	140	25	25	TN..1604..
5552344	**PTLNL2020L33**	●	L	20	6	20	20	95	6	140	25	25	TN..1604..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp screw)	Clamp Pin	Spring
PTLNR2020L33	LST317	LCS3	LW-2.5	LCL3	LSP3
PTLNL2020L33	LST317	LCS3	LW-2.5	LCL3	LSP3

C23





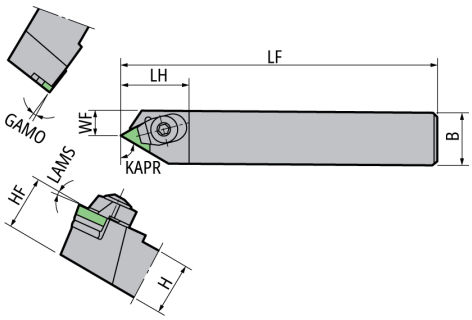
● Diagram shows right-hand tool

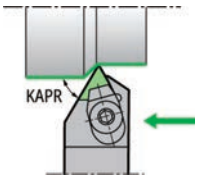
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538541	**C23R-33**	●	R	19	6	19	19	75	6	140	30	14.5	TN..1604..	–
5576939	**C23R-44**	●	R	25	6	25	25	75	6	160	30	20.5	TN..1604..	(TN..1607..)
5538558	**C23L-44**	●	L	25	6	25	25	75	6	160	30	20.5	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C23R-33	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C23R-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C23L-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08

C24





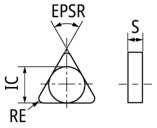
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage	
5538517	**C24R-34**	–	R	19	6	25	25	60	6	160	32	10.5	TN..1604..	(TN..1607..)
5538525	**C24R-44**	–	R	25	6	25	25	60	6	160	32	16.5	TN..1604..	(TN..1607..)
5538533	**C24L-44**	–	L	25	6	25	25	60	6	160	32	16.5	TN..1604..	(TN..1607..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C24R-34	CC08MS	ATN323	BS0829W	M3*12	LW-4	SR08
C24R-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08
C24L-44	CC08MS	ATN323	BS0835W	M3*12	LW-4	SR08

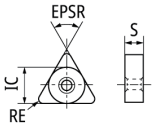
TNGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	TNGN110308T00525	T00525	60	6.35	3.18	–	0.8	–	–	–	–	–
	TNGN160304T01025	T01025	60	9.525	3.18	–	0.4	–	–	–	–	–
	TNGN160404T01025	T01025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGN160404Z02025	Z02025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGN160408S02025	S02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408T00820	T00820	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408T01020	T01020	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408T01025	T01025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408T02020	T02020	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408T02025	T02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160408Z02025	Z02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGN160412S02025	S02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412T00820	T00820	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412T01020	T01020	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412T01025	T01025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412T02020	T02020	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412T02025	T02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160412Z02025	Z02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGN160416T01020	T01020	60	9.525	4.76	–	1.6	–	–	–	–	–
	TNGN160416T01025	T01025	60	9.525	4.76	–	1.6	–	–	–	–	–
	TNGN160416T02020	T02020	60	9.525	4.76	–	1.6	–	–	–	–	–
	TNGN160416T02025	T02025	60	9.525	4.76	–	1.6	–	–	–	–	–
	TNGN160420T01025	T01025	60	9.525	4.76	–	2	–	–	–	–	–
	TNGN160420T02020	T02020	60	9.525	4.76	–	2	–	–	–	–	–
	TNGN160708T02025	T02025	60	9.525	7.94	–	0.8	–	–	–	–	–
	TNGN160712T02025	T02025	60	9.525	7.94	–	1.2	–	–	–	–	–
	TNGN220416T00520	T00520	60	12.7	4.76	–	1.6	–	–	–	–	–
	TNGN220716T00520	T00520	60	12.7	7.94	–	1.6	–	–	–	–	–

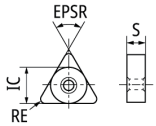
TNGA



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	TNGA160404S02025	S02025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404T01025	T01025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404X01015	X01015	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404X01015-10	X01015	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160404Z02025	Z02025	60	9.525	4.76	–	0.4	–	–	–	–	–
	TNGA160408S02025	S02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T01025	T01025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T02020	T02020	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408T02025	T02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408X01015	X01015	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408X01015-10	X01015	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160408Z02025	Z02025	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGA160412S02025	S02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T01025	T01025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T02020	T02020	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412T02025	T02025	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412X01015	X01015	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160412X01015-10	X01015	60	9.525	4.76	–	1.2	–	–	–	–	–
	TNGA160416T02025	T02025	60	9.525	4.76	–	1.6	–	–	–	–	–

TNGG-AG with chipbreaker

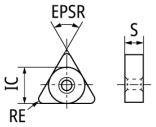


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	TNGG160408Z01030AG	Z01030	60	9.525	4.76	–	0.8	–	–	–	–	–
	TNGG160412Z01030AG	Z01030	60	9.525	4.76	–	1.2	–	–	–	–	–

TN.. series/Inserts CBN

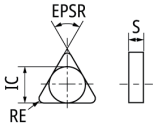
TNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TNGA160401PHFNX	Up-sharp edge	60	9.525	4.76	–	0.1	–	2.1	6	–								●	
	TNGA160401PHS01015	S01015	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01325	S01325	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01535	S01535	60	9.525	4.76	–	0.1	–	2.1	6	–							●	●	
	TNGA160402PHFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	6	–				●				●	
	TNGA160402PHS01015	S01015	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01325	S01325	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01535	S01535	60	9.525	4.76	–	0.2	–	2.2	6	–					●		●	●	●
	TNGA160402PTFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	3	–				●					
	TNGA160404PHFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	6	–								●	
	TNGA160404PHS01015	S01015	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01020	S01020	60	9.525	4.76	–	0.4	–	2	6	–			●						
	TNGA160404PHS01325	S01325	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01535	S01535	60	9.525	4.76	–	0.4	–	2	6	–				●	●	●	●	●	●
	TNGA160404PHT01020	T01020	60	9.525	4.76	–	0.4	–	2	6	–				●					
	TNGA160404PTFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	3	–				●					
	TNGA160408PHFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	6	–								●	
	TNGA160408PHS01015	S01015	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01020	S01020	60	9.525	4.76	–	0.8	–	1.7	6	–			●						
	TNGA160408PHS01325	S01325	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01535	S01535	60	9.525	4.76	–	0.8	–	1.7	6	–				●	●	●	●	●	●
	TNGA160408PHT01020	T01020	60	9.525	4.76	–	0.8	–	1.7	6	–				●					
	TNGA160408PTFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	3	–				●					
	TNGA160412PHFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	6	–				●				●	
	TNGA160412PHS01015	S01015	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01020	S01020	60	9.525	4.76	–	1.2	–	2.3	6	–			●						
	TNGA160412PHS01325	S01325	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01535	S01535	60	9.525	4.76	–	1.2	–	2.3	6	–				●	●	●	●	●	●
	TNGA160412PHT01020	T01020	60	9.525	4.76	–	1.2	–	2.3	6	–				●					
	TNGA160412PTFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	3	–				●					
	TNGA160416PHS01015	S01015	60	9.525	4.76	–	1.6	–	2.1	6	–						●		●	●
	TNGA160416PHS01325	S01325	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHS01535	S01535	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHT01020	T01020	60	9.525	4.76	–	1.6	–	2.1	6	–				●					
	TNGA220412PHS01015	S01015	60	12.7	4.76	–	1.2	–	2.3	6	–							●		
	TNGA220412PHS01535	S01535	60	12.7	4.76	–	1.2	–	2.3	6	–							●		

TNMN

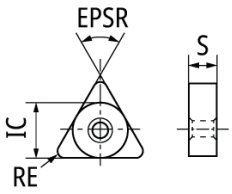


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TNMN110312ST01025	T01025	60	6.35	3.18	–	1.2	–	–	6	–	●								
	TNMN160408ST01025	T01025	60	9.525	4.76	–	0.8	–	–	6	–	●								
	TNMN160412ST01025	T01025	60	9.525	4.76	–	1.2	–	–	6	–	●								
	TNMN160412ST02025	T02025	60	9.525	4.76	–	1.2	–	–	6	–	●								

TN.. series/Inserts PCD / Diamond Coating

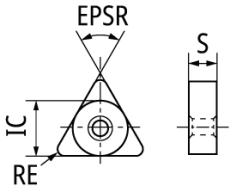
TNMX



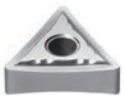
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	TNMX160404PF	Up-sharp edge	60	9.525	4.76	–	0.4	1		●	
	TNMX160408PF	Up-sharp edge	60	9.525	4.76	–	0.8	1		●	

TNMG

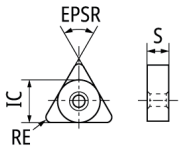


Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**TNMG160402FNZP**	Up-sharp edge	60	9.525	4.76	–	0.2	6			●
	TNMG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	6			●
	TNMG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	6			●

TN.. series/Inserts Carbide

TN..

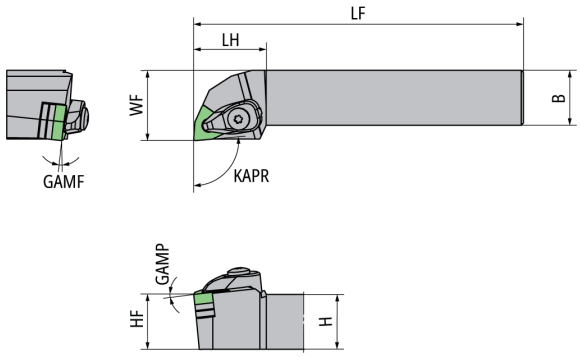


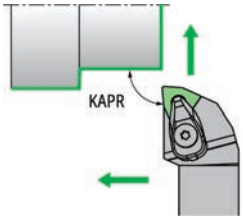
Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TNGG160401MFNUL	Up-sharp edge	60	9.525	4.76	–	0.1	–	●	●		●	●					
	TNGG160402MFNUL	Up-sharp edge	60	9.525	4.76	–	0.2	–	●	●		●	●					
	TNGG160404MFNUL	Up-sharp edge	60	9.525	4.76	–	0.4	–	●	●		●	●					
	TNGG160408MFNUL	Up-sharp edge	60	9.525	4.76	–	0.8	–	●	●		●	●					
	TNGG160402FNZP	Up-sharp edge	60	9.525	4.76	–	0.2	–		●		●	●	●	●			
	TNGG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	–		●		●	●	●	●			
	TNGG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	–		●		●		●	●			
	TNMG160408G	–	60	9.525	4.76	–	0.8	–								●		
	TNMG160412G	–	60	9.525	4.76	–	1.2	–								●		
	TNMG160404T00525Z5	T00525	60	9.525	4.76	–	0.4	–		●		●						
	TNMG160408T00525Z5	T00525	60	9.525	4.76	–	0.8	–		●		●						
	TNEG160402FLD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160402FRD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160404FLD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160404FRD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160408FLD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNEG160408FRD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNGG160401FRU2	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			
	TNGG160402FLU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160402FRU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160404FLU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160404FRU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160408FLU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160408FRU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160402FRC	Up-sharp edge	60	9.525	4.76	–	0.2	–							●			
	TNGG160401FRDA	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			

WN.. series/Toolholders

WWLN Multi Clamp Toolholders





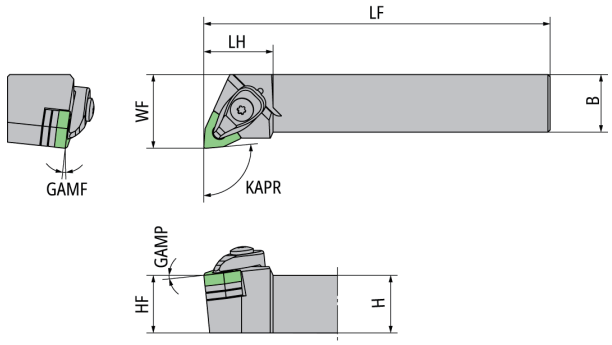
● Diagram shows right-hand tool

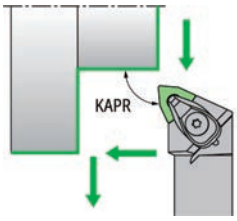
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5683016	**WWLNR2525M08**	●	R	25	6	6	25	25	95	150	33	32	WN..0804..	(WN..0807..)
5683024	**WWLNL2525M08**	●	L	25	6	6	25	25	95	150	33	32	WN..0804..	(WN..0807..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WWLNR2525M08	DC6CN	AWN423-W	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D
WWLNL2525M08	DC6CN	AWN423-W	AOS-6*30W	FSS15-3.0*12	LLR-T20	LLR-T10	ASGL6-D

WWLN-2 Multi Clamp Toolholders





● Diagram shows right-hand tool

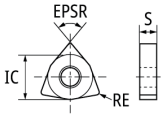
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage	
5701578	**WWLNR2525M08-2**	●	R	25	6	6	25	25	95	150	30	32	WN..0804..	(WN..0807..)
5701586	**WWLNL2525M08-2**	●	L	25	6	6	25	25	95	150	30	32	WN..0804..	(WN..0807..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
WWLNR2525M08-2	DC6CN	AWN423-W	AOS-6*30W	FSS18-3.0*14	LLR-T20	LLR-T10	ASGL6-D
WWLNL2525M08-2	DC6CN	AWN423-W	AOS-6*30W	FSS18-3.0*14	LLR-T20	LLR-T10	ASGL6-D

WN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

WNGA

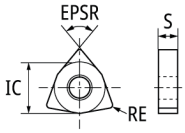


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel								●	●	●		●							○	○
Stainless Steel													○	○	○	○	●	●		
Cast Iron													●	●	●	●			●	●
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●																
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	WNGA080408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–
	WNGA080408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–
	WNGA080408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–
	WNGA080412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–
	WNGA080412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–
	WNGA080412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–
	WNGA080416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–

WN.. series/Inserts Carbide

WN..

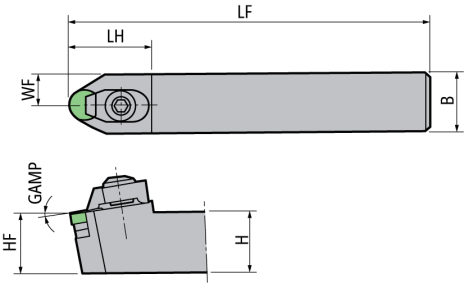


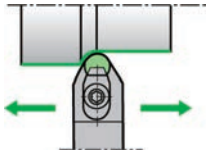
	PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm
	WNGG080404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–
	WNGG080408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–
	WNGG080404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–
	WNGG080408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–
	WNMG080408T00525Z5	T00525	80	12.7	4.76	–	0.8	–
	WNMG080412T00525Z5	T00525	80	12.7	4.76	–	1.2	–
	WNMG080408G	–	80	12.7	4.76	–	0.8	–
	WNMG080412G	–	80	12.7	4.76	–	1.2	–

RN.. series/Toolholders

CRDN



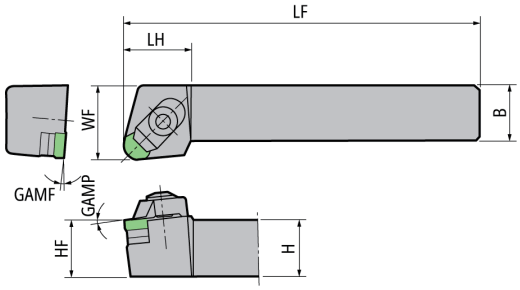


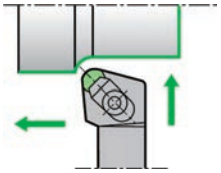
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5700323	**CRDNN2525M12**	●	N	25	6	25	25	150	34	12.5	RN..1204..	(RN..1207..)
5700331	**CRDNN3225P12**	●	N	25	6	32	32	170	34	12.5	RN..1204..	(RN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CRDNN2525M12	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08
CRDNN3225P12	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08

CRGN





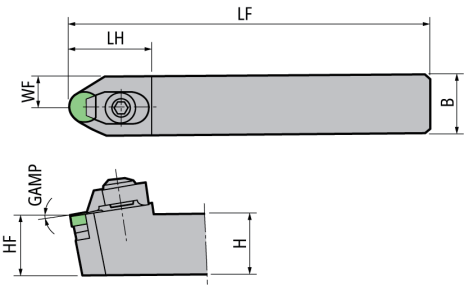
● Diagram shows right-hand tool

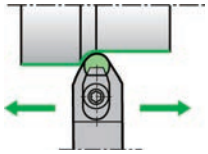
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5829395	**CRGNR3225P12**	●	R	25	6	6	32	32	170	30	32	RN..1204..	(RN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
CRGNR3225P12	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08

C54



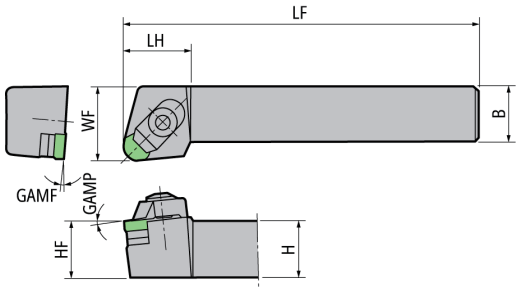


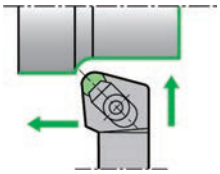
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5538392	**C54M-44**	●	N	25	8	25	25	160	33	12.5	RN..1204..	(RN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C54M-44	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08

C55





● Diagram shows right-hand tool

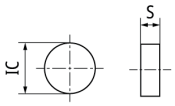
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5538400	**C55R-33**	●	R	19	6	6	19	19	140	30	28	RN..1204..	–
5573027	**C55R-44**	●	R	25	6	6	25	25	160	30	30	RN..1204..	(RN..1207..)
5768221	**C55R-45**	●	R	25	6	6	32	32	160	30	30	RN..1204..	(RN..1207..)
5538418	**C55L-44**	●	L	25	6	6	25	25	160	30	30	RN..1204..	(RN..1207..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Snap
C55R-33	CC08M	ARN42	BS0829W	M3*12	LW-4	SR08
C55R-44	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08
C55R-45	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08
C55L-44	CC08M	ARN42	BS0835W	M3*12	LW-4	SR08

RN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

RNGN

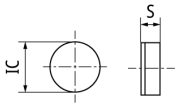


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	RNGN120400S02025	S02025	–	12.7	4.76	–	–	–	–	–	–	–												●							
	RNGN120400T00520	T00520	–	12.7	4.76	–	–	–	–	–	–	–													●						●	
	RNGN120400T00525	T00525	–	12.7	4.76	–	–	–	–	–	–	–																●			●	
	RNGN120400T00820	T00820	–	12.7	4.76	–	–	–	–	–	–	–																				●
	RNGN120400T01020	T01020	–	12.7	4.76	–	–	–	–	–	–	–																●			●	
	RNGN120400T01025	T01025	–	12.7	4.76	–	–	–	–	–	–	–								●				●								
	RNGN120400T02020	T02020	–	12.7	4.76	–	–	–	–	–	–	–																	●			
	RNGN120400T02025	T02025	–	12.7	4.76	–	–	–	–	–	–	–																●				
	RNGN120400Z02025	Z02025	–	12.7	4.76	–	–	–	–	–	–	–									●											
	RNGN120700E002	E002	–	12.7	7.94	–	–	–	–	–	–	–																●				
	RNGN120700E004	E004	–	12.7	7.94	–	–	–	–	–	–	–			●	●									●		●					
	RNGN120700E007	E007	–	12.7	7.94	–	–	–	–	–	–	–								●												
	RNGN120700K20015	K20015	–	12.7	7.94	–	–	–	–	–	–	–											★									★
	RNGN120700S02025	S02025	–	12.7	7.94	–	–	–	–	–	–	–												●								
	RNGN120700T00520	T00520	–	12.7	7.94	–	–	–	–	–	–	–													●				●		●	
	RNGN120700T00525	T00525	–	12.7	7.94	–	–	–	–	–	–	–																●			●	
	RNGN120700T00820	T00820	–	12.7	7.94	–	–	–	–	–	–	–			●	●											●					●
	RNGN120700T01020	T01020	–	12.7	7.94	–	–	–	–	–	–	–																			●	
	RNGN120700T02025	T02025	–	12.7	7.94	–	–	–	–	–	–	–								●				●								
	RNGN120700Z01520	Z01520	–	12.7	7.94	–	–	–	–	–	–	–																			●	
	RNGN120700Z02025	Z02025	–	12.7	7.94	–	–	–	–	–	–	–									●											
	RNGN150700T00520	T00520	–	15.875	7.94	–	–	–	–	–	–	–																●				
	RNGN150700T00525	T00525	–	15.875	7.94	–	–	–	–	–	–	–																●			●	
	RNGN150700T00820	T00820	–	15.875	7.94	–	–	–	–	–	–	–																				●
	RNGN190700K20015	K20015	–	19.05	7.94	–	–	–	–	–	–	–																				●
	RNGN190700T00520	T00520	–	19.05	7.94	–	–	–	–	–	–	–																●				
	RNGN190700T00525	T00525	–	19.05	7.94	–	–	–	–	–	–	–																●				
	RNGN190700T00820	T00820	–	19.05	7.94	–	–	–	–	–	–	–																				●
	RNGN190700T01020	T01020	–	19.05	7.94	–	–	–	–	–	–	–																			●	
	RNGN250700T00520	T00520	–	25.4	7.94	–	–	–	–	–	–	–																●			●	
	RNGN250700T00820	T00820	–	25.4	7.94	–	–	–	–	–	–	–																				●

RN.. series/Inserts CBN

RN.N

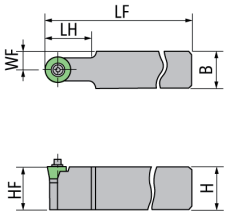


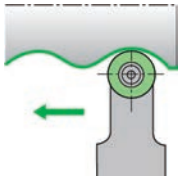
												CBN								
Steel																				
Stainless Steel																				
Cast Iron												●	●	●	●			○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material																●	●	●	●	●
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	RNMN120300ST01025	T01025	–	12.7	3.18	–	–	–	–	–	–	●								
	RNMN120400ST01025	T01025	–	12.7	4.76	–	–	–	–	–	–	●								
	RNGN120400S	Z01015	–	12.7	4.76	–	–	–	–	–	–		●							

CDH.. series/Toolholders

HRCD





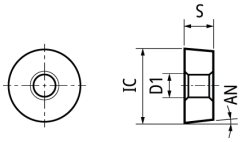
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	Insert Gage
5454921	**HRCD-22**	●	N	50	50	50	300	30	CDH1207..
5144274	**HRCD-33**	●	N	50	50	50	300	50	CDH1909..

Spare Parts

Item Number	Shim	Clamp screw	Wrench (for Clamp screw)	Washer
HRCD-22	HACDH22	CS0316	LW-2.5	W120
HRCD-33	HACDH33	CS0625	LW-5	W110

CDH.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

CDH

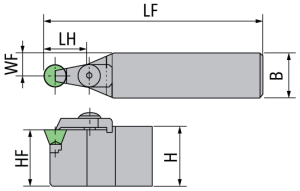


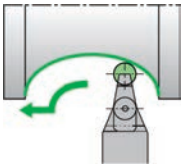
	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics							Whisker Ceramics	
	PVD	PVD			PVD							PVD					CVD			
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	Metric		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	CDH1207P07010	P07010	–	12.7	6.35	6	–	3.18	–	–	–	–
	CDH1909P15015	P15015	–	19.05	9.52	6	–	6.35	–	–	–	–

RCGX/RPGX.. series/Toolholders

CRDC





EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	Insert Gage
5911557	**CRDCN3225P06**	●	N	25	32	32	170	20	RCGX0607../RPGX0607..
5829528	**CRDCN3225P09**	●	N	25	32	32	170	20	RCGX0907../RPGX0907..
5829510	**CRDCN3225P12**	●	N	25	32	32	170	25	RCGX1207../RPGX1207..

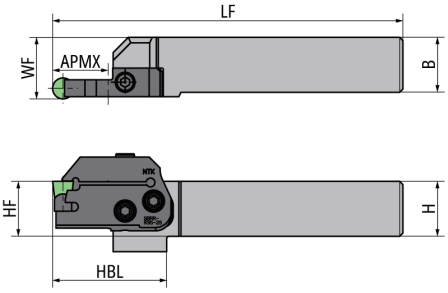
Spare Parts

Item Number	Clamp	Shim	Clamp screw	Wrench (for Clamp screw)	Washer	Spring pin
CRDCN3225P06	HC35KR-4099	HARCGX06	BS0520	LW-3	WS-5	–
CRDCN3225P09	HC35KR-6075	HARCGX0908V	BS0625	LW-4	WS-6	2*8AW
CRDCN3225P12	HC35KR-6076	HARCGX1208V	BS0625	LW-4	WS-6	2.5*8AW

SCRUM DUO BLADE

RCGX/RPGX.. series/Straight style toolholder

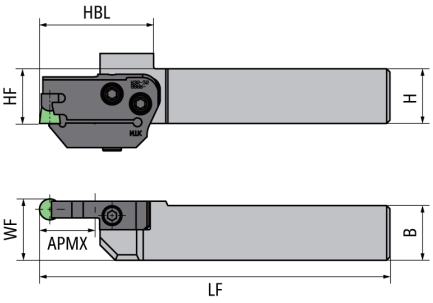
GTWPR



● Diagram shows right-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBRR-R23-19	●	RCGX0604 RPGX0604	19	GTWPR2020-H	130.1	51.1	23	20	20	20
				GTWPR2525-H	155.1	47.1	28	25	25	25
				GTWPR3232-H	175.1	-	35	32	32	32
GBRR-R35-25	●	RCGX0907 RPGX0907	25.4	GTWPR2020-H	135.2	56.2	23	20	20	20
				GTWPR2525-H	160.2	52.2	28	25	25	25
				GTWPR3232-H	180.2	-	35	32	32	32
GBRR-R45-28	●	RCGX1207 RPGX1207	28.5	GTWPR2020-H	137.7	58.7	23	20	20	20
				GTWPR2525-H	162.7	54.7	28	25	25	25
				GTWPR3232-H	182.7	-	35	32	32	32

GTWPL



● Diagram shows left-hand tool

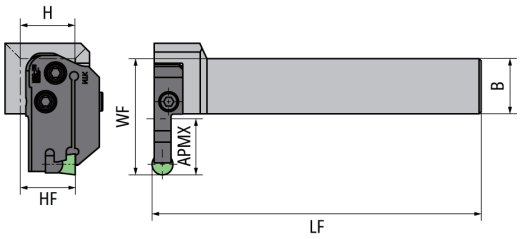
Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBRL-R23-19	●	RCGX0604 RPGX0604	19	GTWPL2020-H	130.1	51.1	23	20	20	20
				GTWPL2525-H	155.1	47.1	28	25	25	25
				GTWPL3232-H	175.1	-	35	32	32	32
GBRL-R35-25	●	RCGX0907 RPGX0907	25.4	GTWPL2020-H	135.2	56.2	23	20	20	20
				GTWPL2525-H	160.2	52.2	28	25	25	25
				GTWPL3232-H	180.2	-	35	32	32	32
GBRL-R45-28	●	RCGX1207 RPGX1207	28.5	GTWPL2020-H	137.7	58.7	23	20	20	20
				GTWPL2525-H	162.7	54.7	28	25	25	25
				GTWPL3232-H	182.7	-	35	32	32	32

Spare Parts

Blade Number	Clamp screw
GBRR-R23-19	CS0515
GBRR-R35-25	CS0515
GBRR-R45-28	CS0615
GBRL-R23-19	CS0515
GBRL-R35-25	CS0515
GBRL-R45-28	CS0615

RCGX/RPGX.. series/L-style toolholder

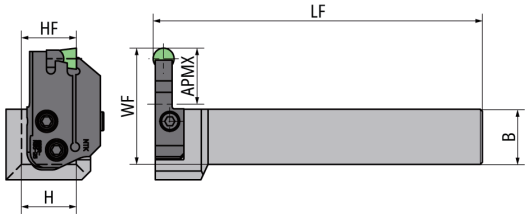
GKWPR



● Diagram shows right-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBRL-R23-19	●	RCGX0604 RPGX0604	19	GKWPR2020-H	125	-	42.6	20	20	20
				GKWPR2525-H	150	-	47.6	25	25	25
				GKWPR3232-H	170	-	54.6	32	32	32
GBRL-R35-25	●	RCGX0907 RPGX0907	25.4	GKWPR2020-H	125	-	47.7	20	20	20
				GKWPR2525-H	150	-	52.7	25	25	25
				GKWPR3232-H	170	-	59.7	32	32	32
GBRL-R45-28	●	RCGX1207 RPGX1207	28.5	GKWPR2020-H	125	-	50.2	20	20	20
				GKWPR2525-H	150	-	55.2	25	25	25
				GKWPR3232-H	170	-	62.2	32	32	32

GKWPL



● Diagram shows left-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBRR-R23-19	●	RCGX0604 RPGX0604	19	GKWPL2020-H	125	-	42.6	20	20	20
				GKWPL2525-H	150	-	47.6	25	25	25
				GKWPL3232-H	170	-	54.6	32	32	32
GBRR-R35-25	●	RCGX0907 RPGX0907	25.4	GKWPL2020-H	125	-	47.7	20	20	20
				GKWPL2525-H	150	-	52.7	25	25	25
				GKWPL3232-H	170	-	59.7	32	32	32
GBRR-R45-28	●	RCGX1207 RPGX1207	28.5	GKWPL2020-H	125	-	50.2	20	20	20
				GKWPL2525-H	150	-	55.2	25	25	25
				GKWPL3232-H	170	-	62.2	32	32	32

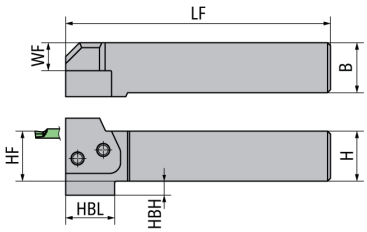
Spare Parts

Blade Number	Clamp screw
GBRL-R23-19	CS0515
GBRL-R35-25	CS0515
GBRL-R45-28	CS0615
GBRR-R23-19	CS0515
GBRR-R35-25	CS0515
GBRR-R45-28	CS0615

SCRUM DUO BLADE

RCGX/RPGX.. series/Toolholders

GTWP-H Straight style toolholder



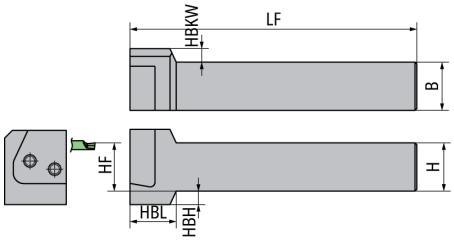
● Diagram shows right-hand tool

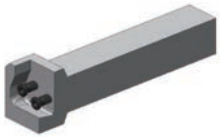
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBL mm	HF mm	LF mm	Insert Gage
5923784	**GTWPR2020-H**	●	R	20	20	8	28.5	20	107.5	GWPFM../VGW../RCGX../RPGX..
5923800	**GTWPR2525-H**	●	R	25	25	7	24.5	25	132.5	GWPFM../VGW../RCGX../RPGX..
5963657	**GTWPR3232-H**	●	R	32	32	–	–	32	152.5	GWPFM../VGW../RCGX../RPGX..
5923792	**GTWPL2020-H**	●	L	20	20	8	28.5	20	107.5	GWPFM../VGW../RCGX../RPGX..
5923818	**GTWPL2525-H**	●	L	25	25	7	24.5	25	132.5	GWPFM../VGW../RCGX../RPGX..
5963673	**GTWPL3232-H**	●	L	32	32	–	–	32	152.5	GWPFM../VGW../RCGX../RPGX..

Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GTWPR2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPL2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4

GKWP-H L-style toolholder





● Diagram shows right-hand tool

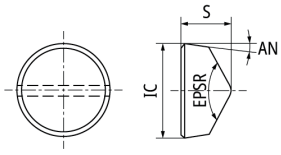
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBKW mm	HBL mm	HF mm	LF mm	Insert Gage
5923826	**GKWPR2020-H**	●	R	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923842	**GKWPR2525-H**	●	R	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963681	**GKWPR3232-H**	●	R	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..
5923834	**GKWPL2020-H**	●	L	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923859	**GKWPL2525-H**	●	L	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963699	**GKWPL3232-H**	●	L	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..

Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GKWPR2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPL2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4

RCGX/RPGX.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

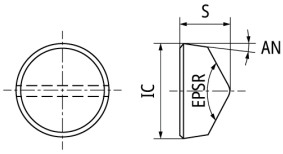
RCGX



Steel																																	
Stainless Steel																																	
Cast Iron														●	●	●		●			○	○	○	○	●	●	○		○				
Non-Ferrous Material																																	
Heat Resistant Alloy													●	●	●	●					●	●	●	●			●		●				
Hardened Material																●		○	●		●	●											
Others (non-metallic)																																	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD							PVD					CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	RCGX060400T00520	T00520	120	6.35	4.76	7	–	–	–	–	–	–																			●	●
	RCGX060400T00820	T00820	120	6.35	4.76	7	–	–	–	–	–	–			●	●																
	RCGX060400T02020	T02020	120	6.35	4.76	7	–	–	–	–	–	–											★									★
	RCGX060600P07015	P07015	120	6.35	6.35	7	–	–	–	–	–	–																				★
	RCGX060700T00520	T00520	120	6.35	7.94	7	–	–	–	–	–	–																			●	
	RCGX090700E004	E004	120	9.525	7.94	7	–	–	–	–	–	–			●	●																
	RCGX090700K20015	K20015	120	9.525	7.94	7	–	–	–	–	–	–											★									★
	RCGX090700P07015	P07015	120	9.525	7.86	7	–	–	–	–	–	–									●											
	RCGX090700T00520	T00520	120	9.525	7.94	7	–	–	–	–	–	–													●			●			●	
	RCGX090700T00525	T00525	120	9.525	7.86	7	–	–	–	–	–	–																●			●	
	RCGX090700T00820	T00820	120	9.525	7.94	7	–	–	–	–	–	–			●	●																●
	RCGX090700T01020	T01020	120	9.525	7.94	7	–	–	–	–	–	–																			●	
	RCGX120700E004	E004	120	12.7	7.94	7	–	–	–	–	–	–			●	●																
	RCGX120700K20015	K20015	120	12.7	7.94	7	–	–	–	–	–	–											★									★
	RCGX120700P15015	P15015	120	12.7	7.94	7	–	–	–	–	–	–									●											
	RCGX120700T00520	T00520	120	12.7	7.94	7	–	–	–	–	–	–													●			●			●	
	RCGX120700T00525	T00525	120	12.7	7.94	7	–	–	–	–	–	–																●				
	RCGX120700T00820	T00820	120	12.7	7.94	7	–	–	–	–	–	–			●	●																●
	RCGX120700T01020	T01020	120	12.7	7.94	7	–	–	–	–	–	–																			●	
	RCGX120700Z01520	Z01520	120	12.7	7.94	7	–	–	–	–	–	–																			●	

RPGX

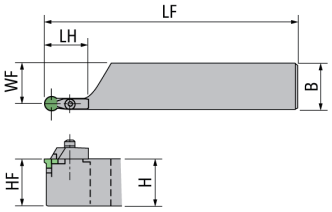


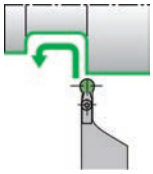
Steel																																	
Stainless Steel																																	
Cast Iron														●	●	●		●			○	○	○	○	●	●	○		○				
Non-Ferrous Material																																	
Heat Resistant Alloy													●	●	●	●					●	●	●	●			●		●				
Hardened Material																●		○	●		●	●											
Others (non-metallic)																																	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD							PVD					CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	RPGX060400T00520	T00520	120	6.35	4.76	11	–	–	–	–	–	–																			●	
	RPGX090700E004	E004	120	9.525	7.94	11	–	–	–	–	–	–			●	●																
	RPGX090700T00520	T00520	120	9.525	7.94	11	–	–	–	–	–	–													●			●			●	
	RPGX090700T00820	T00820	120	9.525	7.94	11	–	–	–	–	–	–			●	●											●					●
	RPGX090800T00525	T00525	120	9.525	7.86	11	–	–	–	–	–	–																●				
	RPGX120700E004	E004	120	12.7	7.94	11	–	–	–	–	–	–			●	●																
	RPGX120700T00520	T00520	120	12.7	7.94	11	–	–	–	–	–	–													●			●			●	
	RPGX120700T00525	T00525	120	12.7	7.94	11	–	–	–	–	–	–																●				
	RPGX120700T00820	T00820	120	12.7	7.94	11	–	–	–	–	–	–			●	●											●					●
	RPGX120700T01020	T01020	120	12.7	7.94	11	–	–	–	–	–	–																			●	

RCGY.. series/Toolholders

CRXC





● Diagram shows right-hand tool

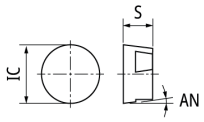
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
5981469	**CRXCR3232P09Y**	●	R	32	32	32	170	28	32.7	RCGY0906..
5981188	**CRXCR3232P12Y**	●	R	32	32	32	170	38	32.7	RCGY1206..

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Spring	Washer
CRXCR3232P09Y	CRN4	HAR09Y	CS0425	M2*8	LW-3	ASGL4	WS-4
CRXCR3232P12Y	CRN5	HAR12Y	CS0525	M3*8	LW-4	ASGL5	WS-5

RCGY.. series/Inserts BIDEMICS / Ceramics

RCGY

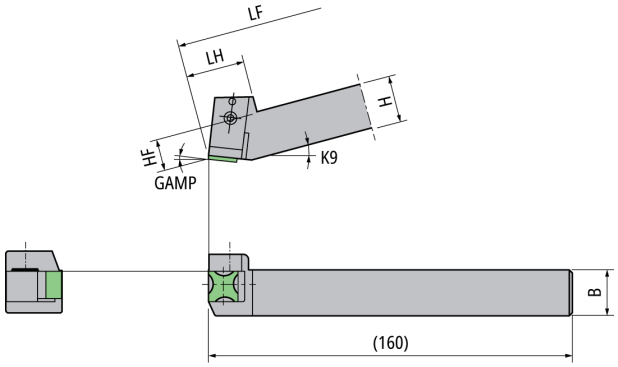


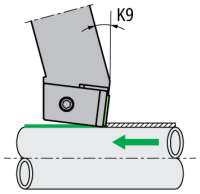
	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	RCGY090603T00525	T00525	–	9.525	6.35	7	–	–	–	–	–	–
	RCGY120603T00525	T00525	–	12.7	6.35	7	–	–	–	–	–	–

TSN.. series/Toolholders

HN..ATS





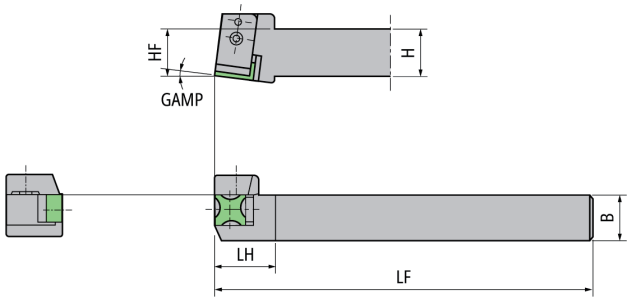
● Diagram shows left-hand(60) tool

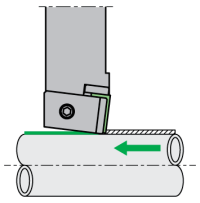
EDP	Item Number	Stock	Hand	B	GMAP	H	HF	K9	LF	LH	Insert Gage	
				mm	°	mm	mm	°	mm	mm		
–	**HN59ATS-33E**	–	R	19	7	19	12.5	15	160	26	TSN1207..	TSN45..
5350574	**HN59ATS-44E**	●	R	25	7	25	18.5	15	160	26	TSN1207..	TSN45..
–	**HN59ATS-44E-5**	–	R	25	7	25	18.5	15	160	26	TSN1507..	TSN55..
–	**HN60ATS-33E**	–	L	19	7	19	12.5	15	160	26	TSN1207..	TSN45..
–	**HN60ATS-44E**	–	L	25	7	25	18.5	15	160	26	TSN1207..	TSN45..
–	**HN60ATS-44E-5**	–	L	25	7	25	18.5	15	160	26	TSN1507..	TSN55..

Spare Parts

Item Number	Clamp	Shim	Shim	Clamp screw	Screw (for Shim)	Screw (for Shim)	Wrench (for Clamp screw)
HN59ATS-33E	HC59TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN59ATS-44E	HC59TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN59ATS-44E-5	HC59TS-4	ASN522	HAZT1255A	WS0620	M3*8	M4*5.5	LW-3
HN60ATS-33E	HC60TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN60ATS-44E	HC60TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN60ATS-44E-5	HC60TS-4	ASN522	HAZT1255A	WS0620	M3*8	M4*5.5	LW-3

HN..BTS





● Diagram shows left-hand(60) tool

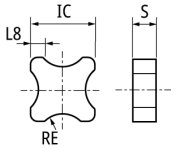
EDP	Item Number	Stock	Hand	B	GMAP	H	HF	LF	LH	Insert Gage	
				mm	°	mm	mm	mm	mm		
–	**HN59BTS-44E**	–	R	25	7	25	25	160	25	TSN1207..	TSN45..
–	**HN59BTS-44E-5**	–	R	25	7	25	25	160	25	TSN1507..	TSN55..
–	**HN60BTS-33E**	–	L	19	7	19	19	160	25	TSN1207..	TSN45..
–	**HN60BTS-44E**	–	L	25	7	25	25	160	25	TSN1207..	TSN45..
–	**HN60BTS-44E-5**	–	L	25	7	25	25	160	25	TSN1507..	TSN55..

Spare Parts

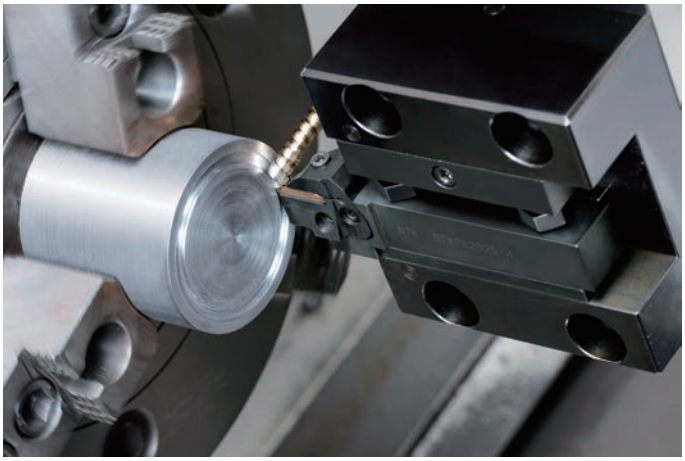
Item Number	Clamp	Shim	Shim	Clamp screw	Screw (for Shim)	Screw (for Shim)	Wrench (for Clamp screw)
HN59BTS-44E	HC59TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN59BTS-44E-5	HC59TS-4	ASN522	HAZT1255A	WS0620	M3*8	M4*5.5	LW-3
HN60BTS-33E	HC60TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN60BTS-44E	HC60TS-4	ASN423	AZT659D	WS0620	M3*5.5	M3*8	LW-3
HN60BTS-44E-5	HC60TS-4	ASN522	HAZT1255A	WS0620	M3*8	M4*5.5	LW-3

TSN.. series/Inserts Ceramics

TSN



Item Number	IC	RE	S	L8	Alumina Ceramics	
	mm	mm	mm	mm	CX3	HC1
TSN1207-10	12.7	10	7.94	2.1	■	●
TSN1207-12	12.7	12	7.94	2.1	■	●
TSN1207-14	12.7	14	7.94	2.1	■	●
TSN1207-16	12.7	16	7.94	2.1	■	●
TSN1207-18	12.7	18	7.94	2.1	■	●
TSN1207-20	12.7	20	7.94	2.1	■	●
TSN1207-25	12.7	25	7.94	2.1	■	●
TSN1207-30	12.7	30	7.94	2.1	■	●
TSN1207-35	12.7	35	7.94	2.1	■	●
TSN1207-40	12.7	45	7.94	2.1	■	●
TSN1207-50	12.7	50	7.94	2.1	■	●
TSN1507-20	15.875	20	7.94	3.2	■	●
TSN1507-25	15.875	25	7.94	3.2	■	●
TSN1507-30	15.875	30	7.94	3.2	■	●
TSN1507-35	15.875	35	7.94	3.2	■	●
TSN1507-40	15.875	40	7.94	3.2	■	●
TSN1507-45	15.875	45	7.94	3.2	■	●



Grooving / Side-Turning

Product Lines F02

Recommended Cutting Conditions F03

General Information F04

OD Grooving F05

- GTMT/GTMA.. series F05
- GWPG(M).. series F08
- VGW.. series F11
- GEV/GTV.. series F15
- TWG.. series F18

ID Grooving F19

- GEV.. series F19
- TWG.. series F20

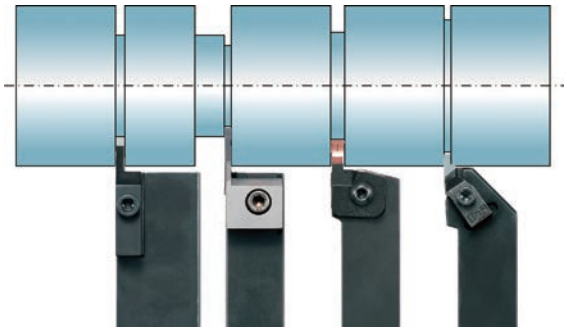
Face Grooving F21

- GWPFM.. series F21
- GFV.. series F27

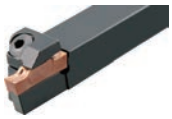
POLY-V Grooving F29

- PTM.. series F29

Product Lines

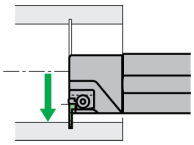


OD Grooving

Insert	GWPG / GWPM →F10		GTMA43 / GTMT43 →F7		TWG →F18	GTV/GEV →F17	
	GTWP	GKWP	NGTN(B)	NGTA	TWG	GTV	GKV
Holder	 →F8	→F9	→F5	→F6	→F18	→F15	→F16
Blade width	3.0-6.0mm	3.0-6.0mm	1.45-5.5mm		2.0-3.0mm	3.0-8.0mm	3.0-8.0mm
Depth of cut	-25.0mm	-12.0mm	4.50mm		-3.0mm	11.0mm	-11.0mm

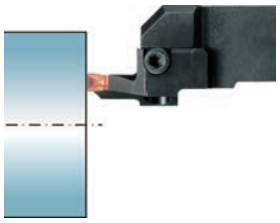
Insert	VGW / VGW..R →F14		PTM.. →F29
	GTWP-H	GKWP-H	POLY-V
Holder	→F11	→F12	→F29
Blade width	3.18-9.525mm	3.18-9.525mm	
Depth of cut	-28.5mm	-28.5mm	

ID Grooving



Insert	GEV →F19	TWG →F20
	GKV	TWG
Holder	→F19	→F20
Blade width	3.0-3.5mm	2.0-3.0mm
Depth of cut	-9.5mm	-3.0mm
Min bore Dia.	-55.0mm	-46.0mm

Face Grooving



Insert	GWPFM →F26		GFV →F28	
	GTWP-H	GKWP-H	GFV	GSV
Holder	→F21	→F23	→F27	→F27
Blade width	3.0-6.0mm		6.0mm	
Depth of cut	-15.0mm		6.0mm	
Min bore Dia.	29.0mm-		38.0mm	

Recommended Cutting Conditions

GTMT / GTMA

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100		45 90 180	45 90 150	
Feed Rate (mm/rev) A. Grooving B. Side turning ※	Width 0.25~0.5	A. 0.005 - 0.03							
		B. 0.002 - 0.005							
	0.5~1.0	A. 0.05 - 0.06							A. 0.02 - 0.07
		B. 0.005 - 0.01							B. 0.005 - 0.01
	1.0~2.0	A. 0.03 - 0.07							A. 0.03 - 0.08
		B. 0.02 - 0.05							B. 0.03 - 0.06
	> 2.0	A. 0.03 - 0.2							
		B. 0.03 - 0.06							

※When side turning, Max. DOC is under

- MAX 0.2mm CSV/GTPS
- MAX 2.0mm GTMH/GTMX/GTMT/GTMA
- MAX 0.1mm SBG/GTG

Under 0.4mm width - side turning impossible.

GWPG / GWPM / GTV / GEV / TWG / GFV / GWPFM

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	QM3						
	2nd choice							
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100	45 90 180	45 90 150	
Feed Rate (mm/rev) A. Grooving B. Side turning *	Width 3.0~4.0	A. 0.05 - 0.15						
	4.0~5.0	A. .0.1 - 0.2					A. 0.1 - 0.25	
							B. 0.15 - 0.3	
	> 5.0	A. 0.15 - 0.35						

*Max DOC when side turning
Groove width x 0.5mm

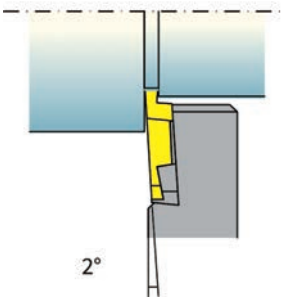
GWPFM

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4						
	2nd choice							
Cutting Speed (m/min)		20 40 65	30 55 80		70 90 150	70 150 200	70 120 170	
Feed Rate (mm/rev)		0.05 0.1 0.2			0.07 0.1 0.2	0.05 0.1 0.2	0.07 0.1 0.2	

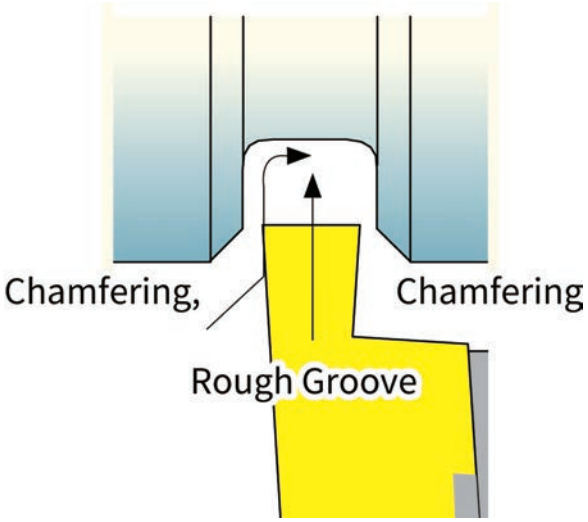
●No step feed

※When side turining, Max. DOC
Roughing 0.2 - 0.5mm
Finishing 1.0 - 3.0mm

General Information



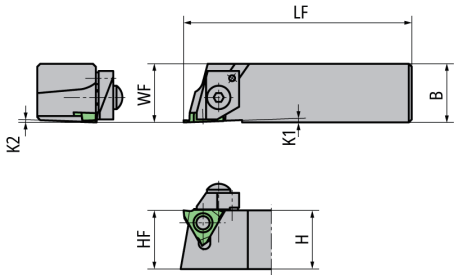
GTMT / GTMH series can be used for uneven diameter grooving thanks to the 2 degree mounting angle designed on the toolholder

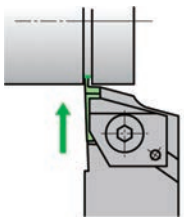


Chamfering and radius machining can be done after the rough grooving process at the center of the groove

OD Grooving
GTMT / GTMA.. series/Toolholder

NGTN





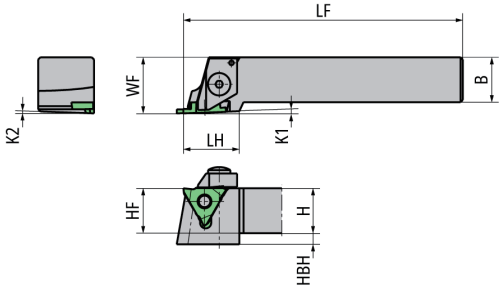
● Diagram shows right-hand tool

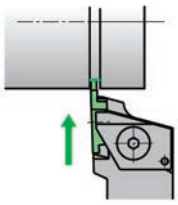
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage
5501994	**NGTNR161643-20**	●	R	16	16	16	2	2	78	16	GT..43..
5534136	**NGTNR161643-35**	●	R	16	16	16	2	2	78	16	GT..43..
5554241	**NGTNL161643-20**	●	L	16	16	16	2	2	78	16	GT..43..
5222112	**NGTNL161643-35**	●	L	16	16	16	2	2	78	16	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTNR161643-20	CPR5S	AOS-5*25	ASG-5	LW-2.5
NGTNR161643-35	CPR5S	AOS-5*25	ASG-5	LW-2.5
NGTNL161643-20	CPL5S	AOS-5*25	ASG-5	LW-2.5
NGTNL161643-35	CPL5S	AOS-5*25	ASG-5	LW-2.5

NGTB With Offset





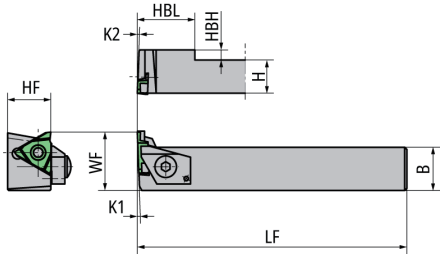
● Diagram shows right-hand tool

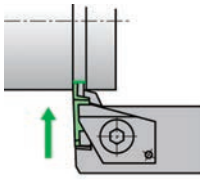
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage
5239900	**NGTBR161643-00S**	●	R	16	16	9	16	2	2	100	25	20	GT..43..
5949615	**NGTBR161643-20S**	●	R	16	16	9	16	2	2	100	25	20	GT..43..
5806096	**NGTBR161643-35S**	●	R	16	16	9	16	2	2	100	25	20	GT..43..
5239850	**NGTBR202043-00S**	●	R	20	20	5	20	2	2	125	25	25	GT..43..
5550041	**NGTBR202043-20S**	●	R	20	20	5	20	2	2	125	25	25	GT..43..
5553375	**NGTBR202043-35S**	●	R	20	20	5	20	2	2	125	25	25	GT..43..
5239876	**NGTBR252543-00S**	●	R	25	25	–	25	2	2	150	25	30	GT..43..
5550058	**NGTBR252543-20S**	●	R	25	25	–	25	2	2	150	25	30	GT..43..
5550074	**NGTBR252543-35S**	●	R	25	25	–	25	2	2	150	25	30	GT..43..
5553433	**NGTBR322543-20S**	●	R	25	32	–	32	2	2	170	25	30	GT..43..
5222013	**NGTBR322543-35S**	●	R	25	32	–	32	2	2	170	25	30	GT..43..
5239843	**NGTBL161643-00S**	●	L	16	16	9	16	2	2	100	25	20	GT..43..
5210901	**NGTBL161643-20S**	●	L	16	16	9	16	2	2	100	25	20	GT..43..
5222021	**NGTBL161643-35S**	●	L	16	16	9	16	2	2	100	25	20	GT..43..
5239868	**NGTBL202043-00S**	●	L	20	20	5	20	2	2	125	25	25	GT..43..
5553367	**NGTBL202043-20S**	●	L	20	20	5	20	2	2	125	25	25	GT..43..
5222039	**NGTBL202043-35S**	●	L	20	20	5	20	2	2	125	25	25	GT..43..
5239892	**NGTBL252543-00S**	●	L	25	25	–	25	2	2	150	25	30	GT..43..
5550066	**NGTBL252543-20S**	●	L	25	25	–	25	2	2	150	25	30	GT..43..
5550082	**NGTBL252543-35S**	●	L	25	25	–	25	2	2	150	25	30	GT..43..
5553441	**NGTBL322543-20S**	●	L	25	32	–	32	2	2	170	25	30	GT..43..
5222047	**NGTBL322543-35S**	●	L	25	32	–	32	2	2	170	25	30	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTBR161643-00S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR161643-20S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR161643-35S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR202043-00S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR202043-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR202043-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-00S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR322543-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR322543-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBL161643-00S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL161643-20S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL161643-35S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL202043-00S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL202043-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL202043-35S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-00S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-35S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL322543-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL322543-35S	CPL6	AOS-6*30	ASG-6	LW-3

NGTA for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

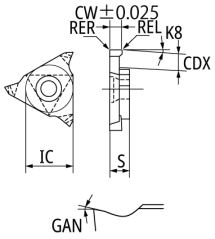
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage
5004155	**NGTAL161643-00S**	●	L	16	16	4	20	16	2	2	100	23	GT..43..
5884903	**NGTAL202043-00S**	●	L	20	20	–	–	20	2	2	125	27	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTAL161643-00S	CPL5S	AOS-5*20	ASG-5	LW-2.5
NGTAL202043-00S	CPL6	AOS-6*30	ASG-6	LW-3

OD Grooving
GTMT / GTMA.. series/Insert Carbide

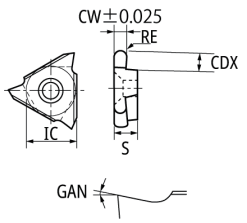
GTMT43



● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	GAN	IC	K8	REL	RER	S	Carbide PVD	
			mm	mm	mm	°	mm	°	mm	mm	mm	DM4	QM3
GTMT43145R	R	Yes	3	3.5	1.45	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43150R	R	Yes	3	3.5	1.5	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43175R	R	Yes	3	3.5	1.75	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43185R	R	Yes	3	3.5	1.85	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43200R	R	Yes	3	3.5	2	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43230R	R	Yes	3	3.5	2.3	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43250R	R	Yes	4.3	5.5	2.5	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43265R	R	Yes	4.3	5.5	2.65	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43280R	R	Yes	4.3	5.5	2.8	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43300R	R	Yes	4.3	5.5	3	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43330R	R	Yes	4.3	5.5	3.3	11	12.7	2	0.3	0.3	4.76		●
GTMT43350R	R	Yes	4.3	5.5	3.5	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43400R	R	Yes	4.3	5.5	4	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43450R	R	Yes	4.3	5.5	4.5	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43500R	R	Yes	4.3	5.5	5	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43550R	R	Yes	4.3	5.5	5.5	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43145L	L	Yes	3	3.5	1.45	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43150L	L	Yes	3	3.5	1.5	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43175L	L	Yes	3	3.5	1.75	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43185L	L	Yes	3	3.5	1.85	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43200L	L	Yes	3	3.5	2	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43230L	L	Yes	3	3.5	2.3	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43280L	L	Yes	4.3	5.5	2.8	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43300L	L	Yes	4.3	5.5	3	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43330L	L	Yes	4.3	5.5	3.3	11	12.7	2	0.3	0.3	4.76		●
GTMT43350L	L	Yes	4.3	5.5	3.5	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43400L	L	Yes	4.3	5.5	4	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43450L	L	Yes	4.3	5.5	4.5	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43500L	L	Yes	4.3	5.5	5	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43550L	L	Yes	4.3	5.5	5.5	11	12.7	2	0.4	0.4	5.76	●	●

GTMA43-Full Radius style



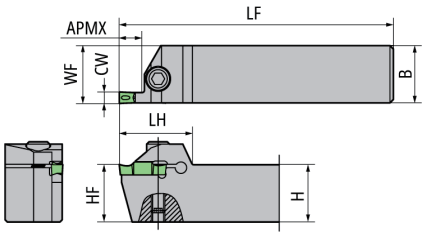
● Diagram shows right-hand tool

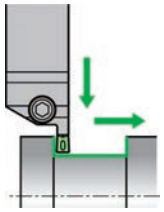
Item Number	Hand	Chip-breaker	APMX	CDX	CW	GAN	IC	RE	S	Carbide PVD	
			mm	mm	mm	°	mm	mm	mm	DM4	QM3
GTMA43200R10R	R	Yes	3	3.5	2	11	12.7	1	4.76		●
GTMA43300R15R	R	Yes	4.5	5.5	3	11	12.7	1.5	4.76		●
GTMA43400R20R	R	Yes	4.5	5.5	4	11	12.7	2	4.76		●

OD Grooving
SCRUM DUO

GWPG(M).. series/Toolholder

GTWP





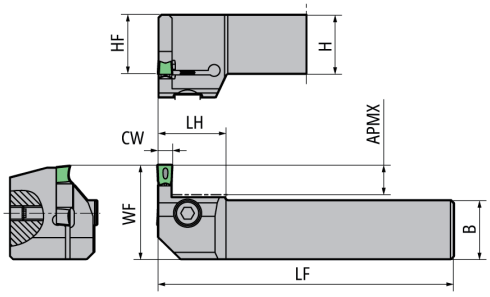
● Diagram shows right-hand tool

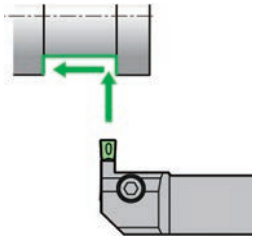
EDP	Item Number	Stock	Hand	APMX mm	B mm	CW mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5849120	**GTWPR2020K-3D10**	●	R	10	20	3	20	20	125	29	20.2	GWPG300..	GWPM300..
5849146	**GTWPR2020K-3D20**	●	R	20	20	3	20	20	125	41	20.2	GWPG300..	GWPM300..
5849161	**GTWPR2020K-4E10**	●	R	10	20	4	20	20	125	29	20.3	GWPG400..	GWPM400..
5849187	**GTWPR2020K-4E20**	●	R	20	20	4	20	20	125	41	20.3	GWPG400..	GWPM400..
5849203	**GTWPR2020K-5F10**	●	R	10	20	5	20	20	125	29	20.3	GWPG500..	GWPM500..
5849229	**GTWPR2020K-5F20**	●	R	20	20	5	20	20	125	41	20.3	GWPG500..	GWPM500..
5849245	**GTWPR2020K-6G12**	●	R	12	20	6	20	20	125	34	20.35	GWPG600..	GWPM600..
5849260	**GTWPR2020K-6G25**	●	R	25	20	6	20	20	125	49	20.35	GWPG600..	GWPM600..
5849138	**GTWPR2525M-3D10**	●	R	10	25	3	25	25	150	32	25.2	GWPG300..	GWPM300..
5849153	**GTWPR2525M-3D20**	●	R	20	25	3	25	25	150	44	25.2	GWPG300..	GWPM300..
5849179	**GTWPR2525M-4E10**	●	R	10	25	4	25	25	150	32	25.3	GWPG400..	GWPM400..
5849195	**GTWPR2525M-4E20**	●	R	20	25	4	25	25	150	44	25.3	GWPG400..	GWPM400..
5849211	**GTWPR2525M-5F10**	●	R	10	25	5	25	25	150	32	25.3	GWPG500..	GWPM500..
5849237	**GTWPR2525M-5F20**	●	R	20	25	5	25	25	150	44	25.3	GWPG500..	GWPM500..
5849252	**GTWPR2525M-6G12**	●	R	12	25	6	25	25	150	37	25.35	GWPG600..	GWPM600..
5849278	**GTWPR2525M-6G25**	●	R	25	25	6	25	25	150	52	25.35	GWPG600..	GWPM600..
5852397	**GTWPL2020K-3D10**	●	L	10	20	3	20	20	125	29	20.2	GWPG300..	GWPM300..
5852421	**GTWPL2020K-3D20**	●	L	20	20	3	20	20	125	41	20.2	GWPG300..	GWPM300..
5852447	**GTWPL2020K-4E10**	●	L	10	20	4	20	20	125	29	20.3	GWPG400..	GWPM400..
5852470	**GTWPL2020K-4E20**	●	L	20	20	4	20	20	125	41	20.3	GWPG400..	GWPM400..
5852496	**GTWPL2020K-5F10**	●	L	10	20	5	20	20	125	29	20.3	GWPG500..	GWPM500..
5852520	**GTWPL2020K-5F20**	●	L	20	20	5	20	20	125	41	20.3	GWPG500..	GWPM500..
5852546	**GTWPL2020K-6G12**	●	L	12	20	6	20	20	125	34	20.35	GWPG600..	GWPM600..
5852561	**GTWPL2020K-6G25**	●	L	25	20	6	20	20	125	49	20.35	GWPG600..	GWPM600..
5852405	**GTWPL2525M-3D10**	●	L	10	25	3	25	25	150	32	25.2	GWPG300..	GWPM300..
5852439	**GTWPL2525M-3D20**	●	L	20	25	3	25	25	150	44	25.2	GWPG300..	GWPM300..
5852454	**GTWPL2525M-4E10**	●	L	10	25	4	25	25	150	32	25.3	GWPG400..	GWPM400..
5852488	**GTWPL2525M-4E20**	●	L	20	25	4	25	25	150	44	25.3	GWPG400..	GWPM400..
5852512	**GTWPL2525M-5F10**	●	L	10	25	5	25	25	150	32	25.3	GWPG500..	GWPM500..
5852538	**GTWPL2525M-5F20**	●	L	20	25	5	25	25	150	44	25.3	GWPG500..	GWPM500..
5852553	**GTWPL2525M-6G12**	●	L	12	25	6	25	25	150	37	25.35	GWPG600..	GWPM600..
5852587	**GTWPL2525M-6G25**	●	L	25	25	6	25	25	150	52	25.35	GWPG600..	GWPM600..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)	Wrench (for Back side clamping)
GTWPR2020K-3D10	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-3D20	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-4E10	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-4E20	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-5F10	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-5F20	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-6G12	CS0520W	LW-4	(LW-2.5)
GTWPR2020K-6G25	CS0520W	LW-4	(LW-2.5)
GTWPR2525M-3D10	CS0625W	LW-5	(LW-3)
GTWPR2525M-3D20	CS0625W	LW-5	(LW-3)
GTWPR2525M-4E10	CS0625W	LW-5	(LW-3)
GTWPR2525M-4E20	CS0625W	LW-5	(LW-3)
GTWPR2525M-5F10	CS0625W	LW-5	(LW-3)
GTWPR2525M-5F20	CS0625W	LW-5	(LW-3)
GTWPR2525M-6G12	CS0625W	LW-5	(LW-3)
GTWPR2525M-6G25	CS0625W	LW-5	(LW-3)
GTWPL2020K-3D10	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-3D20	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-4E10	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-4E20	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-5F10	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-5F20	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-6G12	CS0520W	LW-4	(LW-2.5)
GTWPL2020K-6G25	CS0520W	LW-4	(LW-2.5)
GTWPL2525M-3D10	CS0625W	LW-5	(LW-3)
GTWPL2525M-3D20	CS0625W	LW-5	(LW-3)
GTWPL2525M-4E10	CS0625W	LW-5	(LW-3)
GTWPL2525M-4E20	CS0625W	LW-5	(LW-3)
GTWPL2525M-5F10	CS0625W	LW-5	(LW-3)
GTWPL2525M-5F20	CS0625W	LW-5	(LW-3)
GTWPL2525M-6G12	CS0625W	LW-5	(LW-3)
GTWPL2525M-6G25	CS0625W	LW-5	(LW-3)

GKWP for horizontal gang style tool post





● Diagram shows left-hand tool

EDP	Item Number	Stock	Hand	APMX mm	B mm	CW mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5893607	**GKWPL2020K-3D10**	●	L	10	20	3	20	20	125	23	32	GWPG300..	GWPM300..
5893615	**GKWPL2020K-4E10**	●	L	10	20	4	20	20	125	23	32	GWPG400..	GWPM400..
5893623	**GKWPL2020K-5F10**	●	L	10	20	5	20	20	125	23	32	GWPG500..	GWPM500..
5893631	**GKWPL2020K-6G12**	●	L	12	20	6	20	20	125	23	34	GWPG600..	GWPM600..

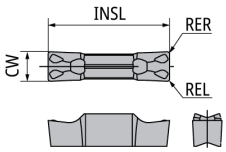
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)	Wrench (for Back side clamping)
GKWPL2020K-3D10	CS0520W	LW-4	LW-2.5
GKWPL2020K-4E10	CS0520W	LW-4	LW-2.5
GKWPL2020K-5F10	CS0520W	LW-4	LW-2.5
GKWPL2020K-6G12	CS0520W	LW-4	LW-2.5

OD Grooving
SCRUM DUO

GWPG(M).. series/Insert Carbide

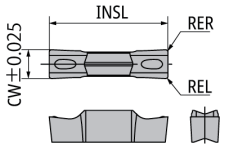
GWPG(M)-GW Best for side turning



Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	Carbide PVD
			mm	mm	mm	mm	DM4
GWPG300N02D-GW	N	Yes	3	20.6	0.2	0.2	●
GWPG300N04D-GW	N	Yes	3	20.6	0.4	0.4	●
GWPG400N02E-GW	N	Yes	4	20.6	0.2	0.2	●
GWPG400N04E-GW	N	Yes	4	20.6	0.4	0.4	●
GWPG400N08E-GW	N	Yes	4	20.6	0.8	0.8	●
GWPG500N02F-GW	N	Yes	5	20.6	0.2	0.2	●
GWPG500N04F-GW	N	Yes	5	20.6	0.4	0.4	●
GWPG500N08F-GW	N	Yes	5	20.6	0.8	0.8	●
GWPG600N02G-GW	N	Yes	6	25.6	0.2	0.2	●
GWPG600N04G-GW	N	Yes	6	25.6	0.4	0.4	●
GWPG600N08G-GW	N	Yes	6	25.6	0.8	0.8	●
GWPM300N04D-GW	N	Yes	3	20.6	0.4	0.4	●
GWPM400N04E-GW	N	Yes	4	20.6	0.4	0.4	●
GWPM500N04F-GW	N	Yes	5	20.6	0.4	0.4	●
GWPM600N04G-GW	N	Yes	6	25.6	0.4	0.4	●

GWPG.. : Outside ground
Width tolerance ±0.025
GWPM.. : Full-molded
Width tolerance ±0.05

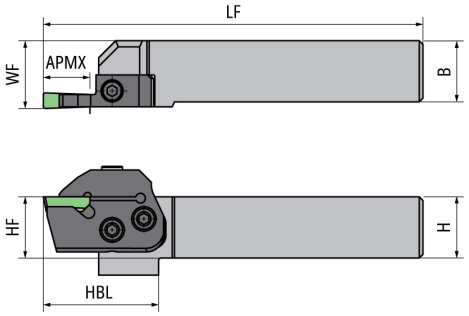
GWPG-GV Generates less tool pressure



Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	Carbide PVD
			mm	mm	mm	mm	DM4
GWPG300N02D-GV	N	Yes	3	20.6	0.2	0.2	●
GWPG300N04D-GV	N	Yes	3	20.6	0.4	0.4	●
GWPG400N02E-GV	N	Yes	4	20.6	0.2	0.2	●
GWPG400N04E-GV	N	Yes	4	20.6	0.4	0.4	●
GWPG500N02F-GV	N	Yes	5	20.6	0.2	0.2	●
GWPG500N04F-GV	N	Yes	5	20.6	0.4	0.4	●
GWPG600N02G-GV	N	Yes	6	25.6	0.2	0.2	●
GWPG600N04G-GV	N	Yes	6	25.6	0.4	0.4	●

OD Grooving
SCRUM DUO BLADE
VGW.. series/For straight shank toolholder

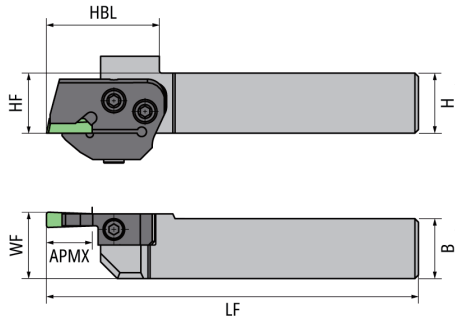
GTWPR



● Diagram shows right-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBVR-VGW4-3T09	●	VGW4125	9.5	GTWPR2020-H	118.6	39.6	22.3	20	20	20
				GTWPR2525-H	143.6	35.6	27.2	25	25	25
		VGW4156		GTWPR3232-H	163.6	–	34.2	32	32	32
GBVR-VGW4-4T14	●	VGW4156	14.2	GTWPR2020-H	124.9	45.9	22.3	20	20	20
				GTWPR2525-H	150.0	42.0	27.3	25	25	25
		VGW4187		GTWPR3232-H	170.0	–	34.3	32	32	32
GBVR-VGW6-6T14	●	VGW6218	14.2	GTWPR2020-H	124.9	45.9	22.7	20	20	20
				GTWPR2525-H	150.0	42.0	22.7	25	25	25
		VGW6250		GTWPR3232-H	170.0	–	34.7	32	32	32
GBVR-VGW6-6T19	●	VGW6250	19.0	GTWPR2020-H	130.0	51.0	22.6	20	20	20
				GTWPR2525-H	155.0	47.0	27.6	25	25	25
		VGW6281		GTWPR3232-H	175.0	–	34.6	32	32	32
GBVR-VGW8-8T19		VGW8312	19.0	GTWPR2020-H	135.1	56.1	23.5	20	20	20
				GTWPR2525-H	160.1	52.1	28.4	25	25	25
		VGW8344		GTWPR3232-H	180.1	–	35.5	32	32	32
GBVR-VGW8-8T28	●	VGW8344	28.5	GTWPR2020-H	137.6	58.6	23.3	20	20	20
				GTWPR2525-H	162.7	54.7	28.3	25	25	25
		VGW8375		GTWPR3232-H	182.7	–	35.3	32	32	32

GTWPL



● Diagram shows left-hand tool

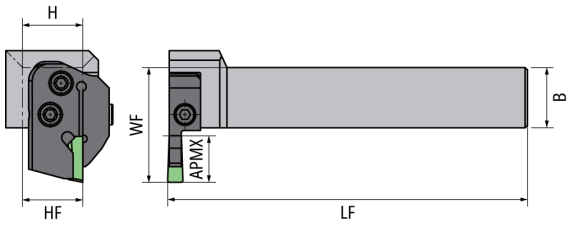
Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBVL-VGW4-3T09	●	VGW4125	9.5	GTWPL2020-H	118.6	39.6	22.3	20	20	20
				GTWPL2525-H	143.6	35.6	27.2	25	25	25
		VGW4156		GTWPL3232-H	163.6	–	34.2	32	32	32
GBVL-VGW4-4T14	●	VGW4156	14.2	GTWPL2020-H	124.9	45.9	22.3	20	20	20
				GTWPL2525-H	150.0	42.0	27.3	25	25	25
		VGW4187		GTWPL3232-H	170.0	–	34.3	32	32	32
GBVL-VGW6-6T14	●	VGW6218	14.2	GTWPL2020-H	124.9	45.9	22.7	20	20	20
				GTWPL2525-H	150.0	42.0	22.7	25	25	25
		VGW6250		GTWPL3232-H	170.0	–	34.7	32	32	32
GBVL-VGW6-6T19	●	VGW6250	19.0	GTWPL2020-H	130.0	51.0	22.6	20	20	20
				GTWPL2525-H	155.0	47.0	27.6	25	25	25
		VGW6281		GTWPL3232-H	175.0	–	34.6	32	32	32
GBVL-VGW8-8T19		VGW8312	19.0	GTWPL2020-H	135.1	56.1	23.5	20	20	20
				GTWPL2525-H	160.1	52.1	28.4	25	25	25
		VGW8344		GTWPL3232-H	180.1	–	35.5	32	32	32
GBVL-VGW8-8T28	●	VGW8344	28.5	GTWPL2020-H	137.6	58.6	23.3	20	20	20
				GTWPL2525-H	162.7	54.7	28.3	25	25	25
		VGW8375		GTWPL3232-H	182.7	–	35.3	32	32	32

※Insert clamp screw : GBVR/L-VGW4/6 → CS0515 , GBVR/L-VGW8 → CS0615

OD Grooving
SCRUM DUO BLADE

VGW.. series/For L-style toolholder

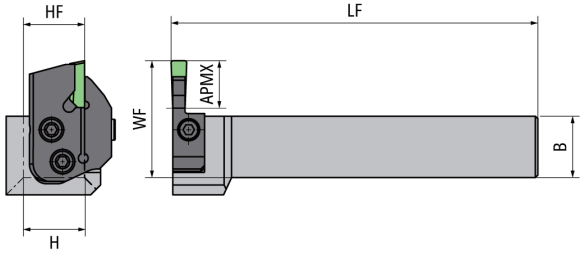
GKWPR



● Diagram shows right-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBVL-VGW4-3T09	●	VGW4125 VGW4156	9.5	GKWPR2020-H	118.6	39.6	22.6	20	20	20
				GKWPR2525-H	143.6	35.6	27.6	25	25	25
				GKWPR3232-H	163.6	–	34.6	32	32	32
GBVL-VGW4-4T14	●	VGW4156 VGW4187	14.2	GKWPR2020-H	124.9	45.9	22.7	20	20	20
				GKWPR2525-H	150.0	42.0	27.7	25	25	25
				GKWPR3232-H	170.0	–	34.7	32	32	32
GBVL-VGW6-6T14	●	VGW6218 VGW6250	14.2	GKWPR2020-H	124.9	45.9	23.1	20	20	20
				GKWPR2525-H	150.0	42.0	28.1	25	25	25
				GKWPR3232-H	170.0	–	35.1	32	32	32
GBVL-VGW6-6T19	●	VGW6250 VGW6281	19.0	GKWPR2020-H	130.0	51.0	23.0	20	20	20
				GKWPR2525-H	155.0	47.0	28.0	25	25	25
				GKWPR3232-H	175.0	–	35.0	32	32	32
GBVL-VGW8-8T19		VGW8312 VGW8344	19.0	GKWPR2020-H	135.1	56.1	23.9	20	20	20
				GKWPR2525-H	160.1	52.1	28.9	25	25	25
				GKWPR3232-H	180.1	–	35.9	32	32	32
GBVL-VGW8-8T28	●	VGW8344 VGW8375	28.5	GKWPR2020-H	137.6	58.6	23.7	20	20	20
				GKWPR2525-H	162.7	54.7	28.7	25	25	25
				GKWPR3232-H	182.7	–	35.7	32	32	32

GKWPL



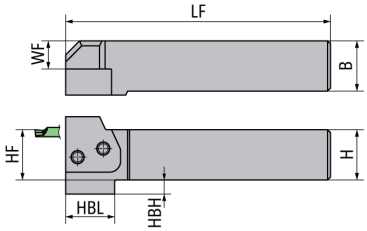
● Diagram shows left-hand tool

Blade number	Stock	Insert	Dimensions(mm) APMX	Holder	Dimensions(mm) LF	HBL	WF	H	B	HF
GBVR-VGW4-3T09	●	VGW4125 VGW4156	9.5	GKWPL2020-H	118.6	39.6	22.6	20	20	20
				GKWPL2525-H	143.6	35.6	27.6	25	25	25
				GKWPL3232-H	163.6	–	34.6	32	32	32
GBVR-VGW4-4T14	●	VGW4156 VGW4187	14.2	GKWPL2020-H	124.9	45.9	22.7	20	20	20
				GKWPL2525-H	150.0	42.0	27.7	25	25	25
				GKWPL3232-H	170.0	–	34.7	32	32	32
GBVR-VGW6-6T14	●	VGW6218 VGW6250	14.2	GKWPL2020-H	124.9	45.9	23.1	20	20	20
				GKWPL2525-H	150.0	42.0	28.1	25	25	25
				GKWPL3232-H	170.0	–	35.1	32	32	32
GBVR-VGW6-6T19	●	VGW6250 VGW6281	19.0	GKWPL2020-H	130.0	51.0	23.0	20	20	20
				GKWPL2525-H	155.0	47.0	28.0	25	25	25
				GKWPL3232-H	175.0	–	35.0	32	32	32
GBVR-VGW8-8T19		VGW8312 VGW8344	19.0	GKWPL2020-H	135.1	56.1	23.9	20	20	20
				GKWPL2525-H	160.1	52.1	28.9	25	25	25
				GKWPL3232-H	180.1	–	35.9	32	32	32
GBVR-VGW8-8T28	●	VGW8344 VGW8375	28.5	GKWPL2020-H	137.6	58.6	23.7	20	20	20
				GKWPL2525-H	162.7	54.7	28.7	25	25	25
				GKWPL3232-H	182.7	–	35.7	32	32	32

※Insert clamp screw : GBVR/L-VGW4/6 → CS0515 , GBVR/L-VGW8 → CS0615

OD Grooving
SCRUM DUO BLADE
VGW.. series/Toolholders

GTWP-H Straight style toolholder



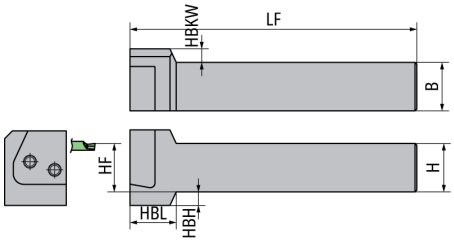
● Diagram shows right-hand tool

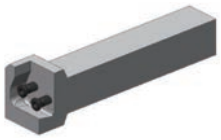
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBL mm	HF mm	LF mm	WF mm	Insert Gage
5923784	**GTWPR2020-H**	●	R	20	20	8	28.5	20	107.5	9	GWPFM../VGW../RCGX../RPGX..
5923800	**GTWPR2525-H**	●	R	25	25	7	24.5	25	132.5	14	GWPFM../VGW../RCGX../RPGX..
5963657	**GTWPR3232-H**	●	R	32	32	–	–	32	152.5	21	GWPFM../VGW../RCGX../RPGX..
5923792	**GTWPL2020-H**	●	L	20	20	8	28.5	20	107.5	9	GWPFM../VGW../RCGX../RPGX..
5923818	**GTWPL2525-H**	●	L	25	25	7	24.5	25	132.5	14	GWPFM../VGW../RCGX../RPGX..
5963673	**GTWPL3232-H**	●	L	32	32	–	–	32	152.5	21	GWPFM../VGW../RCGX../RPGX..

Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GTWPR2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPL2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4

GKWP-H L-style toolholder





● Diagram shows right-hand tool

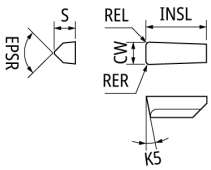
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBKW mm	HBL mm	HF mm	LF mm	Insert Gage
5923826	**GKWPR2020-H**	●	R	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923842	**GKWPR2525-H**	●	R	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963681	**GKWPR3232-H**	●	R	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..
5923834	**GKWPL2020-H**	●	L	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923859	**GKWPL2525-H**	●	L	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963699	**GKWPL3232-H**	●	L	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..

Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GKWPR2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPL2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4

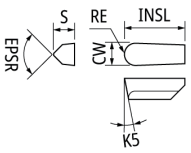
OD Grooving
SCRUM DUO BLADE
VGW.. series/Inserts BIDEMICS / Ceramics

VGW



Item Number	CECC	Hand	Chip-breaker	CW	EPSR	INSL	K5	REL	RER	S	BIDEMICS		Whisker Ceramics	
				mm	°	mm	°	mm	mm	mm	JX1	JX3	WA1	WA5
VGW4125-1E004	E004	N	No	3.18	90	12.7	11	0.4	0.4	4.51	●	●		
VGW4125-2E004	E004	N	No	3.18	90	12.7	11	0.8	0.8	4.51	●	●		
VGW4125-2EX0001	EX0001	N	No	3.18	90	12.7	11	0.8	0.8	4.51			●	●
VGW4156-1E004	E004	N	No	3.96	90	12.7	11	0.4	0.4	4.51	●	●		
VGW4156-2E004	E004	N	No	3.96	90	12.7	11	0.8	0.8	4.51	●	●		
VGW4156-2EX0001	EX0001	N	No	3.96	90	12.7	11	0.8	0.8	4.51			●	●
VGW4187-1E004	E004	N	No	4.75	90	12.7	11	0.4	0.4	4.51	●	●		
VGW4187-2E004	E004	N	No	4.75	90	12.7	11	0.8	0.8	4.51	●	●		
VGW4187-2EX0001	EX0001	N	No	4.75	90	12.7	11	0.8	0.8	4.51			●	●
VGW6250-1E004	E004	N	No	6.35	90	19.05	11	0.4	0.4	6.05	●	●		
VGW6250-2E004	E004	N	No	6.35	90	19.05	11	0.8	0.8	6.05	●	●		
VGW6250-2EX0001	EX0001	N	No	6.35	90	19.05	11	0.8	0.8	6.05			●	●
VGW6250-3E004	E004	N	No	6.35	90	19.05	11	1.2	1.2	6.05	●	●		
VGW6281-4E004	E004	N	No	7.137	90	19.05	11	1.6	1.6	6.05				
VGW6281-4T00520	T00520	N	No	7.137	90	19.05	11	1.6	1.6	6.05				
VGW8375-2EX0001	EX0001	N	No	9.525	90	25.4	11	0.8	0.8	8.31			●	●

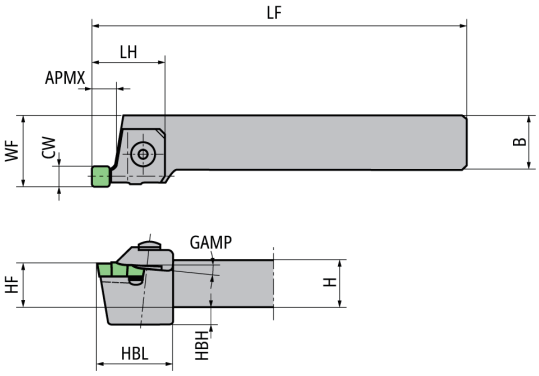
VGW-R Full Radius style

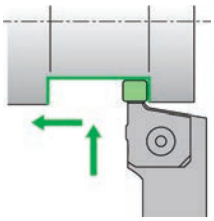


Item Number	CECC	Hand	Chip-breaker	CW	EPSR	INSL	K5	RE	S	BIDEMICS		Whisker Ceramics	
				mm	°	mm	°	mm	mm	JX1	JX3	WA1	WA5
VGW4125-RE004	E004	N	No	3.18	90	12.7	11	1.59	4.51	●	●		
VGW4125-REX0001	EX0001	N	No	3.18	90	12.7	11	1.59	4.51			●	●
VGW4156-RE004	E004	N	No	3.96	90	12.7	11	1.98	4.51	●	●		
VGW4156-REX0001	EX0001	N	No	3.96	90	12.7	11	1.98	4.51			●	●
VGW4187-RE004	E004	N	No	4.75	90	12.7	11	2.375	4.51	●	●		
VGW4187-REX0001	EX0001	N	No	4.75	90	12.7	11	2.375	4.51			●	●
VGW6250-REX0001	EX0001	N	No	6.35	90	19.05	11	3.175	6.05			●	●
VGW6281-REX0001	EX0001	N	No	7.137	90	19.05	11	3.569	6.05				
VGW8344-REX0001	EX0001	N	No	8.738	90	25.4	11	4.369	8.31				
VGW8375-REX0001	EX0001	N	No	9.525	90	25.4	11	4.763	8.31				●

OD Grooving
GEV / GTV.. series/Toolholders

GTV





● Diagram shows right-hand tool

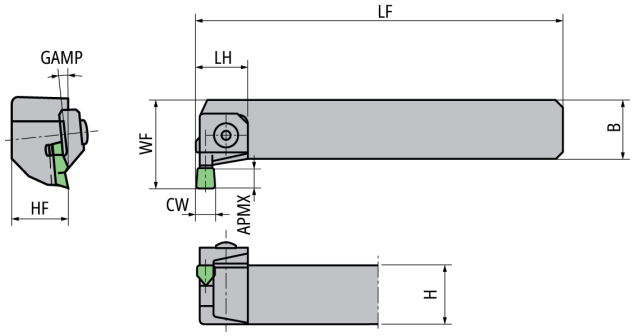
EDP	Item Number	Stock	Hand	APMX	B	CW	GMAP	H	HBH	HBL	HF	LF	LH	WF	Insert Gage	
				mm	mm	mm	°	mm	mm	mm	mm	mm	mm	mm		
5765920	**GTVR16-3N**	●	R	11	16	3-3.5	6	16	9	25	16	100	25	20	GEV..	–
5657739	**GTVR16-4N**	●	R	11	16	4-5.9	6	16	9	25	16	100	25	20	GEV..	GTV..
5778980	**GTVR20-3N**	●	R	11	20	3-3.5	6	20	–	–	20	125	32	25	GEV..	–
5657754	**GTVR20-4N**	●	R	11	20	4-5.9	6	20	–	–	20	125	32	25	GEV..	GTV..
5657796	**GTVR20-6**	●	R	11	20	6-7.9	6	20	–	–	20	125	32	25	GEV..	GTV..
5657812	**GTVR20-8**	●	R	11	20	8-9	6	20	–	–	20	125	32	25	GEV..	GTV..
5801667	**GTVR25-3N**	●	R	11	25	3-3.5	6	25	–	–	25	150	32	30	GEV..	–
5657770	**GTVR25-4N**	●	R	11	25	4-5.9	6	25	–	–	25	150	32	30	GEV..	GTV..
5609193	**GTVR25-6**	●	R	11	25	6-7.9	6	25	–	–	25	150	32	30	GEV..	GTV..
5657697	**GTVR25-8**	●	R	11	25	8-9	6	25	–	–	25	150	32	30	GEV..	GTV..
5657747	**GTVL16-4N**	●	L	11	16	4-5.9	6	16	9	25	16	100	25	20	GEV..	GTV..
5657762	**GTVL20-4N**	●	L	11	20	4-5.9	6	20	–	–	20	125	32	25	GEV..	GTV..
5657804	**GTVL20-6**	●	L	11	20	6-7.9	6	20	–	–	20	125	32	25	GEV..	GTV..
5801675	**GTVL25-3N**	●	L	11	25	3-3.5	6	25	–	–	25	150	32	30	GEV..	–
5657788	**GTVL25-4N**	●	L	11	25	4-5.9	6	25	–	–	25	150	32	30	GEV..	GTV..
5611397	**GTVL25-6**	●	L	11	25	6-7.9	6	25	–	–	25	150	32	30	GEV..	GTV..
5657705	**GTVL25-8**	●	L	11	25	8-9	6	25	–	–	25	150	32	30	GEV..	GTV..

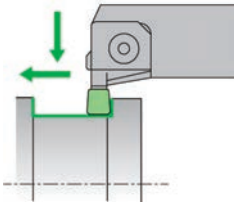
Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
GTVR16-3N	CVR3SN	AOB-5C	ASG-5	LW-3
GTVR16-4N	CVR4SN	AOB-5C	ASG-5	LW-3
GTVR20-3N	CVR3N	AOB-6C	ASG-6	LW-4
GTVR20-4N	CVR4N	AOB-6C	ASG-6	LW-4
GTVR20-6	CVR6	AOB-6C	ASG-6	LW-4
GTVR20-8	CVR8	AOB-6C	ASG-6	LW-4
GTVR25-3N	CVR3N	AOB-6C	ASG-6	LW-4
GTVR25-4N	CVR4N	AOB-6C	ASG-6	LW-4
GTVR25-6	CVR6	AOB-6C	ASG-6	LW-4
GTVR25-8	CVR8	AOB-6C	ASG-6	LW-4
GTVL16-4N	CVL4SN	AOB-5C	ASG-5	LW-3
GTVL20-4N	CVL4N	AOB-6C	ASG-6	LW-4
GTVL20-6	CVL6	AOB-6C	ASG-6	LW-4
GTVL25-3N	CVL3N	AOB-6C	ASG-6	LW-4
GTVL25-4N	CVL4N	AOB-6C	ASG-6	LW-4
GTVL25-6	CVL6	AOB-6C	ASG-6	LW-4
GTVL25-8	CVL8	AOB-6C	ASG-6	LW-4

OD Grooving
GEV / GTV.. series/Toolholders

GKV





● Diagram shows right-hand tool

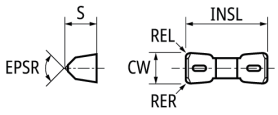
EDP	Item Number	Stock	Hand	APMX mm	B mm	CW mm	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5657820	**GKVR20-4N**	●	R	11	20	4-5.9	6	20	20	125	32	33	GEV..	GTV..
5657861	**GKVR20-6**	●	R	11	20	6-7.9	6	20	20	125	32	33	GEV..	GTV..
5657846	**GKVR25-4N**	●	R	11	25	4-5.9	6	25	25	150	32	38	GEV..	GTV..
5657713	**GKVR25-6**	●	R	11	25	6-7.9	6	25	25	150	32	38	GEV..	GTV..
5657838	**GKVL20-4N**	●	L	11	20	4-5.9	6	20	20	125	32	33	GEV..	GTV..
5657853	**GKVL25-4N**	●	L	11	25	4-5.9	6	25	25	150	32	38	GEV..	GTV..
5657721	**GKVL25-6**	●	L	11	25	6-7.9	6	25	25	150	32	38	GEV..	GTV..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
GKVR20-4N	CVR4N	AOB-6C	ASG-6	LW-4
GKVR20-6	CVR6	AOB-6C	ASG-6	LW-4
GKVR25-4N	CVR4N	AOB-6C	ASG-6	LW-4
GKVR25-6	CVR6	AOB-6C	ASG-6	LW-4
GKVL20-4N	CVL4N	AOB-6C	ASG-6	LW-4
GKVL25-4N	CVL4N	AOB-6C	ASG-6	LW-4
GKVL25-6	CVL6	AOB-6C	ASG-6	LW-4

OD Grooving
GEV / GTV.. series/Insert Carbide

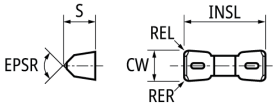
GEV



Item Number	Hand	Chip-breaker	CW	EPSR	INSL	REL	RER	S	Carbide PVD
			mm	°	mm	mm	mm	mm	QM3
GEV300N	N	Yes	3	90	20	0.2	0.2	5.2	●
GEV300N04	N	Yes	3	90	20	0.4	0.4	5.2	●
GEV350N04	N	Yes	3.5	90	20	0.4	0.4	5.2	●
GEV400N	N	Yes	4	90	20	0.2	0.2	8.5	●
GEV400N04	N	Yes	4	90	20	0.4	0.4	8.5	●
GEV450N04	N	Yes	4.5	90	20	0.4	0.4	8.5	●
GEV500N	N	Yes	5	90	20	0.2	0.2	8.5	●
GEV500N04	N	Yes	5	90	20	0.4	0.4	8.5	●
GEV550N04	N	Yes	5.5	90	20	0.4	0.4	8.5	●
GEV600N	N	Yes	6	90	20	0.2	0.2	8.5	●
GEV600N04	N	Yes	6	90	20	0.4	0.4	8.5	●
GEV650N04	N	Yes	6.5	90	20	0.4	0.4	8.5	●
GEV700N04	N	Yes	7	90	20	0.4	0.4	8.5	●
GEV750N04	N	Yes	7.5	90	20	0.4	0.4	8.5	●
GEV800N04	N	Yes	8	90	20	0.4	0.4	8.5	●

GTV

No.1



No.2

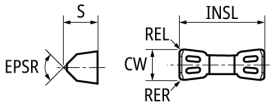
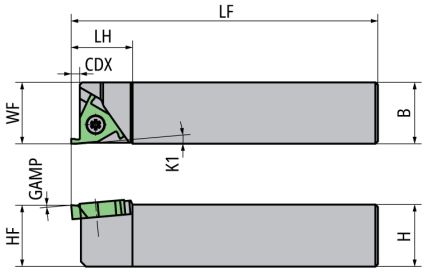


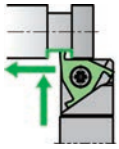
Figure	Item Number	Hand	Chip-breaker	CW	EPSR	INSL	REL	RER	S	Carbide PVD
				mm	°	mm	mm	mm	mm	QM3
1	**GTV400N**	N	Yes	4	90	20	0.15	0.15	8.5	●
1	**GTV400N04**	N	Yes	4	90	20	0.4	0.4	8.5	●
2	**GTV600N**	N	Yes	6	90	20	0.15	0.15	8.5	●
2	**GTV600N04**	N	Yes	6	90	20	0.4	0.4	8.5	●

OD Grooving

TWG.. series/Toolholders

TWG





● Diagram shows right-hand tool

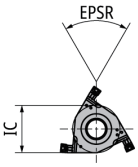
EDP	Item Number	Stock	Hand	B mm	CDX mm	GMAP °	H mm	HF mm	K1 °	LF mm	LH mm	WF mm	Insert Gage
5794649	**TWGR2012X**	■	R	20	3.5	5	12	12	5	120	25	20	TWG..
5859350	**TWGR2016X**	■	R	20	3.5	5	16	16	5	120	25	20	TWG..
5714332	**TWGR2020K**	■	R	20	3.5	5	20	20	5	125	25	20	TWG..
5714233	**TWGR2525K**	■	R	25	3.5	5	25	25	5	125	25	25	TWG..
5720511	**TWGL2020K**	■	L	20	3.5	5	20	20	5	125	25	20	TWG..
5720503	**TWGL2525K**	■	L	25	3.5	5	25	25	5	125	25	25	TWG..

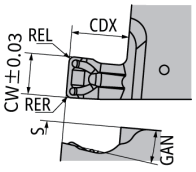
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TWGR2012X	FSS25-5.0*10	LLR-20S
TWGR2016X	FSS10-5.0*14	LLR-20S
TWGR2020K	FSS10-5.0*14	RLR-20S
TWGR2525K	FSS10-5.0*14	RLR-20S
TWGL2020K	FSS10-5.0*14	RLR-20S
TWGL2525K	FSS10-5.0*14	RLR-20S

TWG.. series/Insert Carbide

TWG



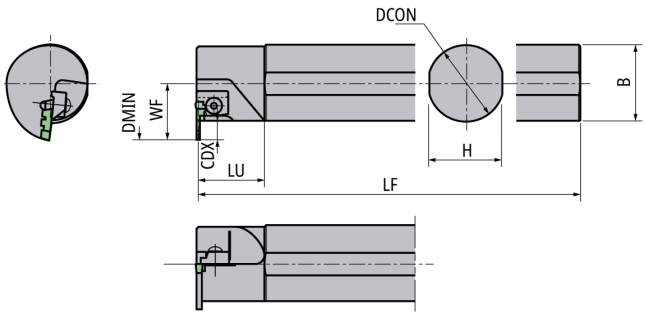


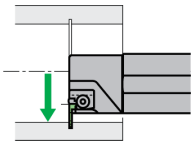
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX mm	CDX mm	CW mm	EPSR °	GAN °	IC mm	REL mm	RER mm	S mm	Carbide PVD TM1
TWG20R005	R	Yes	3	(3.5)	2	60	8	14	0.05	0.05	7	■
TWG20R020	R	Yes	3	(3.5)	2	60	8	14	0.2	0.2	7	■
TWG25R010	R	Yes	3	(3.5)	2.5	60	8	14	0.1	0.1	7	■
TWG25R030	R	Yes	3	(3.5)	2.5	60	8	14	0.3	0.3	7	■
TWG30R010	R	Yes	3	(3.5)	3	60	8	14	0.1	0.1	7	■
TWG30R030	R	Yes	3	(3.5)	3	60	8	14	0.3	0.3	7	■
TWG20L005	L	Yes	3	(3.5)	2	60	8	14	0.05	0.05	7	■
TWG20L020	L	Yes	3	(3.5)	2	60	8	14	0.2	0.2	7	■
TWG25L010	L	Yes	3	(3.5)	2.5	60	8	14	0.1	0.1	7	■
TWG25L030	L	Yes	3	(3.5)	2.5	60	8	14	0.3	0.3	7	■
TWG30L010	L	Yes	3	(3.5)	3	60	8	14	0.1	0.1	7	■
TWG30L030	L	Yes	3	(3.5)	3	60	8	14	0.3	0.3	7	■

ID Grooving
GEV.. series/Toolholders

GKV-3





● Diagram shows right-hand tool

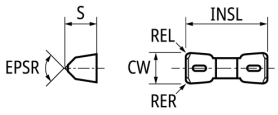
EDP	Item Number	Stock	Hand	DMIN mm	APMX mm	B mm	CDX mm	DCON mm	H mm	LF mm	LU mm	WF mm	Insert Gage
5255567	**GKVR3230-3**	●	R	30	5.5	31	6	32	30	200	50	21	GEV..
5255559	**GKVR3240-3**	●	R	40	7.5	31	8	32	30	250	50	23	GEV..
5255542	**GKVR4055-3**	●	R	55	9.5	39	10	40	38	300	35	29	GEV..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
GKVR3230-3	CVL3SN	AOB-5C	ASG-5	LW-3
GKVR3240-3	CVL3SN	AOB-5C	ASG-5	LW-3
GKVR4055-3	CVL3SN	AOB-5C	ASG-5	LW-3

GEV.. series/Insert Carbide

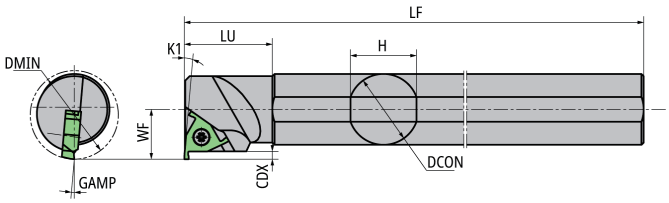
GEV

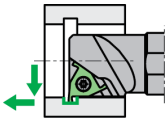


Item Number	Hand	Chip-breaker	CW mm	EPSR °	INSL mm	REL mm	RER mm	S mm	Carbide PVD QM3
GEV300N	N	Yes	3	90	20	0.2	0.2	5.2	●
GEV300N04	N	Yes	3	90	20	0.4	0.4	5.2	●
GEV350N04	N	Yes	3.5	90	20	0.4	0.4	5.2	●

ID Grooving
TWG.. series/Toolholders

S-TWG





● Diagram shows right-hand tool
NOTE: Use a left-handed (L) insert.

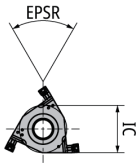
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GMAP °	H mm	K1 °	LF mm	LU mm	WF mm	Insert Gage
5722541	**S32S-TWGR38**	■	R	38	3.5	32	5	30	5	250	40	20.5	TWG..
5722533	**S40T-TWGR46**	■	R	46	3.5	40	5	38	5	300	40	24.5	TWG..

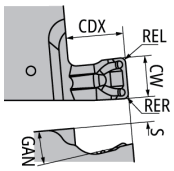
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S32S-TWGR38	FSS10-5.0*14	RLR-20S
S40T-TWGR46	FSS10-5.0*14	RLR-20S

TWG.. series/Insert Carbide

TWG





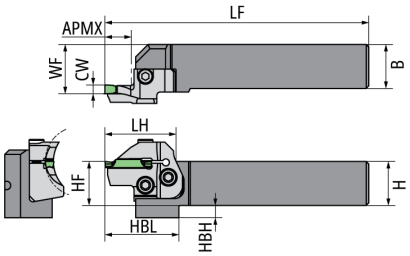
● Diagram shows left-hand tool

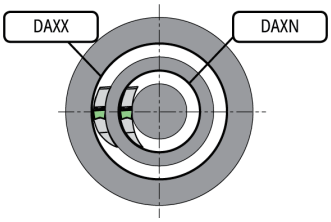
Item Number	Hand	Chip-breaker	APMX mm	CDX mm	CW mm	EPSR °	GAN °	IC mm	REL mm	RER mm	S mm	Carbide PVD TM1
TWG20L005	L	Yes	3	(3.5)	2	60	8	14	0.05	0.05	7	■
TWG20L020	L	Yes	3	(3.5)	2	60	8	14	0.2	0.2	7	■
TWG25L010	L	Yes	3	(3.5)	2.5	60	8	14	0.1	0.1	7	■
TWG25L030	L	Yes	3	(3.5)	2.5	60	8	14	0.3	0.3	7	■
TWG30L010	L	Yes	3	(3.5)	3	60	8	14	0.1	0.1	7	■
TWG30L030	L	Yes	3	(3.5)	3	60	8	14	0.3	0.3	7	■

Face Grooving
SCRUM DUO BLADE

GWPFM.. series/For straight style toolholder

GTWPR



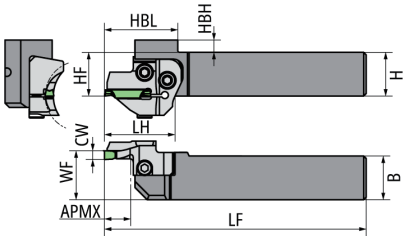


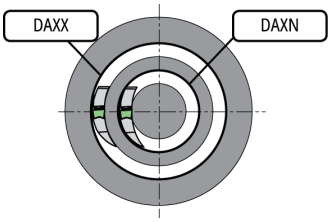
● Diagram shows right-hand tool

Holder	Width (mm) CW	Face grooving OD Min DAXN	Face grooving OD Max DAXX	Max grooving depth (mm) APMX	Blade number	Insert	Dimensions (mm) H	B	LF	LH	HF	W	HBL	HBH
GTWPR2020-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	20	20	125	41	20	23	46	8
		35	45	13	GBWPFR-3T13-035045									
		45	60	15	GBWPFR-3T15-045060									
		60	100	15	GBWPFR-3T15-060100									
		100	250	15	GBWPFR-3T15-100250									
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400								
		40	60	15	GBWPFR-4T15-040060									
		60	120	15	GBWPFR-4T15-060120									
		120	300	15	GBWPFR-4T15-120300									
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500								
		50	120	15	GBWPFR-5T15-050120									
		120	∞	15	GBWPFR-5T15-120999									
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600								
		80	∞	15	GBWPFR-6T15-080999									
GTWPR2525-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	25	25	150	41	25	28	42	7
		35	45	13	GBWPFR-3T13-035045									
		45	60	15	GBWPFR-3T15-045060									
		60	100	15	GBWPFR-3T15-060100									
		100	250	15	GBWPFR-3T15-100250									
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400								
		40	60	15	GBWPFR-4T15-040060									
		60	120	15	GBWPFR-4T15-060120									
		120	300	15	GBWPFR-4T15-120300									
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500								
		50	120	15	GBWPFR-5T15-050120									
		120	∞	15	GBWPFR-5T15-120999									
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600								
		80	∞	15	GBWPFR-6T15-080999									
GTWPR3232-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	32	32	170	41	32	35	–	–
		35	45	13	GBWPFR-3T13-035045									
		45	60	15	GBWPFR-3T15-045060									
		60	100	15	GBWPFR-3T15-060100									
		100	250	15	GBWPFR-3T15-100250									
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400								
		40	60	15	GBWPFR-4T15-040060									
		60	120	15	GBWPFR-4T15-060120									
		120	300	15	GBWPFR-4T15-120300									
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500								
		50	120	15	GBWPFR-5T15-050120									
		120	∞	15	GBWPFR-5T15-120999									
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600								
		80	∞	15	GBWPFR-6T15-080999									

※Insert clamp screw : CS0515

GTWPL





● Diagram shows left-hand tool

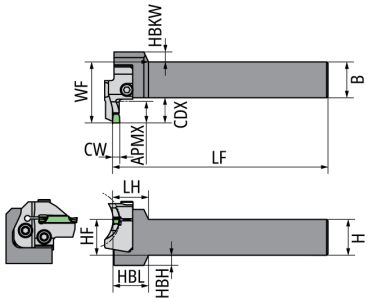
Holder	Width (mm)	Face grooving OD		Max grooving depth (mm)	Blade number	Insert	Dimensions (mm)							
	CW	Min DAXN	Max DAXX	APMX			H	B	LF	LH	HF	W	HBL	HBH
GTWPL2020-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	20	20	125	41	20	23	46	8
		35	45	13	GBWPFL-3T13-035045									
		45	60	15	GBWPFL-3T15-045060									
		60	100	15	GBWPFL-3T15-060100									
		100	250	15	GBWPFL-3T15-100250									
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400								
		40	60	15	GBWPFL-4T15-040060									
		60	120	15	GBWPFL-4T15-060120									
		120	300	15	GBWPFL-4T15-120300									
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500								
		50	120	15	GBWPFL-5T15-050120									
		120	∞	15	GBWPFL-5T15-120999									
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600								
		80	∞	15	GBWPFL-6T15-080999									
GTWPL2525-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	25	25	150	41	25	28	42	7
		35	45	13	GBWPFL-3T13-035045									
		45	60	15	GBWPFL-3T15-045060									
		60	100	15	GBWPFL-3T15-060100									
		100	250	15	GBWPFL-3T15-100250									
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400								
		40	60	15	GBWPFL-4T15-040060									
		60	120	15	GBWPFL-4T15-060120									
		120	300	15	GBWPFL-4T15-120300									
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500								
		50	120	15	GBWPFL-5T15-050120									
		120	∞	15	GBWPFL-5T15-120999									
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600								
		80	∞	15	GBWPFL-6T15-080999									
GTWPL3232-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	32	32	170	41	32	35	–	–
		35	45	13	GBWPFL-3T13-035045									
		45	60	15	GBWPFL-3T15-045060									
		60	100	15	GBWPFL-3T15-060100									
		100	250	15	GBWPFL-3T15-100250									
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400								
		40	60	15	GBWPFL-4T15-040060									
		60	120	15	GBWPFL-4T15-060120									
		120	300	15	GBWPFL-4T15-120300									
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500								
		50	120	15	GBWPFL-5T15-050120									
		120	∞	15	GBWPFL-5T15-120999									
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600								
		80	∞	15	GBWPFL-6T15-080999									

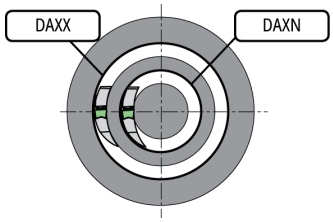
※Insert clamp screw : CS0515

Face Grooving
SCRUM DUO BLADE

GWPFM.. series/For L-style toolholder

GKWPR



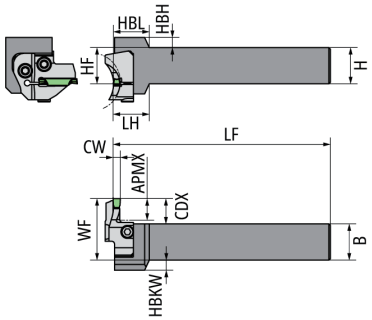


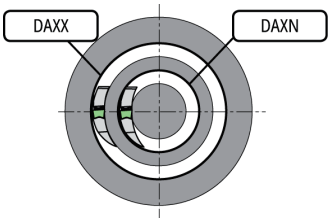
● Diagram shows right-hand tool

Holder	Width (mm)	Face grooving OD		Max grooving depth(mm)	Blade number	Insert	Dimensions (mm)									
	CW	Min DAXN	Max DAXX	APMX			H	B	CDX	LF	LH	HF	W	HBKW	HBL	HBH
GKWPR2020-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	20	20	17.5	125	25	20	37.5	12	25	8
		35	45	13	GBWPFL-3T13-035045											
		45	60	15	GBWPFL-3T15-045060											
		60	100	15	GBWPFL-3T15-060100											
		100	250	15	GBWPFL-3T15-100250											
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400										
		40	60	15	GBWPFL-4T15-040060											
		60	120	15	GBWPFL-4T15-060120											
		120	300	15	GBWPFL-4T15-120300											
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500										
		50	120	15	GBWPFL-5T15-050120											
		120	∞	15	GBWPFL-5T15-120999											
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600										
		80	∞	15	GBWPFL-6T15-080999											
GKWPR2525-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	25	25	17.5	150	25	25	42.5	7	25	7
		35	45	13	GBWPFL-3T13-035045											
		45	60	15	GBWPFL-3T15-045060											
		60	100	15	GBWPFL-3T15-060100											
		100	250	15	GBWPFL-3T15-100250											
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400										
		40	60	15	GBWPFL-4T15-040060											
		60	120	15	GBWPFL-4T15-060120											
		120	300	15	GBWPFL-4T15-120300											
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500										
		50	120	15	GBWPFL-5T15-050120											
		120	∞	15	GBWPFL-5T15-120999											
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600										
		80	∞	15	GBWPFL-6T15-080999											
GKWPR3232-H	3.0	29	35	13	GBWPFL-3T13-029035	GWPFM300	32	32	17.5	170	25	32	49.5	–	–	–
		35	45	13	GBWPFL-3T13-035045											
		45	60	15	GBWPFL-3T15-045060											
		60	100	15	GBWPFL-3T15-060100											
		100	250	15	GBWPFL-3T15-100250											
	4.0	30	40	15	GBWPFL-4T15-030040	GWPFM400										
		40	60	15	GBWPFL-4T15-040060											
		60	120	15	GBWPFL-4T15-060120											
		120	300	15	GBWPFL-4T15-120300											
	5.0	30	50	15	GBWPFL-5T15-030050	GWPFM500										
		50	120	15	GBWPFL-5T15-050120											
		120	∞	15	GBWPFL-5T15-120999											
	6.0	35	80	15	GBWPFL-6T15-035080	GWPFM600										
		80	∞	15	GBWPFL-6T15-080999											

※Insert clamp screw : CS0515

GKWPL





● Diagram shows left-hand tool

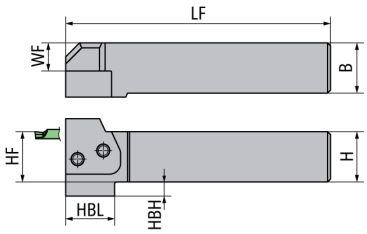
Holder	Width (mm)	Face grooving OD		Max grooving depth (mm)	Blade number	Insert	Dimensions(mm)									
	CW	Min DAXN	Max DAXX	APMX			H	B	CDX	LF	LH	HF	W	HBKW	HBL	HBH
GKWPL2020-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	20	20	17.5	125	25	20	37.5	12	25	8
		35	45	13	GBWPFR-3T13-035045											
		45	60	15	GBWPFR-3T15-045060											
		60	100	15	GBWPFR-3T15-060100											
		100	250	15	GBWPFR-3T15-100250											
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400										
		40	60	15	GBWPFR-4T15-040060											
		60	120	15	GBWPFR-4T15-060120											
		120	300	15	GBWPFR-4T15-120300											
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500										
		50	120	15	GBWPFR-5T15-050120											
		120	∞	15	GBWPFR-5T15-120999											
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600										
		80	∞	15	GBWPFR-6T15-080999											
GKWPL2525-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	25	25	17.5	150	25	25	42.5	7	25	7
		35	45	13	GBWPFR-3T13-035045											
		45	60	15	GBWPFR-3T15-045060											
		60	100	15	GBWPFR-3T15-060100											
		100	250	15	GBWPFR-3T15-100250											
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400										
		40	60	15	GBWPFR-4T15-040060											
		60	120	15	GBWPFR-4T15-060120											
		120	300	15	GBWPFR-4T15-120300											
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500										
		50	120	15	GBWPFR-5T15-050120											
		120	∞	15	GBWPFR-5T15-120999											
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600										
		80	∞	15	GBWPFR-6T15-080999											
GKWPL3232-H	3.0	29	35	13	GBWPFR-3T13-029035	GWPFM300	32	32	17.5	170	25	32	49.5	–	–	–
		35	45	13	GBWPFR-3T13-035045											
		45	60	15	GBWPFR-3T15-045060											
		60	100	15	GBWPFR-3T15-060100											
		100	250	15	GBWPFR-3T15-100250											
	4.0	30	40	15	GBWPFR-4T15-030040	GWPFM400										
		40	60	15	GBWPFR-4T15-040060											
		60	120	15	GBWPFR-4T15-060120											
		120	300	15	GBWPFR-4T15-120300											
	5.0	30	50	15	GBWPFR-5T15-030050	GWPFM500										
		50	120	15	GBWPFR-5T15-050120											
		120	∞	15	GBWPFR-5T15-120999											
	6.0	35	80	15	GBWPFR-6T15-035080	GWPFM600										
		80	∞	15	GBWPFR-6T15-080999											

※Insert clamp screw : CS0515

Face Grooving
SCRUM DUO BLADE

GWPFM..

GTWP-H Straight style toolholder



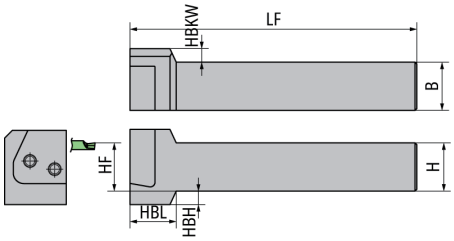
● Diagram shows right-hand tool

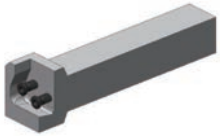
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBL mm	HF mm	LF mm	WF mm	Insert Gage
5923784	**GTWPR2020-H**	●	R	20	20	8	28.5	20	107.5	9	GWPFM../VGW../RCGX../RPGX..
5923800	**GTWPR2525-H**	●	R	25	25	7	24.5	25	132.5	14	GWPFM../VGW../RCGX../RPGX..
5963657	**GTWPR3232-H**	●	R	32	32	–	–	32	152.5	21	GWPFM../VGW../RCGX../RPGX..
5923792	**GTWPL2020-H**	●	L	20	20	8	28.5	20	107.5	9	GWPFM../VGW../RCGX../RPGX..
5923818	**GTWPL2525-H**	●	L	25	25	7	24.5	25	132.5	14	GWPFM../VGW../RCGX../RPGX..
5963673	**GTWPL3232-H**	●	L	32	32	–	–	32	152.5	21	GWPFM../VGW../RCGX../RPGX..

Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GTWPR2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPR3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GTWPL2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GTWPL3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4

GKWP-H L-style toolholder





● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBKW mm	HBL mm	HF mm	LF mm	Insert Gage
5923826	**GKWPR2020-H**	●	R	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923842	**GKWPR2525-H**	●	R	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963681	**GKWPR3232-H**	●	R	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..
5923834	**GKWPL2020-H**	●	L	20	20	8	12	24	20	124	GWPFM../VGW../RCGX../RPGX..
5923859	**GKWPL2525-H**	●	L	25	25	7	7	24	25	149	GWPFM../VGW../RCGX../RPGX..
5963699	**GKWPL3232-H**	●	L	32	32	–	–	–	32	169	GWPFM../VGW../RCGX../RPGX..

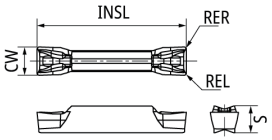
Spare Parts

Item Number	Blade	Mounting screw	Wrench (for Mounting screw)
GKWPR2020-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR2525-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPR3232-H	GBWPFL../GBRL-R../GBVL-VGW../GBI-VGW.L../GBO-VGW.L..	FSI28-6.0*18	LW-4
GKWPL2020-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL2525-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4
GKWPL3232-H	GBWPFR../GBRR-R../GBVR-VGW../GBI-VGW.R../GBO-VGW.R..	FSI28-6.0*18	LW-4

Face Grooving
SCRUM DUO BLADE

GWPFM.. series/Insert Carbide

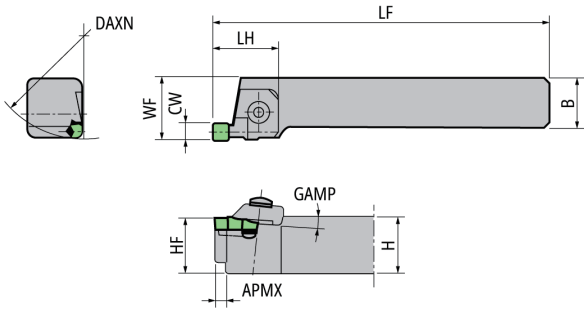
GWPFM-GT

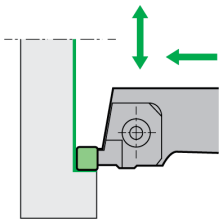


Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	S	Carbide PVD DM4
			mm	mm	mm	mm	mm	
GWPFM300N02-GT	N	Yes	3	24.5	0.2	0.2	4.2	●
GWPFM300N04-GT	N	Yes	3	24.5	0.4	0.4	4.2	●
GWPFM400N04-GT	N	Yes	4	26.5	0.4	0.4	4.2	●
GWPFM400N08-GT	N	Yes	4	26.5	0.8	0.8	4.2	●
GWPFM500N04-GT	N	Yes	5	26.5	0.4	0.4	4.2	●
GWPFM500N08-GT	N	Yes	5	26.5	0.8	0.8	4.2	●
GWPFM600N04-GT	N	Yes	6	26.5	0.4	0.4	4.2	●
GWPFM600N08-GT	N	Yes	6	26.5	0.8	0.8	4.2	●

Face Grooving
GFV.. series/Toolholders

GFV





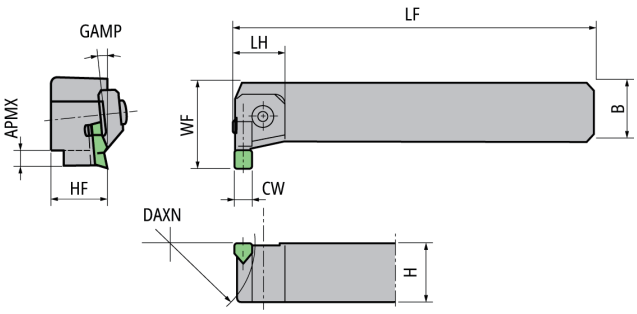
● Diagram shows right-hand tool

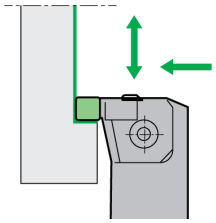
EDP	Item Number	Stock	Hand	DAXN mm	APMX mm	B mm	CW mm	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
5657887	**GFVR20-6**	●	R	38	6	20	6	6	20	20	125	32	25	GFV..
5655220	**GFVR25-6**	●	R	38	6	25	6	6	25	25	150	32	30	GFV..
5657895	**GFVL20-6**	●	L	38	6	20	6	6	20	20	125	32	25	GFV..
5657903	**GFVL25-6**	●	L	38	6	25	6	6	25	25	150	32	30	GFV..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
GFVR20-6	CVR6	AOB-6C	ASG-6	LW-4
GFVR25-6	CVR6	AOB-6C	ASG-6	LW-4
GFVL20-6	CVL6	AOB-6C	ASG-6	LW-4
GFVL25-6	CVL6	AOB-6C	ASG-6	LW-4

GSV





● Diagram shows right-hand tool

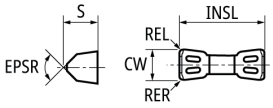
EDP	Item Number	Stock	Hand	DAXN mm	APMX mm	B mm	CW mm	GMAP °	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
5657911	**GSVR20-6**	●	R	38	6	20	6	6	20	20	125	23.5	33	GFV..
5645965	**GSVR25-6**	●	R	38	6	25	6	6	25	25	150	23.5	38	GFV..
5657929	**GSVL20-6**	●	L	38	6	20	6	6	20	20	125	23.5	33	GFV..
5657937	**GSVL25-6**	●	L	38	6	25	6	6	25	25	150	23.5	38	GFV..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
GSVR20-6	CVL6	AOB-6C	ASG-6	LW-4
GSVR25-6	CVL6	AOB-6C	ASG-6	LW-4
GSVL20-6	CVR6	AOB-6C	ASG-6	LW-4
GSVL25-6	CVR6	AOB-6C	ASG-6	LW-4

Face Grooving
GFV.. series/Insert Carbide

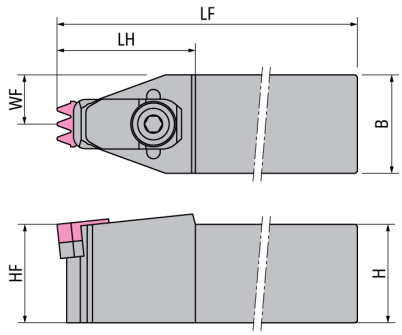
GFV-N

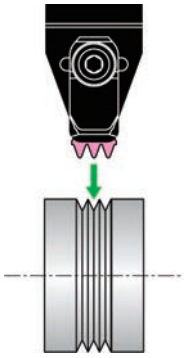


Item Number	Hand	Chip-breaker	CW	EPSR	INSL	REL	RER	S	Carbide PVD
			mm	°	mm	mm	mm	mm	QM3
GFV600N	N	Yes	6	90	20	0.15	0.15	5.2	●
GFV600N04	N	Yes	6	90	20	0.4	0.4	5.2	●

Machining Poly-V Pulley Profiles -3V-
PTM.. series/Toolholders

POLY-V (3V)





EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
–	**POLY-V163**	–	N	25.4	25.4	25.4	152.4	12.7	35.56	PTM33K30..

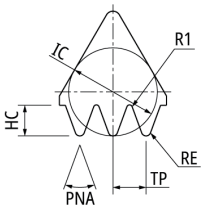
Spare Parts

Item Number	Clamp	Shim	Clamp screw	Thrust Plate
POLY-V163	2417-C	K3-C	1230-C	9414

PTM.. series/Inserts Ceramics

PTM33

No.1



No.2

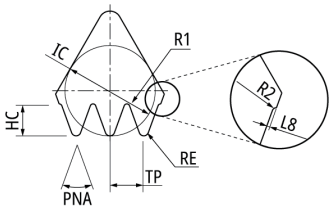
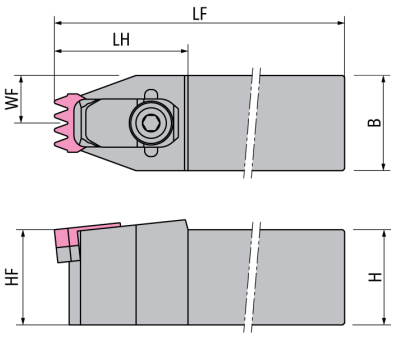
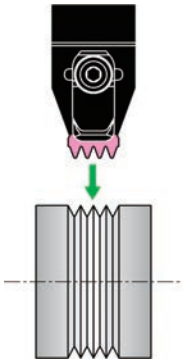


Figure	Item Number	CECC	Hand	Chip-breaker	EPSR °	HC mm	IC mm	L8 mm	PNA °	R1 mm	R2 mm	RE mm	S mm	TP mm	Alumina Ceramics HW2
1	**PTM33K305E004**	E004	N	No	60	3.35	9.525	–	40	0.3	–	0.5	4.76	3.56	
1	**PTM33K30504E004**	E004	N	No	60	3.16	9.525	–	40	0.4	–	0.5	4.76	3.56	
2	**PTM33K305NSE004**	E004	N	No	60	3.35	9.525	0.2	40	0.3	0.3	0.5	4.76	3.56	
2	**PTM33K30504NSE004**	E004	N	No	60	3.16	9.525	0.2	40	0.4	0.4	0.5	4.76	3.56	

Machining Poly-V Pulley Profiles -4V-
PTM.. series/Toolholders

POLY-V (4V)





EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
–	**POLY-V164**	–	N	25.4	25.4	25.4	152.4	12.7	35.56	PTM43K40..

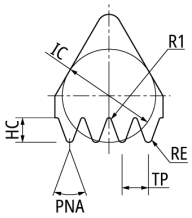
Spare Parts

Item Number	Clamp	Shim	Clamp screw	Thrust Plate
POLY-V164	2417-C	K4-C	1230-C	9414

PTM.. series/Inserts Ceramics

PTM43

No.1



No.2

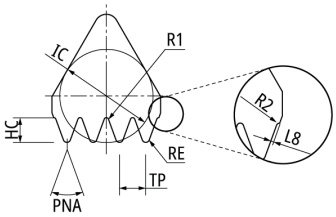
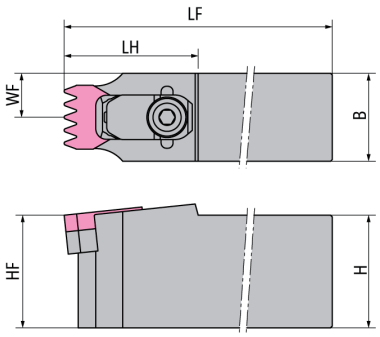
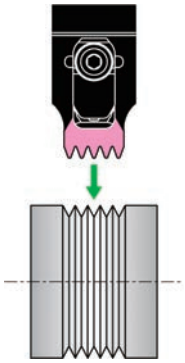


Figure	Item Number	CECC	Hand	Chip-breaker	EPSR °	HC mm	IC mm	L8 mm	PNA °	R1 mm	R2 mm	RE mm	S mm	TP mm	Alumina Ceramics HW2
1	**PTM43K405E004**	E004	N	No	60	3.35	12.7	–	40	0.3	–	0.5	4.76	3.56	
1	**PTM43K40504E004**	E004	N	No	60	3.16	12.7	–	40	0.4	–	0.5	4.76	3.56	
2	**PTM43K405NSE004**	E004	N	No	60	3.35	12.7	0.2	40	0.3	0.3	0.5	4.76	3.56	
2	**PTM43K40504NSE004**	E004	N	No	60	3.16	12.7	0.2	40	0.4	0.4	0.5	4.76	3.56	

Machining Poly-V Pulley Profiles -5V-
PTM.. series/Toolholders

POLY-V (5V)





EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
–	**POLY-V205**	–	N	31.75	31.75	31.75	177.8	15.875	38.1	PTM53K50..

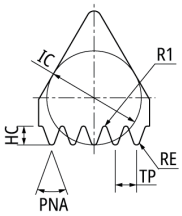
Spare Parts

Item Number	Clamp	Shim	Clamp screw	Thrust Plate
POLY-V205	2417-C	K5-C	1230-C	9414

PTM.. series/Inserts Ceramics

PTM53K5

No.1



No.2

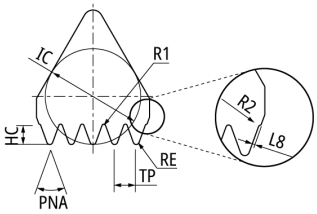
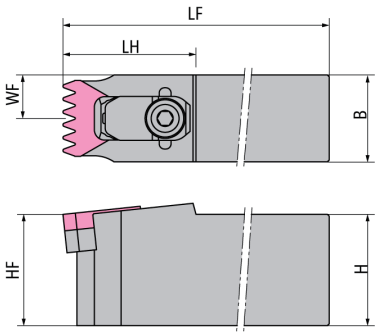
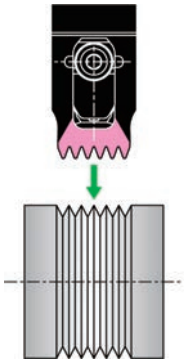


Figure	Item Number	CECC	Hand	Chip-breaker	EPSR °	HC mm	IC mm	L8 mm	PNA °	R1 mm	R2 mm	RE mm	S mm	TP mm	Alumina Ceramics HW2
1	**PTM53K505E004**	E004	N	No	60	3.35	15.875	–	40	0.3	–	0.5	4.76	3.56	
1	**PTM53K50504E004**	E004	N	No	60	3.16	15.875	–	40	0.4	–	0.5	4.76	3.56	
2	**PTM53K505NSE004**	E004	N	No	60	3.35	15.875	0.2	40	0.3	0.3	0.5	4.76	3.56	
2	**PTM53K50504NSE004**	E004	N	No	60	3.16	15.875	0.2	40	0.4	0.4	0.5	4.76	3.56	

Machining Poly-V Pulley Profiles -6V-
PTM.. series/Toolholders

POLY-V (6V)





EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
–	**POLY-V206**	–	N	31.75	31.75	31.75	177.8	15.875	38.1	PTM53K60..

Spare Parts

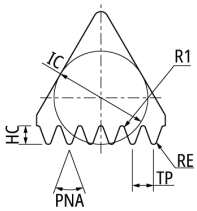
Item Number	Clamp	Shim	Clamp screw	Thrust Plate
POLY-V206	2417-C	K6-C	1230-C	9414

F Grooving/ Side-Turning

PTM.. series/Inserts Ceramics

PTM53K6

No.1



No.2

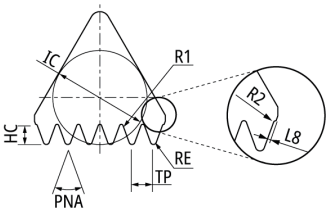
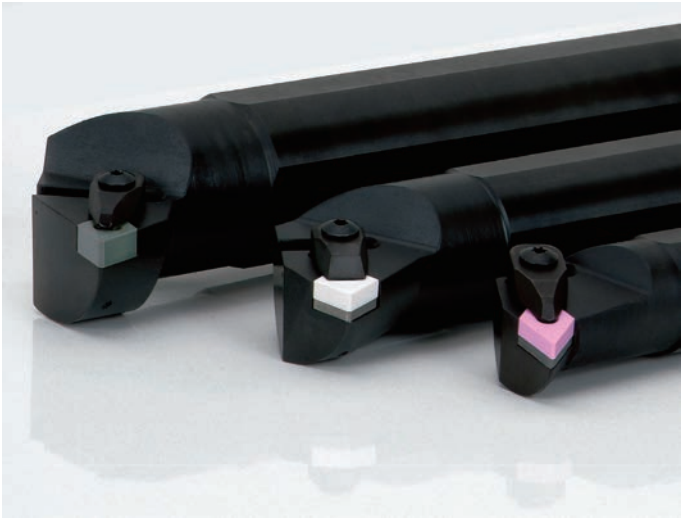


Figure	Item Number	CECC	Hand	Chip-breaker	EPSR °	HC mm	IC mm	L8 mm	PNA °	R1 mm	R2 mm	RE mm	S mm	TP mm	Alumina Ceramics HW2
1	**PTM53K605E004**	E004	N	No	60	3.35	15.875	–	40	0.3	–	0.5	4.76	3.56	
1	**PTM53K60504E004**	E004	N	No	60	3.16	15.875	–	40	0.4	–	0.5	4.76	3.56	
2	**PTM53K605NSE004**	E004	N	No	60	3.35	15.875	0.2	40	0.3	0.3	0.5	4.76	3.56	
2	**PTM53K60504NSE004**	E004	N	No	60	3.16	15.875	0.2	40	0.4	0.4	0.5	4.76	3.56	



ID Tooling

Product Lines G02

For CN.. Inserts G03

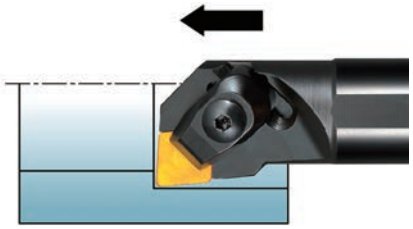
For DN.. Inserts G09

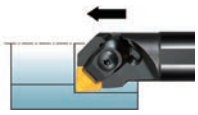
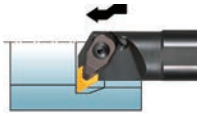
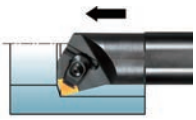
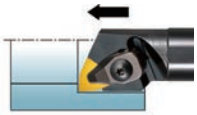
For SN.. Inserts G14

For WN.. Inserts G19

Product Lines

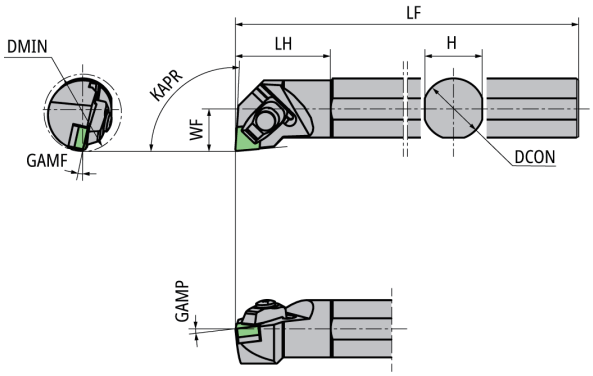
Multi Clamp Toolholders

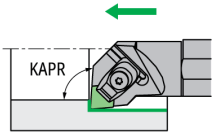


Insert	CN..	DN..	SN..	WN..
Holder	S-W/T/HCLN	S-W/HDUN	S-W/T/HSKN	S-WWLN
	 ➡G03	 ➡G09	 ➡G14	 ➡G19
Min. Bore Dia.	φ33	φ42	φ50	φ33

CN.. series/Toolholders

S-WCLN/S-TCLN/S-HCLN Multi Clamp Toolholders





● Diagram shows right-hand tool

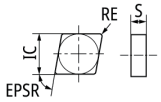
●RE : Std. corner radius

EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR mm	LF mm	LH mm	RE mm	WF mm	Insert Gage	
5682646	**S25R-WCLNR12**	●	R	33	25	14	6	24	95	200	40	0.8	17	CN..1204..	(CN..1207..)
5682661	**S32S-WCLNR12**	●	R	40	32	12	6	30	95	250	50	0.8	22	CN..1204..	(CN..1207..)
5682687	**S40T-WCLNR12**	●	R	50	40	10	6	38	95	300	60	0.8	27	CN..1204..	(CN..1207..)
5682703	**S50U-WCLNR12**	●	R	63	50	8	6	47	95	350	65	0.8	35	CN..1204..	(CN..1207..)
5682653	**S25R-WCLNL12**	●	L	33	25	14	6	24	95	200	40	0.8	17	CN..1204..	(CN..1207..)
5682679	**S32S-WCLNL12**	●	L	40	32	12	6	30	95	250	50	0.8	22	CN..1204..	(CN..1207..)
5682695	**S40T-WCLNL12**	●	L	50	40	10	6	38	95	300	60	0.8	27	CN..1204..	(CN..1207..)
5682711	**S50U-WCLNL12**	●	L	63	50	8	6	47	95	350	65	0.8	35	CN..1204..	(CN..1207..)
5701693	**S25R-TCLNL12**	●	L	33	25	14	6	24	95	200	40	0.8	17	CN..1204..	(CN..1207..)
5701685	**S25R-TCLNR12**	●	R	33	25	14	6	24	95	200	40	0.8	17	CN..1204..	(CN..1207..)
5701701	**S32S-TCLNR12**	●	R	40	32	12	6	30	95	250	50	0.8	22	CN..1204..	(CN..1207..)
5701727	**S40T-TCLNR12**	●	R	50	40	10	6	38	95	300	60	0.8	27	CN..1204..	(CN..1207..)
5701743	**S50U-TCLNR12**	●	R	63	50	8	6	47	95	350	65	0.8	35	CN..1204..	(CN..1207..)
5701719	**S32S-TCLNL12**	●	L	40	32	12	6	30	95	250	50	0.8	22	CN..1204..	(CN..1207..)
5701735	**S40T-TCLNL12**	●	L	50	40	10	6	38	95	300	60	0.8	27	CN..1204..	(CN..1207..)
5701750	**S50U-TCLNL12**	●	L	63	50	8	6	47	95	350	65	0.8	35	CN..1204..	(CN..1207..)
5701198	**S25R-HCLNL12**	●	L	33	25	14	6	24	95	200	40	0.8	17	CNGX1207..	–
5701180	**S25R-HCLNR12**	●	R	33	25	14	6	24	95	200	40	0.8	17	CNGX1207..	–
5701206	**S32S-HCLNR12**	●	R	40	32	12	6	30	95	250	50	0.8	22	CNGX1207..	–
5701222	**S40T-HCLNR12**	●	R	50	40	10	6	38	95	300	60	0.8	27	CNGX1207..	–
5701248	**S50U-HCLNR12**	●	R	63	50	8	6	47	95	350	65	0.8	35	CNGX1207..	–
5701214	**S32S-HCLNL12**	●	L	40	32	12	6	30	95	250	50	0.8	22	CNGX1207..	–
5701230	**S40T-HCLNL12**	●	L	50	40	10	6	38	95	300	60	0.8	27	CNGX1207..	–
5701255	**S50U-HCLNL12**	●	L	63	50	8	6	47	95	350	65	0.8	35	CNGX1207..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
S25R-WCLNR12	DC6CN	ACN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-WCLNR12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WCLNR12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S50U-WCLNR12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S25R-WCLNL12	DC6CN	ACN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-WCLNL12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WCLNL12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S50U-WCLNL12	DC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S25R-TCLNL12	TC6CN	ACN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S25R-TCLNR12	TC6CN	ACN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-TCLNR12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-TCLNR12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S50U-TCLNR12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-TCLNL12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-TCLNL12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S50U-TCLNL12	TC6CN	ACN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S25R-HCLNL12	HC6CN	–	AOS-6*26W	–	LLR-T20	–	ASGL6-D
S25R-HCLNR12	HC6CN	–	AOS-6*26W	–	LLR-T20	–	ASGL6-D
S32S-HCLNR12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S40T-HCLNR12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S50U-HCLNR12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S32S-HCLNL12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S40T-HCLNL12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S50U-HCLNL12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D

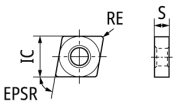
CNGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel								●	●	●		●								
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	CNGN120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGN120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T00820	T00820	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120408Z02025	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGN120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T00820	T00820	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120412Z02025	Z02025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGN120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGN120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGN120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGN120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGN120420T01025	T01025	80	12.7	4.76	–	2	–	–	–	–	–
	CNGN120708T00520	T00520	80	12.7	7.94	–	0.8	–	–	–	–	–
	CNGN120708T02025	T02025	80	12.7	7.94	–	0.8	–	–	–	–	–
	CNGN120712T02025	T02025	80	12.7	7.94	–	1.2	–	–	–	–	–

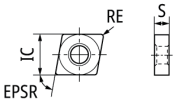
CNGA



	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
BIDEMICS PVD					●		
BIDEMICS PVD					●		
BIDEMICS PVD					●		
BIDEMICS PVD					●		
NTK CeramiX PVD						●	
Alumina Ceramics HC1			●				
Alumina Ceramics HW2			●				
Alumina Ceramics HC2			●			○	
Alumina Ceramics HC4						●	
Alumina Ceramics HC6			●			●	
Alumina Ceramics HC7						●	
Alumina Ceramics ZC7 PVD						●	
Silicon Nitride Ceramics SX3			○		●		
Silicon Nitride Ceramics SX5			○		●		
Silicon Nitride Ceramics SX7			○		●		
Silicon Nitride Ceramics SX9			○		●		
Silicon Nitride Ceramics SX6			●				
Silicon Nitride Ceramics SP9 CVD			●				
Whisker Ceramics WA1			○		●		
Whisker Ceramics WA5			○		●		

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	CNGA120404BQE004	E004	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404BQT00520	T00520	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404S02025	S02025	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404T01025	T01025	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404X01015	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404X01015-10	X01015	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120404Z02025	Z02025	80	12.7	4.76	–	0.4	–	–	–	–	–
	CNGA120408BQE004	E004	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408BQT00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408S02025	S02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408T01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408T02025	T02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408X01015	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408X01015-10	X01015	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120408Z02025	Z02025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120412BQE004	E004	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412BQT00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412S02025	S02025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412T01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412T02025	T02025	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412X01015	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120412X01015-10	X01015	80	12.7	4.76	–	1.2	–	–	–	–	–
	CNGA120416T00520	T00520	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGA120416T01020	T01020	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGA120416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–
	CNGA120416T02025	T02025	80	12.7	4.76	–	1.6	–	–	–	–	–

CNGA-WL with wiper for higher feed



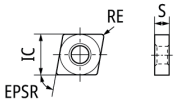
	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
BIDEMICS PVD					●		
BIDEMICS PVD					●		
BIDEMICS PVD					●		
BIDEMICS PVD					●		
NTK CeramiX PVD						●	
Alumina Ceramics HC1			●				
Alumina Ceramics HW2			●				
Alumina Ceramics HC2			●			○	
Alumina Ceramics HC4						●	
Alumina Ceramics HC6			●			●	
Alumina Ceramics HC7						●	
Alumina Ceramics ZC7 PVD						●	
Silicon Nitride Ceramics SX3			○		●		
Silicon Nitride Ceramics SX5			○		●		
Silicon Nitride Ceramics SX7			○		●		
Silicon Nitride Ceramics SX9			○		●		
Silicon Nitride Ceramics SX6			●				
Silicon Nitride Ceramics SP9 CVD			●				
Whisker Ceramics WA1			○		●		
Whisker Ceramics WA5			○		●		

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	CNGA120408WLT01025	T01025	80	12.7	4.76	–	0.8	–	–	–	–	–
	CNGA120412WLT01025	T01025	80	12.7	4.76	–	1.2	–	–	–	–	–

Wiper Width: R0.4: 0.35mm, R0.8: 0.65mm, R1.2: 0.85mm

Applicable holders: 95° cutting edge angle (C31, CCLN), 75° cutting edge angle (CCBN).

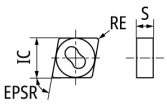
CNGG-AG with chipbreaker



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●		●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS JX1	BIDEMICS JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	CNGG120408Z01030AG	Z01030	80	12.7	4.76	–	0.8	–	–	–	–	–												●								
	CNGG120412Z01030AG	Z01030	80	12.7	4.76	–	1.2	–	–	–	–	–												●								

CNGX

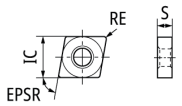


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●		●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

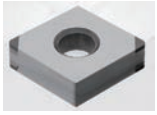
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS JX1	BIDEMICS JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	CNGX120712T02025	T02025	80	12.7	7.94	–	1.2	–	–	–	–	–																		●		
	CNGX120716T02025	T02025	80	12.7	7.94	–	1.6	–	–	–	–	–																		●		

CN.. series/Inserts CBN

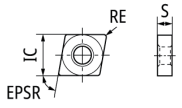
CNGA



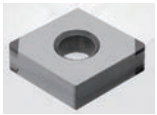
Steel																					
Stainless Steel																					
Cast Iron												●	●	●	●			○	○		
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material																●	●	●	●	●	
Others (non-metallic)																					

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	CNGA120402PQS01015	S01015	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01325	S01325	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01535	S01535	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQT01020	T01020	80	12.7	4.76	–	0.2	–	2.3	4	–				●					
	CNGA120404PDFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	2	–				●				●	
	CNGA120404PQFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	4	–				●				●	
	CNGA120404PQS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01020	S01020	80	12.7	4.76	–	0.4	–	2.3	4	–			●						
	CNGA120404PQS01325	S01325	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQT01020	T01020	80	12.7	4.76	–	0.4	–	2.3	4	–				●					
	CNGA120408PDFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	2	–				●					
	CNGA120408PQFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	4	–				●				●	
	CNGA120408PQS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01020	S01020	80	12.7	4.76	–	0.8	–	2.2	4	–			●						
	CNGA120408PQS01325	S01325	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQT00515	T00515	80	12.7	4.76	–	0.8	–	2.2	4	–					●				
	CNGA120408PQT01020	T01020	80	12.7	4.76	–	0.8	–	2.2	4	–				●					
	CNGA120412PDFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	2	–				●					
	CNGA120412PQFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	4	–				●				●	
	CNGA120412PQS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01020	S01020	80	12.7	4.76	–	1.2	–	2.7	4	–			●						
	CNGA120412PQS01325	S01325	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQT00515	T00515	80	12.7	4.76	–	1.2	–	2.7	4	–					●				
	CNGA120412PQT01020	T01020	80	12.7	4.76	–	1.2	–	2.7	4	–				●					
	CNGA120416PQS01015	S01015	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQS01020	S01020	80	12.7	4.76	–	1.6	–	2.6	4	–			●						
	CNGA120416PQS01325	S01325	80	12.7	4.76	–	1.6	–	2.6	4	–					●	●	●	●	
	CNGA120416PQS01535	S01535	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQT01020	T01020	80	12.7	4.76	–	1.6	–	2.6	4	–				●					
	CNGA120420PQS01015	S01015	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQS01020	S01020	80	12.7	4.76	–	2	–	2.6	4	–			●						
	CNGA120420PQS01325	S01325	80	12.7	4.76	–	2	–	2.6	4	–					●	●	●	●	
	CNGA120420PQS01535	S01535	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQT01020	T01020	80	12.7	4.76	–	2	–	2.6	4	–				●					

CNGA-W with wiper for higher feed



Steel																					
Stainless Steel																					
Cast Iron												●	●	●	●			○	○		
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material																●	●	●	●	●	
Others (non-metallic)																					

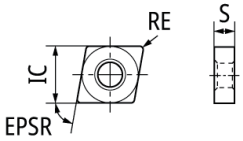
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	CNGA120404PQWS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120404PQWS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120408PQWS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120408PQWS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120412PQWS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	
	CNGA120412PQWS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	

Wiper Width: 0.25mm

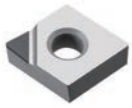
Applicable holders: 95°cutting edge angle (C31, CCLN).

CN.. series/Inserts PCD / Diamond Coating

CNM.

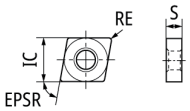


	PCD		Diamond Coating
	PD1	PD2	UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

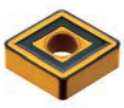
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	CNMG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	4			●
	CNMG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	4			●
	**CNMX120404PF**	Up-sharp edge	80	12.7	4.76	–	0.4	1		●	
	CNMX120408PF	Up-sharp edge	80	12.7	4.76	–	0.8	1		●	

CN.. series/Inserts Carbide

CN..

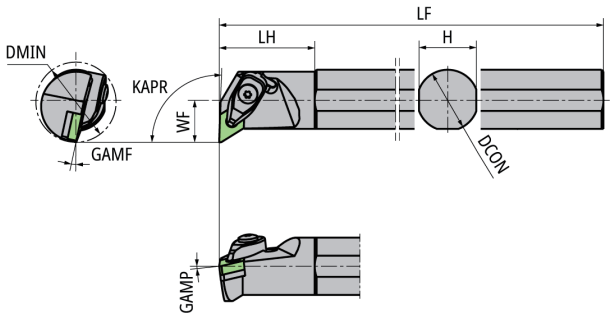


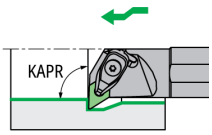
	Carbide															
	PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	CNGG120404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●					
	CNGG120408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●					
	CNGG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●			
	CNGG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●			
	CNMG120408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●						
	**CNMG120408G**	–	80	12.7	4.76	–	0.8	–								●		
	CNMG120412G	–	80	12.7	4.76	–	1.2	–								●		
	CNMG120416G	–	80	12.7	4.76	–	1.6	–								●		

DN.. series/Toolholders

S-WDUN/S-HDUN Multi Clamp Toolholders





● Diagram shows right-hand tool
●RE : Std. corner radius

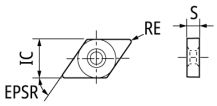
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage	
5682794	**S32S-WDUNR15**	●	R	42	32	12	6	30	93	250	50	0.8	22	DN..1504..	(DN..1507..)
5701545	**S40T-WDUNR15**	●	R	50	40	10	6	38	93	300	60	0.8	27	DN..1504..	(DN..1507..)
5682802	**S32S-WDUNL15**	●	L	42	32	12	6	30	93	250	50	0.8	22	DN..1504..	(DN..1507..)
5701560	**S40T-WDUNL15**	●	L	50	40	10	6	38	93	300	60	0.8	27	DN..1504..	(DN..1507..)
5701354	**S32S-HDUNR15**	●	R	42	32	12	6	30	93	250	50	0.8	22	DNGX1507..	–
5701370	**S40T-HDUNR15**	●	R	50	40	10	6	38	93	300	60	0.8	27	DNGX1507..	–
5701362	**S32S-HDUNL15**	●	L	42	32	12	6	30	93	250	50	0.8	22	DNGX1507..	–
5701388	**S40T-HDUNL15**	●	L	50	40	10	6	38	93	300	60	0.8	27	DNGX1507..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
S32S-WDUNR15	DC6DN	ADN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WDUNR15	DC6DN	ADN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-WDUNL15	DC6DN	ADN423	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WDUNL15	DC6DN	ADN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-HDUNR15	HC6DN	–	AOS-6*26W	–	LLR-T20	–	ASGL6-D
S40T-HDUNR15	HC6DN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S32S-HDUNL15	HC6DN	–	AOS-6*26W	–	LLR-T20	–	ASGL6-D
S40T-HDUNL15	HC6DN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D

DN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

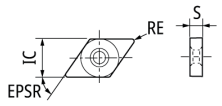
DNGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron	●	●	●	●									●	●	●	●			●	●
Non-Ferrous Material																				
Heat Resistant Alloy					●			○	●		●	●								
Hardened Material																				
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	DNGN150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGN150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGN150412T00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGN150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGN150712T02025	T02025	55	12.7	7.94	–	1.2	–	–	–	–	–

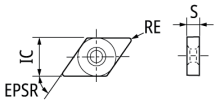
DNGA



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron	●	●	●	●									●	●	●	●			●	●
Non-Ferrous Material																				
Heat Resistant Alloy					●			○	●		●	●								
Hardened Material																				
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	DNGA150404BQE004	E004	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404BQT00520	T00520	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404S02025	S02025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404T01025	T01025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404X01015	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404X01015-10	X01015	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150404Z02025	Z02025	55	12.7	4.76	–	0.4	–	–	–	–	–
	DNGA150408BQE004	E004	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408BQT00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408S02025	S02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T00520	T00520	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T01020	T01020	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T01025	T01025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T02020	T02020	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408T02025	T02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408X01015	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408X01015-10	X01015	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150408Z02025	Z02025	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGA150412BQE004	E004	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412BQT00520	T00520	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412S02025	S02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T01020	T01020	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T01025	T01025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T02020	T02020	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412T02025	T02025	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412X01015	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–
	DNGA150412X01015-10	X01015	55	12.7	4.76	–	1.2	–	–	–	–	–

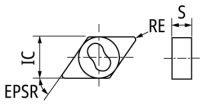
DNGG-AG with chipbreaker



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron					●	●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	DNGG150408Z01030AG	Z01030	55	12.7	4.76	–	0.8	–	–	–	–	–
	DNGG150412Z01030AG	Z01030	55	12.7	4.76	–	1.2	–	–	–	–	–

DNGX

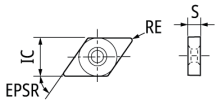


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron					●	●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	DNGX150716T02025	T02025	55	12.7	7.94	–	1.6	–	–	–	–	–

DN.. series/Inserts CBN

DNGA

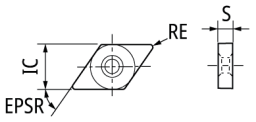


																		CBN			
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	PVD B16	B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	DNGA150402PQS01015	S01015	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01325	S01325	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01535	S01535	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQT01020	T01020	55	12.7	4.76	–	0.2	–	2.4	4	–				●					
	DNGA150404PDFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	2	–				●					
	DNGA150404PQFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	4	–				●				●	
	DNGA150404PQS01015	S01015	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01020	S01020	55	12.7	4.76	–	0.4	–	2.2	4	–			●						
	DNGA150404PQS01325	S01325	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01535	S01535	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQT01020	T01020	55	12.7	4.76	–	0.4	–	2.2	4	–				●					
	DNGA150408PDFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	2	–				●					
	DNGA150408PQFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	4	–				●				●	
	DNGA150408PQS01015	S01015	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01020	S01020	55	12.7	4.76	–	0.8	–	1.9	4	–			●						
	DNGA150408PQS01325	S01325	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01535	S01535	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQT01020	T01020	55	12.7	4.76	–	0.8	–	1.9	4	–				●					
	DNGA150412PDFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	2	–				●					
	DNGA150412PQFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	4	–								●	
	DNGA150412PQS01015	S01015	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01020	S01020	55	12.7	4.76	–	1.2	–	2.6	4	–			●						
	DNGA150412PQS01325	S01325	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01535	S01535	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQT01020	T01020	55	12.7	4.76	–	1.2	–	2.6	4	–				●					
	DNGA150416PQS01015	S01015	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01020	S01020	55	12.7	4.76	–	1.6	–	2.2	4	–			●						
	DNGA150416PQS01325	S01325	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01535	S01535	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQT01020	T01020	55	12.7	4.76	–	1.6	–	2.2	4	–				●					
	DNGA150420PQS01015	S01015	55	12.7	4.76	–	2	–	2.4	4	–						●			
	DNGA150420PQS01325	S01325	55	12.7	4.76	–	2	–	2.4	4	–					●	●			
	DNGA150420PQS01535	S01535	55	12.7	4.76	–	2	–	2.4	4	–						●			

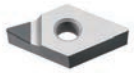
	Steel	Stainless Steel	Cast Iron	Non-Ferrous Material	Heat Resistant Alloy	Hardened Material	Others (non-metallic)
B16 PVD			●				
B22			●				
B23			●				
B30			●				
B36						●	
B6K PVD						●	
B40			○			●	
B52			○			●	
B5K PVD						●	

DN.. series/Inserts PCD / Diamond Coating

DNMX

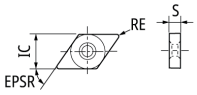


Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	● ● ●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	●

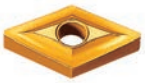
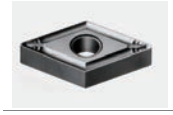
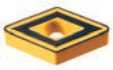
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	DNMX150404PF	Up-sharp edge	55	12.7	4.76	–	0.4	1		●	
	DNMX150408PF	Up-sharp edge	55	12.7	4.76	–	0.8	1		●	

DN.. series/Inserts Carbide

DN..

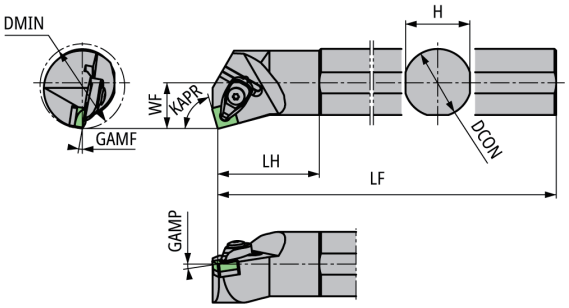


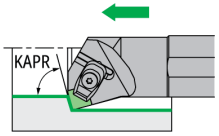
Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron										●								
Non-Ferrous Material					○		○				●							
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	DNGG150404FNZP	Up-sharp edge	55	12.7	4.76	–	0.4	–		●		●			●			
	DNGG150408FNZP	Up-sharp edge	55	12.7	4.76	–	0.8	–		●		●			●			
	DNMG150408T00525Z5	T00525	55	12.7	4.76	–	0.8	–		●		●						
	DNMG150404TNG	T01025	55	12.7	4.76	–	0.4	–				●						
	DNMG150404G	–	55	12.7	4.76	–	0.4	–								●		
	DNMG150408G	–	55	12.7	4.76	–	0.8	–								●		
	DNMG150412G	–	55	12.7	4.76	–	1.2	–								●		

SN.. series/Toolholders

S-WSKN/S-TSKN/S-HSKN Multi Clamp Toolholders





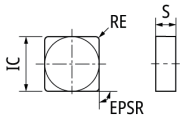
● Diagram shows right-hand tool
●RE : Std. corner radius

EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR mm	LF mm	LH mm	RE mm	WF mm	Insert Gage	
5682950	**S40T-WSKNR12**	●	R	50	40	10	6	38	75	300	60	0.8	27	SN..1204..	(SN..1207..)
5682968	**S40T-WSKNL12**	●	L	50	40	10	6	38	75	300	60	0.8	27	SN..1204..	(SN..1207..)
5701800	**S40T-TSKNR12**	●	R	50	40	10	6	38	75	300	60	0.8	27	SN..1204..	(SN..1207..)
5701818	**S40T-TSKNL12**	●	L	50	40	10	6	38	75	300	60	0.8	27	SN..1204..	(SN..1207..)
5701529	**S40T-HSKNR12**	●	R	50	40	10	6	38	75	300	60	0.8	27	SNGX1207..	–
5701537	**S40T-HSKNL12**	●	L	50	40	10	6	38	75	300	60	0.8	27	SNGX1207..	–

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
S40T-WSKNR12	DC6CN	ASN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WSKNL12	DC6CN	ASN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-TSKNR12	TC6CN	ASN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-TSKNL12	TC6CN	ASN423	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-HSKNR12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D
S40T-HSKNL12	HC6CN	–	AOS-6*30W	–	LLR-T20	–	ASGL6-D

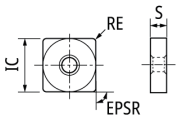
SNGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel						●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron																				
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D1 mm	D2 mm	INSL mm	S1 mm	W1 mm
	SNGN120404T01025	T01025	90	12.7	4.76	–	0.4	–	–	–	–	–
	SNGN120408S02025	S02025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T00520	T00520	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T00820	T00820	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T01020	T01020	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T01025	T01025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T02020	T02020	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408T02025	T02025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120408Z02025	Z02025	90	12.7	4.76	–	0.8	–	–	–	–	–
	SNGN120412S02025	S02025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T00520	T00520	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T00820	T00820	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T01020	T01020	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T01025	T01025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T02020	T02020	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412T02025	T02025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120412Z02025	Z02025	90	12.7	4.76	–	1.2	–	–	–	–	–
	SNGN120416S02025	S02025	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416T00520	T00520	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416T01020	T01020	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416T01025	T01025	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416T02020	T02020	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416T02025	T02025	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120416Z02025	Z02025	90	12.7	4.76	–	1.6	–	–	–	–	–
	SNGN120420T01020	T01020	90	12.7	4.76	–	2	–	–	–	–	–
	SNGN120420T01025	T01025	90	12.7	4.76	–	2	–	–	–	–	–
	SNGN120420T02020	T02020	90	12.7	4.76	–	2	–	–	–	–	–
	SNGN120420T02025	T02025	90	12.7	4.76	–	2	–	–	–	–	–
	SNGN120424T01025	T01025	90	12.7	4.76	–	2.4	–	–	–	–	–
	SNGN120424T02020	T02020	90	12.7	4.76	–	2.4	–	–	–	–	–
	SNGN120708T02025	T02025	90	12.7	7.94	–	0.8	–	–	–	–	–
	SNGN120712S02025	S02025	90	12.7	7.94	–	1.2	–	–	–	–	–
	SNGN120712T02025	T02025	90	12.7	7.94	–	1.2	–	–	–	–	–
	SNGN120716T02025	T02025	90	12.7	7.94	–	1.6	–	–	–	–	–

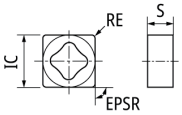
SNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	SNGA120408S02025	S02025	90	12.7	4.76	–	0.8	–	–	–	–	–												●								
	SNGA120408T01025	T01025	90	12.7	4.76	–	0.8	–	–	–	–	–												●								
	SNGA120408T02020	T02020	90	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	SNGA120412S02025	S02025	90	12.7	4.76	–	1.2	–	–	–	–	–												●								
	SNGA120412T01025	T01025	90	12.7	4.76	–	1.2	–	–	–	–	–												●								
	SNGA120412T02020	T02020	90	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	SNGA120416T02020	T02020	90	12.7	4.76	–	1.6	–	–	–	–	–																	●			

SNGX

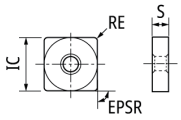


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

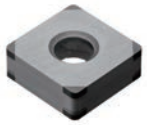
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD		
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	SNGX120712T02025	T02025	90	12.7	7.94	–	1.2	–	–	–	–	–																		●		
	SNGX120716T02025	T02025	90	12.7	7.94	–	1.6	–	–	–	–	–																		●		

SN.. series/Inserts CBN

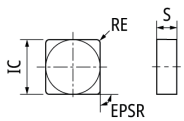
SNGA



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	SNGA120402PES01325	S01325	90	12.7	4.76	–	0.2	–	2.3	8	–					●		●	●	
	SNGA120404PES01015	S01015	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PES01020	S01020	90	12.7	4.76	–	0.4	–	2.3	8	–			●						
	SNGA120404PES01325	S01325	90	12.7	4.76	–	0.4	–	2.3	8	–					●				
	SNGA120404PES01535	S01535	90	12.7	4.76	–	0.4	–	2.3	8	–							●	●	
	SNGA120404PET01020	T01020	90	12.7	4.76	–	0.4	–	2.3	8	–				●					
	SNGA120408PES01015	S01015	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PES01020	S01020	90	12.7	4.76	–	0.8	–	2.3	8	–			●						
	SNGA120408PES01325	S01325	90	12.7	4.76	–	0.8	–	2.3	8	–					●				
	SNGA120408PES01535	S01535	90	12.7	4.76	–	0.8	–	2.3	8	–							●	●	
	SNGA120408PET01020	T01020	90	12.7	4.76	–	0.8	–	2.3	8	–				●					
	SNGA120412PES01015	S01015	90	12.7	4.76	–	1.2	–	2.8	8	–				●			●	●	
	SNGA120412PES01020	S01020	90	12.7	4.76	–	1.2	–	2.8	8	–			●						
	SNGA120412PES01325	S01325	90	12.7	4.76	–	1.2	–	2.8	8	–					●				
	SNGA120412PES01535	S01535	90	12.7	4.76	–	1.2	–	2.8	8	–							●	●	
	SNGA120412PET01020	T01020	90	12.7	4.76	–	1.2	–	2.8	8	–				●					
	SNGA120416PES01015	S01015	90	12.7	4.76	–	1.6	–	2.8	8	–								●	
	SNGA120416PES01325	S01325	90	12.7	4.76	–	1.6	–	2.8	8	–					●				
	SNGA120416PET01020	T01020	90	12.7	4.76	–	1.6	–	2.8	8	–				●					

SNMN

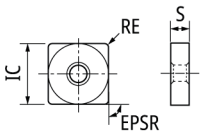


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	SNMN120408ST01025	T01025	90	12.7	4.76	–	0.8	–	–	8	–	●								
	SNMN120412ST02025	T02025	90	12.7	4.76	–	1.2	–	–	8	–	●								
	SNMN120416ST02025	T02025	90	12.7	4.76	–	1.6	–	–	8	–	●								

SN.. series/Inserts Carbide

SNMG

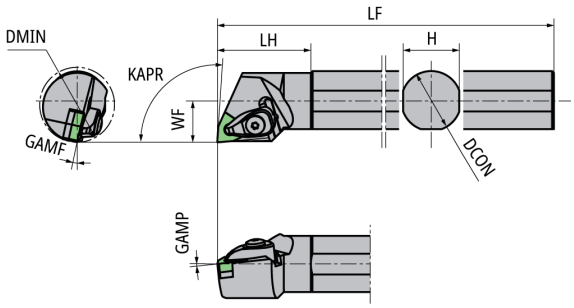


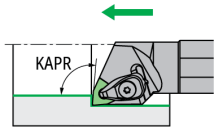
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	SNMG120408T00525Z5	T00525	90	12.7	4.76	–	0.8	–		●		●						
	SNMG120408G	–	90	12.7	4.76	–	0.8	–								●		
	SNMG120412G	–	90	12.7	4.76	–	1.2	–								●		
	SNMG120416G	–	90	12.7	4.76	–	1.6	–								●		

WN.. series/Toolholders

S-WWLN Multi Clamp Toolholders





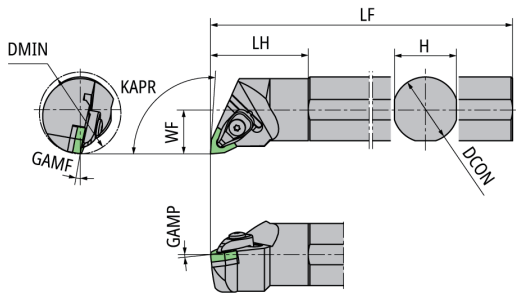
● Diagram shows right-hand tool
●RE : Std. corner radius

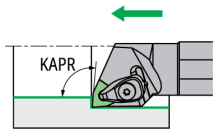
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR mm	LF mm	LH mm	RE mm	WF mm	Insert Gage	
5683032	**S25R-WWLNR08**	●	R	33	25	14	6	24	95	200	40	0.8	17	WN..0804..	(WN..0807..)
5683057	**S32S-WWLNR08**	●	R	40	32	12	6	30	95	250	50	0.8	22	WN..0804..	(WN..0807..)
5683073	**S40T-WWLNR08**	●	R	50	40	10	6	38	95	300	60	0.8	27	WN..0804..	(WN..0807..)
5683040	**S25R-WWLNL08**	●	L	33	25	14	6	24	95	200	40	0.8	17	WN..0804..	(WN..0807..)
5683065	**S32S-WWLNL08**	●	L	40	32	12	6	30	95	250	50	0.8	22	WN..0804..	(WN..0807..)
5683081	**S40T-WWLNL08**	●	L	50	40	10	6	38	95	300	60	0.8	27	WN..0804..	(WN..0807..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
S25R-WWLNR08	DC6CN	AWN423-W	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-WWLNR08	DC6CN	AWN423-W	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WWLNR08	DC6CN	AWN423-W	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S25R-WWLNL08	–	–	AOS-6*26W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S32S-WWLNL08	–	–	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WWLNL08	–	–	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D

S-WWLN-2 Multi Clamp Toolholders





● Diagram shows right-hand tool
●RE : Std. corner radius

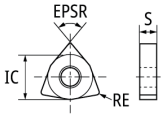
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR mm	LF mm	LH mm	RE mm	WF mm	Insert Gage	
5701594	**S40T-WWLNR08-2**	●	R	50	40	10	6	38	95	300	60	0.8	27	WN..0804..	(WN..0807..)
5701602	**S40T-WWLNL08-2**	●	L	50	40	10	6	38	95	300	60	0.8	27	WN..0804..	(WN..0807..)

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)	Wrench (for Shim)	Spring
S40T-WWLNR08-2	DC6CN	AWN423-W	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D
S40T-WWLNL08-2	–	–	AOS-6*30W	FSS16-3.0*8	LLR-T20	LLR-T10	ASGL6-D

WN.. series/Inserts BIDEMICS / Ceramics / NTK CeramiX

WNGA

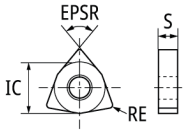


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics							Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD						CVD			
	(ISO)		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	WNGA080408T00520	T00520	80	12.7	4.76	–	0.8	–	–	–	–	–																			●	
	WNGA080408T01020	T01020	80	12.7	4.76	–	0.8	–	–	–	–	–																		●		
	WNGA080408T02020	T02020	80	12.7	4.76	–	0.8	–	–	–	–	–																	●			
	WNGA080412T00520	T00520	80	12.7	4.76	–	1.2	–	–	–	–	–																			●	
	WNGA080412T01020	T01020	80	12.7	4.76	–	1.2	–	–	–	–	–																		●		
	WNGA080412T02020	T02020	80	12.7	4.76	–	1.2	–	–	–	–	–																	●			
	WNGA080416T02020	T02020	80	12.7	4.76	–	1.6	–	–	–	–	–																	●			

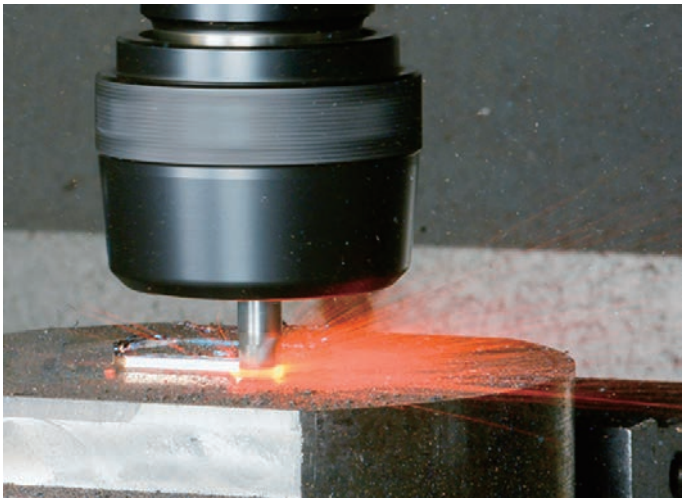
WN.. series/Inserts Carbide

WN..



Steel	○ ● ● ● ● ● ● ● ●
Stainless Steel	● ○ ○ ○ ● ○ ● ● ●
Cast Iron	●
Non-Ferrous Material	○ ○ ●
Heat Resistant Alloy	● ○ ○
Hardened Material	○ ○ ○
Others (non-metallic)	●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	WNGG080404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●					
	WNGG080408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●					
	WNGG080404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●			
	WNGG080408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●			
	WNMG080408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●						
	WNMG080412T00525Z5	T00525	80	12.7	4.76	–	1.2	–		●		●						
	WNMG080408G	–	80	12.7	4.76	–	0.8	–								●		
	WNMG080412G	–	80	12.7	4.76	–	1.2	–								●		



Endmill

Product Lines H02

Recommended Cutting Conditions H03

RCE.. series H05

RCS.. series H06

RCL.. series H08

Product Lines

CERAMATIC / Ceramic Endmill

Series	Features	DC (mm)	CICT	APMX (mm)	Pages
RCE.. series	For HRSA materials • High-speed machining of heat-resistant alloy is possible by utilizing the sialon ceramic grade "SX9" with excellent wear resistance. • Compared to carbide end mills, high-efficiency machining over 10 times is possible.	φ8 - 12.7	4,6 flute	- 9.525	A11 H05
RCS.. series	For Cast iron / HRSA materials • World-first ceramic end mill capable of machining cast iron (investigated by NTK). • High-efficiency machining with at least 3 times better performance than carbide end mills.	φ50 - 250	4,6,8 flute	- 14.29	A13 H06

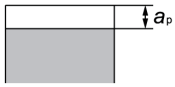
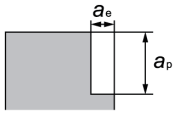
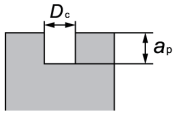
RCL type rectangular tooth chamfering type

Series	Features	DC (mm)	CICT	APMX (mm)	Pages
RCL.. series	Gear tooth chamfering type • Special two-flute end mill with indexable inserts. • C/T can be shortened by utilizing fine particle carbide inserts (compared to high-end mills) • Longer life than single-flute end mill	φ8 - 12.7	4,6	- 9.525	A15 H08

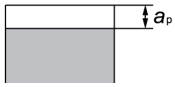
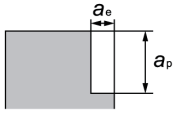
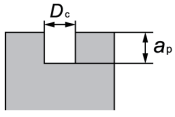
Recommended Cutting Conditions

CERAMATIC / Ceramic Endmill

Recommend Cutting Conditions for HRSA material

Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p -mm)	Width of cut (a_e -mm)	Coolant
Face Milling 	SX9	8mm	4/6/8		0.03	≦1.2	—	DRY
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		20mm				≦3.0		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		
		3/4"				≦2.9		
Side Milling 	SX9	8mm	4/6/8		0.03	≦4.0	≦0.8	DRY
		10mm				≦5.0	≦1.0	
		12mm				≦6.0	≦1.2	
		16mm				≦8.0	≦1.6	
		20mm				≦10.0	≦2.0	
		3/8"				≦4.8	≦0.9	
		1/2"				≦6.4	≦1.3	
		5/8"				≦8.0	≦1.6	
		3/4"				≦9.5	≦1.9	
Slotting 	SX9	8mm	4		0.03	≦2.0	—	DRY
		10mm				≦2.5		
		12mm				≦3.0		
		16mm				≦4.0		
		3/8"				≦2.4		
		1/2"				≦3.2		
		5/8"				≦4.0		
	SX9	8mm	6		0.03	≦1.2	—	DRY
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		

Recommended cutting conditions for Cast Iron

Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p- mm)	Width of cut (a_e- mm)	Coolant
Face Milling 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		
Side Milling 	SX9	12mm	4/6/8		0.1	≦9.0	≦2.0	DRY
		16mm				≦12.0	≦2.5	
		20mm				≦15.0	≦3.0	
		1/2"				≦9.0	≦2.0	
		5/8"				≦12.0	≦2.5	
		3/4"				≦14.0	≦3.0	
Slotting 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		

For Maximum Productivity

- A continuous cut is recommended. An interrupted cut may cause chipping or breakage.
- When using a Hydraulic or Shrink chuck, blow air to the arbor body, DON'T blow air to the endmill itself.
- A Minimum speed of 300m/min is required. (Don't run at lower speed.)
- A 1.5 degree ramping angle is recommended. Run at 50% lower feed rate when ramping cut.

RCL type rectangular tooth chamfering type

Cutter diameter	Recommended module	Recommended feed rate
φ14	2.25 or less	0.3mm/rev or less
φ12	2.15 or less	0.3mm/rev or less

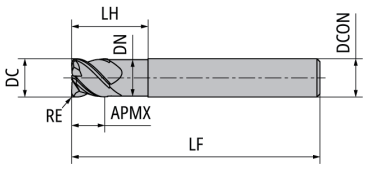
If the recommended module or the recommended feed rate is exceeded, the clamping screw should be retightened at least once or twice a day to keep insert secure.

Precautions

1. When mounting the end milling tool, ensure a minimum amount of overhang from the chuck to the tool nose in order to prevent run out during machining (Target value: approx. 20mm).
2. As is probably known, gear tooth chamfering applies shock loading due to interrupted cutting. For this reason, the holder and clamping screw may deteriorate quicker than normal. Therefore, we request that you replace the holder and clamping screw periodically with new ones for safer and more stable operation.
3. In addition, please re-tighten the clamping screw regularly to avoid loss of clamping force during machining.

CERAMATIC
RCE.. series for HRSA materials

RCE-H4



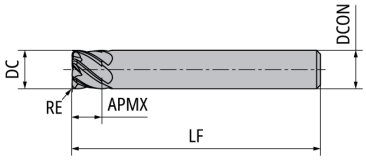
●No center cutting edge

Tolerances (mm)

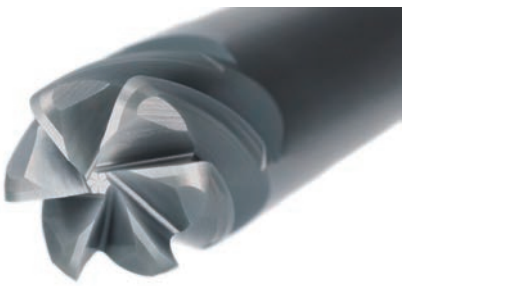
DC	DC (e8)	DCON (h6)
8,10,3/8"	-0.024/-0.047	+0/-0.009
12,1/2"	-0.032/-0.059	+0/-0.011

Item Number	NOF	APMX		DC		DCON		DN		FHA	LF		LH		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	mm	inch	SX9
RCEM080H4R100S	4	6	.236	8	.315	8	.315	7.6	.299	35	60	2.362	16	.630	1	.039	●
RCEM100H4R125S	4	7.5	.295	10	.394	10	.394	9.6	.378	35	65	2.559	20	.787	1.25	.049	●
RCEM120H4R150S	4	9	.354	12	.472	12	.472	11.6	.457	35	70	2.756	24	.945	1.5	.059	●
RCEI375H4R047S	4	7.14	9/32	9.525	3/8	9.525	3/8	9.125	.359	35	63.5	2.500	19.05	3/4	1.19	.047	●
RCEI500H4R068S	4	9.525	3/8	12.7	1/2	12.7	1/2	12.3	.484	35	69.85	2.750	25.4	1.000	1.73	.068	●

RCE-J6



●No center cutting edge



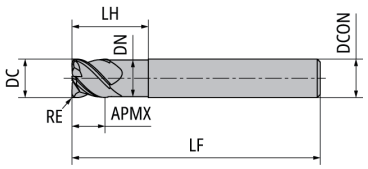
Tolerances (mm)

DC	DC (e8)	DCON (h6)
8,10,3/8"	-.00098/-.00185"	+0/-.00035"
12,1/2"	-0.032/-0.059	+0/-0.011

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCEM080J6R100S	6	6	.236	8	.315	8	.315	40	60	2.362	1	.039	●
RCEM100J6R125S	6	7.5	.295	10	.394	10	.394	40	65	2.559	1.25	.049	●
RCEM120J6R150S	6	9	.354	12	.472	12	.472	40	70	2.756	1.5	.059	●
RCEI375J6R047S	6	7.14	9/32	9.525	3/8	9.525	3/8	40	63.5	2.500	1.19	.047	●
RCEI500J6R068S	6	9.525	3/8	12.7	1/2	12.7	1/2	40	69.85	2.750	1.73	.068	●

RCS.. series for Cast iron / HRSA materials

RCS-H4



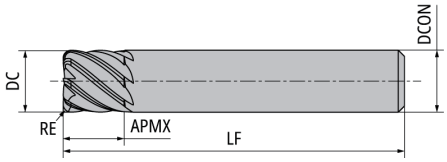
●No center cutting edge

Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		DN		FHA	LF		LH		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	mm	inch	SX9
RCSM120H4R150S	4	9	.354	12	.472	12	.472	11.6	.457	35	70	2.756	24	.945	1.5	.059	■
RCSM160H4R200S	4	12	.472	16	.630	16	.630	15.5	.610	35	75	2.953	32	1.260	2	.079	■
RCSI500H4R068S	4	9.525	3/8	12.7	1/2	12.7	1/2	12.3	.484	35	69.85	2.750	25.4	1.000	1.73	.068	■
RCSI625H4R078S	4	11.91	.469	15.875	5/8	15.875	5/8	15.375	.605	35	76.2	3.000	31.75	1-1/4	1.98	.078	■

RCS-J6



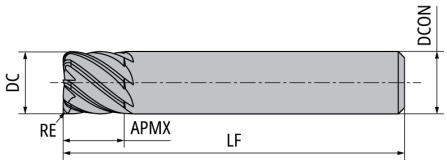
●No center cutting edge

Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCSM120J6R150S	6	9	.354	12	.472	12	.472	40	70	2.756	1.5	.059	■
RCSM160J6R200S	6	12	.472	16	.630	16	.630	40	75	2.953	2	.079	■
RCSI500J6R068S	6	9.525	3/8	12.7	1/2	12.7	1/2	40	69.85	2.750	1.73	.068	■
RCSI625J6R078S	6	11.91	.469	15.875	5/8	15.875	5/8	40	76.2	3.000	1.98	.078	■

RCS-J8



●No center cutting edge

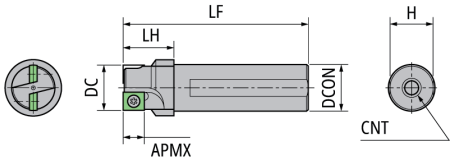
Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCSM200J8R250S	8	15	.591	20	.787	20	.787	40	110	4.331	2.5	.098	■
RCSI750J8R094S	8	14.29	.563	19.05	3/4	19.05	3/4	40	107.95	4.250	2.38	.094	■

RCL type rectangular tooth chamfering type
RCL.. series/Toolholders

RCL-066



● Diagram shows right-hand tool

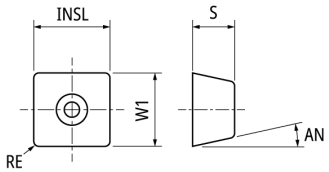
EDP	Item Number	Stock	Hand	APMX mm	CICT	CNT	DC mm	DCON mm	H mm	KAPR °	LF mm	LH mm	Insert Gage
5051792	**RCL100D2R066**	●	R	(5)	2	M4*20L	10	10	9.5	90	60	18	CLH04..035
5051784	**RCL100D2L066**	●	L	(5)	2	M4*20L	10	10	9.5	90	60	18	CLH04..035

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
RCL100D2R066	FSI04-2.0*4.3	T-06
RCL100D2L066	FSI04-2.0*4.3	T-06

RCL.. series/Insert Carbide

CLH04-035

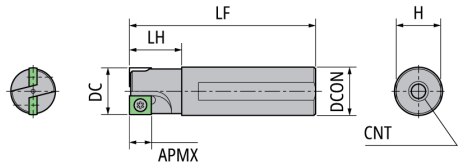


●No center cutting edge

Item Number	Chip-breaker	Wiper	AN °	INSL mm	KAPR °	RE mm	S mm	W1 mm	Carbide PVD DM4	Carbide PVD ZM3
CLH0402CFN-035	No	No	7	5.56	90	0.2	1.88	4.2	●	●
CLH0402CT00525-035	No	No	7	5.56	90	0.2	1.88	4.2	●	●

RCL.. series/Toolholders

RCL-050



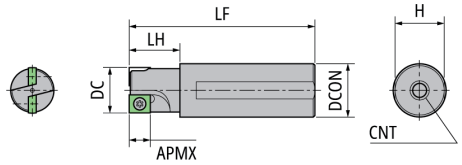
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	APMX mm	CICT	CNT	DC mm	DCON mm	H mm	KAPR °	LF mm	LH mm	Insert Gage
5025952	**RCL120D2R050**	●	R	(5)	2	M4*20L	12	12	11	90	60	15	CLH04..004
5025945	**RCL120D2L050**	●	L	(5)	2	M4*20L	12	12	11	90	60	15	CLH04..004

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
RCL120D2R050	FSI01-2.5*5	CLR-15S
RCL120D2L050	FSI01-2.5*5	CLR-15S

RCL-059



● Diagram shows right-hand tool

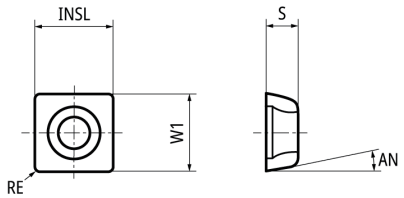
EDP	Item Number	Stock	Hand	APMX mm	CICT	CNT	DC mm	DCON mm	H mm	KAPR °	LF mm	LH mm	Insert Gage
5034913	**RCL120D2R059**	●	R	(5)	2	M6*20L	12	14	13	90	55	15	CLH04..004
5034921	**RCL120D2L059**	●	L	(5)	2	M6*20L	12	14	13	90	55	15	CLH04..004

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
RCL120D2R059	FSI01-2.5*5	CLR-15S
RCL120D2L059	FSI01-2.5*5	CLR-15S

RCL.. series/Insert Carbide

CLH04-004

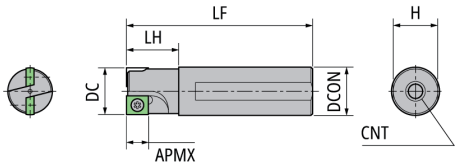


●No center cutting edge

Item Number	Chip-breaker	Wiper	AN °	INSL mm	KAPR °	RE mm	S mm	W1 mm	Carbide PVD DM4	Carbide PVD ZM3
CLH0402CFN-004	No	No	7	5.56	90	0.2	1.88	4.76	●	●
CLH0402CT00525-004	No	No	7	5.56	90	0.2	1.88	4.76	●	●

RCL.. series/Toolholders

RCL-021



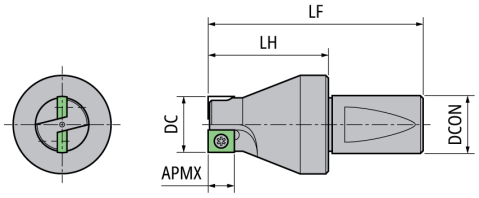
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	APMX mm	CICT	CNT	DC mm	DCON mm	H mm	KAPR °	LF mm	LH mm	Insert Gage
5005046	**RCL140D2R021**	●	R	(6)	2	M6*20L	14	14	13	90	55	15	CLH05..
5005053	**RCL140D2L021**	●	L	(6)	2	M6*20L	14	14	13	90	55	15	CLH05..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
RCL140D2R021	FSI01-2.5*5	CLR-15S
RCL140D2L021	FSI01-2.5*5	CLR-15S

RCL-020



● Diagram shows right-hand tool

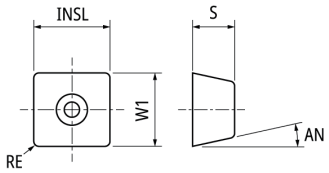
EDP	Item Number	Stock	Hand	APMX mm	CICT	CNT	DC mm	DCON mm	H mm	KAPR °	LF mm	LH mm	Insert Gage
5005236	**RCL140Z2R020**	●	R	(6)	2	–	14	14	–	90	54	30	CLH05..
5005228	**RCL140Z2L020**	●	L	(6)	2	–	14	14	–	90	54	30	CLH05..

Spare Parts

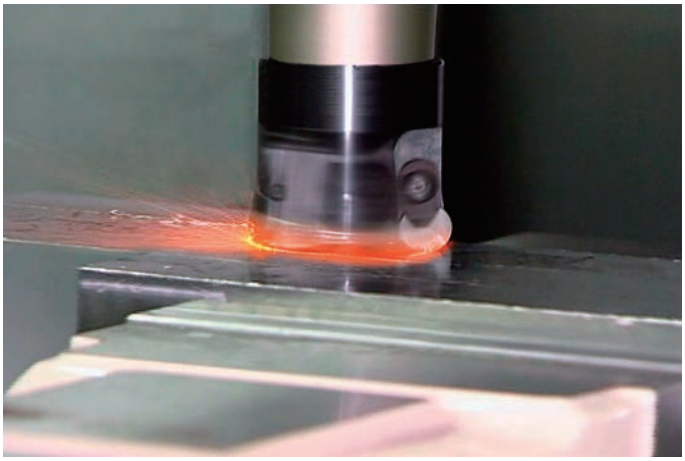
Item Number	Clamp screw	Wrench (for Clamp screw)
RCL140Z2R020	FSI01-2.5*5	CLR-15S
RCL140Z2L020	FSI01-2.5*5	CLR-15S

RCL.. series/Insert Carbide

CLH05



Item Number	Chip-breaker	Wiper	AN °	INSL mm	KAPR °	RE mm	S mm	W1 mm	Carbide PVD DM4	Carbide PVD ZM3
CLH0502CFN	No	No	11	6.35	90	0.2	2.18	5.56	●	●
CLH0504CFN	No	No	11	6.35	90	0.4	2.18	5.56	●	●



Milling Cutter

Product Lines I02

Recommend Cutting Conditions I04

Machine power requirements I05
-Quick Check Table-

Compatible arbor standard table I06

JR series I08

JWNXM series I11

JFDX series I12

JXTM series I21

JQ series I22

JSDW series I24

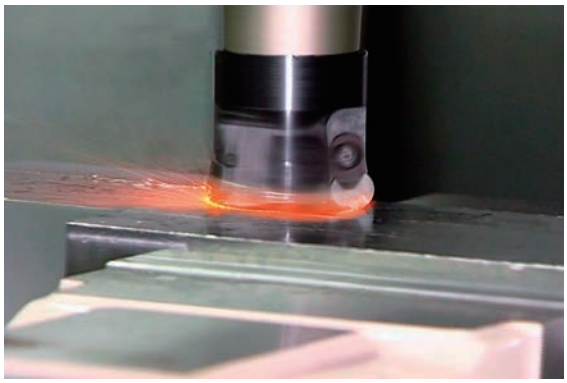
HFC series I28

HPC series I29

Arbors I32

Product Lines

HRSA materials and Hardened Materials

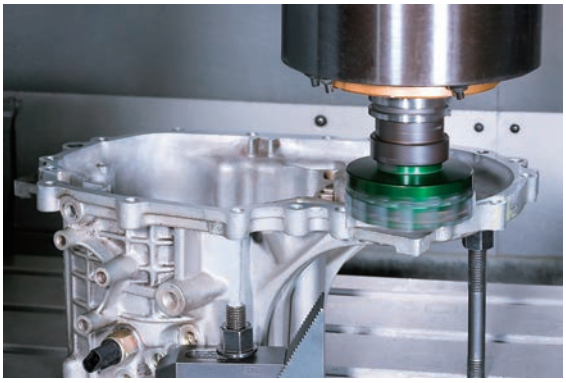


Series	Features	DC mm	KAPR °	APMX mm	Page
JR series	High-speed machining of HRSA materials • High performance milling cutter line that uses round-shaped inserts for machining both aerospace and hardened steels • SX7, SiAlON grade, has the best performance for high speed machining of high temperature alloys	φ32 - 80	–	- 3.2	**I8**

Gray / Ductile Cast Iron

Series	Features	DC mm	KAPR °	APMX mm	Page
JWNXM series	Low resistance × multiple corners • Reduces occurrence of insert edge chipping which is common during cast iron machining • Ideal for machining through scale • Tooling cost is reduced by using the unique 6 corner insert.	φ63 - 160	88°	- 5.5	**A16 I11**
JFDX series	Low cost x versatility • Extremely economical 8-corner inserts • Covers various applications with 45, 75, and 88 degree angle milling cutters • Ceramic inserts with chipbreaker and wiper are also available	φ63 - 160	45°,75°,88°	- 6	**I12**
JXTM series	High rigidity • Large DOC is possible because of the fine pitch of inserts which results in higher productivity • LNX Insert comes with special chipbreaker to reduce tool pressure • Newly added Left-hand cutters	φ80 - 125	88°	- 8	**I21**
JQ series	Shoulder milling × Small diameter cutter • Capable of 90-degree shoulder milling • A variety of cutter diameters as small as φ20mm	φ20 - 80	90°	- 8	**I22**
JSDW series	Low tool pressure • Positive inserts reduce tool pressure and produce excellent surface finish in addition to long tool life • Best for milling thin parts thanks to reduced tool pressure	φ80 - 160	45°,75°	- 6	**I24**

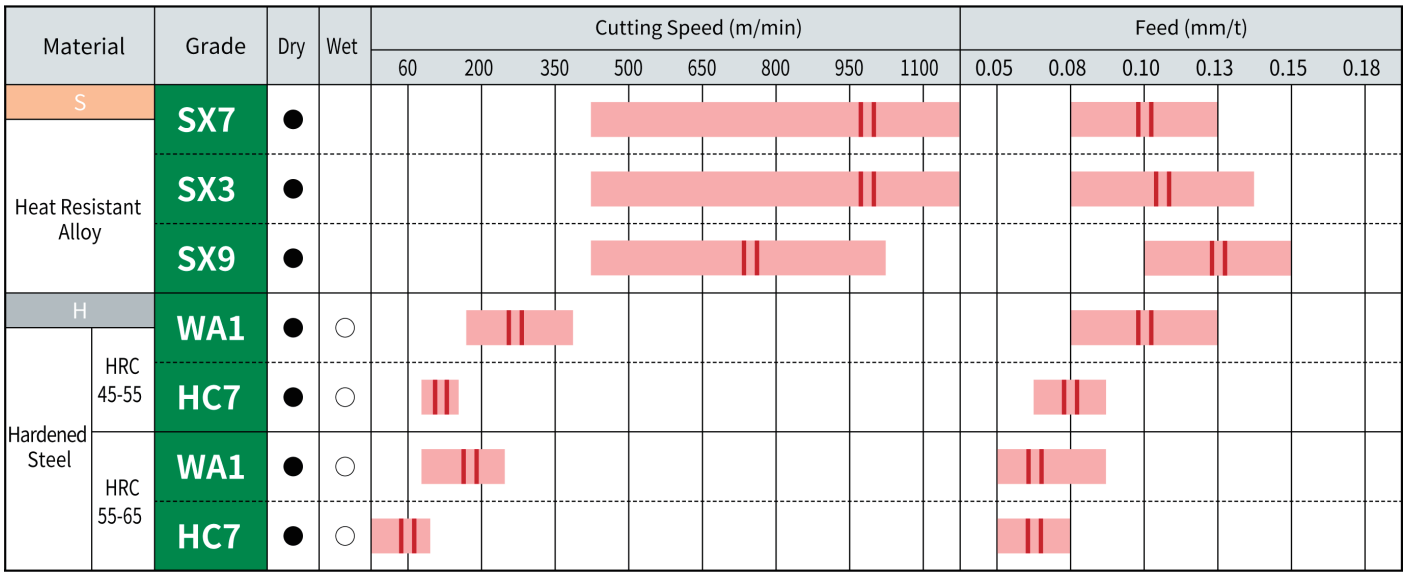
Aluminum



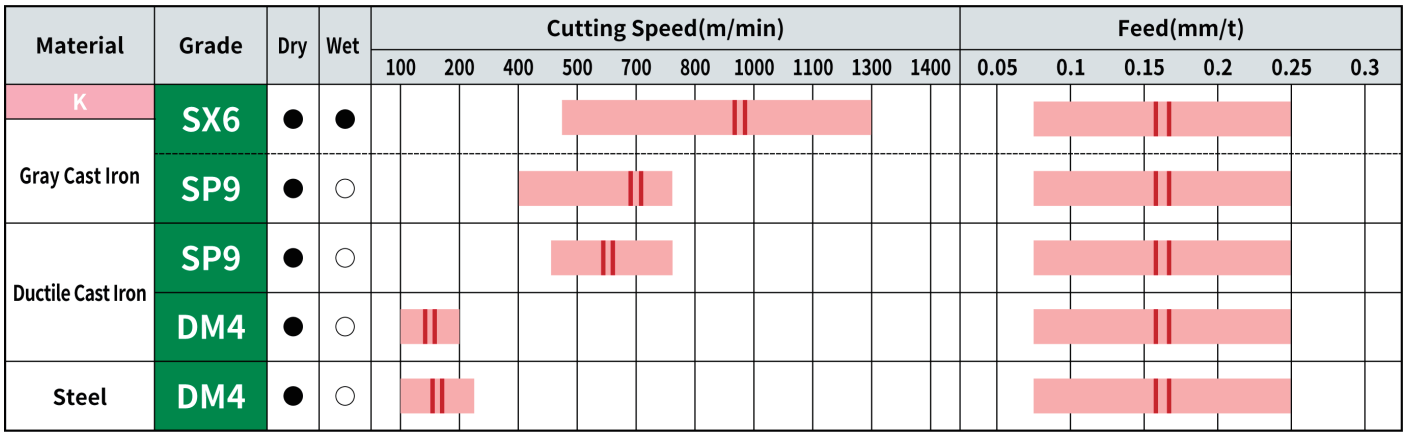
Series	Features	DC mm	KAPR °	APMX mm	Page
HFC series	Maximum insert count for increased productivity • Highly efficient machining is achieved with more inserts • Lightweight aluminum cutter body to accommodate ATC weight limitations *ATC = automatic tool changer on CNC	φ50 - 125	90°	- 6.35	**A17 I28**
HPC series	Small diameter cutter • A wide range of cutter diameters from φ20mm to φ100mm • Strong rigid steel bodies • With the fixed-type cutters, no timeconsuming presetting is required	φ20 - 100	90°	- 5	**A20 I29**

Recommended Cutting Conditions

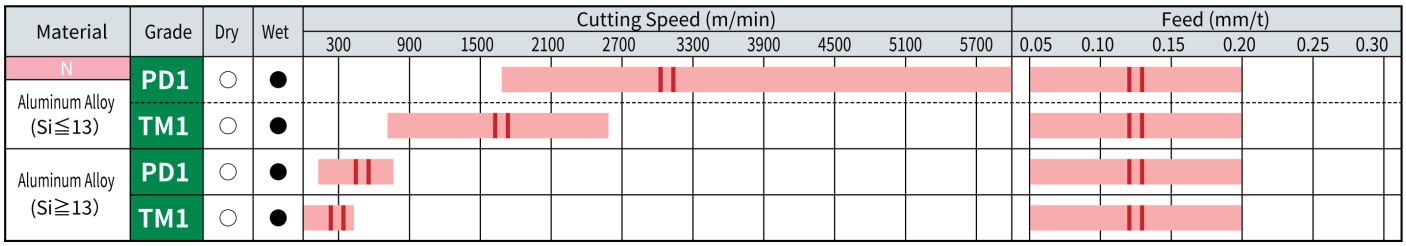
For HRSA materials and Hardened materials



For Gray / Ductile Cast Iron



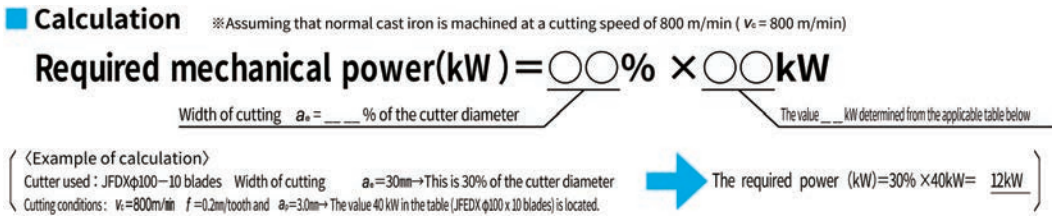
For Aluminum



Machine power requirements -Quick Check Table-

Calculation

※Assuming that normal cast iron is machined at a cutting speed of Vc=800m/min



JFDX series

JFDXφ63 - 6 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	4	6	7	9
	2	7	11	14	17
	3	11	16	22	26
	4	14	22	29	35

JFDXφ80 - 8 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	6	9	12	14
	2	12	18	24	29
	3	18	27	35	43
	4	23	36	47	57

JFDXφ100-10 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	9	13	18	21
	2	17	27	35	42
	3	26	40	53	64
	4	35	54	70	85

JFDXφ125 - 12 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	12	19	25	30
	2	24	37	49	59
	3	36	56	73	89
	4	48	74	98	118

JFDXφ160 - 16 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	21	32	42	50
	2	41	63	83	100
	3	62	95	125	151
	4	82	127	166	201

JSDW series

JSDWφ63 - 4 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	3	4	6	7
	2	6	9	12	14
	3	9	13	18	22
	4	12	18	24	29

JSDWφ80 - 6 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	5	8	11	13
	2	11	16	22	26
	3	16	24	33	39
	4	21	32	43	52

JSDWφ100 - 7 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	7	10	14	17
	2	14	20	27	33
	3	20	31	41	50
	4	27	41	55	66

JSDWφ125 - 8 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	8	13	17	20
	2	17	25	34	41
	3	25	38	51	61
	4	33	50	68	82

JSDWφ160 - 10 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	1	12	18	24	29
	2	24	36	49	59
	3	36	54	73	88
	4	48	72	97	117

JXTM series

JXTMφ80 - 10 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	5	36	55	76	93
	6	43	66	91	111
	7	50	76	106	130
	8	57	87	121	148

JXTMφ100 - 13 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	5	61	93	130	159
	6	73	112	156	190
	7	85	131	182	222
	8	97	149	208	254

JXTMφ125 - 16 teeth

		Feed rete per tooth (mm/t)			
		0.1	0.2	0.3	0.4
Depth of cut (mm)	5	93	143	198	242
	6	111	171	238	291
	7	130	200	277	339
	8	148	228	317	387

Unit: kW

*Please make use of the above tables, understanding that they are approximations only to use as a guide.

Tips for utilizing the above tables

1. The assumption is that gray cast iron is machined at a cutting speed of 800m/min, with the cutter diameter shown as the width of cut (a_e= 100% of the cutter diameter).
2. The required power becomes approximately half (50%) if the cutting width a_e or depth of cut is halved. (The power is proportional to a_e or a_p.)
3. The required power is reduced to approximately 60% if the number of inserts is halved.
4. Machines that have an output of 22kw or greater are recommended.

Compatible arbor standard table

HRSA materials and Hardened Materials

Series		Mountable standard	
		Type of standard arbor	Arbor diameter
JRPMW	φ32 ※	φ25 Gripping diameter sleeve ※	Shank diameter φ25 ※
	φ32 ※	φ32 Gripping diameter sleeve ※	Shank diameter φ32 ※
	φ40 ※	φ32 Gripping diameter sleeve ※	Shank diameter φ32 ※
	φ50	FMC	φ22.0
	φ63	FMC	φ22.0
	φ80	FMA	φ25.4

※Shank-type body

Gray / Ductile Cast Iron

Series		Mountable standard	
		Type of standard arbor	Arbor diameter
JWNXM	φ63	FMC	φ22.0
	φ80	FMA	φ25.4
	φ100	FMA	φ31.75
	φ125	FMA	φ38.1
	φ160	FMA	φ50.8
JFDX	φ63	FMC	φ22.0
	φ80	FMA	φ25.4
	φ100	FMA	φ31.75
	φ125	FMA	φ38.1
JSDW	φ63	FMC	φ22.0
	φ80	FMA	φ25.4
	φ100	FMA	φ31.75
	φ125	FMA	φ38.1
JXTM	φ80	FMA	φ25.4
	φ100	FMA	φ31.75
	φ125	FMA	φ38.1
JQTS	φ40		φ16.0
	φ50	FMC	φ22.0
	φ63	FMC	φ22.0
JQTE	φ20 ※	φ20 Gripping diameter sleeve ※	Shank diameter φ20 ※
	φ25 ※	φ25 Gripping diameter sleeve ※	Shank diameter φ25 ※
	φ32 ※	φ32 Gripping diameter sleeve ※	Shank diameter φ32 ※
	φ40 ※	φ32 Gripping diameter sleeve ※	Shank diameter φ32 ※

※Shank-type body

Aluminum

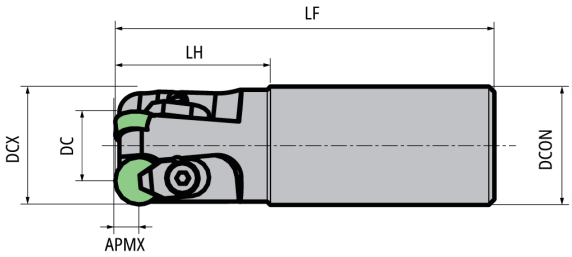
Series		Mountable standard	
		Type of standard arbor	Arbor diameter
HFC	φ50	FMC	φ22
	φ63	FMC	φ22
	φ80	FMA	φ25.4
	φ100	FMA	φ25.4
	φ125	FMA	φ25.4
HPC	φ50	FMC	φ22.0
	φ63	FMC	φ22.0
	φ80	FMA	φ25.4
	φ80	FMC	φ27.0
	φ100	FMA	φ31.75
	φ100	FMC	φ32.0
	φ125	FMA	φ38.1
	φ125	FMC	φ40.0

※Shank-type body

For HRSA materials and Hardened Materials

JR series / Cutter

JRPMW Shank type



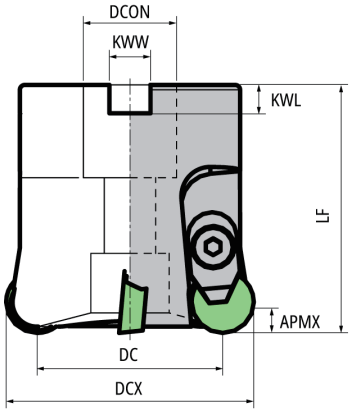
EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	DCX mm	GAMF °	GMAP °	LF mm	LH mm	Weight kg	Insert Gage
5720719	**JRPMW032E250R03**	●	R	3	~3.2	19.3	25	32	-7.5	+5	120	40	0.42	RP..1204..
5719919	**JRPMW032E320R03**	●	R	3	~3.2	19.3	32	32	-7.5	+5	120	40	0.6	RP..1204..
5719927	**JRPMW040E320R03**	●	R	3	~3.2	27.3	32	40	-7.5	+5	120	40	0.72	RP..1204..

※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp	Clamp screw	Wrench (for Clamp screw)
JRPMW032E250R03	AMS-5T	AOB-5S-T25	LLR-T25
JRPMW032E320R03	AMS-5T	AOB-5S-T25	LLR-T25
JRPMW040E320R03	AMS-5T	AOB-5S-T25	LLR-T25

JRPMW Arbor type



EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	DCX mm	GAMF °	GMAP °	KWL mm	KWW mm	LF mm	Weight kg	Insert Gage
5719935	**JRPMW050S220R04**	●	R	4	~3.2	37.3	22	50	-5	+5	6.3	10.4	50	0.35	RP..1204..
5726096	**JRPMW063S220R04**	●	R	4	~3.2	50.3	22	63	-5	+5	6.3	10.4	50	0.55	RP..1204..
5719943	**JRPMW080S254R05**	●	R	5	~3.2	67.3	25.4	80	-2.5	+5	6	9.5	50	0.87	RP..1204..

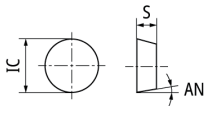
※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)
JRPMW050S220R04	AMS-5T	ARP42A	AOB-5S-T25	M3*8	LLR-T25
JRPMW063S220R04	AMS-5T	ARP42A	AOB-5S-T25	M3*8	LLR-T25
JRPMW080S254R05	AMS-5T	ARP42A	AOB-5S-T25	M3*8	LLR-T25

JR series / Positive Inserts BIDEMICS_Ceramics_NTK CeramiX

RPGN



	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

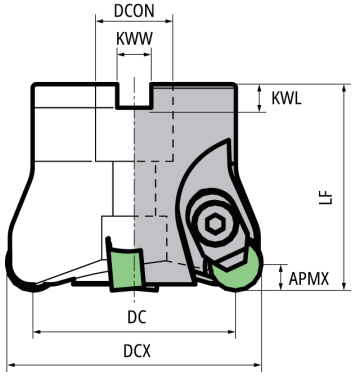
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	Metric		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	RPGN120400E004	E004	–	12.7	4.76	11	–	–	–	–	–	–
	RPGN120400EM02X	EM02X	–	12.7	4.76	11	–	–	–	–	–	–
	RPGN120400T00520	T00520	–	12.7	4.76	11	–	–	–	–	–	–
	RPGN120400T00525	T00525	–	12.7	4.76	11	–	–	–	–	–	–
	RPGN120400T00820	T00820	–	12.7	4.76	11	–	–	–	–	–	–
	RPGN120400T01020	T01020	–	12.7	4.76	11	–	–	–	–	–	–

BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
														●					
															●				
																		●	
															●				
														●					
															●			●	

For HRSA materials and Hardened Materials

JR series / Cutter

JRNMW Arbor type



EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	DCX mm	GAMF °	GMAP °	KWL mm	KWW mm	LF mm	Weight kg	Insert Gage
5719950	**JRNMW050S220R03**	●	R	3	~3.2	37.3	22	50	-10	-5	6	10	50	0.42	RN..1207..
5719968	**JRNMW063S220R04**	●	R	4	~3.2	50.3	22	63	-10	-5	6	10	50	0.55	RN..1207..
5719976	**JRNMW080S254R05**	●	R	5	~3.2	67.3	25.4	80	-10	-5	6	9.5	50	0.85	RN..1207..

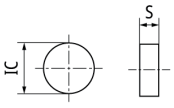
※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp	Clamp screw	Wrench (for Clamp screw)
JRNMW050S220R03	AMS-6T	AOB-6S-T30	LLR-T30
JRNMW063S220R04	AMS-6T	AOB-6S-T30	LLR-T30
JRNMW080S254R05	AMS-6T	AOB-6S-T30	LLR-T30

JR series / Negative Inserts BIDEMICS_Ceramics_NTK CeramiX

RNGN

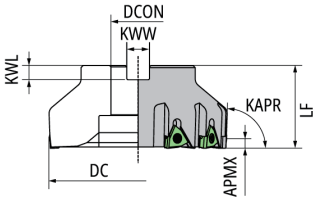


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics							Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel																				
Stainless Steel																				
Cast Iron						●	●	●		●			○	○	○	○	●	●	○	○
Non-Ferrous Material																				
Heat Resistant Alloy	●	●	●	●									●	●	●	●			●	●
Hardened Material					●			○	●		●	●								
Others (non-metallic)																				

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1
	Metric		°	mm	mm	°	mm	mm	mm	mm	mm	mm
	RNGN120700E002	E002	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700E004	E004	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700E007	E007	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700K20015	K20015	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700S02025	S02025	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700T00520	T00520	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700T00525	T00525	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700T00820	T00820	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700T01020	T01020	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700T02025	T02025	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700Z01520	Z01520	–	12.7	7.94	–	–	–	–	–	–	–
	RNGN120700Z02025	Z02025	–	12.7	7.94	–	–	–	–	–	–	–

For Gray / Ductile Cast Iron
JWNXM series / Cutter Lead angle 88 degree

JWNXM Arbor type



EDP	Item Number	Stock	Hand	Number of teeth	APMX	APMX2	DC	DCON	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg	
5974084	**JWNXM063C2200R06-A**	●	R	6	~5.5	4.5	63	22	+4	+5	88	6.3	10.4	50	0.9	WNX44..
5974092	**JWNXM080A2540R08-A**	●	R	8	~5.5	4.5	80	25.4	+7	+5	88	6	9.5	50	1.1	WNX44..
5972724	**JWNXM100A3175R10-A**	●	R	10	~5.5	4.5	100	31.75	+10	+5	88	8	12.7	50	1.8	WNX44..
5974100	**JWNXM125A3810R12-A**	●	R	12	~5.5	4.5	125	38.1	+10	+5	88	10	15.9	58	3	WNX44..
5974118	**JWNXM160A5080R16-A**	●	R	16	~5.5	4.5	160	50.8	+10	+5	88	11	19	60	4.9	WNX44..

※Weight : Includes inserts and parts

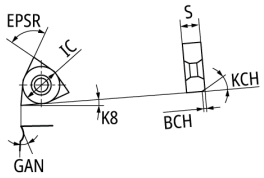
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
JWNXM063C2200R06-A	FSI26-4.0*12-LH	LLR-T15
JWNXM080A2540R08-A	FSI26-4.0*12-LH	LLR-T15
JWNXM100A3175R10-A	FSI26-4.0*12-LH	LLR-T15
JWNXM125A3810R12-A	FSI26-4.0*12-LH	LLR-T15
JWNXM160A5080R16-A	FSI26-4.0*12-LH	LLR-T15

JWNXM series / Inserts Ceramics

WNX44

No.1



No.2

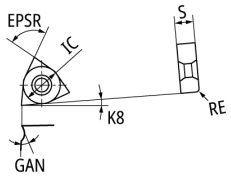
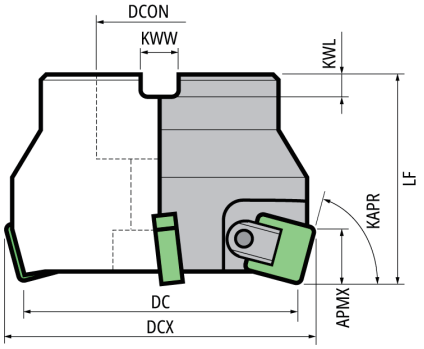


Figure	Item Number	Chip-breaker	Wiper	APMX	BCH	BS	EPSR	GAN	IC	K8	KCH	RE	S	Silicon Nitride Ceramics	
															CVD
				mm	mm	mm	°	°	mm	°	°	mm	mm	SX6	SP9
1	**WNX44-C10T01020**	Yes	Straight	5.5	1	(0.6)	80	20	12.7	10	30	–	6.35	●	●
2	**WNX44-R12T01020**	Yes	No	4.5	–	–	80	20	12.7	10	–	1.2	6.35	●	●

For Gray / Ductile Cast Iron

JFDX.. series / Cutter Lead angle 75 degree

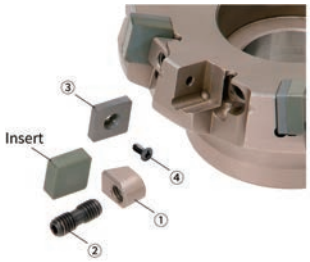
JFDX-75

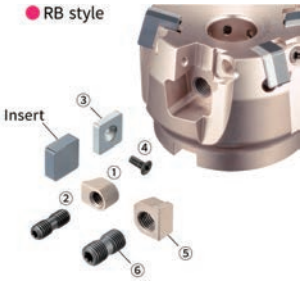


EDP	Item Number	Stock	Hand	Number of teeth	APMX	DC	DCON	DCX	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage	
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg		
5729884	**JFDX063-75-06R**	●	R	6	~6	63	22	70	-10	-6	75	6	10.4	50	0.79	SN..1204..	FDX1204..
5909767	**JFDX063-75-06RB**	●	R	6	~6	63	22	70	-10	-6	75	6	10.4	50	0.97	SN..1204..	FDX1204..
5729892	**JFDX080-75-08R**	●	R	8	~6	80	25.4	87	-10	-6	75	6	9.5	50	1.06	SN..1204..	FDX1204..
5909775	**JFDX080-75-08RB**	●	R	8	~6	80	25.4	87	-10	-6	75	6	9.5	50	1.36	SN..1204..	FDX1204..
5729900	**JFDX100-75-10R**	●	R	10	~6	100	31.75	107	-10	-6	75	8	12.7	50	1.39	SN..1204..	FDX1204..
5909791	**JFDX100-75-10RB**	●	R	10	~6	100	31.75	107	-10	-6	75	8	12.7	50	1.83	SN..1204..	FDX1204..
5729918	**JFDX125-75-12R**	●	R	12	~6	125	38.1	132	-10	-6	75	10	15.9	58	2.56	SN..1204..	FDX1204..
5909809	**JFDX125-75-12RB**	●	R	12	~6	125	38.1	132	-10	-6	75	10	15.9	58	3.34	SN..1204..	FDX1204..
5909817	**JFDX160-75-16RB**	●	R	16	~6	160	50.8	166	-10	-6	75	11	19	60	5.47	SN..1204..	FDX1204..

※Weight : Includes inserts and parts
※RB type : One insert pocket can be adjusted for height

Spare Parts



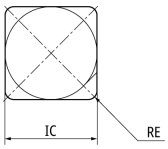


Item Number	Wedge ①	Wedge ⑤	Shim ③	Clamp screw ②	Screw (for Shim) ④	Screw (for Wedge) ⑥	Wrench (for Clamp screw)	Wrench (for Wedge)
JFDX063-75-06R	HLW175	–	ASN423	WS0616-T15	M3*8	–	T-15A	–
JFDX063-75-06RB	HLW175	HLW177	ASN423	WS0616-T15	M3*8	WS0816-T25	T-15A	LLR-T25
JFDX080-75-08R	HLW175	–	ASN423	WS0616-T15	M3*8	–	T-15A	–
JFDX080-75-08RB	HLW175	HLW177	ASN423	WS0616-T15	M3*8	WS0816-T25	T-15A	LLR-T25
JFDX100-75-10R	HLW175	–	ASN423	WS0616-T15	M3*8	–	T-15A	–
JFDX100-75-10RB	HLW175	HLW177	ASN423	WS0616-T15	M3*8	WS0816-T25	T-15A	LLR-T25
JFDX125-75-12R	HLW175	–	ASN423	WS0616-T15	M3*8	–	T-15A	–
JFDX125-75-12RB	HLW175	HLW177	ASN423	WS0616-T15	M3*8	WS0816-T25	T-15A	LLR-T25
JFDX160-75-16RB	HLW175	HLW177	ASN423	WS0616-T15	M3*8	WS0816-T25	T-15A	LLR-T25

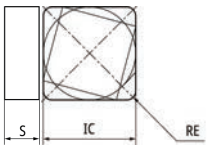
JFDX.. series / Insert Ceramics

SNGN/SNGF

No.1

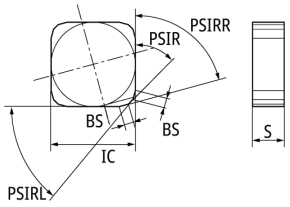


No.2



| | BIDEMICS | | |

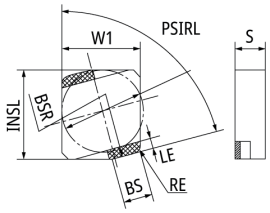
SNGN-EN Inserts Ceramics Wiper : The insert must be installed in all insert pockets



Item Number	Chip-breaker	Wiper	BS	IC	KAPR	PSIR	PSIRL	PSIRR	S	Silicon Nitride Ceramics	
											CVD
			mm	mm	°	°	°	°	mm	SX6	SP9
SNGN1204ENT01025	No	Straight	(1.4)	12.7	75	45	75	75	4.76	●	●

FDX-75 Inserts CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

No.1



No.2

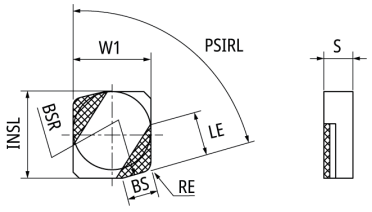


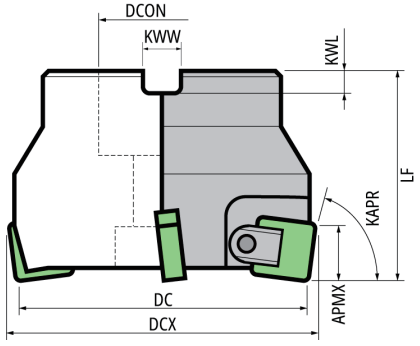
Figure	Item Number	Chip-breaker	Wiper	BS	BSR	INSL	LE	PSIRL	RE	S	W1	CBN	
				mm	mm	mm	mm	°	mm	mm	mm	B30	B52
1	**FDX1204-75-50R**	No	Arch	(4.5)	250	13.8	1.5	75	1.2	4.76	12.2	●	●
2	**FDX1204-75-51R**	No	Arch	(5.0)	250	13.8	(.276)	75	1.2	4.76	12.7	★	
2	**FDX1204-75-52R**	No	Arch	(5.0)	250	13.8	(.276)	75	1.6	4.76	12.7	★	

※FDX1204-75-51R/52R : For RB type. Bottom wiper insert that can also be machined around the periphery.
Use for pockets with adjustable insert height.
Selecting the same corner radius as the ceramic insert enables high-efficiency machining.

For Gray / Ductile Cast Iron

JFDX.. series / Cutter Lead angle 88 degree

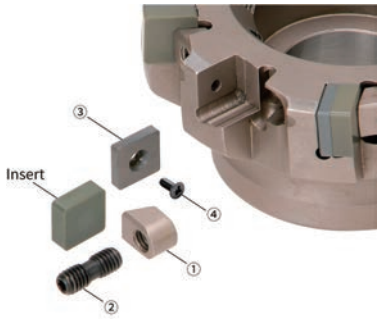
JFDX-88



EDP	Item Number	Stock	Hand	Number of teeth	APMX	DC	DCON	DCX	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage	
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg		
5729926	**JFDX063-88-06R**	●	R	6	~6	63	22	64	-10	-6	88	6	10.4	50	0.79	SN..1204..	FDX1204..
5729934	**JFDX080-88-08R**	●	R	8	~6	80	25.4	81	-10	-6	88	6	9.5	50	1.03	SN..1204..	FDX1204..
5729942	**JFDX100-88-10R**	●	R	10	~6	100	31.75	101	-10	-6	88	8	12.7	50	1.38	SN..1204..	FDX1204..
5729959	**JFDX125-88-12R**	●	R	12	~6	125	38.1	126	-10	-6	88	10	15.9	58	2.61	SN..1204..	FDX1204..

※Weight : Includes inserts and parts

Spare Parts

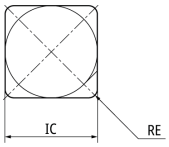


Item Number	Wedge	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)
	①	③	②	④	
JFDX063-88-06R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX080-88-08R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX100-88-10R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX125-88-12R	HLW175	ASN423	WS0616-T15	M3*8	T-15A

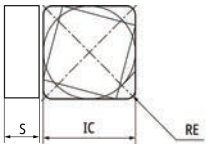
JFDX.. series / Inserts Ceramics

SNGN/SNGF

No.1



No.2

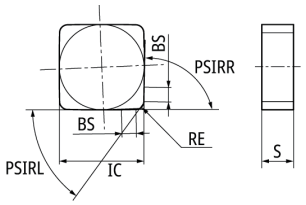


Steel																														
Stainless Steel																														
Cast Iron											●	●	●		●			○	○	○	○	●	●	○	○					
Non-Ferrous Material																														
Heat Resistant Alloy					●	●	●	●										●	●	●	●			●	●					
Hardened Material									●				○	●		●	●													
Others (non-metallic)																														

Figure	Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	RE mm	GAN °	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
1		**SNGN120408S02025**	S02025	90	12.7	4.76	0.8	–												●									
1		**SNGN120408T00520**	T00520	90	12.7	4.76	0.8	–																				●	
1		**SNGN120408T00820**	T00820	90	12.7	4.76	0.8	–																					●
1		**SNGN120408T01020**	T01020	90	12.7	4.76	0.8	–																			●		
1		**SNGN120408T01025**	T01025	90	12.7	4.76	0.8	–						●		●		●		●								●	
1		**SNGN120408T02020**	T02020	90	12.7	4.76	0.8	–																		●			
1		**SNGN120408T02025**	T02025	90	12.7	4.76	0.8	–																	●				
1		**SNGN120408Z02025**	Z02025	90	12.7	4.76	0.8	–									●												
1		**SNGN120412S02025**	S02025	90	12.7	4.76	1.2	–												●									
1		**SNGN120412T00520**	T00520	90	12.7	4.76	1.2	–																				●	
1		**SNGN120412T00820**	T00820	90	12.7	4.76	1.2	–																					●
1		**SNGN120412T01020**	T01020	90	12.7	4.76	1.2	–																			●	●	
1		**SNGN120412T01025**	T01025	90	12.7	4.76	1.2	–						●		●		●		●								●	
1		**SNGN120412T02020**	T02020	90	12.7	4.76	1.2	–																		●	●		
1		**SNGN120412T02025**	T02025	90	12.7	4.76	1.2	–																	●				
1		**SNGN120412Z02025**	Z02025	90	12.7	4.76	1.2	–									●												
1		**SNGN120416S02025**	S02025	90	12.7	4.76	1.6	–												●									
1		**SNGN120416T00520**	T00520	90	12.7	4.76	1.6	–																				●	
1		**SNGN120416T01020**	T01020	90	12.7	4.76	1.6	–																			●	●	
1		**SNGN120416T01025**	T01025	90	12.7	4.76	1.6	–						●		●		●		●								●	
1		**SNGN120416T02020**	T02020	90	12.7	4.76	1.6	–																		●			
–		**SNGN120416T02025**	T02025	90	12.7	4.76	1.6	–																	●				
1		**SNGN120416Z02025**	Z02025	90	12.7	4.76	1.6	–									●												
2		**SNGF120412T01025RC**	T01025	90	12.7	4.76	1.2	14																			●		
2		**SNGF120412T01025RCM**	T01025	90	12.7	4.76	1.2	14																		●			

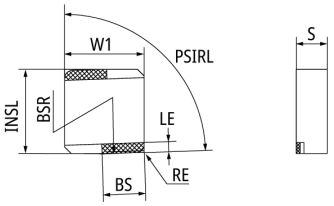
※Recommended Cutting Conditions
Cutting Speed V_C = - 1000m/min
Feed f = - 0.1mm/t

SNEN-ZN Inserts Ceramic Wiper : The insert must be installed in all insert pockets



Item Number	Chip-breaker	Wiper	BS	IC	KAPR	PSIRL	PSIRR	RE	S	Silicon Nitride Ceramics	
											CVD
			mm	mm	°	°	°	mm	mm	SX6	SP9
SNEN1204ZNT01025	No	Straight	(2.0)	12.7	89	89	89	1.2	4.76	●	●

FDX-88 Inserts CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

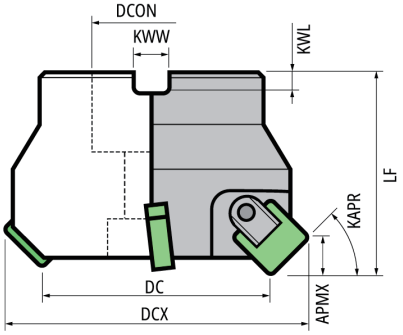


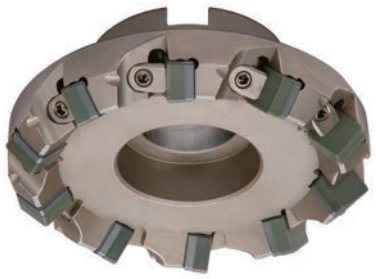
Item Number	Chip-breaker	Wiper	BS	BSR	INSL	LE	PSIRL	RE	S	W1	CBN	
			mm	mm	mm	mm	°	mm	mm	mm	B30	B52
FDX1204-88-50R	No	Arch	6.15	250	12.95	1.5	88	1.2	4.76	12.2	●	●

For Gray / Ductile Cast Iron

JFDX.. series / Cutter Lead angle 45 degree

JFDX-45

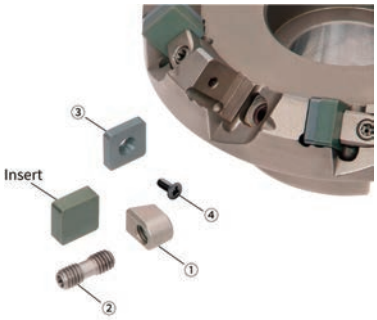




EDP	Item Number	Stock	Hand	Number of teeth	APMX	DC	DCON	DCX	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage	
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg		
5727458	**JFDX063-45-06R**	●	R	6	~6	63	22	72	-10	-6	45	6	10.4	50	0.93	SN..1204..	FDX1204..
5727441	**JFDX080-45-08R**	●	R	8	~6	80	25.4	95	-10	-6	45	6	9.5	50	1.21	SN..1204..	FDX1204..
5727433	**JFDX100-45-10R**	●	R	10	~6	100	31.75	120	-10	-6	45	8	12.7	50	1.66	SN..1204..	FDX1204..
5727425	**JFDX125-45-12R**	●	R	12	~6	125	38.1	146	-10	-6	45	10	15.9	58	2.8	SN..1204..	FDX1204..

※Weight : Includes inserts and parts

Spare Parts

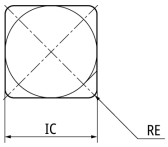


Item Number	Wedge	Shim	Clamp screw	Screw (for Shim)	Wrench (for Clamp screw)
	①	③	②	④	
JFDX063-45-06R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX080-45-08R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX100-45-10R	HLW175	ASN423	WS0616-T15	M3*8	T-15A
JFDX125-45-12R	HLW175	ASN423	WS0616-T15	M3*8	T-15A

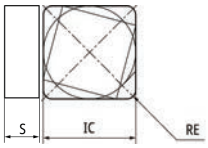
JFDX.. series / Inserts Ceramics

SNGN/SNGF

No.1



No.2

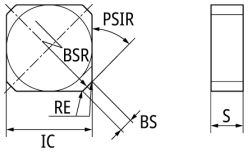


	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
	PVD	PVD			PVD						PVD						CVD		
	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
Steel	●	●	●	●	●	●	●	●		●			○	○	○	○	●	●	○	○
Stainless Steel																				
Cast Iron													●	●	●	●			●	●
Non-Ferrous Material																				
Heat Resistant Alloy					●			○	●		●	●								
Hardened Material																				
Others (non-metallic)																				

Figure	Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	RE mm	GAN °	BIDEMICS 120 PVD	BIDEMICS JP2 PVD	BIDEMICS JX1	BIDEMICS JX3	NTK CeramiX 450 PVD	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics ZC7 PVD	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics SP9 CVD	Whisker Ceramics WA1	Whisker Ceramics WA5
1		**SNGN120408S02025**	S02025	90	12.7	4.76	0.8	–												●								
1		**SNGN120408T00520**	T00520	90	12.7	4.76	0.8	–																			●	
1		**SNGN120408T00820**	T00820	90	12.7	4.76	0.8	–																				●
1		**SNGN120408T01020**	T01020	90	12.7	4.76	0.8	–																		●		
1		**SNGN120408T01025**	T01025	90	12.7	4.76	0.8	–						●		●		●		●							●	
1		**SNGN120408T02020**	T02020	90	12.7	4.76	0.8	–																	●			
1		**SNGN120408T02025**	T02025	90	12.7	4.76	0.8	–																●				
1		**SNGN120408Z02025**	Z02025	90	12.7	4.76	0.8	–									●											
1		**SNGN120412S02025**	S02025	90	12.7	4.76	1.2	–												●								
1		**SNGN120412T00520**	T00520	90	12.7	4.76	1.2	–																			●	
1		**SNGN120412T00820**	T00820	90	12.7	4.76	1.2	–																				●
1		**SNGN120412T01020**	T01020	90	12.7	4.76	1.2	–																		●	●	
1		**SNGN120412T01025**	T01025	90	12.7	4.76	1.2	–						●		●		●		●							●	
1		**SNGN120412T02020**	T02020	90	12.7	4.76	1.2	–																	●	●		
1		**SNGN120412T02025**	T02025	90	12.7	4.76	1.2	–																●				
1		**SNGN120412Z02025**	Z02025	90	12.7	4.76	1.2	–									●											
1		**SNGN120416S02025**	S02025	90	12.7	4.76	1.6	–												●								
1		**SNGN120416T00520**	T00520	90	12.7	4.76	1.6	–																			●	
1		**SNGN120416T01020**	T01020	90	12.7	4.76	1.6	–																		●	●	
1		**SNGN120416T01025**	T01025	90	12.7	4.76	1.6	–						●		●		●		●							●	
1		**SNGN120416T02020**	T02020	90	12.7	4.76	1.6	–																	●			
–		**SNGN120416T02025**	T02025	90	12.7	4.76	1.6	–																●				
1		**SNGN120416Z02025**	Z02025	90	12.7	4.76	1.6	–									●											
2		**SNGF120412T01025RC**	T01025	90	12.7	4.76	1.2	14																		●		
2		**SNGF120412T01025RCM**	T01025	90	12.7	4.76	1.2	14																	●			

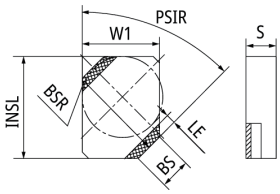
※Recommended Cutting Conditions
Cutting Speed V_c = - 1000m/min
Feed f = - 0.1mm/t

SNGN-AN Inserts Ceramic Wiper : The insert must be installed in all insert pockets



Item Number	Chip-breaker	Wiper	BS	BSR	IC	PSIR	RE	S	Silicon Nitride Ceramics	
										CVD
			mm	mm	mm	°	mm	mm	SX6	SP9
SNGN1204ANWT01020	No	Arch	2	150	12.7	45	0.5	4.76	●	●

FDX-45 Inserts CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

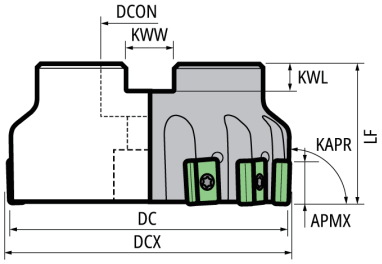


Item Number	Chip-breaker	Wiper	BS	BSR	INSL	LE	PSIR	S	W1	CBN	
			mm	mm	mm	mm	°	mm	mm	B30	B52
FDX1204-45-50R	No	Arch	(4.8)	250	16	1.5	45	4.76	12.2	●	●

For Gray / Ductile Cast Iron

JXTM series / Cutter Lead angle 88 degree

JXTM-88 Arbor type



EDP	Item Number	Stock	Hand	Number of teeth	APMX	DC	DCON	DCX	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg	
5729652	**JXTM080-88-10R**	●	R	10	~8	80	25.4	83	0	-4	88	6	9.5	50	1.1	LNX324M..
5729660	**JXTM100-88-13R**	●	R	13	~8	100	31.75	103	0	-4	88	8	12.7	50	1.8	LNX324M..
5729678	**JXTM125-88-16R**	●	R	16	~8	125	38.1	128	0	-4	88	10	15.9	58	3.1	LNX324M..

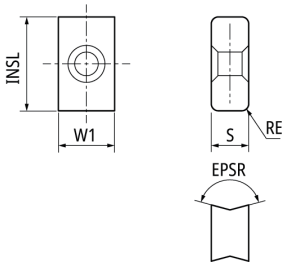
※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
JXTM080-88-10R	LRIS-4*12	LLR-25S
JXTM100-88-13R	LRIS-4*12	LLR-25S
JXTM125-88-16R	LRIS-4*12	LLR-25S

JXTM series / Inserts Ceramics

LNX

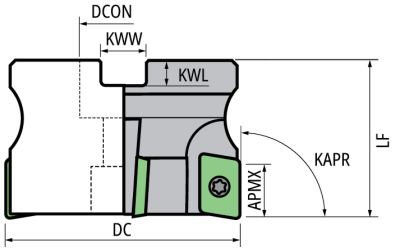


Item Number	Chip-breaker	Wiper	EPSR	INSL	RE	S	W1	Silicon Nitride Ceramics	
									CVD
			°	mm	mm	mm	mm	SX6	SP9
LNX324M-08T01020	Yes	No	150	15.875	0.8	6.35	9.525	●	●
LNX324M-12T01020	Yes	No	150	15.875	1.2	6.35	9.525	●	●
LNX324M-16T01020	Yes	No	150	15.875	1.6	6.35	9.525	●	●

For Gray / Ductile Cast Iron

JQ series / Cutter Lead angle 90 degree

JQTS Arbor type



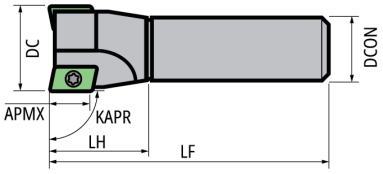
EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	GAMF °	GMAP °	KAPR °	KWL mm	KWW mm	LF mm	Weight kg	Insert Gage
5730155	**JQTS040-90-4R**	●	R	4	~8	40	16	-13	+6	90	5.6	8.4	40	0.2	APCW1604..
5730189	**JQTS050-90-5R**	●	R	5	~8	50	22	-13	+6	90	6.3	10.4	40	0.32	APCW1604..
5730197	**JQTS063-90-6R**	●	R	6	~8	63	22	-12	+6	90	6.3	10.4	50	1.4	APCW1604..
5765573	**JQTS080-90-8R**	●	R	8	~8	80	25.4	-12	+6	90	6	9.5	50	1.9	APCW1604..

※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
JQTS040-90-4R	FSI22-4.0*11	T-15A
JQTS050-90-5R	FSI22-4.0*11	T-15A
JQTS063-90-6R	FSI22-4.0*11	T-15A
JQTS080-90-8R	FSI22-4.0*11	T-15A

JQTE Shank type



EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	GAMF °	GMAP °	KAPR °	LF mm	LH mm	Weight kg	Insert Gage
5730114	**JQTE020-90-1R**	●	R	1	~8	20	20	-8	+3	90	100	30	0.22	APCW1604..
5730122	**JQTE025-90-2R**	●	R	2	~8	25	25	-13	+6	90	100	30	0.32	APCW1604..
5730130	**JQTE032-90-3R**	●	R	3	~8	32	32	-13	+6	90	120	35	0.53	APCW1604..
5730148	**JQTE040-90-4R**	●	R	4	~8	40	32	-13	+6	90	120	37	0.64	APCW1604..

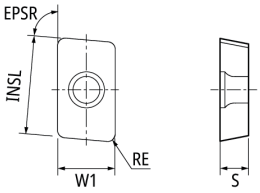
※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
JQTE020-90-1R	FSI23-4.0*7	T-15A
JQTE025-90-2R	FSI23-4.0*7	T-15A
JQTE032-90-3R	FSI22-4.0*11	T-15A
JQTE040-90-4R	FSI22-4.0*11	T-15A

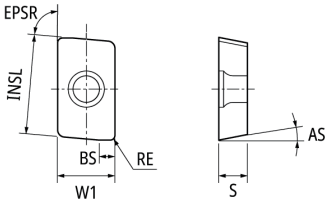
JQ series / Inserts Ceramics

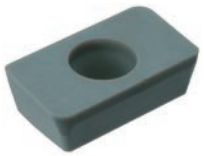
APCW



Item Number	Chip-breaker	Wiper	EPSR	INSL	RE	S	W1	Silicon Nitride Ceramics	
									CVD
			°	mm	mm	mm	mm	SX6	SP9
APCW160408T01020	No	No	85	16.46	0.8	4.76	9.525	●	●
APCW160412T01020	No	No	85	16.46	1.2	4.76	9.525	●	●
APCW160420T01020	No	No	85	16.46	2	4.76	9.525	●	●

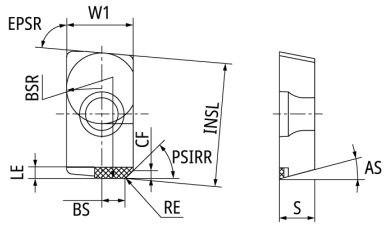
APCW-PD Insert Ceramics Wiper





Item Number	Chip-breaker	Wiper	AS	BS	EPSR	INSL	RE	S	W1	Silicon Nitride Ceramics	
											CVD
			°	mm	°	mm	mm	mm	mm	SX6	SP9
APCW1604PDRT01020	No	Straight	15	2.6	85	16.46	0.8	4.76	9.525	●	●

APCW-PD Insert CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

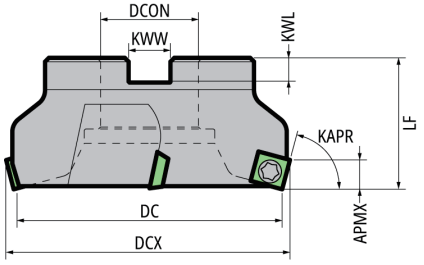


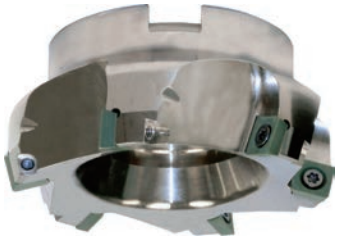
Item Number	Chip-breaker	Wiper	AS	BS	BSR	CF	EPSR	INSL	LE	PSIRR	RE	S	W1	CBN	
			°	mm	mm	mm	°	mm	mm	°	mm	mm	mm	B30	B52
APCW1604PDRS01020	No	Arch	15	(3.2)	250	1	85	16.579	1.5	45	0.4	4.76	9	●	●

For Gray / Ductile Cast Iron

JSDW series / Cutter Lead angle 75 degree

JSDW-75 Arbor type





EDP	Item Number	Stock	Hand	Number of teeth	APMX mm	DC mm	DCON mm	DCX mm	GAMF °	GMAP °	KAPR °	KWL mm	KWW mm	LF mm	Weight kg	Insert Gage	
5729991	**JSDW063-75-04R**	●	R	4	~6	63	22	70.6	0	+12	75	6.3	10.4	50	0.82	SDCW1204..	SDW1204..
5730007	**JSDW080-75-05R**	●	R	5	~6	80	25.4	83.3	0	+12	75	6	9.5	50	1.04	SDCW1204..	SDW1204..
5730015	**JSDW100-75-06R**	●	R	6	~6	100	31.75	108.7	0	+12	75	8	12.7	50	1.33	SDCW1204..	SDW1204..
5730106	**JSDW125-75-07R**	●	R	7	~6	125	38.1	134.1	0	+12	75	10	15.9	58	2.54	SDCW1204..	SDW1204..

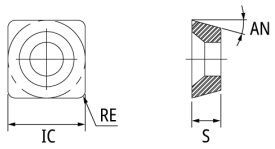
※Weight : Includes inserts and parts
※APMX : Carbide inserts Max 4mm

Spare Parts

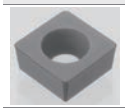
Item Number	Clamp screw	Wrench (for Clamp screw)
JSDW063-75-04R	FSI21-5.0*12.45	T-20
JSDW080-75-05R	FSI21-5.0*12.45	T-20
JSDW100-75-06R	FSI21-5.0*12.45	T-20
JSDW125-75-07R	FSI21-5.0*12.45	T-20

JSDW series / Inserts Ceramics

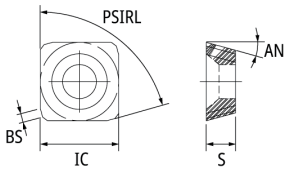
SDCW



Steel																																
Stainless Steel																																
Cast Iron												●	●	●		●			○	○	○	○	●	●	○	○					
Non-Ferrous Material																																
Heat Resistant Alloy	●	●	●	●															●	●	●	●			●	●						
Hardened Material					●									○	●			●	●													
Others (non-metallic)																																

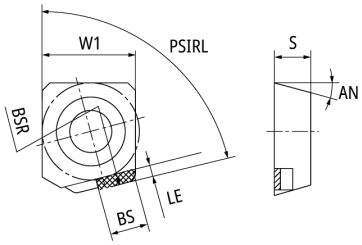
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS				NTK CeramiX	Alumina Ceramics						Silicon Nitride Ceramics						Whisker Ceramics	
													PVD	PVD			PVD						PVD					CVD			
	Metric		°	mm	mm	°	mm	mm	mm	mm	mm	mm	120	JP2	JX1	JX3	450	HC1	HW2	HC2	HC4	HC6	HC7	ZC7	SX3	SX5	SX7	SX9	SX6	SP9	WA1	WA5
	**SDCW120408T01020**	T01020	90	12.7	4.76	15	0.8	5.5	–	–	–	–																	●	●		

SDCW-EE Insert Ceramic Wiper



Item Number	Chip-breaker	Wiper	AN	BS	IC	PSIRL	S	Silicon Nitride Ceramics	Carbide
								CVD	PVD
				mm	mm	°	mm	SX6	SP9	DM4
SDCW1204EERT01020	No	Straight	15	(1.4)	12.7	75	4.76	●	●	●

SDW Insert CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

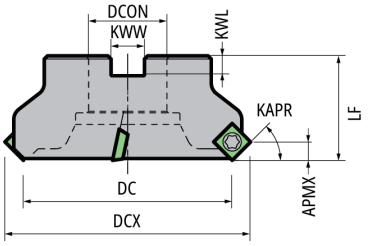


Item Number	Chip-breaker	Wiper	AN	BS	BSR	LE	PSIRL	S	W1	CBN	
			°	mm	mm	mm	°	mm	mm	B30	B52
SDW1204-75-50R	No	Arch	15	(4.9)	250	1.5	75	4.76	12.2	●	●

For Gray / Ductile Cast Iron

JSDW series / Cutter Lead angle 45 degree

JSDW-45 Arbor type



EDP	Item Number	Stock	Hand	Number of teeth	APMX	DC	DCON	DCX	GAMF	GMAP	KAPR	KWL	KWW	LF	Weight	Insert Gage	
					mm	mm	mm	mm	°	°	°	mm	mm	mm	kg		
5729967	**JSDW080-45-06R**	●	R	6	~6	80	25.4	95	0	+12	45	6	9.5	50	1.1	SDCW1204..	SDW1204..
5729975	**JSDW100-45-07R**	●	R	7	~6	100	31.75	120.4	0	+12	45	8	12.7	50	1.39	SDCW1204..	SDW1204..
5729983	**JSDW125-45-08R**	●	R	8	~6	125	38.1	145.8	0	+12	45	10	15.9	58	2.55	SDCW1204..	SDW1204..

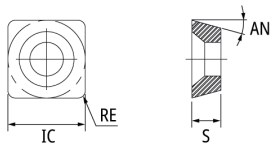
※Weight : Includes inserts and parts
※APMX : Carbide inserts Max 4mm

Spare Parts

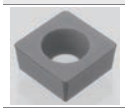
Item Number	Clamp screw	Wrench (for Clamp screw)
JSDW080-45-06R	FSI21-5.0*12.45	T-20
JSDW100-45-07R	FSI21-5.0*12.45	T-20
JSDW125-45-08R	FSI21-5.0*12.45	T-20

JSDW series / Inserts Ceramics

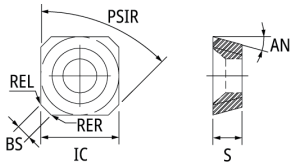
SDCW



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○ ○ ○ ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	● ● ● ● ● ● ● ● ●
Hardened Material	● ○ ● ● ●
Others (non-metallic)	

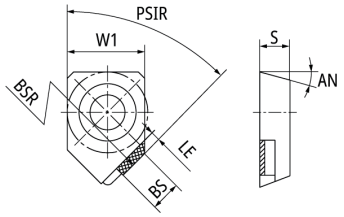
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D1	D2	INSL	S1	W1	BIDEMICS PVD 120	BIDEMICS PVD JP2	BIDEMICS PVD JX1	BIDEMICS PVD JX3	NTK CeramiX PVD 450	Alumina Ceramics HC1	Alumina Ceramics HW2	Alumina Ceramics HC2	Alumina Ceramics HC4	Alumina Ceramics HC6	Alumina Ceramics HC7	Alumina Ceramics PVD ZC7	Silicon Nitride Ceramics SX3	Silicon Nitride Ceramics SX5	Silicon Nitride Ceramics SX7	Silicon Nitride Ceramics SX9	Silicon Nitride Ceramics SX6	Silicon Nitride Ceramics CVD SP9	Whisker Ceramics WA1	Whisker Ceramics WA5
	Metric		°	mm	mm	°	mm	mm	mm	mm	mm	mm																				
	**SDCW120408T01020**	T01020	90	12.7	4.76	15	0.8	5.5	–	–	–	–																	●	●		

SDCW-AE Insert Ceramic Wiper : The insert must be installed in all insert pockets



Item Number	Chip-breaker	Wiper	AN	BS	IC	PSIR	REL	RER	S	Silicon Nitride Ceramics CVD SX6	Silicon Nitride Ceramics CVD SP9	Carbide PVD DM4
			°	mm	mm	°	mm	mm	mm			
SDCW1204AET01020	No	Straight	15	(2.4)	12.7	45	1.2	1.2	4.76	●	●	●

SDW Insert CBN Wiper : Can install 1 or 2 CBN Wiper inserts with ceramic insert

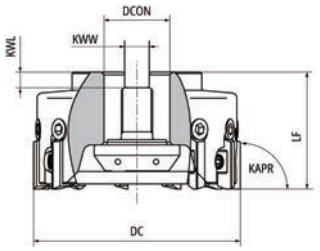


Item Number	Chip-breaker	Wiper	AN	BS	BSR	LE	PSIR	S	W1	CBN B30	CBN B52
			°	mm	mm	mm	°	mm	mm		
SDW1204-45-50R	No	Arch	15	(4.8)	250	1.5	45	4.76	12.2	●	●

For high-efficiency finishing aluminum alloys

HFC series / Cutter Adjustable type

JHF



EDP	Item Number	Stock	Hand	Number of teeth	DC mm	DCON mm	GAMF °	GMAP °	KAPR °	KWL mm	KWW mm	LF mm	kg	MAX RPM min-1	Insert Gage
5929278	**JHF050C2200R07**	●	R	7	50	22	+5	0	90	6.3	10.4	45	0.23	20000	HFT..
5929260	**JHF063C2200R10**	●	R	10	63	22	+5	0	90	6.3	10.4	45	0.38	20000	HFT..
5929252	**JHF080A2540R12**	●	R	12	80	25.4	+5	0	90	6	9.5	45	0.48	18000	HFT..
5929245	**JHF100A2540R16**	●	R	16	100	25.4	+5	0	90	6	9.5	45	0.74	18000	HFT..
5929237	**JHF125A2540R22**	●	R	22	125	25.4	+5	0	90	6	9.5	45	1.1	15000	HFT..

※Weight : Includes inserts and parts

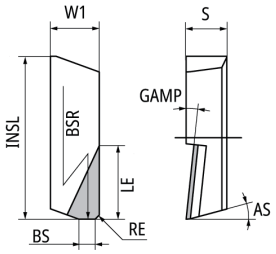
Spare Parts

Item Number	Wedge	Clamp screw	Screw (for Axial set)	Wrench (for Clamp screw)	Wrench (for Axial set)	Clamping bolt
JHF050C2200R07	HLW179	WS0512	CS0510A	LW-2.5	LW-4	CS1040A
JHF063C2200R10	HLW179	WS0512	CS0510A	LW-2.5	LW-4	CS1040A
JHF080A2540R12	HLW179	WS0512	CS0510A	LW-2.5	LW-4	MBC-M12
JHF100A2540R16	HLW179	WS0512	CS0510A	LW-2.5	LW-4	MBC-M12
JHF125A2540R22	HLW179	WS0512	CS0510A	LW-2.5	LW-4	MBC-M12

HFC series / Inserts PCD

HFT

No.1



No.2

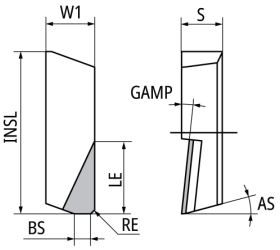
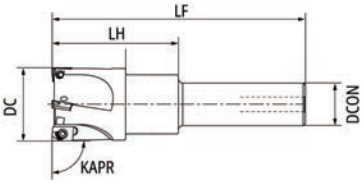


Figure	Item Number	Chip-breaker	Wiper	AS °	BS mm	BSR mm	GMAP °	INSL mm	LE mm	RE mm	S mm	W1 mm	PCD PD1
1	**HFT802006C05**	No	Arch	5	2	150	6	20	7.5	.02 chamfer	5	6	●
1	**HFT802006R04**	No	Arch	5	2	150	6	20	7.5	0.4	5	6	●
2	**HFT702010W05**	No	Arch	5	2	–	10	20	6.5	Double chamfer	5	6	●

For high-efficiency finishing aluminum alloys

HPC series / Cutter Fixed type

RD



EDP	Item Number	Stock	Hand	Number of teeth	DC	DCON	GAMF	GMAP	KAPR	KWL	KWW	LF	LH	Weight	MAX RPM	Insert Gage
					mm	mm	°	°	°	mm	mm	mm	mm	kg	min-1	
5520341	**RD020T20070R03**	○	R	3	20	20	+4	+9	90	–	–	100	30	0.23	18000	HDA..
5520333	**RD025T25070R03**	○	R	3	25	25	+4	+9	90	–	–	110	40	0.37	18000	HDA..
5518519	**RD030T20060R04**	○	R	4	30	20	+4	+9	90	–	–	120	60	0.33	18000	HDA..
5518501	**RD032T20060R04**	○	R	4	32	20	+4	+9	90	–	–	120	60	0.36	18000	HDA..
5518493	**RD035T20060R04**	○	R	4	35	20	+4	+9	90	–	–	120	60	0.36	18000	HDA..

※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
RD020T20070R03	FSI0306A	(6300-T10-80)
RD025T25070R03	FSI0307A	(6300-T10-80)
RD030T20060R04	FSI0307A	(6300-T10-80)
RD032T20060R04	FSI0307A	(6300-T10-80)
RD035T20060R04	FSI0307A	(6300-T10-80)

HPC series / Inserts PCD_Carbide

HDA

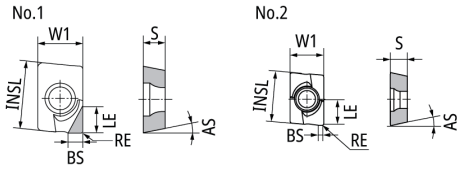


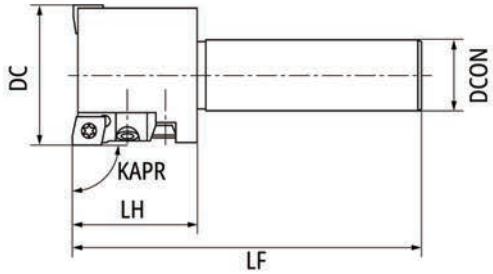
Figure	Item Number	Chip-breaker	Wiper	AS	BS	GAMF	GMAP	INSL	LE	RE	S	W1	PCD	Carbide PVD
				mm	mm	°	°	mm	mm	mm	mm	mm	PD1	TM1
1	**HDA4015R04**	No	Arch	14	(1.5)	+4	+9	10	4	0.4	3.4	6.7	●	
2	**HDA4505R04**	Yes	Arch	14	(0.9)	+4	+9	10	MIN 5.0	0.4	3.4	6.7		○

For high-efficiency finishing aluminum alloys

HPC series Cutter / Fixed type

RA-K

No.1



No.2

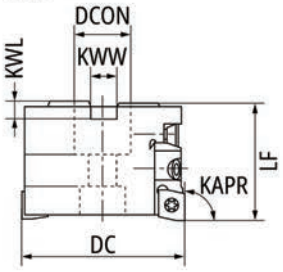


Figure	EDP	Item Number	Stock	Hand	Number of teeth	DC mm	DCON mm	GAMF °	GMAP °	KAPR °	KWL mm	KWW mm	LF mm	LH mm	Weight kg	MAX RPM min-1	Insert Gage
1	5449384	**RA040T20060R04K**	○	R	4	40	20	-3~+6	+6	90	–	–	105	45	0.45	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5449400	**RA040T25080R04K**	○	R	4	40	25	-3~+6	+6	90	–	–	125	45	0.6	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5449509	**RA050C22.00R05K**	○	R	5	50	22	-3~+6	+6	90	6.3	10.4	45	–	0.4	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5449442	**RA050T20060R05K**	○	R	5	50	20	-3~+6	+6	90	–	–	105	45	0.6	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5449467	**RA050T25080R05K**	○	R	5	50	25	-3~+6	+6	90	–	–	125	45	0.75	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5449483	**RA050T32080R05K**	○	R	5	50	32	-3~+6	+6	90	–	–	125	45	0.9	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5449525	**RA063C22.00R06K**	○	R	6	63	22	-3~+6	+6	90	6.3	10.4	45	–	0.73	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5477252	**RA080A25.40R07K**	○	R	7	80	25.4	-3~+6	+6	90	6	9.5	43	–	0.95	15000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5486212	**RA100A31.75R09K**	–	R	9	100	31.75	-3~+6	+6	90	8	12.7	45	–	1.6	10000	HAL../HRL../HAT.. HRT../HAN../HLA..

※Weight : Includes inserts and parts

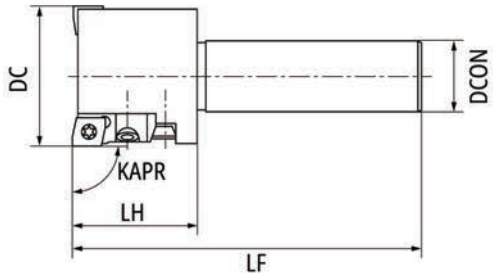
Spare Parts

Item Number	Clamp screw	Screw (for Axial set)	Screw (for Wedge)	Wrench (for Clamp screw)	Wrench (for Axial set)	Cartridge	Clamping bolt
RA040T20060R04K	FSI035104A	CS0510A	CS0510T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA040T25080R04K	FSI035104A	CS0510A	CS0510T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050C22.00R05K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	CS1040A
RA050T20060R05K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050T25080R05K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050T32080R05K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA063C22.00R06K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	CS1040A
RA080A25.40R07K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	MBC-M12
RA100A31.75R09K	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	MBC-M16

HPC series Cutter / Adjustable type

RA

No.1



No.2

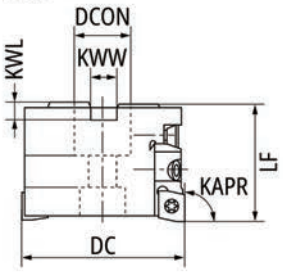


Figure	EDP	Item Number	Stock	Hand	Number of teeth	DC mm	DCON mm	GAMF °	GMAP °	KAPR °	KWL mm	KWW mm	LF mm	LH mm	Weight kg	MAX RPM min-1	Insert Gage
1	5441050	**RA040T20060R04**	○	R	4	40	20	-3~+6	+6	90	–	–	105	45	0.45	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5441043	**RA040T25080R04**	○	R	4	40	25	-3~+6	+6	90	–	–	125	45	0.6	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5441001	**RA050C22.00R05**	○	R	5	50	22	-3~+6	+6	90	6.3	10.4	45	–	0.4	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5441035	**RA050T20060R05**	○	R	5	50	20	-3~+6	+6	90	–	–	105	45	0.6	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5441027	**RA050T25080R05**	○	R	5	50	25	-3~+6	+6	90	–	–	125	45	0.75	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
1	5441019	**RA050T32080R05**	○	R	5	50	32	-3~+6	+6	90	–	–	125	45	0.9	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5440995	**RA063C22.00R06**	○	R	6	63	22	-3~+6	+6	90	6.3	10.4	45	–	0.73	18000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5456223	**RA080A25.40R07**	○	R	7	80	25.4	-3~+6	+6	90	6	9.5	43	–	0.95	15000	HAL../HRL../HAT.. HRT../HAN../HLA..
2	5486220	**RA100A31.75R09**	○	R	9	100	31.75	-3~+6	+6	90	8	12.7	45	–	1.6	10000	HAL../HRL../HAT.. HRT../HAN../HLA..

※Weight : Includes inserts and parts

Spare Parts

Item Number	Clamp screw	Screw (for Axial set)	Screw (for Cartridge)	Wrench (for Clamp screw)	Wrench (for Axial set)	Cartridge	Clamping bolt
RA040T20060R04	FSI035104A	CS0510A	CS0510T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA040T25080R04	FSI035104A	CS0510A	CS0510T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050C22.00R05	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	CS1040A
RA050T20060R05	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050T25080R05	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA050T32080R05	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	–
RA063C22.00R06	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	CS1040A
RA080A25.40R07	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	MBC-M12
RA100A31.75R09	FSI035104A	CS0510A	CS0512T	(6300-T15-80)	(6300-4.0-130)	RA06P03NC	MBC-M16

HPC series / Inserts PCD_Carbide

HAL/HRL/HAT/HRT/HAN/HLA

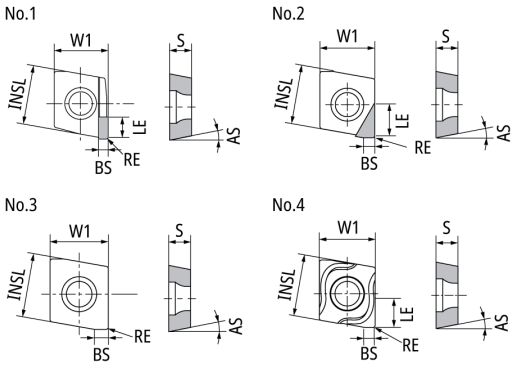
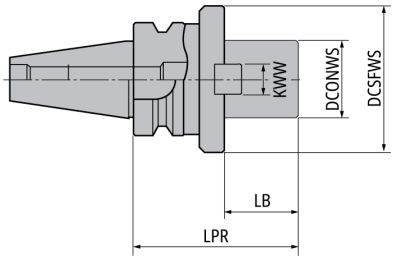


Figure	Item Number	Chip-breaker	Wiper	AS	BS	GAMF	GMAP	INSL	LE	RE	S	W1	PCD	Carbide PVD
				mm	mm	°	°	mm	mm	mm	mm	mm	PD1	TM1
1	**HAL3515C05**	No	Arch	11	(1.5)	0	+6	11.2	3.5	.02 chamfer	4	10		
1	**HAL3515R04**	No	Arch	11	(1.5)	0	+6	11.2	3.5	0.4	4	10	●	
1	**HRL3515R04**	No	Arch	11	(1.5)	0	+6	11.2	MIN 3.5	0.4	4	10	○	
2	**HAT6021C05**	No	Arch	11	(2.1)	0	+6	10.95	6	.02 chamfer	4	10		
2	**HAT6021R04**	No	Arch	11	(2.1)	0	+6	10.95	6	0.4	4	10	●	
2	**HRT6021R04**	No	Arch	11	(2.1)	0	+6	11.2	MIN 6.0	0.4	4	10.2	○	
3	**HAN9521R04N**	No	Arch	11	(2.1)	-3	+6	11	MIN 6.0	0.4	4	10		○
4	**HLA8521R04**	Yes	Arch	11	(2.1)	+6	+6	11.078	MIN 6.0	0.4	4	10.078		○

※HRL3515R04: Regrindable
※HRT6021R04: Regrindable

Arbors / Coolant through

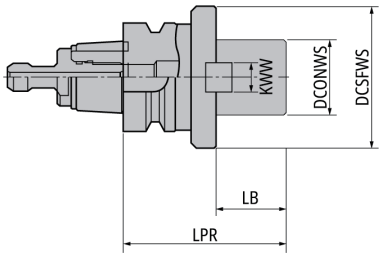
BT30..



EDP	Item Number	Stock	Hand	DCONWS mm	DCSFMS mm	KWW mm	LB mm	Weight kg
5612502	**BT30-FMNA25.4-40**	●	N	25.4	50	9.5	22	0.7
5612510	**BT30-FMNA31.75-39**	●	N	31.75	60	12.7	30	0.8
5649199	**BT30-FMNC22-32**	●	N	22	46	10.4	18	0.6

※Clamp bolt is sold separately.
※Use a stud bolt suitable for the machine.

NC5..



EDP	Item Number	Stock	Hand	DCONWS mm	DCSFMS mm	KWW mm	LB mm	Weight kg
5612528	**NC5-46-FMNA25.4-40F**	●	N	25.4	50	9.5	22	0.7
5612536	**NC5-46-FMNA31.75-39F**	●	N	31.75	60	12.7	30	0.8
5649207	**NC5-46-FMNC22-32F**	●	N	22	46	10.4	18	0.6

※Clamp bolt is sold separately.
※Clamp bolt is sold separately.

Member IMC Group

NTK CUTTING TOOLS

CUTTING TOOLS

2023-2024

Swiss Tooling

Safety instructions for using ultra hard cutting tools

1. Instructions for using ultra hard cutting tools

As required by the laws concerning Product Liability enforced on July 1, 1996, we place warning or caution labels on the packages of applicable NTK products. However, each tool body itself bears no detailed safety instructions. Therefore, you are requested to read and understand fully the “Safety instructions for the use of carbide cutting tools” before putting any ultra hard tool materials into use. In addition, we request that all relevant staff and operators fully understand these safety instructions prior to use.

2. Basic characteristics of ultra hard tool materials

2-1. Meaning and classifications of terms used in this leaflet

Ultra hard tool materials: The collective name for materials used as cutting tools, including carbides, ceramics, CBN and diamond (PCD) sintered materials.
Carbide: Tool materials where the main component is WC (Tungsten Carbide)
Ultra hard materials: T he collective name for materials used as ultra hard tools. Also used as a convenient way of referring to carbides under a narrower definition.
Ultra hard tools: The collective name for tools using ultra hard tool materials.

2-2. Physical properties

Appearance: Varies depending on the material. Example: gray, black or gold
Odor: Odorless
Hardness: Cemented carbide: HV500 up to 3,000 kg/mm2
Specific gravity: Carbide: 9 up to 19

2-3. Composition / Ingredients

Carbide, nitride, carbo-nitride, or oxidized materials of W, Ti, Al, Ta, B or the like; some contain metallic components such as Co, Ni, Cr and/or Mo.

3. Precautions for handling ultra hard tool materials

- One of the properties specific to these materials is high hardness, another is brittleness. Therefore, shock loads or impacts, or excessive clamping of these materials may result in breakage or other damage.
- As the specific gravity (density) of these materials is very high, a large component made up of these materials or such products in large quantity should be handled with care.
- Ultra hard materials are different in their thermal expansion ratio from metals. These products are prone to thermal shock and subsequent breakage when subjected to a sudden increase or decrease in temperature.
- As cutting oil, lubricant and general moisture may corrode ultra hard materials and affect their strength, pay extra attention to storing them in good conditions.

4. Precautions machining ultra hard tools

- The strength of ultra hard tools may be significantly lowered depending on the surface condition. Always use diamond grinding wheels for finish machining.
- Dust is produced when ultra hard tools are ground. Install appropriate ventilation/disposal equipment and wear protective gear such as masks, as inhalation of such dust may be hazardous to health. If such dust contacts your skin or comes into contact with your eyes, flush well with flowing water.
- After the grinding of ultra hard tools or brazed tools, the waste coolant contains components of heavy metals. Be sure to dispose of such waste liquid properly.
- After re-grinding ultra hard tools, check that they are free of cracks or damage before use.
- When ultra hard material or products made of ultra hard material is marked with lasers or an electric pen, cracking may occur to the marked area. Do not mark in areas where stress is applied during use.
- Processing ultra hard material by electric discharge may cause residual cracks on the surface, resulting in lower strength. Thus, remove any cracks completely by grinding as required.
- Be careful when brazing ultra hard material. If the temperature is lower or higher than the melting point of the brazing material, the insert may not be permanently fixed.

Metalcutting Safety

Applicable Products	Possible Risks	Safety Measures
General Cutting Tools	Contact with a sharp cutting edge with bare hands may result in injury.	Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	Misuse or using under inappropriate conditions may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	Use protective equipment, machine guarding and/or protective glasses. Use within the range of recommended conditions. Please refer to the instruction manual and catalogue.
	Sudden increase in cutting resistance due to impact load or excessive wear may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	High-temperature chips may be produced and long chips may be ejected, resulting in injury and/or burns.	Use protective equipment, machine guarding and/or protective glasses. Before removing chips, always stop the machine. Wear protective gloves and use proper equipment for chip removal.
	The tool and material/work being cut can become very hot. Touching them immediately after use may cause burns.	Use protective gear such as protective gloves.
	Sparks, heat generation due to breakage and/or chips during cutting may cause fire.	Do not use the machine and tools in locations where there are risks of ignition or explosion. When using water-insoluble cutting oil, fire prevention measures must be implemented.
	Out of balance machine set ups when run at a highspeed, may cause insert breakage due to excess vibration or chatter, resulting in injury.	Use protective equipment, machine guarding and/or protective glasses. Perform a trial-run beforehand to make sure the setup is stable, free of chatter, vibration and abnormal noise.
	Touching burrs and flashes on machined work may result in personal injury.	Use adequate hand protection.
Throw-Away Type Tools (With indexable insert)	Inappropriately clamped inserts and/or components may become detached from the machine during cutting, resulting in injury.	Before installing the insert, clean the seating surface and clamping components so that they are free of debris. Use the wrench supplied to install the insert and check that the insert and components are securely clamped. Do not use any inserts or components other than the items specified.
	Excessively tightening with a device such as a pipe extension may cause the insert and/or components to break or detach due to over clamping.	Do not use tightening devices such as pipe extensions to obtain further torque. Always use the supplied wrench.
	At high speeds inserts and/or components may lose clamping pressure due to the loosening effect of centrifugal force. This is very dangerous. Always ensure secure clamping systems and check regularly.	Use within the range the recommended conditions. Please refer to the instruction manual and catalogue.
Cutters and Rotational Tools	As cutters have sharp cutting edges, contact with bare hands may result in injury.	Use protective equipment such as protective gloves.
	Imbalance or eccentric rotation may cause the tool to break due to vibration or chatter, resulting in potential injury.	Use at a rotational speed within the recommended conditions. To prevent eccentric rotation and vibration due to worn bearings, regularly check the machine rotor/ rotating parts for the accuracy and balance and adjust as required.
Drills	Extra care should be taken when through hole drilling as chips may be ejected at high speed as the drill breaks through the workpiece.	Use protective equipment such as machine guards and/or protective glasses. Additional guarding around the chuck and drill may be advisable.
	Drill tips of a very small diameter are usually pointed and extremely sharp. Extra care and safety precautions should be taken when handling to avoid puncture wounds.	Always use precautions and secure safe handling methods. Wear protective gloves and glasses.
Brazed Inserts / Tools	Inserts may break or become, detached due to incorrect brazing.	Use protective equipment such as machine guards and/or protective glasses. Additional guarding around the chuck and drill may be advisable.
Others	It is not advisable to use repeatedly brazed inserts as the braze may progressively weaken.	Do not use repeatedly brazed inserts as the strength of such inserts is lowered.
	Use only for the original and intended purpose. Using outside recommended parameters is very dangerous, causing damages to machines and/or tools.	Always use and operate as specified, observing the required safety rules and conditions.

Guidelines for Catalog

- This catalog lists products as of July 2023.
- Please note that specifications of the products listed in this catalog may be changed without notice due to continuous research & development and product improvements.
- This catalog contains the major features and relevant information on all of our products. Please contact our sales representatives or dealers if more detailed information is needed.
- Stock Status Symbols

● : Standard stock
★ : Standard stock (specific)
◎ : Semi-standard inventory (delivery: approx. 3 weeks)
● : New standard stock
★ : New standard stock (Specified)
■ : While stock lasts (eliminating item)
Ⓜ : Mirror finish
💧 : Coolant through
Blank: Special order

Standard

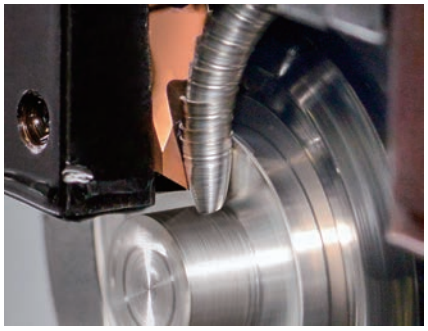
1) Holder Type	Package quantity	Notes
Turning　holder	1 pc / case	
Drill	1 pc / case	
Milling cutter	1 pc / case	
2) Spare parts	**Package quantity**	**Notes**
Screw	10 pc / case	Clamp screw,Clamp bolt,Double screw,Button screw,Set screw,Shim screw,Balancing screw,Positioning clamp screw,Ball screw fixture,Screw part
Spring	10 pc / case	Spring
Seat	10 pc / case	Shim seat
Clamp	10 pc / case	
Snap ring	10 pc / case	
Spring pin	10 pc / case	
Clamp pin	5 pc / case	
Washer	10 pc / case	
Blade	1 pc / case	
Coolant hose	1 pc / case	
Wrench	5 pc / case	Torque-wrench: 1 pc / case
Handle	1 pc / case	
3) Insert Type	**Package quantity**	**Notes**
All others	10 pc / case	
BIDEMICS(Brazed)	1 pc / case	JP2,120
CBN	1 pc / case	
PCD	1 pc / case	PD1,PD2
Diamond coating	1 pc / case	UC1
Insert for cut-off	5 pc / case	CTPW series
STICK DUO SHAPER DUO	1 pc / case	
Endmill	1 pc / case	S-MILL

CONTENTS

Section O. New and Unique Swiss Tooling	O1-42	O
Section P. Tool Materials/Selection Guide	P1-39	P
Section Q. Front Turning	Q1-65	Q
Section R. Back Turning	R1-45	R
Section S. Cut-off	S1-36	S
Section T. Grooving/Side-Turning	T1-38	T
Section U. Threading	U1-36	U
Section V. ID Tooling	V1-48	V
Section W. Shaper	W1-17	W
Section X. Endmill	X1-8	X
Section Y. Information	Y1-35	Y
Section Z. Index	Z1-8	Z

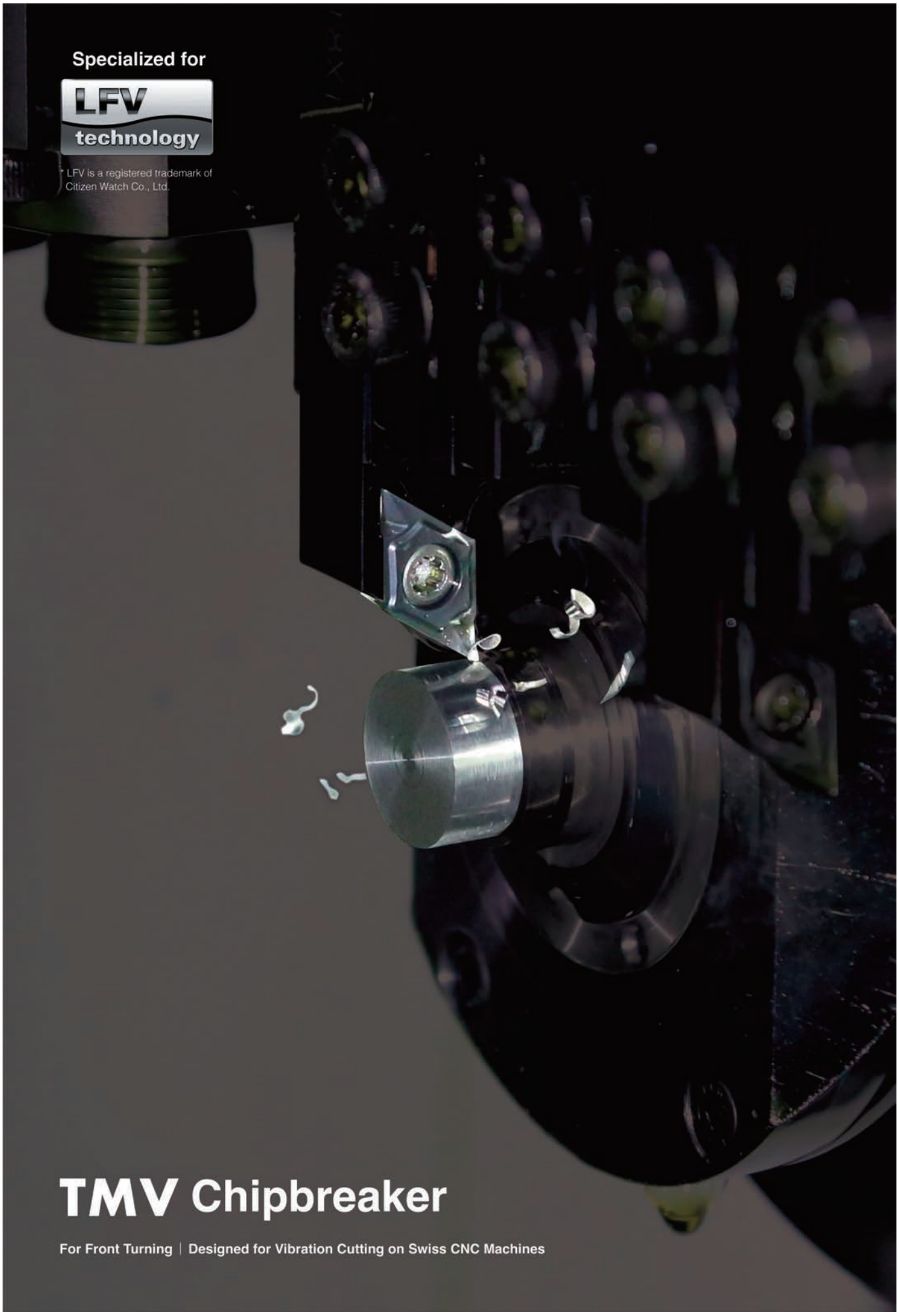
What is Swiss Tooling?

This tool series was developed specifically for Swiss-type CNC automated lathes.
(Old name: SS Tool)
Swiss-type CNC automated lathes and CNC lathes differ in their mechanical construction, workpieces, and sizes, so cutting tools must also be selected to suit these requirements.



New and Unique Swiss Tooling

NEW TMV Molded chipbreaker O02
NEW SPLASH series O04
Direct gang coolant connection "OH3"
Coolant Components O08
The Front Max O12
S-MILL O13
Thread Whirling O14
Indexable Endmills O18
TBP/TBPA-BM Molded chipbreaker O20
GTMH-GX Molded chipbreaker O21
Y-axis Toolholders O22
CTP/CTPA-CX Molded chipbreaker O25
DS-ACH Toolholders O26
SHAPER DUO O28
CSV series O29
CUT DUO O30
CUT DUO EXTRA O31
SCRUM DUO O32
GTPA series O33
SATURN DUO O34
DS Sleeves O36
Mogul Bar O39
STICK DUO O40
STICK DUO HYPER O41
STICK DUO SPLASH O42



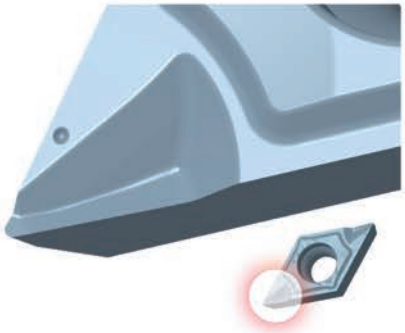
TMV Chipbreaker

For Front Turning | Designed for Vibration Cutting on Swiss CNC Machines

Reliably long tool life and stable chip evacuation during vibration cutting

Performance

- **Dramatic reduction in cutting edge wear**
  Extended tool life even machining difficult-to cut materials
- **Stable chip removal with dramatic reduction in cutting edge wear**
  Stable chip formation during vibration cutting



Applications

Front turning operations on swiss cnc using vibration cutting function

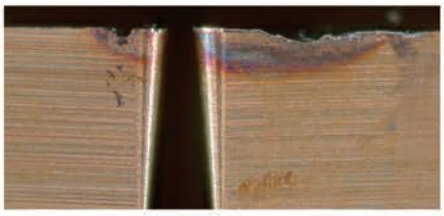
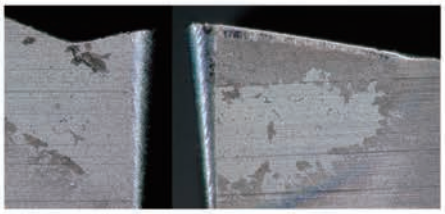
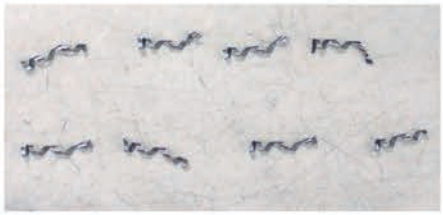
Machining conditions

Grade	Work materials	Operation	Cutting conditions			Vibration condition (LFV)		
			Cutting speed (m/min)	Feed (mm/rev)	D.O.C. (ap) (mm)	P	Q	D
ST4	Austenitic stainless steel (SUS304 / SUS316 etc)	Front turning	40 - 100	0.02 - 0.06	0.5 - 2.0	Mode 1	0.5	0.5
DM4 NEW	Carbon steel / Alloy steel (S45C / SCM435)	Front turning	50 - 120	0.02 - 0.06				
TM4 NEW	Non-ferrous (Aluminum / Titanium etc)	Front turning	60 - 150	0.02 - 0.06				

⚠ The cutting edges are designed with lower height than our standard ISO inserts. Please correct the center height before using it.
⚠ * When using an **R0.08** insert, set the feed 0.02mm/rev or less. [Mode 2 / E4.0 / R0.5] is recommended when feed rate is higher than 0.02mm/rev.

Case Study

CNC Lathe	**Cincom L20-LFV**
Work material	SUS316L
Cutting speed	80 m/min
Feed	0.05 mm/rev
D.O.C. (ap)	1.0 mm
Coolant	WET
Vibration condition	Mode 1 Q0.5 D0.5

	Conventional tool	TMV Chipbreaker
Edge image Machining range 8km		
Chip images		

Construction machine parts

Work material	SGD material (SS polishing material) Machining dia. ϕ8 / 10.8 / 12
RPM	2,500
Feed (mm/rev)	0.03
D.O.C (mm)	2.0/2.6/4.0
Vibration condition (LFV)	Mode 1 / Q1.0 / D0.5

DM4 DCGT11T302MRTMV

Competitor's PVD carbide

Valve parts

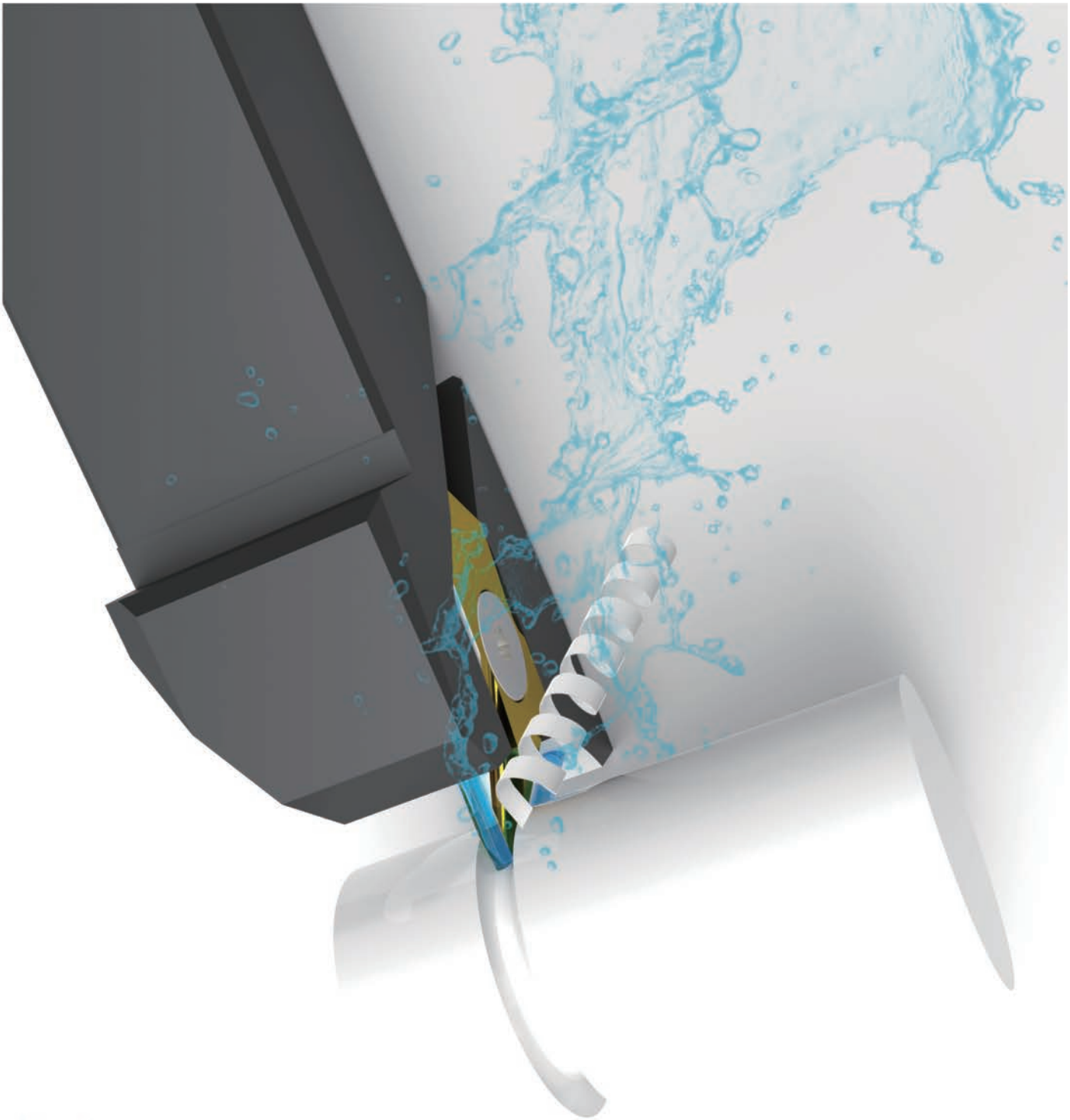
Work material	SUS304 Machining dia. ϕ3.8
RPM	2,263
Feed (mm/rev)	0.02
D.O.C (mm)	3.1
Vibration condition (LFV)	Mode 2 / E3.0 / R0.5 / I0.02

ST4 DCGT11T302MRTMV

Competitor's PVD carbide

SPLASH SERIES

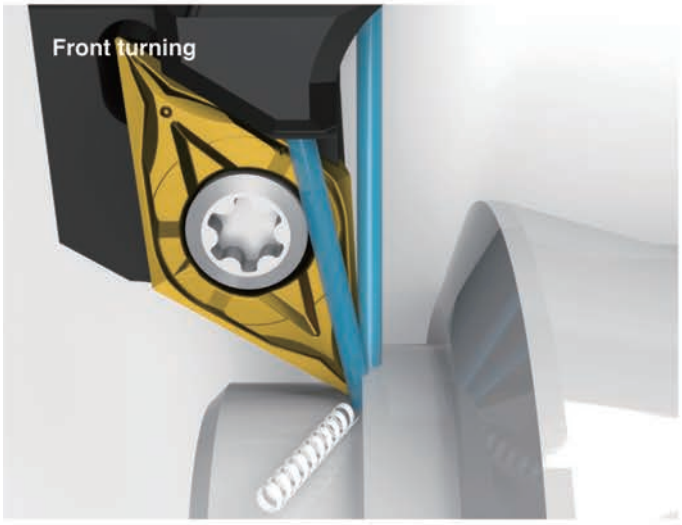
Coolant Through Holders | For Swiss CNC Lathes



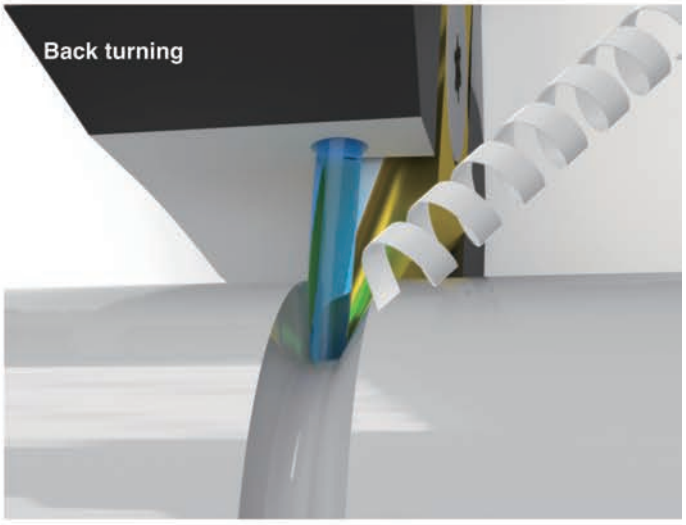
New Line up

Direct connect type "OH3"

Expanded tooling options



Coolant flow from two locations (12mm and 16mm shank) directs the chips away from the guide bushing.



By focusing coolant to cutting edge chips are flushed away from the machined surface to achieve an excellent surface finish.

SPLASH SERIES

Coolant Through Holders | For Swiss CNC Lathes

Utilizing coolant through tools eliminates chip issues and realizes stable machining
Effectively cools the cutting edge and extends tool life

Features

- Curling and breaking chips with coolant pressure
- Coolant is focused on the cutting edge to suppress heat and edge wear
- Variety of coolant connection options

Tooling operations

Front turning / Back turning / Grooving / Threading / Cut-off / ID boring

Application	Type	Coolant hose connection	Coolant directly from gang plate	Machine models with coolant directly from gang plate	
Front turning Back turning Grooving Threading Cut-off ID boring	NEW !			L12, L20, D25, M32	Citizen-Cincom
				SB-16III, SD-26type S	STAR
	OH3	●	●	B026/32-III Series, BW269/329ZJ SS267/327-III, SS267/327-III-5AX SS207-III, SS207-III-5AX S205/206-II, S205A/206A-II	TSUGAMI
	OH2	●	●	L12, L20, D25, M32	Citizen-Cincom
				SB-16III, SD-26 type S	STAR
	OH	●	-	-	

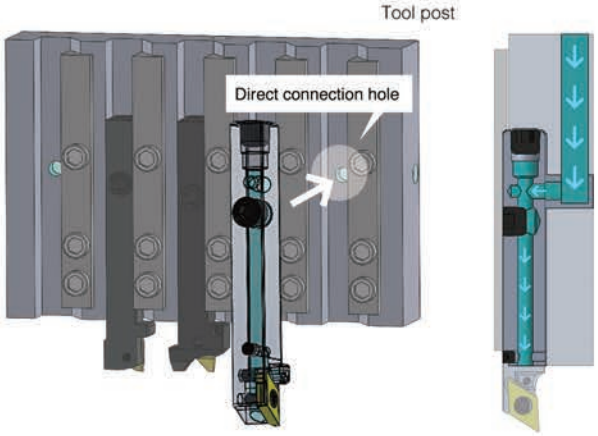
*Based on information as of September 2022

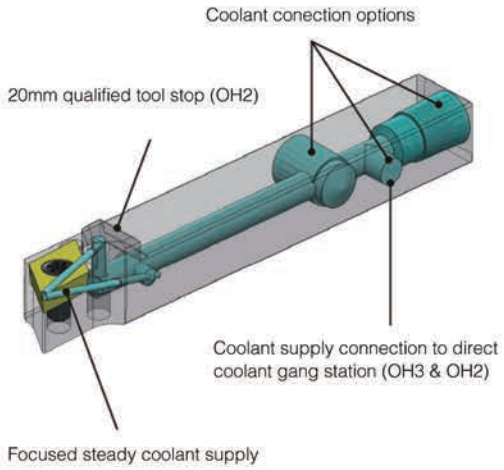
Direct gang coolant connection "OH3"

OH3 Features

- New CTP-SUB cut-off holder lineup
- Lineup expansion of 16mm sq. shank tools with direct connect capability

Coolant is supplied directly from the tool post to the tool





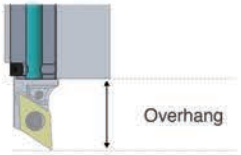
New OH3 tools makes it possible to directly connect to a gang station through coolant system
Also supports side and rear coolant hose connections

OH3 Hole Position Reference Chart

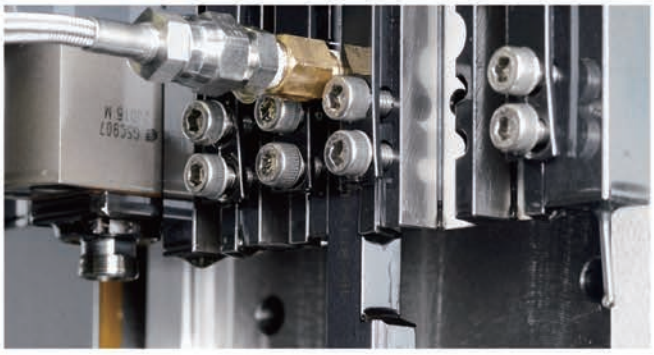
*Based on information from September 2022

Make*	Model	Tool position**	Shank size	Overhang(mm)	Direct Connect Toolholder Coolant Port
Citizen-Cincom	L12(2M)	T02 - T07	□10	17.5	B
		T01	□12	24.5	C
	M32(5M)	T01 - T05	□16	25.0	C
	D25	T10 - T13 , T30 - T32			
	L20(2M/3M)	T01		30.0	A
STAR	SB-16III	T100 - T500 (T600)	□12	22.0	C
	SD-26 type S	T100	□16	30.0	
		T200 - T700		25.0	
TSUGAMI	B026/32-III Series	T05 - T09 , T11 - T15 , T26, T27	□16	26.0	B
	BW269/329ZJ	T05 - T09 , T26, T27			
	SS267/327-III SS267/327-III-5AX	T05 - T09 , T25 - T27			
	SS207-III, SS207-III-5AX	T05 - T10 , T26 - T28	□16(option)	26.0	A
	S205/206-II S205A/206A-II				

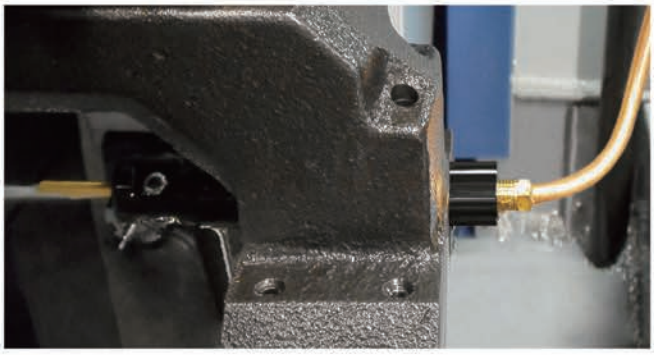
** The tool position varies depending on the option setting. Please confirm in advance.



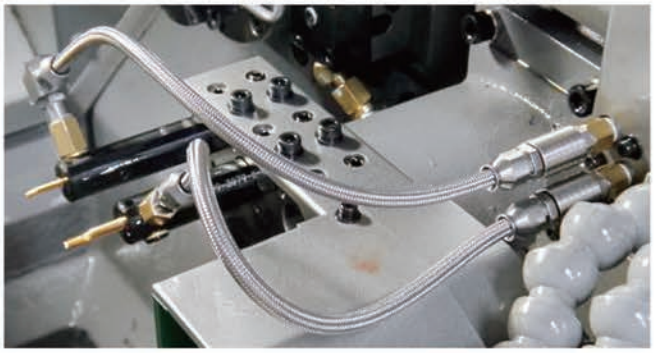
Compatible with various coolant hose connections (OH, OH2, OH3)



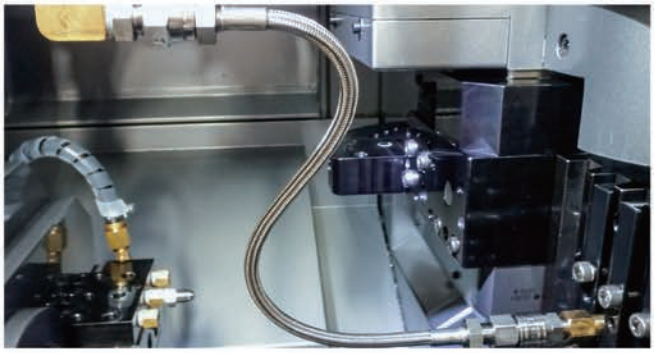
Holder side connection



Holder rear connection



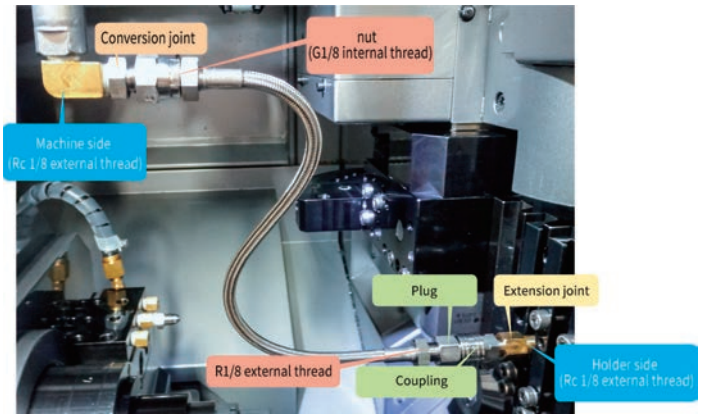
Side connections on I.D. stick tool holders



Hose mounting example (vertical gang style)

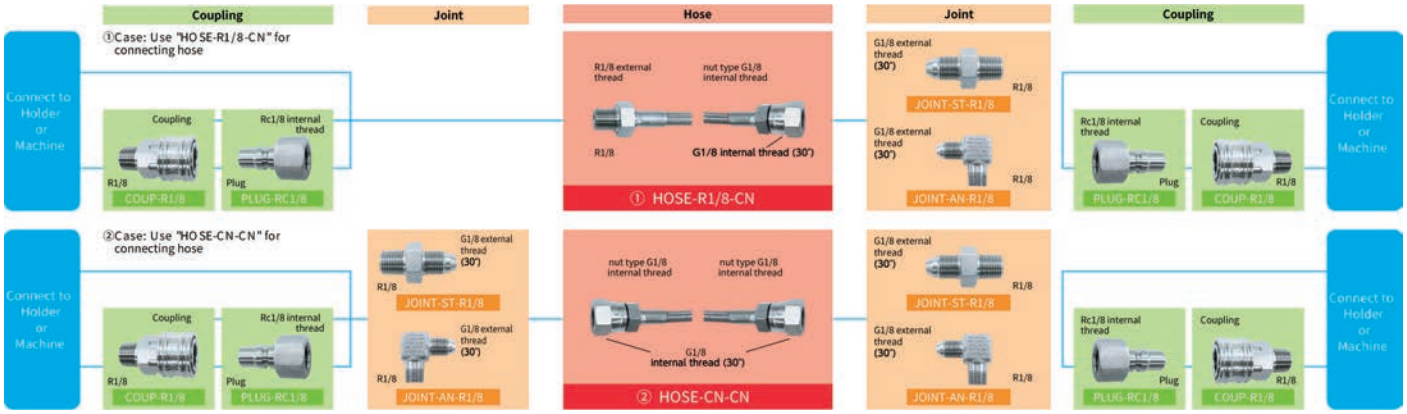
Coolant parts for hose connection ①.

Coolant connection options



Name	P/N
joint	JOINT-ST-R1/8
hose	HOSE-R1/8-CN-400
plug	PLUG-RC1/8
coupling	COUP-R1/8
extension joint	SCJ-R1/8-RC1/8-L

Connection example

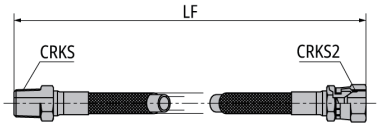


How to use quick change coupling and joint

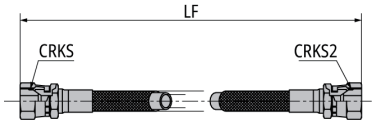
- Frequent hose removal
  ➡Coupling(Max. coolant pressure 7.5 MPa)
- Less hose removal
  ➡Joint(Max. coolant pressure 200 MPa)

Hose

No.1



No.2



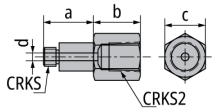
R1/8 male thread
Rotate hose to secure

Cap nut G1/8 female thread
Fastening by rotating nut
(No hose rotation required)

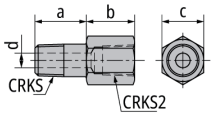
Figure	EDP	Item Number	Stock	LF mm	CRKS	CRKS2	CP Max. operating pressure
1	5923255	**HOSE-R1/8-CN-200**	●	200	R1/8	G1/8	20.6
1	5923263	**HOSE-R1/8-CN-250**	●	250	R1/8	G1/8	20.6
1	5923297	**HOSE-R1/8-CN-300**	●	300	R1/8	G1/8	20.6
1	5923305	**HOSE-R1/8-CN-400**	●	400	R1/8	G1/8	20.6
1	5923313	**HOSE-R1/8-CN-500**	●	500	R1/8	G1/8	20.6
1	5923321	**HOSE-R1/8-CN-800**	●	800	R1/8	G1/8	20.6
2	5923339	**HOSE-CN-CN-200**	●	200	G1/8	G1/8	20.6
2	5923347	**HOSE-CN-CN-250**	●	250	G1/8	G1/8	20.6
2	5923354	**HOSE-CN-CN-300**	●	300	G1/8	G1/8	20.6
2	5923388	**HOSE-CN-CN-400**	●	400	G1/8	G1/8	20.6
2	5923396	**HOSE-CN-CN-500**	●	500	G1/8	G1/8	20.6
2	5923404	**HOSE-CN-CN-800**	●	800	G1/8	G1/8	20.6

Joints (for screw replacement and extension)

No.1



No.2



No.3

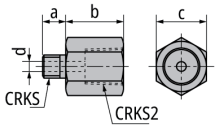
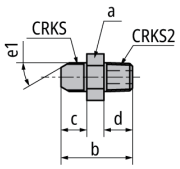


Figure	EDP	Item Number	Stock	CRKS	CRKS2	a mm	b mm	c mm	d mm
1	5944897	**SCJ-M6-RC1/8-L**	●	M6×1	Rc1/8	16	15	13	2.5
2	5891049	**SCJ-R1/8-M10-L**	●	R1/8	M10×1	16	12	13	4.5
2	5891056	**SCJ-R1/8-RC1/8-L**	●	R1/8	Rc1/8	16	15	13	4.5
2	5891064	**SCJ-R1/8-NPT1/8-L**	●	R1/8	NPT1/8	16	15	13	4.5
3	5892906	**SCJ-M6-M10**	■	M6×1	M10×1	6	15	12	2.5
3	5123765	**SCJ-M6-M10-N**	●	M6×1	M10×1	6	15	12	2.5
3	5892914	**SCJ-M6-RC1/8**	■	M6×1	Rc1/8	6	15	13	2.5
3	5123773	**SCJ-M6-RC1/8-N**	●	M6×1	Rc1/8	6	15	13	2.5
3	5892922	**SCJ-M6-NPT1/8**	■	M6×1	NPT1/8	6	15	13	2.5
3	5123799	**SCJ-M6-NPT1/8-N**	●	M6×1	NPT1/8	6	15	13	2.5
3	5933817	**SCJ-M8-RC1/8**	■	M8×1	Rc1/8	6	15	13	3.5
3	5123807	**SCJ-M8-RC1/8-N**	●	M8×1	Rc1/8	6	15	13	3.5
3	5892948	**SCJ-R1/8-M10**	●	R1/8	M10×1	10	15	12	4.5
3	5892963	**SCJ-R1/8-NPT1/8**	●	R1/8	NPT1/8	10	15	13	4.5

● : without washer

Joint (for connection with G1/8 female thread)

No.1



No.2

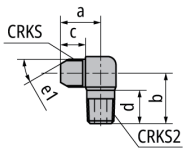
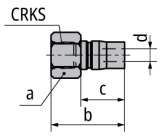


Figure	EDP	Item Number	Stock	CRKS	CRKS2	a mm	b mm	c mm	d mm	e1 mm	CP Max. operating pressure
1	5918966	**JOINT-ST-R1/8**	●	G1/8	R1/8	HEX:14	31	13	10	30	20.6
2	5923412	**JOINT-AN-R1/8**	●	G1/8	R1/8	20	21	13	14	30	20.6

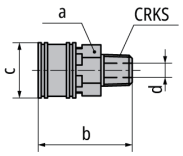
*The threads of the straight and L-shaped joints have different thread standards on both sides.
When connecting to a hose or one-touch coupler, use a combination of the same thread standard.

Coupling

No.1



No.2

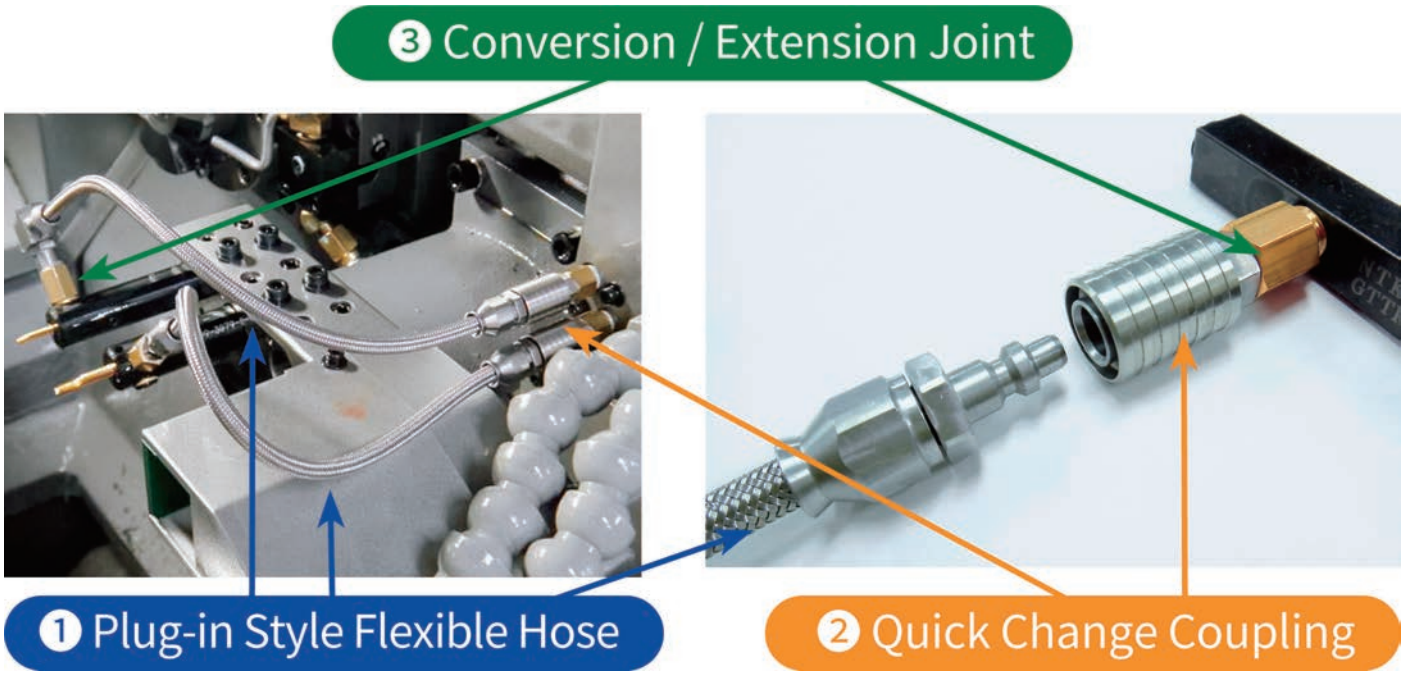


EDP	Item Number	Stock	CRKS	a mm	b mm	c mm	d mm	CP Max. operating pressure
5915491	**PLUG-RC1/8**	●	Rc1/8	HEX:14	26	15.5	4.5	7.5
5915517	**COUP-R1/8**	●	R1/8	HEX:14	30	17.5	4.5	7.5

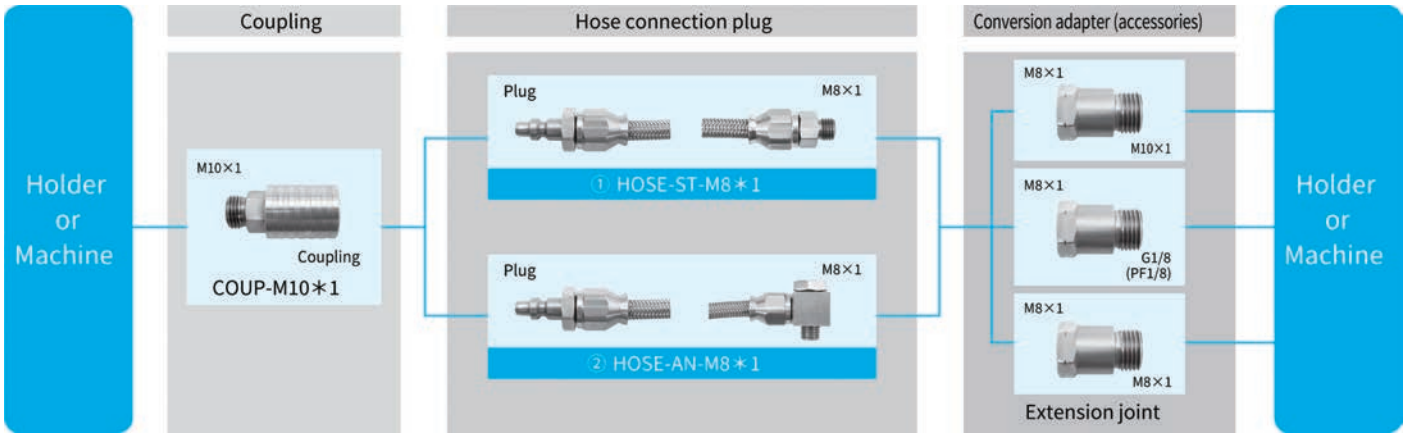
Coolant parts for hose connection ②.

One-touch coupler type made by HEB

Coolant connection example



Coolant connection example

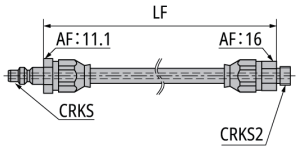


Features

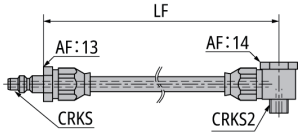
High quality stainless steel flexible tubing
Maximum working pressure 20 MPa

Hose with plug (conversion adapter included)

No.1



No.2



Conversion adapter

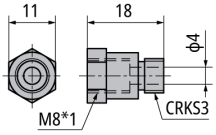
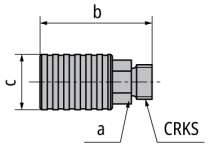


Figure	EDP	Item Number	Stock	LF mm	CRKS	CRKS2	CRKS3 Conversion adapters	CP Max. operating pressure
1	5894290	**HOSE-ST-M8*1**	●	300	Quick change connector	M8*1	①M8*1→M10*1②M8*1→G1/8	20
2	5894282	**HOSE-AN-M8*1**	●	302	Quick change connector	M8*1	①M8*1→M10*1②M8*1→G1/8③M8*1→M8*1	20

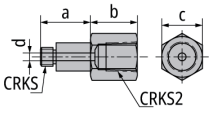
One-touch coupler



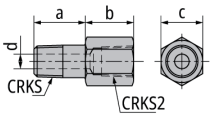
EDP	Item Number	Stock	CRKS	a mm	b mm	c mm	CP Max. operating pressure
5894308	**COUP-M10*1**	●	M10×1	HEX:11	32.5	16	20

Joints (for screw replacement and extension)

No.1



No.2



No.3

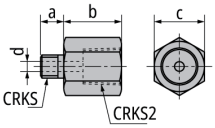
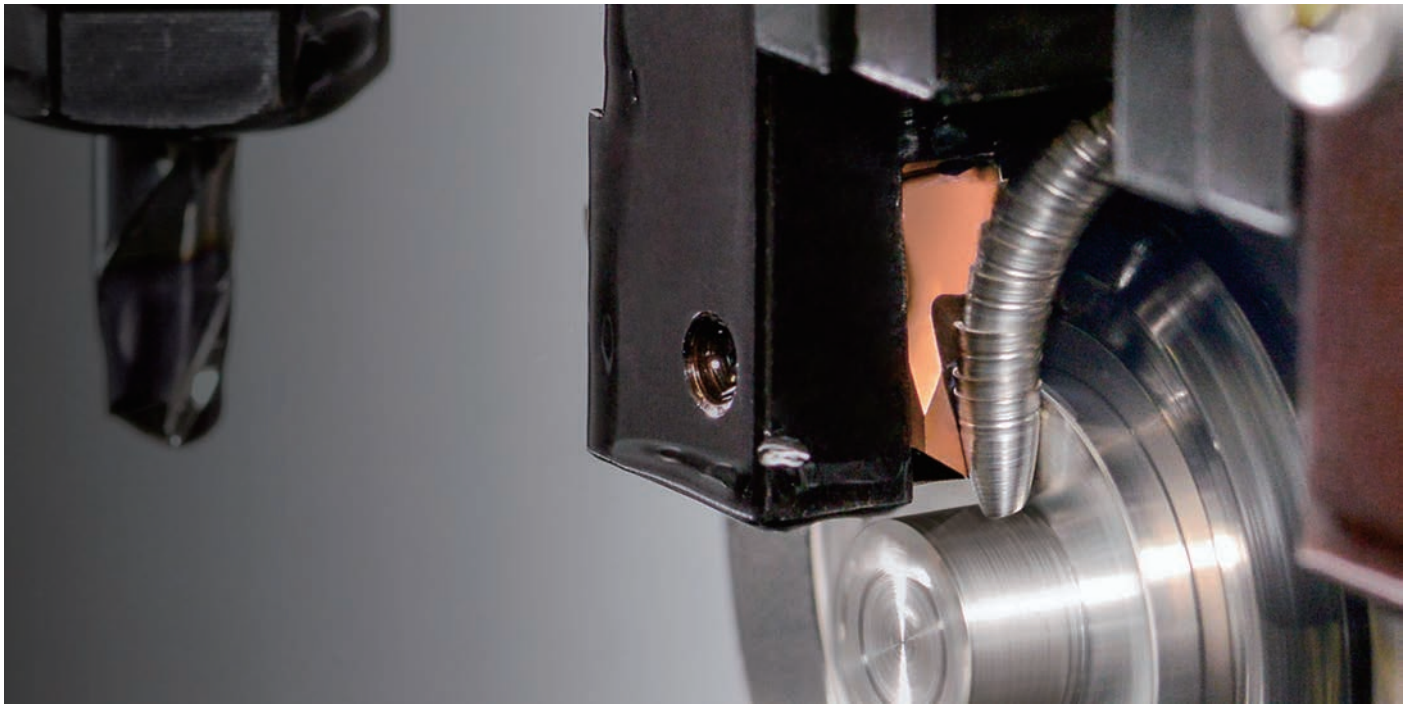


Figure	EDP	Item Number	Stock	CRKS	CRKS2	a mm	b mm	c mm	d mm
1	5944897	**SCJ-M6-RC1/8-L**	●	M6×1	Rc1/8	16	15	13	2.5
2	5891049	**SCJ-R1/8-M10-L**	●	R1/8	M10×1	16	12	13	4.5
2	5891056	**SCJ-R1/8-RC1/8-L**	●	R1/8	Rc1/8	16	15	13	4.5
2	5891064	**SCJ-R1/8-NPT1/8-L**	●	R1/8	NPT1/8	16	15	13	4.5
3	5892906	**SCJ-M6-M10**	■	M6×1	M10×1	6	15	12	2.5
3	5123765	**SCJ-M6-M10-N**	●	M6×1	M10×1	6	15	12	2.5
3	5892914	**SCJ-M6-RC1/8**	■	M6×1	Rc1/8	6	15	13	2.5
3	5123773	**SCJ-M6-RC1/8-N**	●	M6×1	Rc1/8	6	15	13	2.5
3	5892922	**SCJ-M6-NPT1/8**	■	M6×1	NPT1/8	6	15	13	2.5
3	5123799	**SCJ-M6-NPT1/8-N**	●	M6×1	NPT1/8	6	15	13	2.5
3	5933817	**SCJ-M8-RC1/8**	■	M8×1	Rc1/8	6	15	13	3.5
3	5123807	**SCJ-M8-RC1/8-N**	●	M8×1	Rc1/8	6	15	13	3.5
3	5892948	**SCJ-R1/8-M10**	●	R1/8	M10×1	10	15	12	4.5
3	5892963	**SCJ-R1/8-NPT1/8**	●	R1/8	NPT1/8	10	15	13	4.5

● : without washer



For front turning | Swiss CNC Lathes

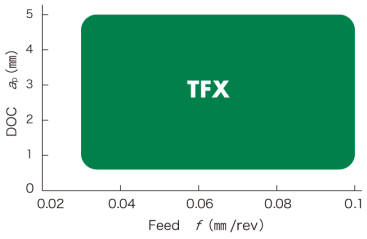
The Front Max

Significant reduction in cycle time due to large depth of cut capability

Chip control at both large DOC and high feed and low DOC and low feed conditions

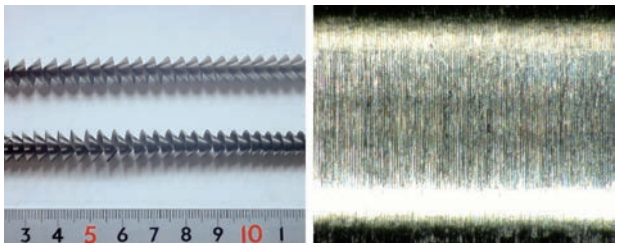
Performance

Capable of a 5.0 mm maximum depth of cut
NTK's unique insert design provides excellent chip control and surface finish.



Performance

Outstanding chip control in any cutting conditions.
NTK's original chipbreaker design provides excellent chip control and a good machined surface.
Coolant through holders are available for TFX inserts to provide further machining stability

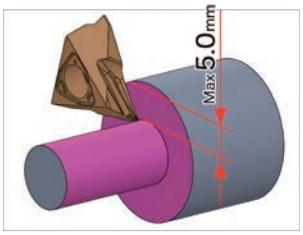


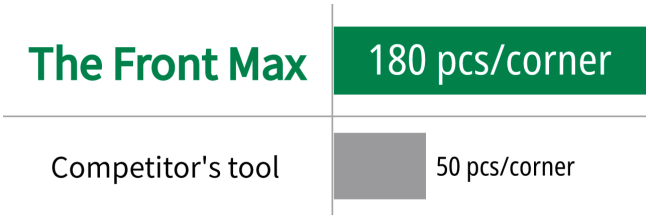
[cutting conditions] DOC : 5.0mm Material: SUS304 Vc=80m/min f=0.03mm/rev WET

Case study

The TFX "Front Max" machined at an increased feed and a large depth of cut, ap=5.0mm, succeeding at extending tool life by more than 3 times compared to the competitor's insert.

Work material	SUS304
Cutting speed	80m/min
Feed	0.03mm/rev
Depth of cut	5.0mm
Coolant	WET





For end milling | Swiss CNC lathes

S-MILL

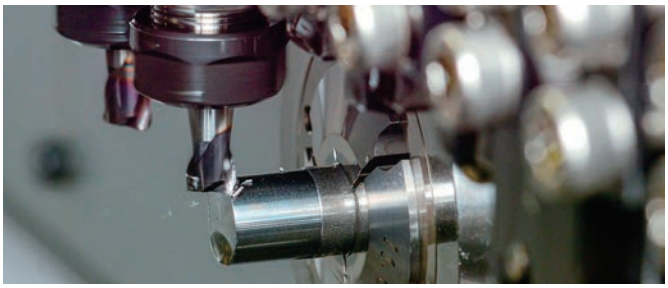
Ideal for small diameter parts that are prone to vibrations

Targets small diameter parts with rigidity issues that benefits from a sharp cutting edge

Performance

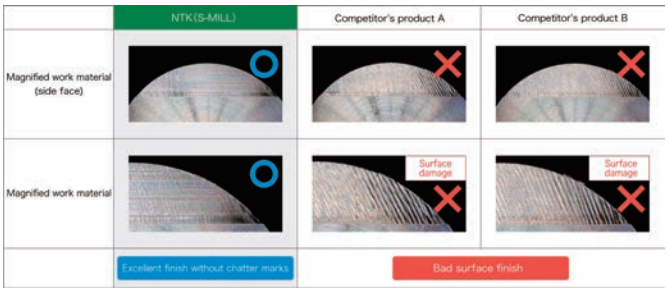
Designed with a focus on sharpness

Stable machining of even the smallest workpieces



Part surface finish comparison

The sharp cutting edge design achieves an overwhelmingly good machined surface.

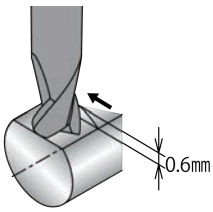


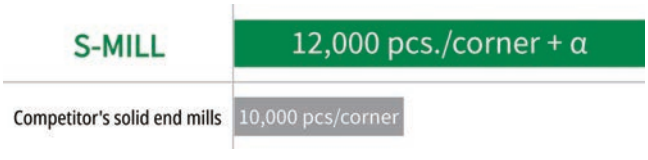
[Cutting conditions]
Material : SUS304 Φ16.0 ap=3.0mm ae=1.2mm S = 3,000rpm F = 300mm/min
[Tools used]
Φ6.0mm - 2 flute

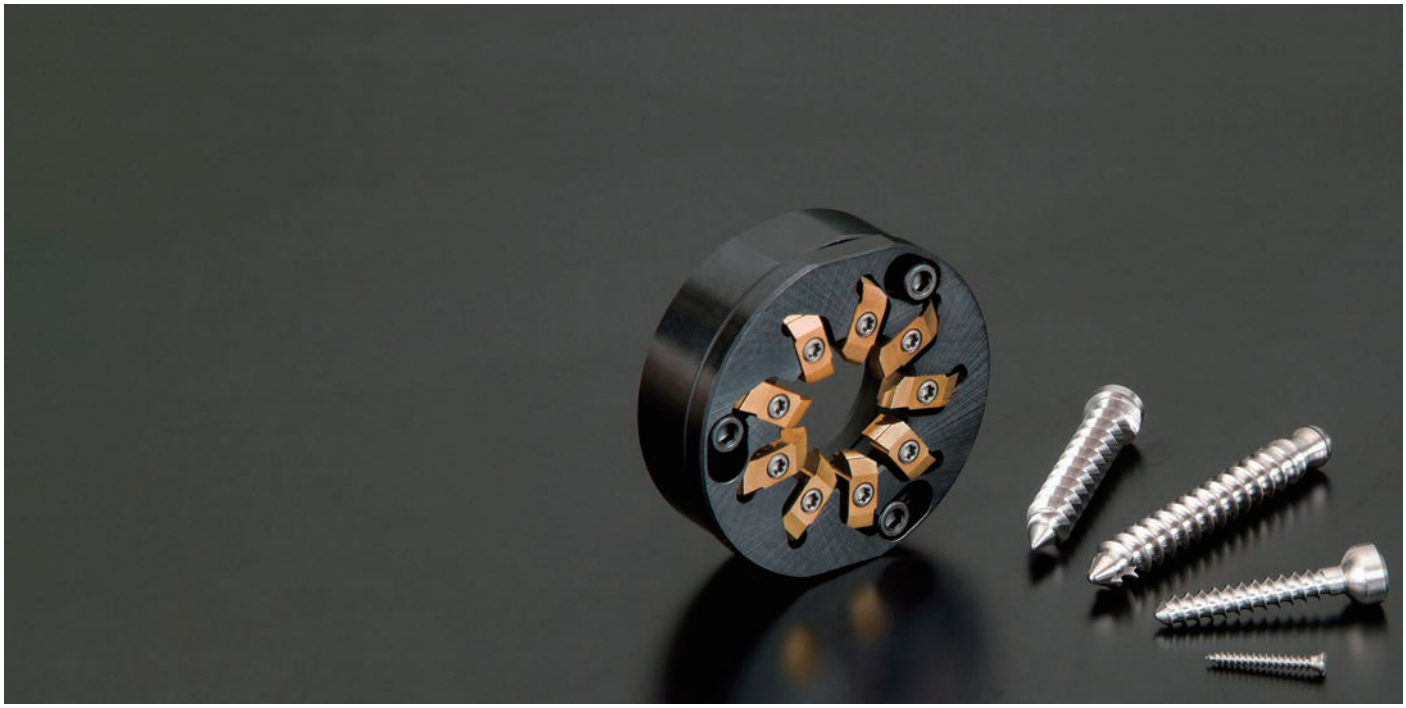
Case study

The competitor's end mill showed an obvious decrease in surface finish quality as it reached the end of its tool life.
The S-Mill maintained a quality finish throughout the extent of its long tool life.

Work material	SUS416F
Spindle speed	3,200 rpm/min
Feed	140mm/min
Depth of cut	0.6mm
Coolant	WET







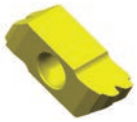
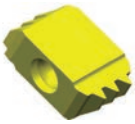
For high-efficiency thread cutting | Swiss CNC lathes

Thread Whirling

High productivity for precision screw manufacturing, like implant screws and bone screws
Ideal for medical screw thread forms that are becoming more complex
Single pass thread forming reduces cycle time

Features

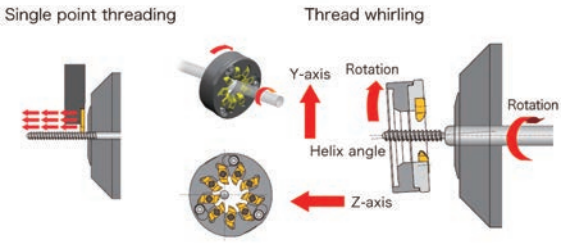
- NTK's insert design technology creates precise inserts matching even the most complex thread forms
- Sharp cutting edges and PVD coated inserts generate superior surface finishes and achieves long tool life

	Double-lead threads	Triple-lead threads
Work	Bone screw	Worm screw
Work material	Ti-6Al-4V ELI	brass
Workpiece		
Insert shape		
Major Dia.	φ4.0	φ7.0
Minor Dia.	φ2.4	φ4.7
Lead [Pitch×No. of Lead]	3.42mm	4.9mm

Machining multi-lead tread forms has many process requirements.
So it is important to contact us to discuss: mechanical specifications, spindle specifications, insert specifications, tooling specifications.

Thread whirling process vs. single point threading

In thread whirling, the whirling head is tilted to a specific helix angle, the cutter is rotated at high speed, the bar stock (c axis) is rotated at a low speed, and the pitch (z axis) is the feed.
The inserts shear the material which enables single pass thread forming.



Special Item Capability

- Even though almost all bone screw shapes are special, NTK thread whirling inserts can make the correct shape of thread the first time, without any redesign or remanufacturing
- The combination of a sharp cutting edge and PVD coating achieves an excellent finish and long tool life.

Instructions

1. Refer to our chart and find your machine and spindle model. Select the suitable whirling cutter.
2. Submit the machine , spindle model information, workpiece drawing, material, and bar stock diameter to NTK. NTK calculates the lead angle and insert geometry from the work drawing and manufactures a dedicated insert.
3. Set the whirling cutter at the specified lead angle and set the cutting conditions.

Recommended Cutting Conditions

Conditions / No. of teeth		9	6	4	
Main spindle	min-1	10-40	10-25	7-15	Faster RPM reduces machining time
Whirling cutter	min-1	1500-4000			
Feed Rate		Same as thread lead = pitch			
Bar stock	mm	-φ10	-φ10	-φ8	
Work Material		Ti-6Al-4V EL / SUS316 / 17-4PH / Titanium / brass			

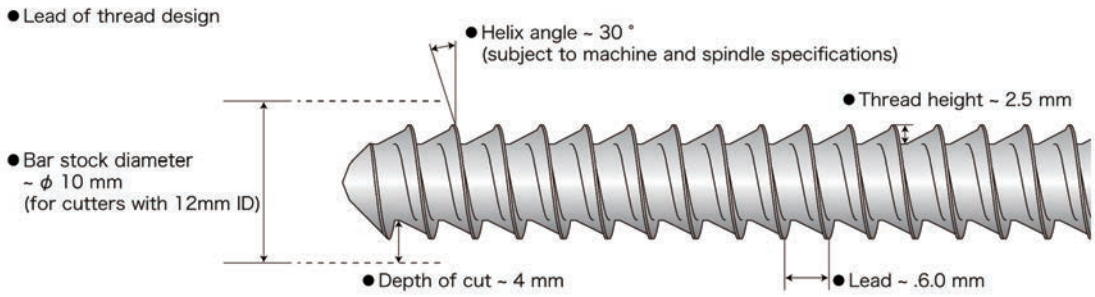
Formula for calculating thread whirling process time

$$T\ (\text{Seconds}) = \frac{60 \times \text{Thread length}}{\text{Main spindle rpm} \times \text{Feed rate (Thread lead)}}$$

Ex.) Double lead / 50㎜ length / 2㎜ lead (2×1㎜ pitch) / 30 rpm

$$T\ (\text{Seconds}) = \frac{60 \times 50㎜}{30\text{rpm} \times 2㎜} = 40\ \text{Seconds}$$

Applicable Thread Geometry (Approximated)



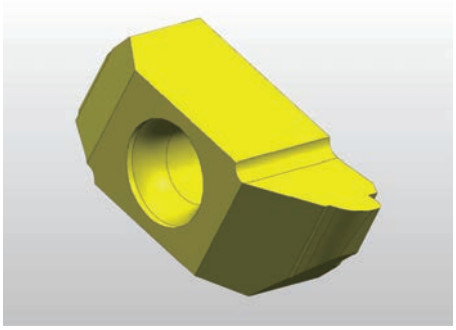
The geometries shown above are approximated and could vary by actual applications

Double-lead Bone Screw Process Example

1. 1st thread whirl at taper area
2. Rotate the bar 180°and whirl the 2nd thread on same area as 1
3. Thread whirl the straight section
4. To obtain two exits on the screw, back up half a lead (one pitch) and rotate 180 degrees. Additional machining is performed at the exit.

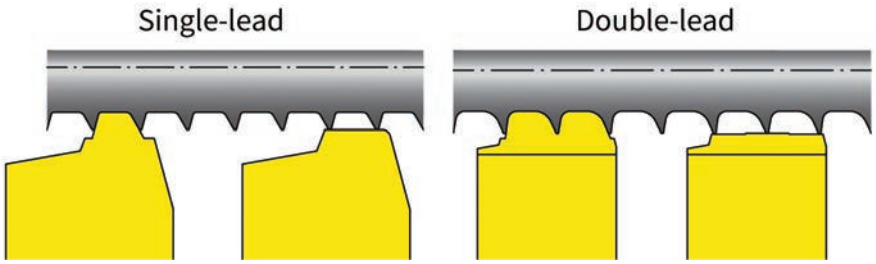
Basic Insert Grade : ZM3

ZM3 is the common grade for NTK thread whirling
ZM3 offers excellent surface finish
NTK can make inserts with other coatings to meet customers demands



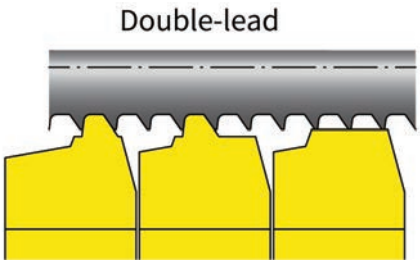
NTK Thread Machining Examples

For absolute flat on OD



Two insert combination brings absolute flat on OD to meet drawing specifications.

For tiny thread



NTK's Thread Whirling system can machine small diameter multi-lead screws to spec, with lower tool pressure, by using several types of specially designed and accurately ground inserts on the cutter.

NTK's Unique Attachment System

NTK's whirling insert holder can be attached and detached without removing mounting screws

①Loosen the Mounting Screws

②Rotate the Insert Holder 10 degrees

③Detach the Insert Holder without removing the Mounting Screws

Application Examples

Double-lead Bone Screw			
Work Material : Ti -6Al-4v ELI			
Bar Stock Dia.	ϕ9.5	Number of start	2
Major Dia.	ϕ4.0	Helix Angle	28.5°
Minor Dia.	ϕ2.5	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	15	Speed of whirling cutter (rpm)	3,500
Lead = Feed (mm/rev)	5.5	Result	OK

NTK Thread Whirling	Dramatically improved productivity
Competitor's Thread Whirling	*Cannot complete with single pass. Requires feeding stock multiple times and two passes for threading each time.*

NTK thread whirling succeeded in double lead screw machining when one of the major thread whirling suppliers has failed many times.

Single-lead Bone Screw			
Work Material : 316SS			
Bar Stock Dia.	ϕ8.0	Number of start	1
Major Dia.	ϕ3.45	Helix Angle	7.5°
Minor Dia.	ϕ2.67	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	23	Speed of whirling cutter (rpm)	2,000
Pitch = Feed (mm/rev)	1.24	Result	OK

NTK Thread Whirling	2600 pcs
Competitor's Thread Whirling	1000 pcs

Some thread whirling manufacturers offer 6-teeth or 12-teeth systems, too many teeth cause chip packing issues and more tool pressure. Fewer **teeth means greater cycle time. NTK concluded that 9-teeth is the best** configuration. Our customers can run 1.5 times faster and get longer tool life.

Triple-lead Worm Gear			
Work Material : Brass			
Bar Stock Dia.	ϕ8.0	Number of start	3
Major Dia.	ϕ7.0	Helix Angle	14.6°
Minor Dia.	ϕ4.7	Hand of thread	Left
Cutting condition			
Main Spindle Speed (rpm)	20	Speed of whirling cutter (rpm)	3,500
Lead = Feed (mm/rev)	4.8	Result	OK

Multi-lead threads, common in the Worm Gear industry are made by a forming or cutting process. The large helix angle is difficult to machine with single-point threading.
NTK now makes thread whilring inserts for multi-lead threads. Cycle time is reduced with a one pass process and thread form dimensions are stable with the low tool pressure.

For end milling | Swiss CNC lathes

Indexable insert end mills

Optimum size lineup for CNC automatic lathes

Indexable cutting edges simplifies tool management and reduces the need for re-sharpening and recoating a solid end mill.
PVD coated carbide inserts enable 3 to 5 times higher machining efficiency than HSS endmills.
Use of inserts with center cutting edges enables not only D-cutting, but also slotting and slope milling.

Large head type

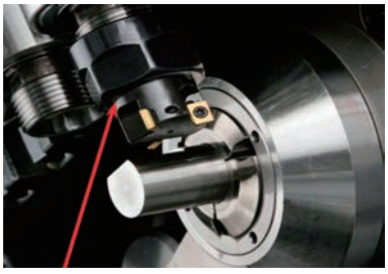
Machining close to the guide busing is possible. Enables stable machining of even small-diameter workpieces. Can be mounted close to the tool post, providing high rigidity and reduced chatter during high-speed machining. Larger cutting edge diameter enables highly efficient machining.

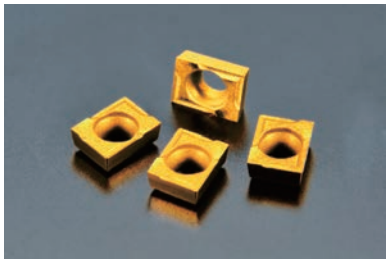
Specialized chip breaker to reduce cutting resistance

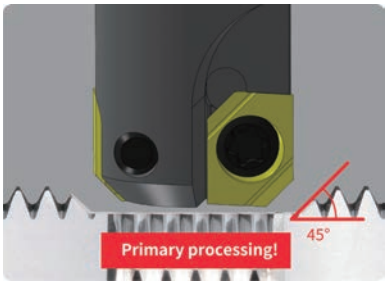
Significantly reduced cutting resistance achieves high-precision machining.
Wiper shape improves surface finish roughness.

End mill for D-cut 45° machining

45° machining geometry is available with indexable inserts.
Contributes to higher efficiency by reducing machining processes.



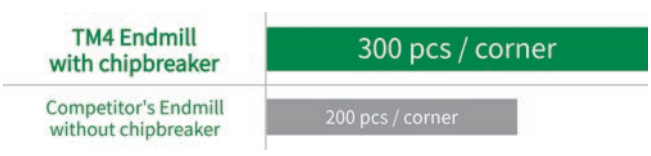




Case study

NTK's end mills with chipbreakers have good cutting performance, which reduces machining noise and eliminates surface lines. Machining dimensions were also stable and the tool life extended.

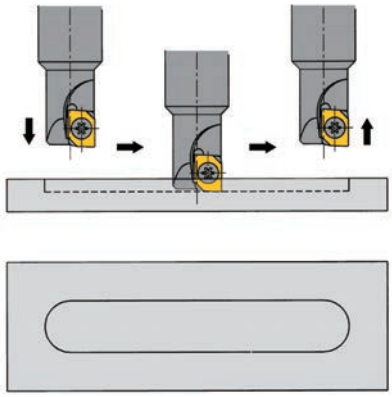
Work material	SUS304
Cutting speed	75m/min
Feed	70mm/min
Depth of cut	~1.25
Coolant	WET



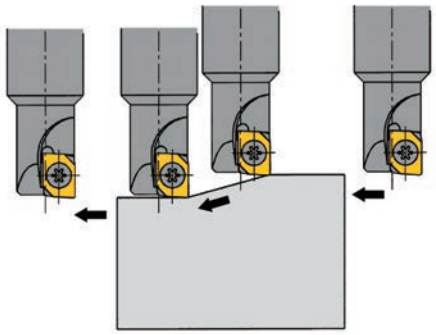
Advantages of installing an insert with a center edge

- Machining example (1): Single flute end mill can be used for infeed and side machining.
- Machining example (2): Slope milling is possible with a single-flute end mill.
- Wiper is provided at the cutting edge corner to obtain a good machined surface.

Machining example (1)



Machining example (2)



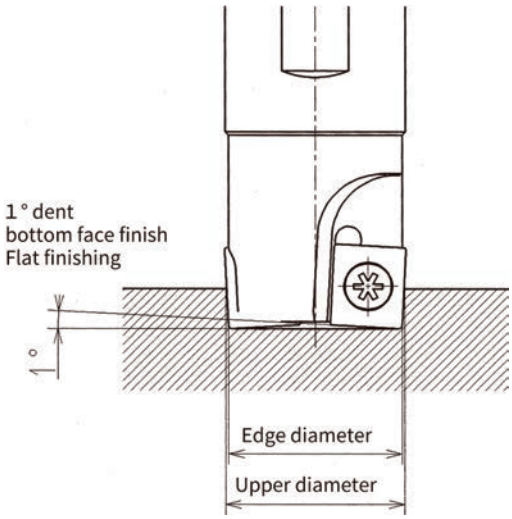
Notes

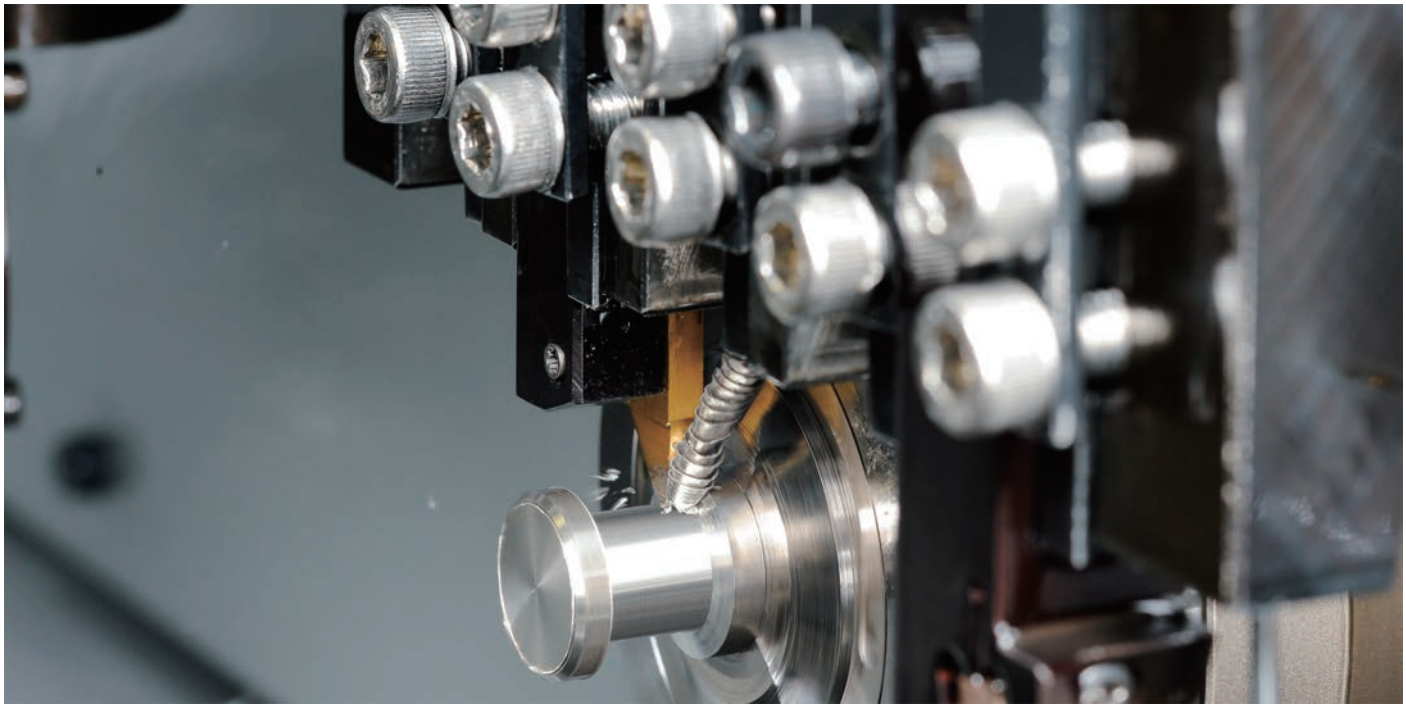
- Center fluted inserts can also be mounted on 2- and 3-flute type end mills, but infeed machining cannot be performed. However, the surface roughness of the machined bottom surface can be improved.
- When performing slope milling with a center-edged insert mounted on a single flute type end mill, the effective cutting edge length (4.0 mm) should be taken into account when setting up the machining program.

Notes on the use of the REL series

When REL type end mills are used, a taper will occur on the machining side of the workpiece. See chart for amount.

Depth of cut (mm)	(1)Top machining dia. - (2)Bottom machining diameter (mm)
2	0.05
3	0.08
4	0.12
5	0.15





For back turning | Swiss CNC lathes

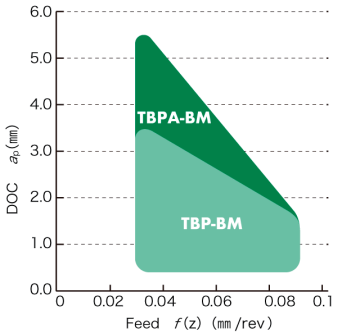
TBP/TBPA-BM chipbreaker

Achieves outstanding surface finish in single pass machining

A traditional 2 pass operation can be completed in a single pass while providing chip control.
Dramatically shortens cycle time.

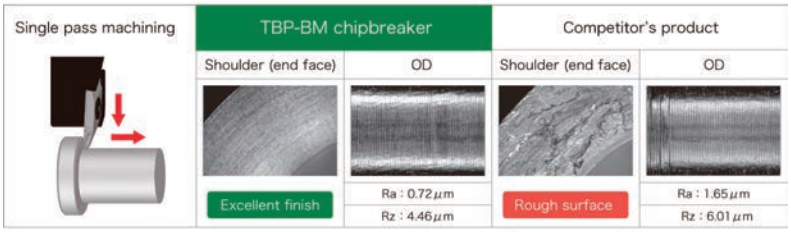
Features

High rigidity with vertically mounted inserts and screw clamps.
Surface finish is stable even under high feed conditions due to the cutting edge wiper.



Cutting performance

Single pass back turning, good machined surface finish.

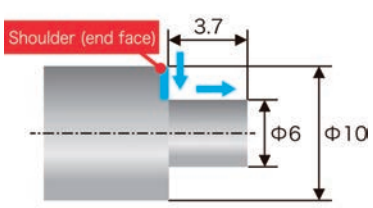


[Cutting conditions]Material : SUS304 φ16 vc=80m/min f (x)=0.02mm/rev f (z)=0.08mm/rev ap=3.0mm WET
[Tools used]Holder : TBPR12 Insert : TM4 TBP72FR10M-BM

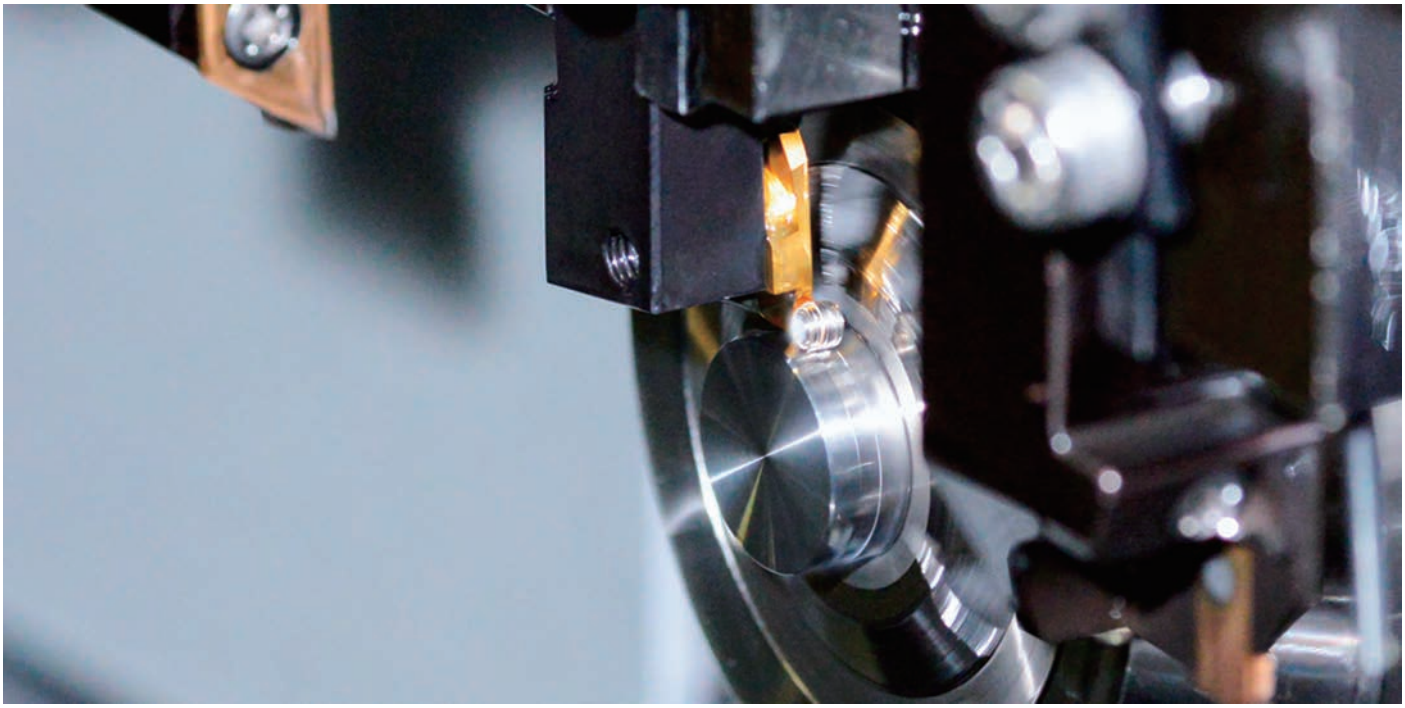
Case study

Conventional back- turning operation includes a roughing pass and a finishing pass.
The NTK-BM chipbreaker reduces the cycle time with one-pass machining, and its unique chipbreaker provides excellent chip control.
Scratched and rough machined surfaces due to chips is eliminated and high quality machined surfaces obtained.

Work material	SUS430F
Cutting speed	50m/min
Feed	0.05mm/rev
Depth of cut	2.0mm
Coolant	WET



TBP-BM	①1 pass machining * no extra operations required
Competitor's product	①Roughing - grooving operations ②Finishing - back turn operation



For grooving | Swiss CNC lathes

GTMH-GX chipbreaker

Tightly curls the chip to prevent tangling

Dimple design on insert rake face ensures chip control when grooving and side turning

Performance

Groove widths from: 0.33mm - 3.0mm
Good surface finish in the groove and on the side face
Capable of up to 2.0mm DOC when side turning with larger width inserts

GX chipbreaker solves these common issues

Chip control comparison (Grooving E-ring)

Solves problems of chips (rings) remaining at the bottom of grooves and wrapping around the workpieces

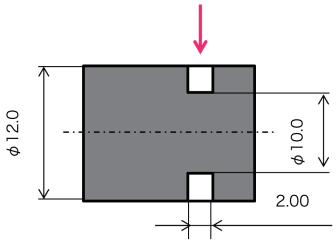
	Feed (mm/rev)		
	0.01	0.03	0.05
GX chipbreaker			
Conventional product (Ground chipbreaker)			

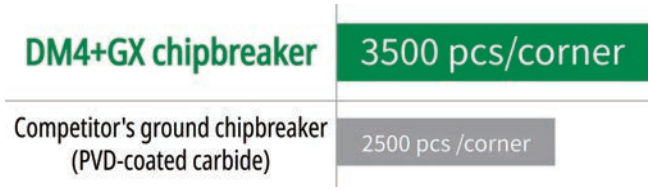
[Cutting conditions] Material : SUS304 (φ6⇒φ3) Vc=80m/min ap=1.5mm
Groove width : 0.75mm

Case study

The GX insert solved the issue of chips remaining in the groove which eliminated an inspection process.

Work material	SUS430
Cutting speed	80m/min
Feed	0.03mm/rev
Depth of cut	1.0mm
Coolant	WET





For OD , back turning, grooving, and multi-functional machining | For Swiss CNC lathes (gang type)

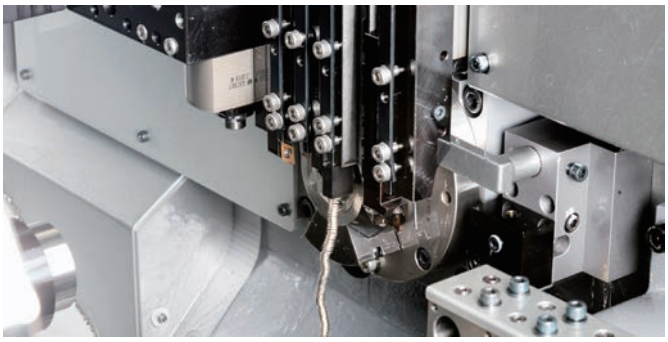
Y-axis holder series

Solves chip evacuation problems using gravity

Using the tool change control axis (Y-axis) of the gang tool post
Chips naturally fall to the bed of the machine

Performance

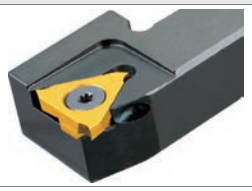
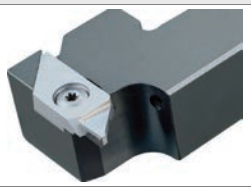
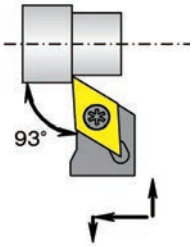
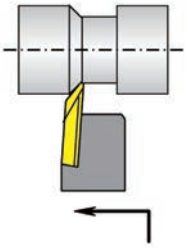
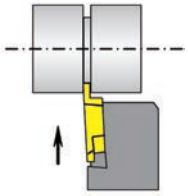
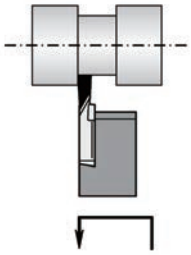
Eliminates the concern of chips tangling up
- chips automatically drop down away from part
Utilize coolant through y-axis holders and improve tool life and dimensional stability



Application

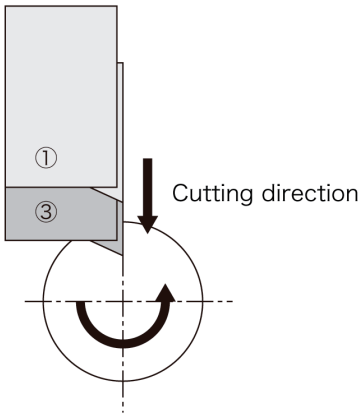
Front turning / Back turning / For grooving
Pure Copper Processing / Machining Plastics

Line up

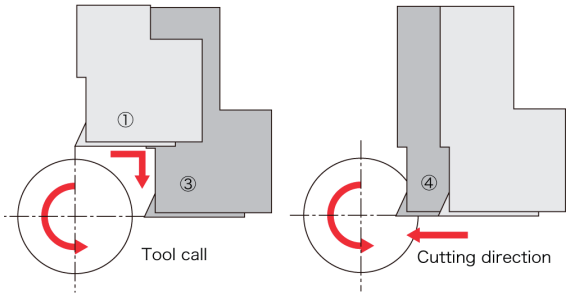
Front turning	Back turning	Grooving / Back turning	Multi-function
Y-SDJC Y-SDJC-OH Y-SDJC-OH2	Y-TBPR Y-TBPR-OH	Y-GTT Y-GTT-OH	Y-GTPA Y-GTPA-OH
			
			

Tooling

Conventional toolholder



Machining with Y-axis holder



Programming guide

①T300	...Select tool
②G0 Y11.0 Z0 T3	...Insert positioning
③G1 X8.0 F0.08	...Cut to 8.0 mm
⑤Z5.0 F0.05	... Cut up to 5.0 mm in length
⑥X11.0	
⑦G0 X11.0	

In general front turning, a tool is selected and moved to readying position and then cutting is initiated.
The cut direction is the "**X-axis**"

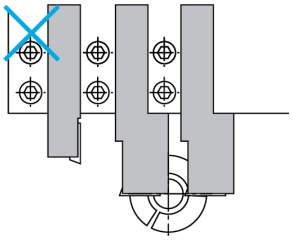
Program sample

①T300	...Select tool
②G0 Y11.0 T3	
③X0	... Insert positioning
④G1 Y8.0 F0.08	...Cut to 8.0 mm
⑤Z5.0 F0.05	... Cut up to 5.0 mm in length
⑥Y11.0	
⑦G0 X11.0	

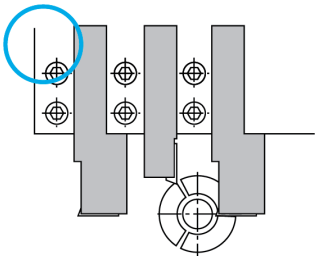
When using the Y-axis holder, the tool selection ①. Then, at position 3 the system starts the cutting operation.
The cut direction is the "**Y axis**"
Note: Need y-offset in the program for the holder shank size.

Y-axis holder positioning guidelines

Use a maximum of 2 in vertical gang, and do not install side by side to prevent interference issues

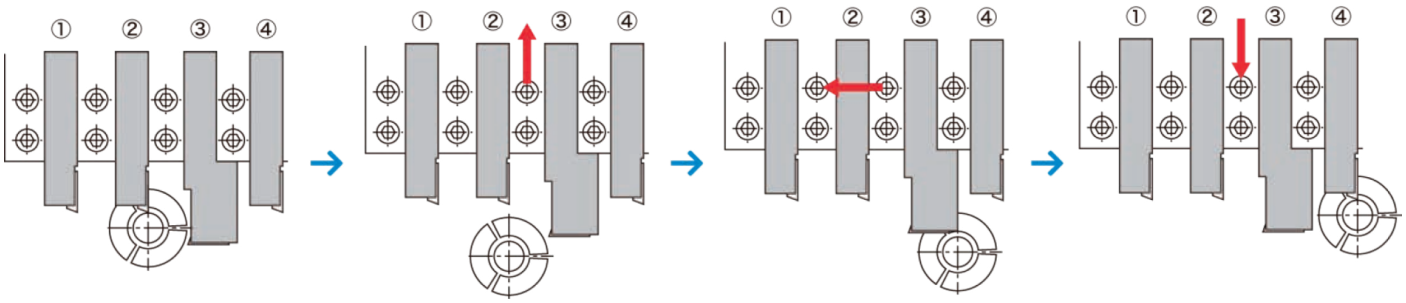


The workpiece and Y-axis holder may interfere with each other



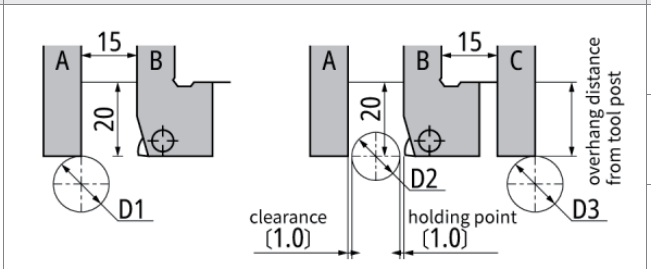
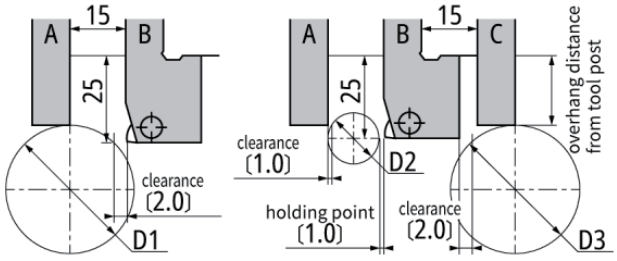
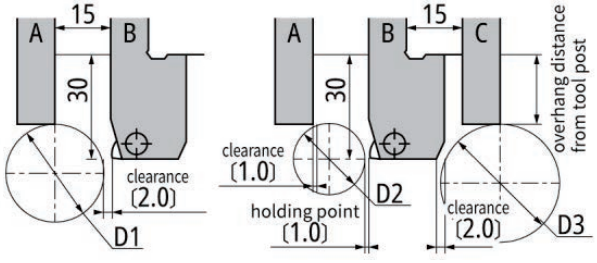
Typical positioning is sandwiching them in gang

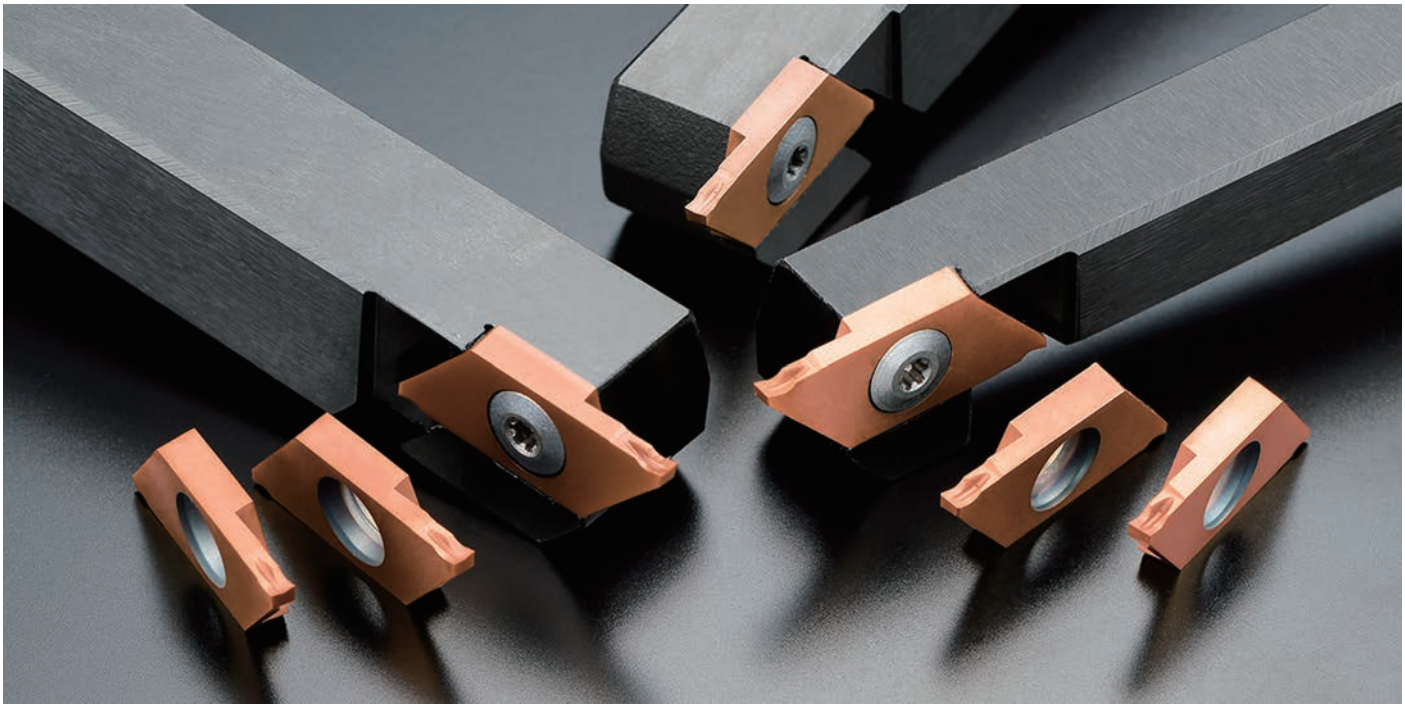
When moving from tool No. ② to ④ , program retraction position based on the amount of y-axis holder overhang.



Workpiece diameters and Y-axis holder table

Example uses Y-GTTR grooving holder to show holder and workpiece diameters in machine area

Overhang of the Y-axis holder	Figures	Item L	20	22	25
20		D1 (Machinable outer dia. for holder A)	Not limited	Not limited	Not limited
		D2 (Machinable outer dia. for holder B)	13	13	13
		D3 (Machinable outer dia. for holder C)	Not limited	Not limited	Not limited
25		D1 (Machinable outer dia. for holder A)	38	58	Not limited
		D2 (Machinable outer dia. for holder B)	14.9	13.6	13
		D3 (Machinable outer dia. for holder C)	38	58	Not limited
30		D1 (Machinable outer dia. for holder A)	26.8	29	38.5
		D2 (Machinable outer dia. for holder B)	20.6	17.9	14.9
		D3 (Machinable outer dia. for holder C)	33 (26.8 for TBP)	37 (29 for TBP)	51.5 (38.5 for TBP)



For cut-off with max. diameter up to φ16 | Swiss CNC lathes

CTP/CTPA-CX chipbreaker

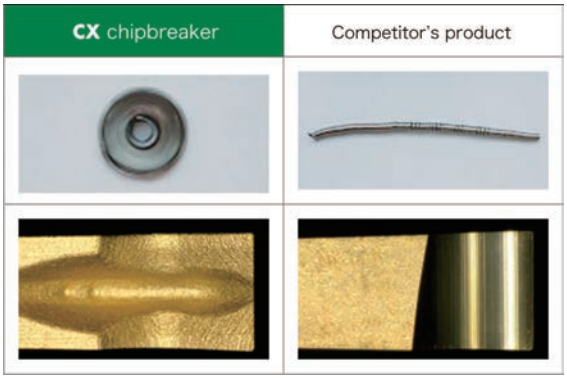
Prevents machine stoppage due to chip problems and achieves stable machining

CX molded chipbreaker curls and controls chips.

Prevents damage to machined surface by directing chips away from the part surface

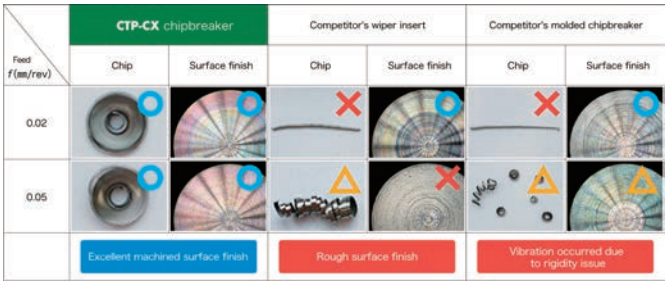
Features

Uniquely developed CX breaker achieves outstanding chip control and evacuation.



Cutting performance

Chips are strongly folded from both ends of the breaker, preventing damage to the machined surface.

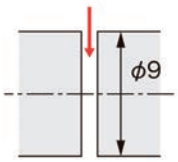


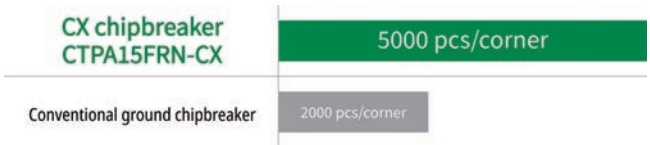
Case study

Competitor's insert edge chipped resulting in a rough machined surface.

The CX insert maintained a good cutting edge resulting in stable machining, smooth machined surface, and long tool life.

Work material	SS400
Cutting speed	80m/min
Feed	0.04mm/rev
Cut-off dia.	φ9
Coolant	WET





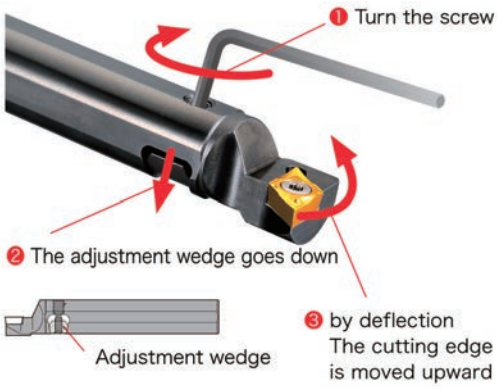
For front turning | Swiss CNC Lathes

DS-ACH holder series

Wedge mechanism adjusts centerline height of the cutting edge by turning a set screw with a wrench
Eliminates time consuming cutting edge alignment process

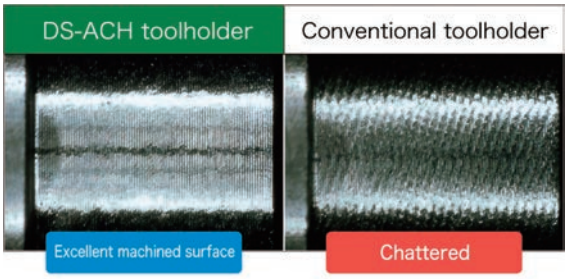
Feature 1.

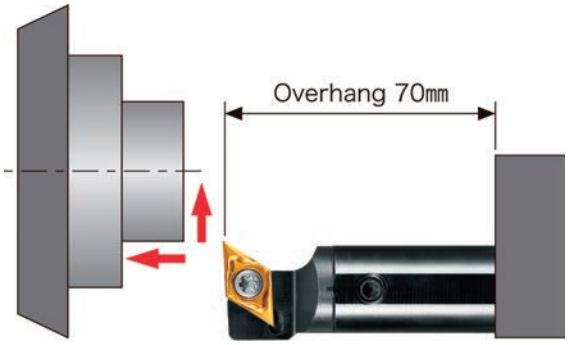
Cutting edge height can be easily adjusted in the machine
Adjusted by turning the screw and deflecting the tip of the holder.



Feature 2.

Design optimizes vibration resistance



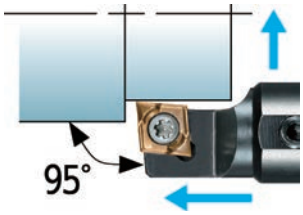


[Cutting conditions]
Material : SUS304
Holder : DS-SDUL19-11-ACH
Insert : TM4 DCGT11T302MCL
Cutting conditions : Vc = 75 m/min , f = 0.05 mm/rev , ap = 2.0 mm

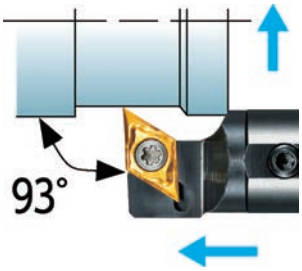
Line up

Front turning

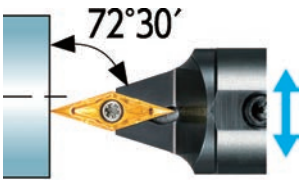
DS-SCL-ACH



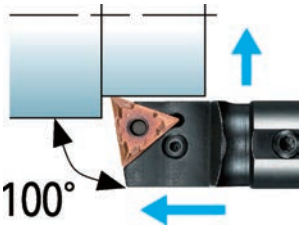
DS-SDU-ACH



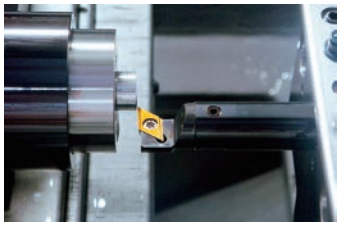
DS-SVVP-ACH



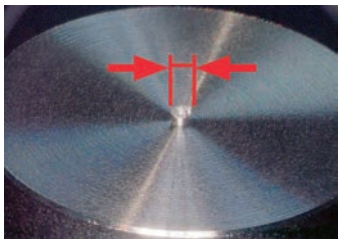
DS-PTX-ACH



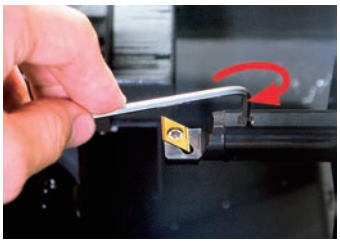
How to use: The insert moves in an upward direction only. (Loosen wedge screw before making any adjustments)



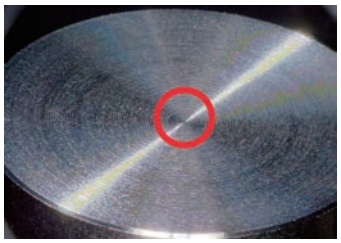
① Install the holder slightly below centerline.
Then take a facing test cut. (be sure to loosen the wedge screw)



② Measure the diameter of the center boss



③ Raise the center height by one half of the diameter of the boss.
Adjustment instruction sheet is supplied in the toolholder case.



④ Re-machine the end face.

Range of centerline adjustment: 0 - 0.3 mm

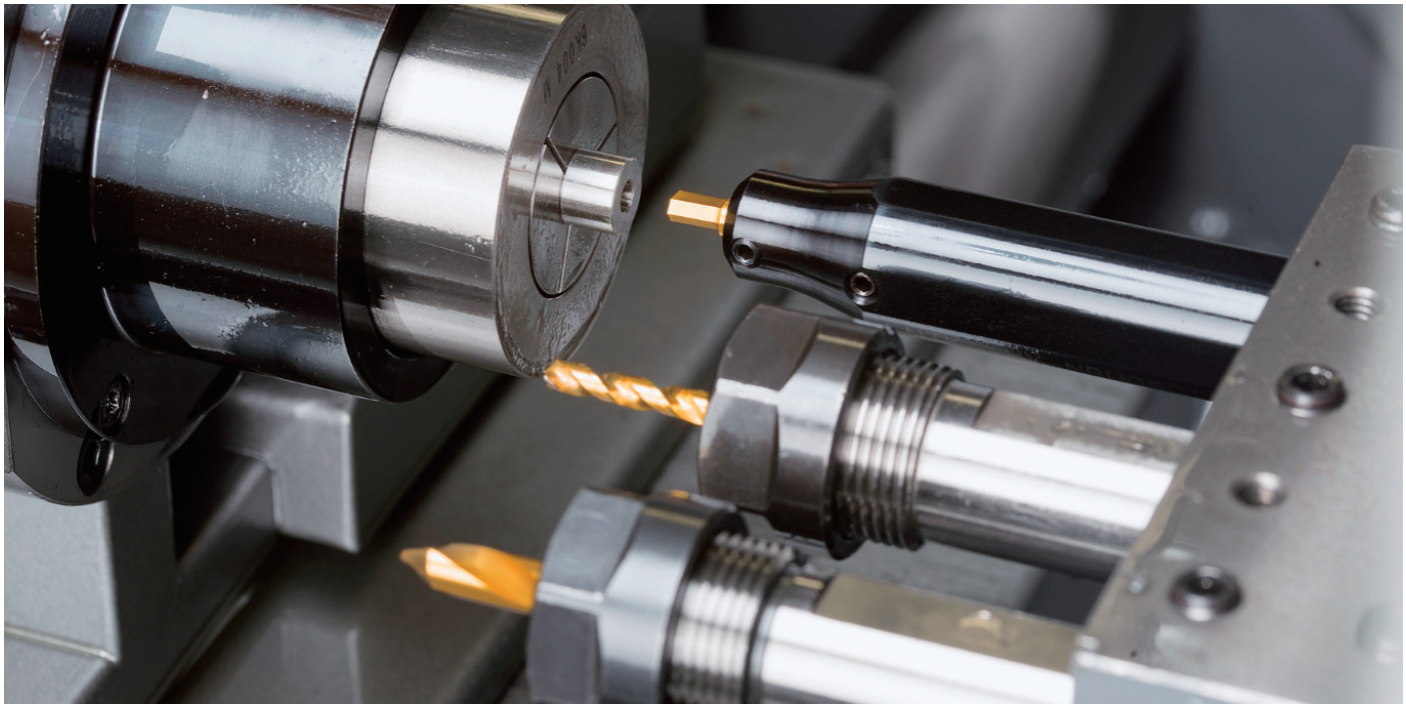
*Adjustment instructions are supplied in the tool case

Type A

Angle of rotation	Approx. raise amt. (Diameter)
180°	0.05(0.10) mm
360°	0.10(0.20) mm
540°	0.15(0.30) mm
720°	0.20(0.40) mm

Type B

Angle of rotation	Approx. raise amt. (Diameter)
180°	0.05(0.10) mm
360°	0.10(0.20) mm
540°	0.20(0.40) mm
720°	0.30(0.60) mm



For socket hole machining on CNC automatic lathes

SHAPER DUO

Hexagon, square and hexalobular socket machining can be achieved at a low cost and without any special equipment .

Wide range of socket styles and sizes can be machined by using the sub-spindle of automatic lathes.

Features ①

- Machine square, hexagon, and hexalobular socket holes
- Less tool pressure than Rotary-Broaching. Ideal for machining small diameter work pieces
- Wide range of socket dimensions can be machined with one size of SHAPER DUO
- Special workpieces and small quantity part runs can be machined with less tool costs

Features ②

Comparison Chart of Hexalobular Socket Machining

	Tool Pressure	Cycle Time	Tool Cost	High speed spindle	Programming	
Shaper Duo	◎	◎	◎	Not necessary	Simple	• No high speed spindle needed • A lot less cycle time
End mill	○	×	△	Necessary	Complicated	• Need high speed spindle • Time consuming process

***Small diameter end mill driven by high-speed spindle is popular way to create Hexalobular(6-lobe) socket.**
It has some flexibility but needs high speed spindle unit and it is a time consuming process.
***SHAPER DUO can make Hexalobular(6-lobe) socket faster and simpler.**

Comparison Chart of HEX Socket Machining

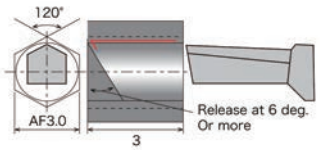
	Tool Pressure	Cycle Time	Flexibility	Tool Cost	
Shaper Duo	◎	△ ※Can be off-set by over-wrapping operation	○	◎	• Less tool pressure-especially on small diameter parts • One size can cover several socket sizes
Broach Tool	△	○	×	△	• Need to have tools for each socket size

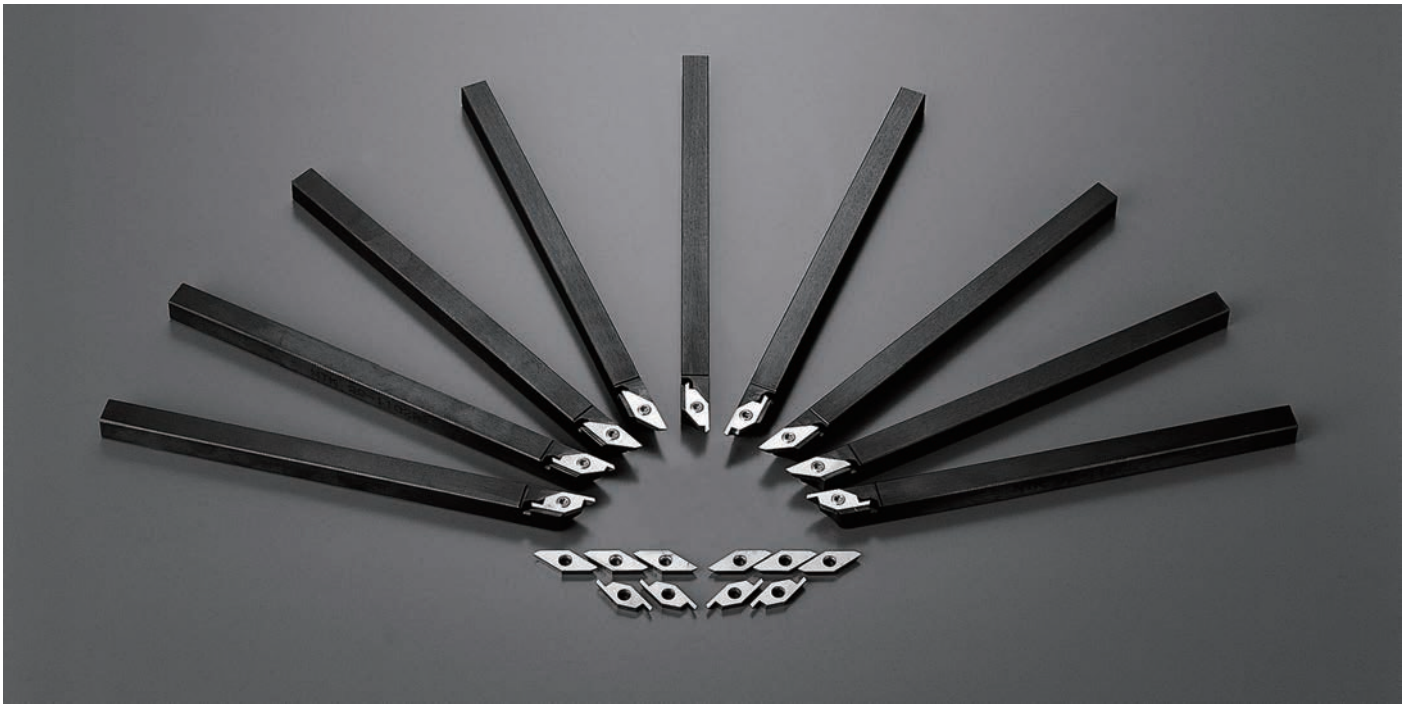
***Rotary-broaching is an efficient way to machine a Hexagon socket.**
But tool pressure is high and often times it pushes part too hard.
***SHAPER DUO system enables less tool pressure and provides better tolerance with less cost.**

Example of machining Hexagon socket

SHAPER DUO has better tool life compared to the competitor which has an immediate worn and rounded cutting edge.
NTK's special grinding process and TM4 grade enable to:
① Keep good corner edge sharpness and long tool life ② Provide better tolerance and accuracy ③ Provide better surface quality

Work materials	SUS303
Feed	2,000 mm/min
Depth of cut (ap)	Roughing 0.025mm
	Finishing 0.005mm
Coolant	WET





Designed to machine extremely small diameter workpieces | Swiss CNC lathes & CAM style machines

CSV series

Designed for workpieces of φ5 diameter or less

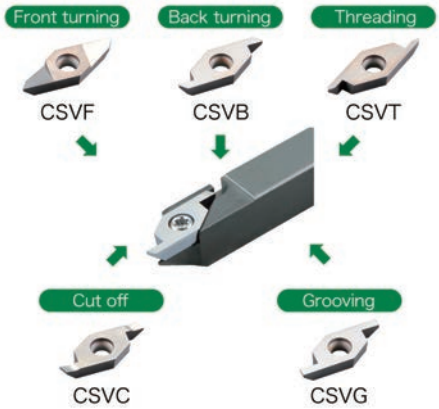
A highly polished insert achieves high quality machined parts

Reduction in cutting time compared to a standard carbide insert

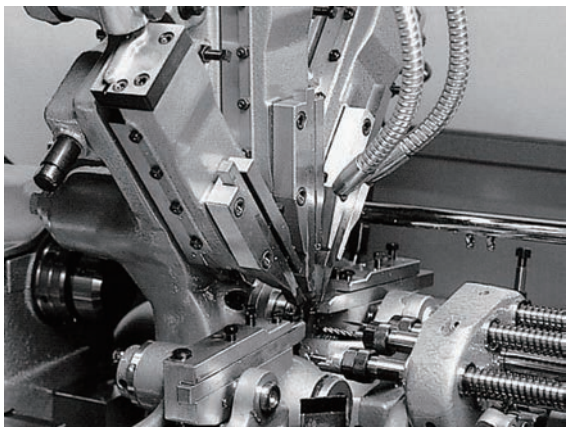
All CSV inserts styles can be installed in same holder

Insert cutting edge is designed specifically for machining very small diameter parts

High precision achieved with the mirror finish polished insert



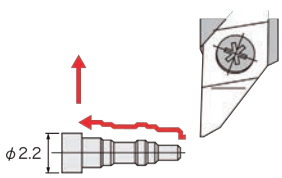
CSV holders are also available for cam-style cnc lathes



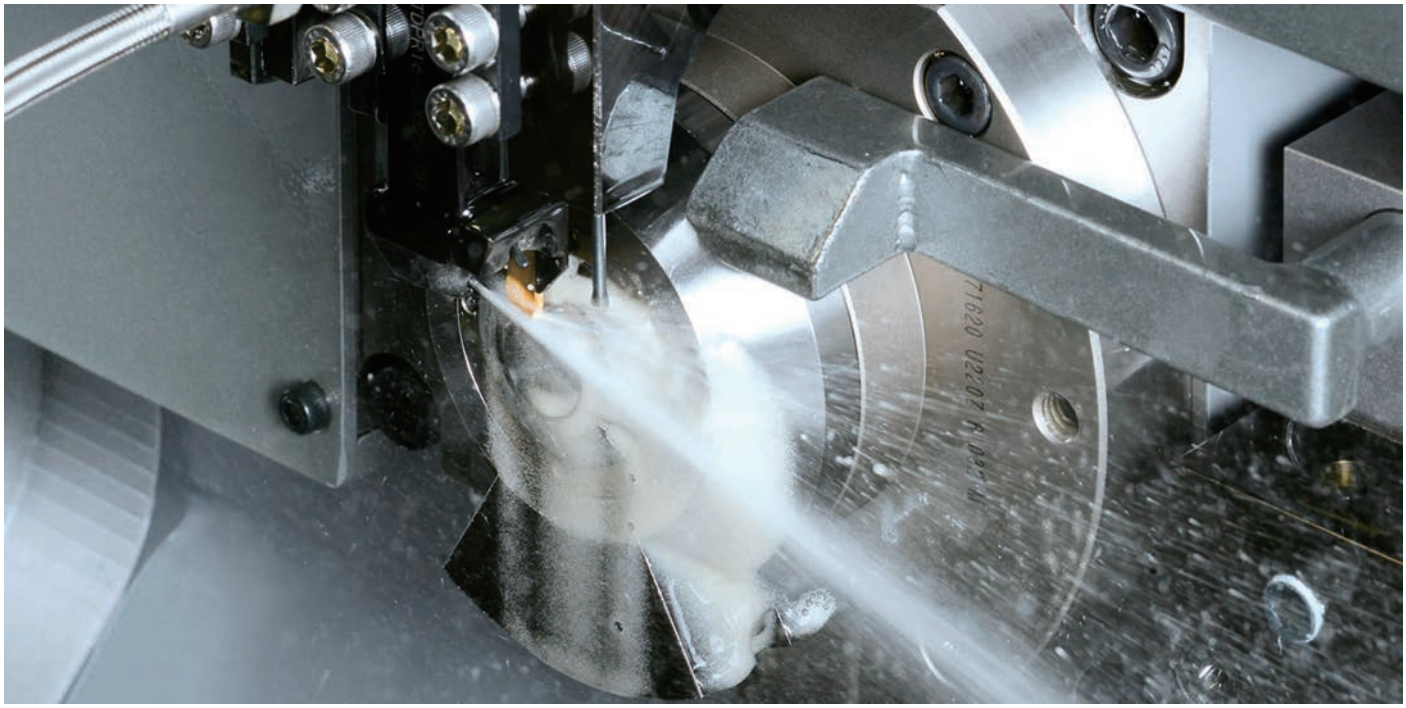
Case study Clock parts

The CSV insert achieves excellent part consistency and long tool life machining extremely small parts

Material	SK4
Cutting speed	15m/min
Feed	0.007mm/rev
DOC	0.03mm
Coolant	WET



VM1	40,000 pieces
Brazed Carbide Tool	20,000 pieces



Cut-off operations for diameters up to φ34 | Swiss CNC Lathes

CUT DUO

Increased insert clamp rigidity to ensure stable machining

Molded chipbreaker and rigid holder system for stable performance

Coolant through holders available to further improve chip control

Cutting performance

Unique molded chipbreaker that tightly curls chips

Sharpness is improved by polishing the insert edge

Reduced tool pressure improves part surface finish

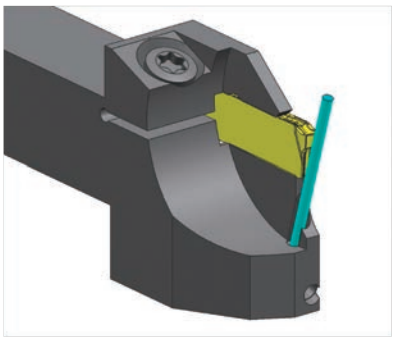
Cutting performance	0.05mm/rev	0.08mm/rev	0.12mm/rev
SCM435			
SUS304			

[Chip comparison] Vc=80m/min

Coolant through series of holders (CTDP..OH/OH2)

Evacuates chips to eliminate chip tangling.

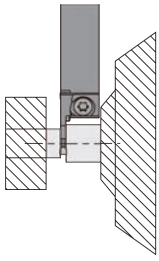
Coolant is directed at the cutting edge which greatly improves insert tool life.

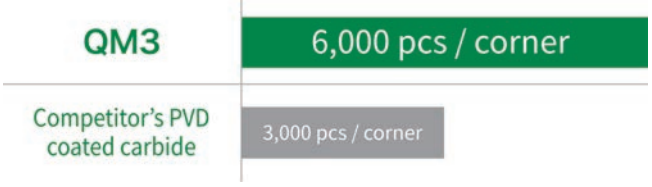


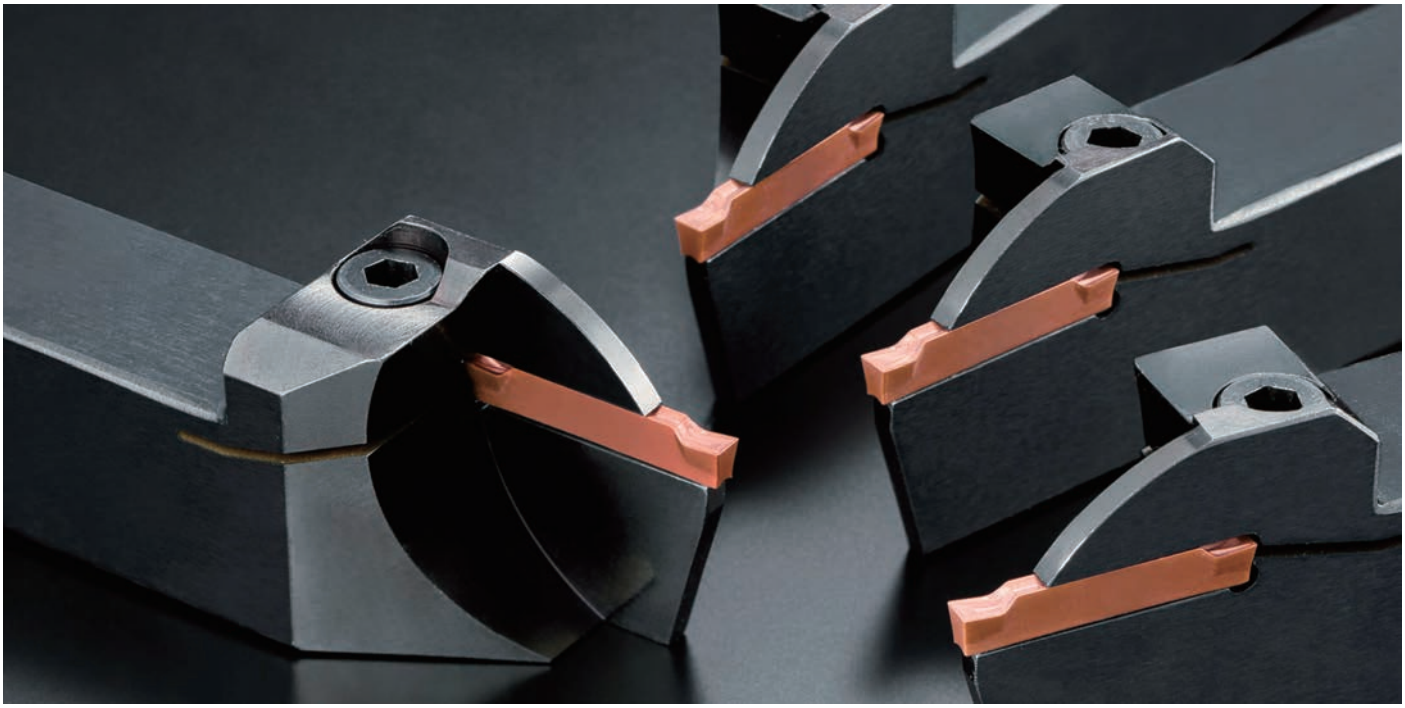
Case study Shaft

Cut Duo achieved 2x the tool life and generated high quality surface finishes compared to the competitor's PVD coated insert

Material	SCM435
Cutting speed	80m/min
Feed	0.05m m/ rev
DOC	-
Coolant	WET







Cut-off operations for diameters up to φ42 | Swiss CNC lathe / Conventional CNC lathe

CUT DUO EXTRA

A highly rigid holder design combined with a molded insert chipbreaker ensures stability

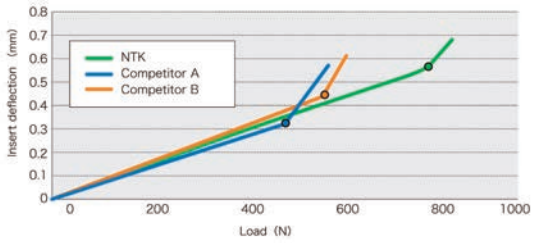
Rigid system supports the process of large-diameter cut-off operations that are subject to high cutting loads

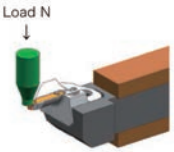
Chip control is achieved with the unique chipbreaker design

Tool rigidity comparison

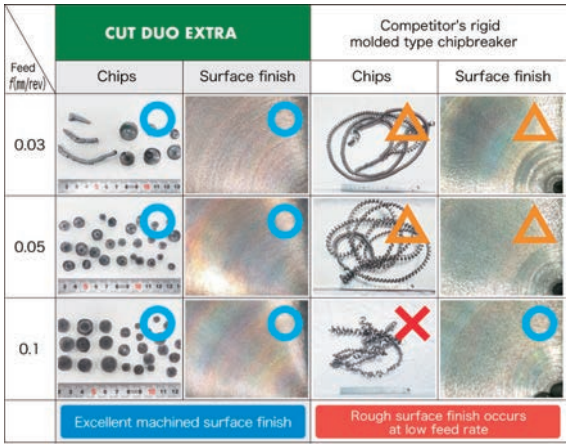
Rigidity developed to accommodate high load cut-off applications to ensure reliability and productivity.

※The highest clamping strength of any holder currently on the market (according to our research)





Chip formation comparison

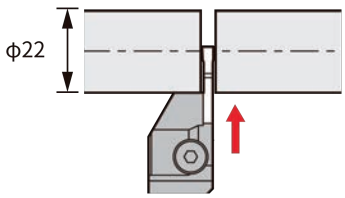


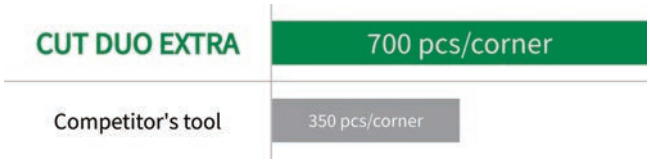
Case study Coolant control parts

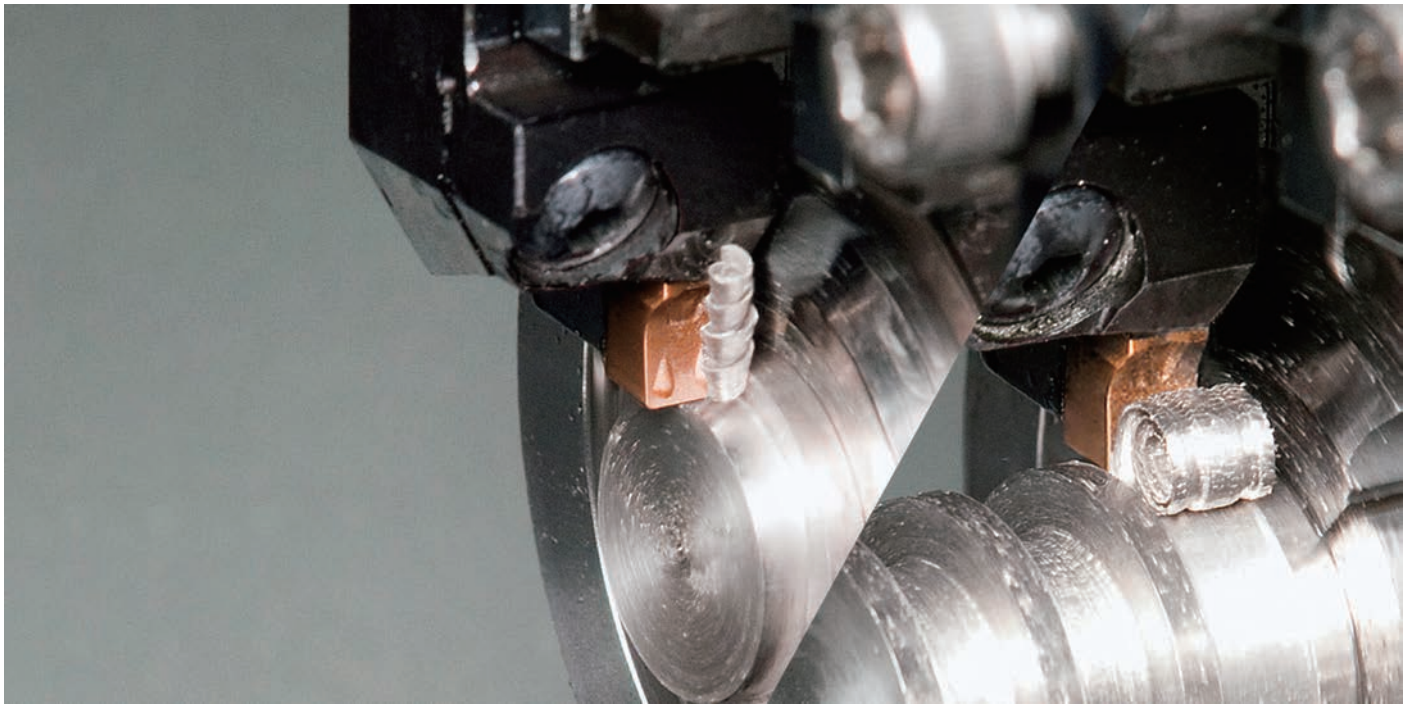
CUT DUO EXTRA with its 2 cutting edges significantly reduced cost compared to the competitor's 1 cutting edge insert.

Cut Max achieved excellent chip control and 2 times the tool life.

Material	S45C tempered steel
Cutting speed	110m/min
Feed	0.07mm/rev
DOC	-
Coolant	WET







For grooving | Swiss CNC lathes / Conventional CNC lathes

SCRUM DUO

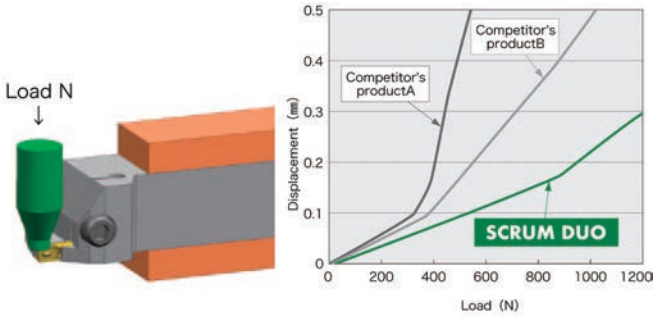
Exceptionally rigid design to ensure stable grooving

Prevents the insert from shifting during machining and achieves a good machined surface

Performance

- Applicable groove width: 3.0mm-6.0mm
- Highly rigid holder achieves a 3.5mm depth of cut during side turning operation

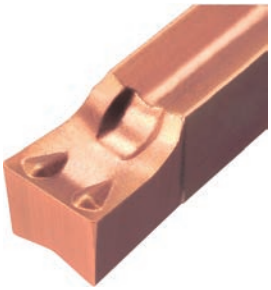
Tool pressure comparison when grooving



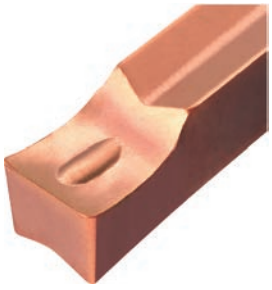
Two chipbreaker styles - select the best fit for your grooving application

GW chipbreaker: A versatile design with edge sharpness and chip control. Multi-functional for grooving and side turning.
GV chipbreaker: Features superior sharpness with high rake face. Ideal for applications requiring low tool pressure.

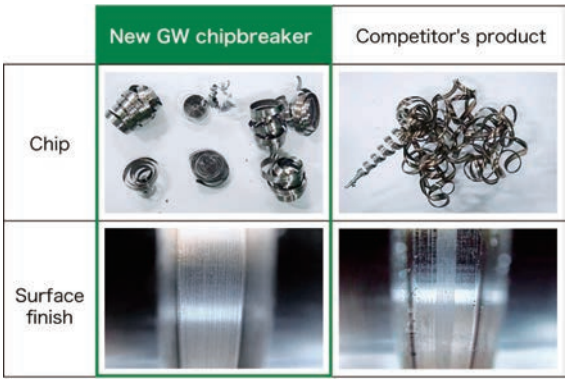
GW chipbreaker



GV chipbreaker

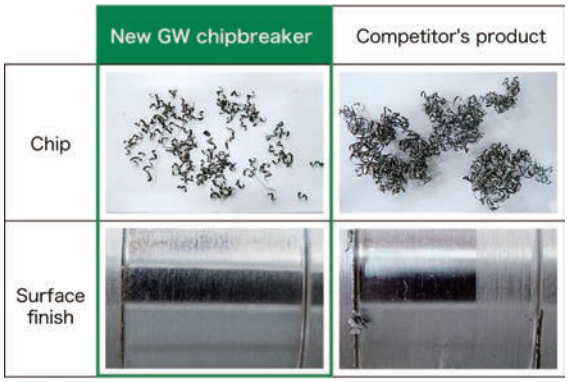


Grooving

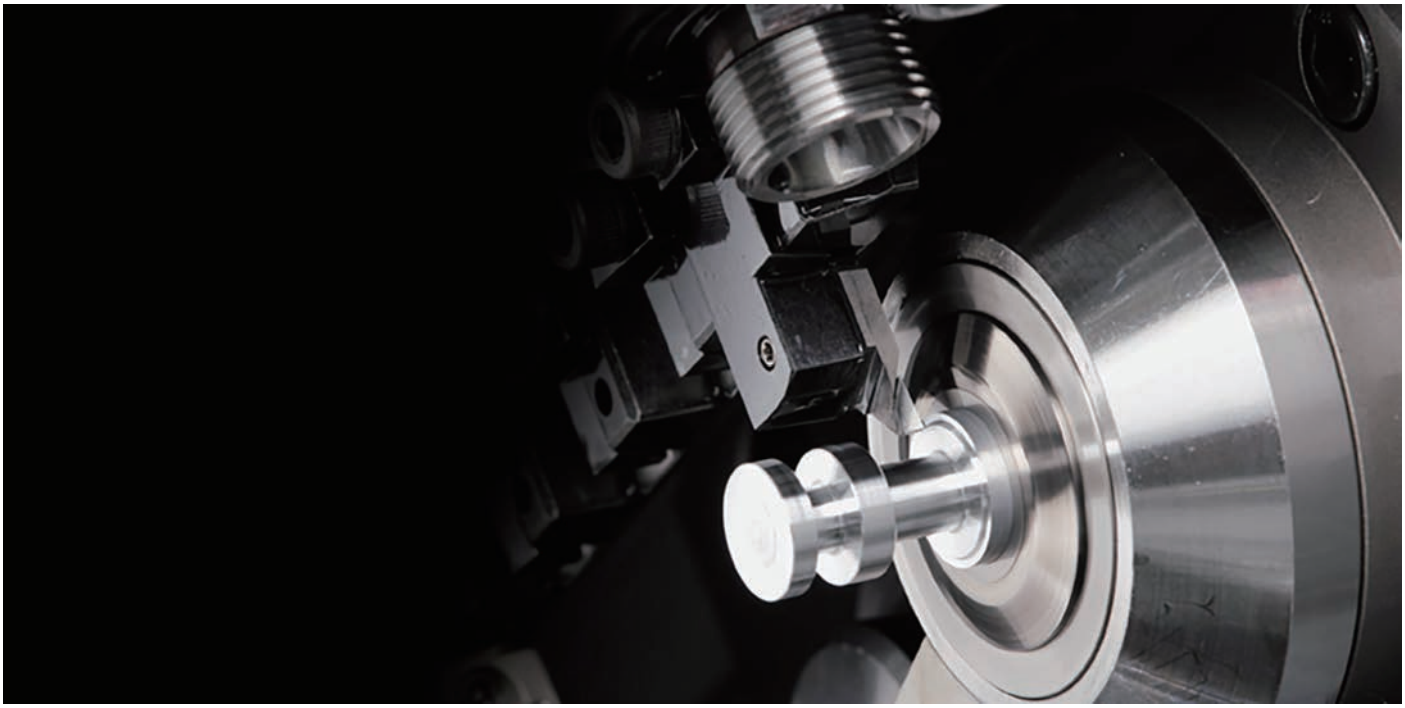


[Cutting conditions] SCM415 groove width: 5.0mm Vc=150m/min f=0.1mm/rev ap=7.0mm No step feed with coolant
[Tools] Insert: DM4 GWPG500N04F-GW Holder: GTWPR2525M-5F10

Side turning



[Cutting conditions] Material: SCM415 Groove width: 5.0mm Vc=150m/min f=0.1mm/rev ap=1.0mm No step feed With coolant
[Tools] Insert: DM4 GWPG500N04F-GW Holder: GTWPR2525M-5F10



Multifunctioning tool for machining non-ferrous material | Swiss CNC Lathes

GTPA

High-precision and high efficiency machining

Grooving - side turning capability

Single pass machining to improve productivity

2 grades to choose from for machining needs

PD1 - PCD grade

Increased strength with fine grain polycrystalline diamond material

Adhesion resistance for non-ferrous materials

Prevents built-up edge for high precision and stable machining

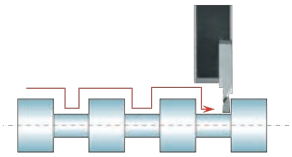
Hard fine grain diamond to achieve high speed machining and long tool life

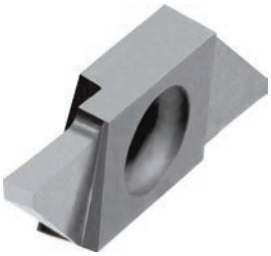
KM1 - carbide grade

Uncoated fine grain carbide grade designed for machining non-ferrous material

Up sharp edges and mirror finished inserts to achieve high-quality machined surfaces

Significantly lower insert cost compared to PCD inserts



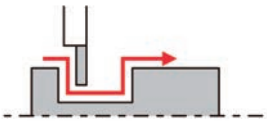


Case study Spool

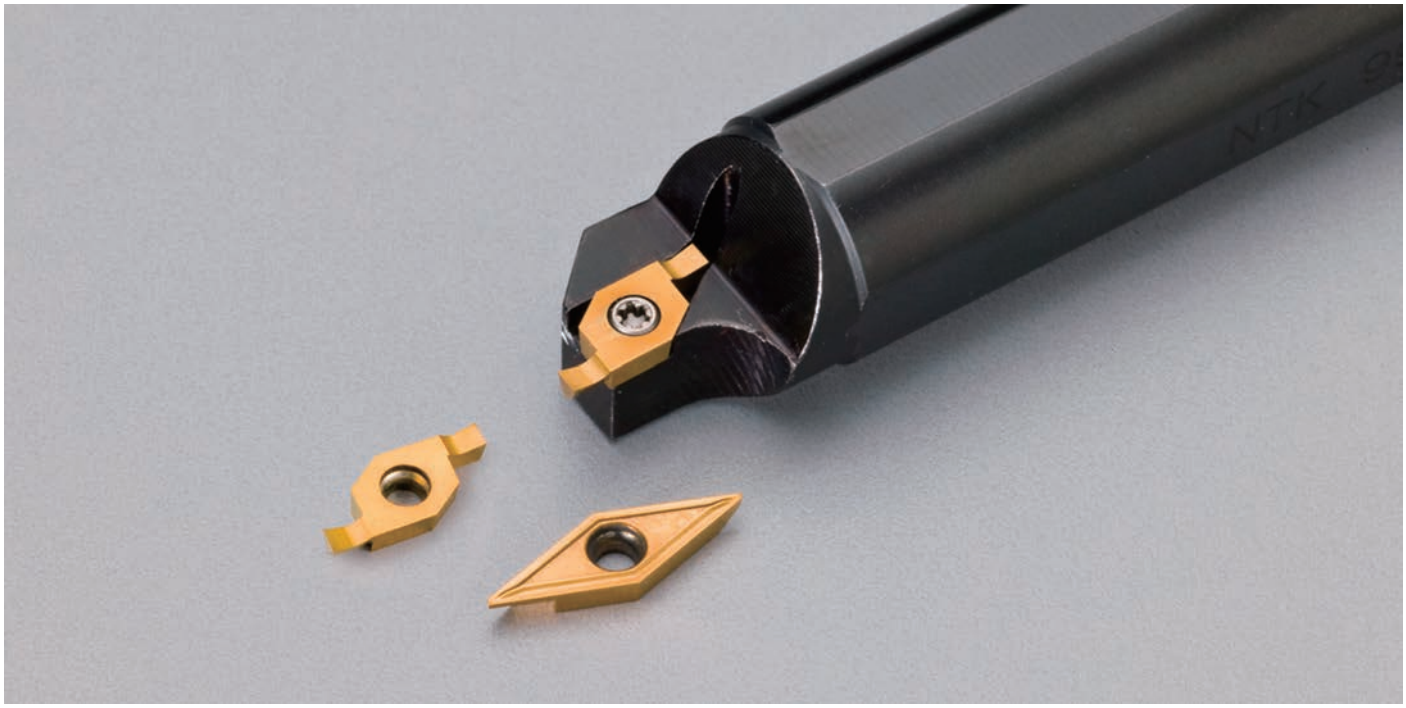
Cut time shortened with one pass traversing.

PD1 insert generated super surface finish with efficiency. Tool life is extended with inserts adhesion resistance.

Material	A6063
Cutting speed	200m/min
Feed	0.06mm/rev
DOC	-
Coolant	WET



PD1	10,000 pcs
Competitor's brazed Carbide Tool	1000 pcs



Face Grooving | Swiss CNC Lathes

SATURN DUO

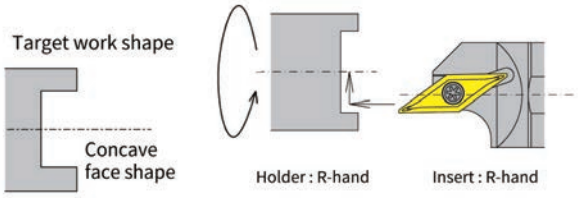
Single tool enables end face grooving and face machining

Reducing the number of tools and realizing process integration

FBV type for face machining

Minimum machining diameter φ8.0

Improves the efficiency of End face boring of up to 4mm depth

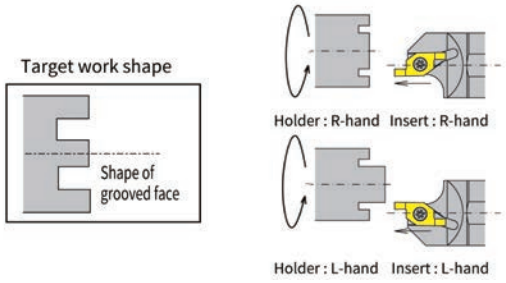


FGV type for face grooving

Minimum machining diameter φ6.0 and grooving width 1.0mm

High rigidity of inserts and holders enables machining in a wide range of cutting conditions

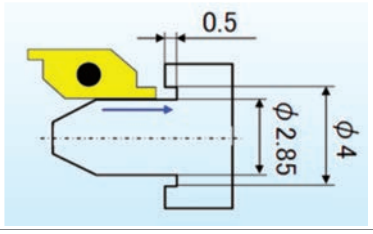
A lineup of left-handed tools is available for machining work with a boss feature

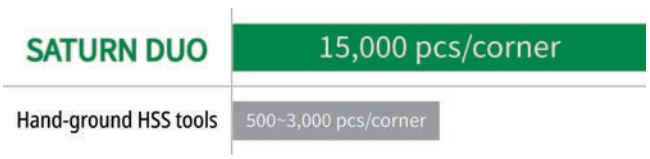


Case Study

Previously, hand-polished high-speed tools were used, but by using SATURN DUO [FGV type], there was no variation in processing, and the life could be extended by about five times.

Material	SUS303
Cutting speed	27m/min
Feed	0.02mm/rev
DOC	0.5mm
Coolant	WET

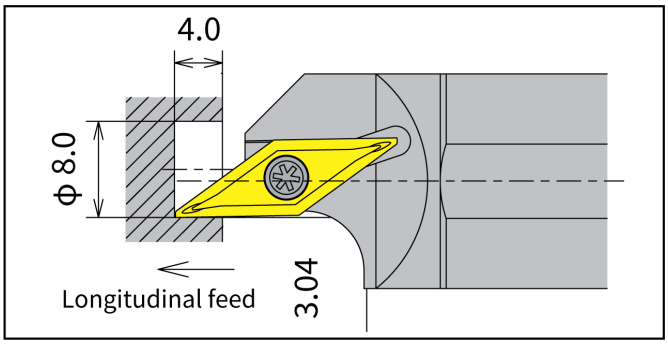




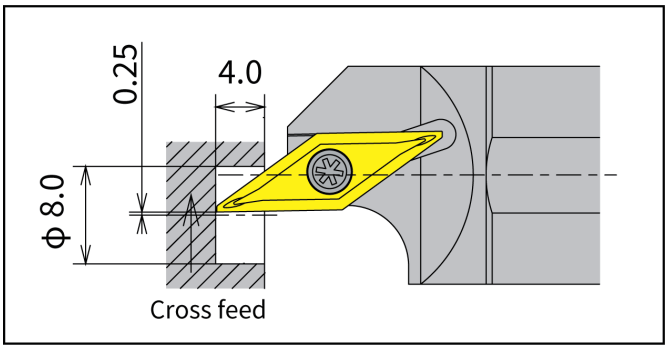
FBV type for face machining

Machining process

- For materials with good machinability, it is possible to machine up to 4mm deep at a low feed rate in a single pass for both longitudinal feed and cross feed.



Cutting in Z direction : Longitudinal feed



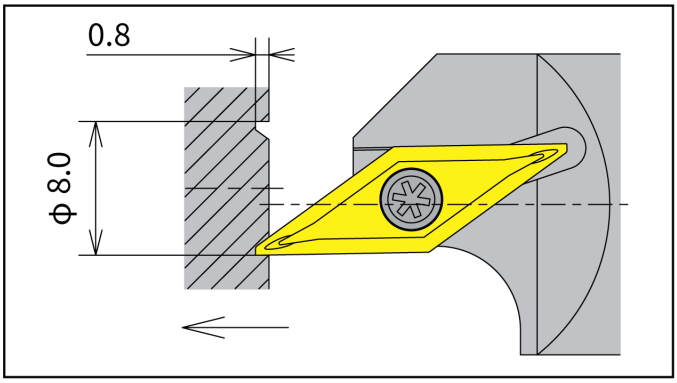
Cutting in X direction : Cross feed

Useful tips for machining

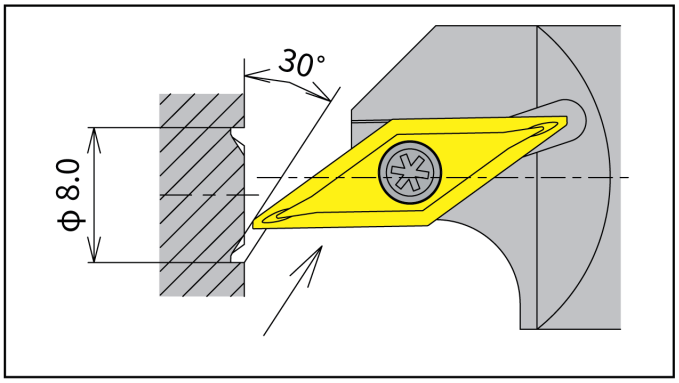
When burrs occur on ID surface, it is recommended to perform the cut in 2 passes, one for roughing and one for finishing as shown in the following procedure:

☆Example of 2-pass machining: Leave 0.2mm on roughing then run a finish cut

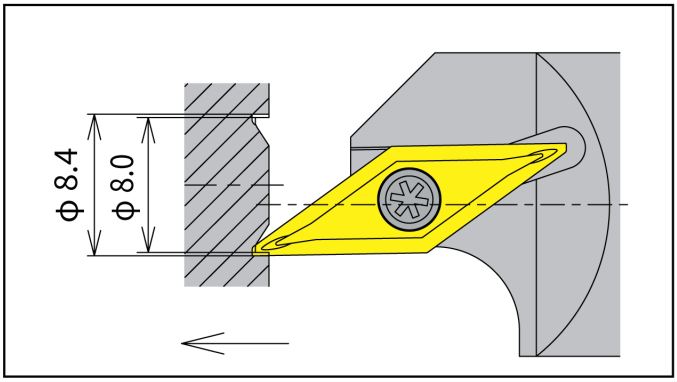
1 Longitudinal feed (roughing)



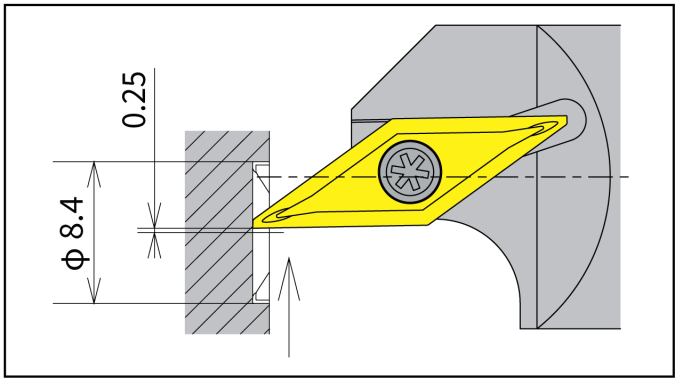
2 Longitudinal feed (finishing)



3 Slant machining (roughing)



4 Cross feed (finishing)



FGV type for face grooving

1. Run multiple passes if turning wider grooves.
   Make sure to groove from outer diameter to inner diameter to avoid any interference.
2. If lines appear on the boss section, slow down feed rate when retracting the tool.
3. If scratch appears at the end of the boss, slow down the feed rate.
4. If groove surface looks torn, either slow down feed rate or increase speed.
5. If groove bottom looks torn with a speed and feed condition, increase the speed.

☆Note

- Side turning cannot be performed with FGV style tooling.

Live tool station sleeve | Swiss CNC Lathes

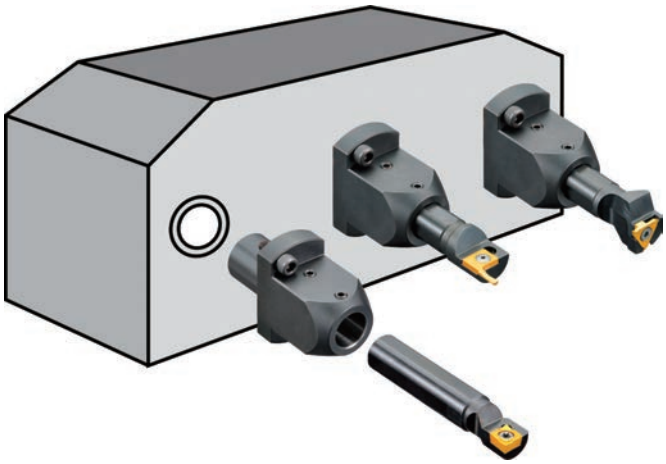
DS Sleeve

Prevents coolant and chips from damaging the rotating tool unit

I would like to use DS holder, but there is a gap in the mounting... this is the solution

Stop coolant and chips from damaging live tool stations

By using the DS Sleeve, you can use the DS Series holders without any worry about damaging live stations



Accepts DS Series holders to perform various back working

Front turning, Back turning, Grooving, Threading, and Small boring which fit into the machines vacant drill sleeves

DS Series toolholders can be used with both Swiss or non-Swiss type CNC lathes

Compatible machine

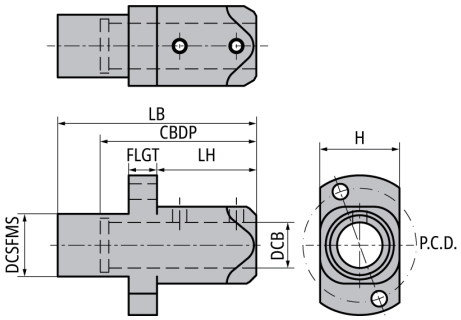
Accepts DS Series holders to perform various back working

Designed exclusively for 22mm and 34mm round shank stations

Compatible with 16mm / 22mm round shank DS Series holders

For Back 4-spindle unit

SS-DSU-SK

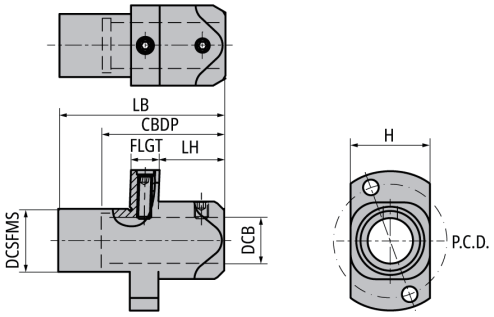


EDP	Item Number	Stock	CBDP mm	DCB mm	DCSFMS mm	FLGT mm	H mm	LB mm	LH mm	P.C.D. mm	Comment
5788401	**SS-DSU-SK**	●	55	16	22	10	28	70	35	40	for DS holder

Spare Parts

Item Number	Screw (for Sleeve)	Screw (for Holder)	Wrench (for Sleeve)	Wrench (for Holder)
SS-DSU-SK	CS0520	SS0506	LW-4	LW-2.5

SS-DSU-L23



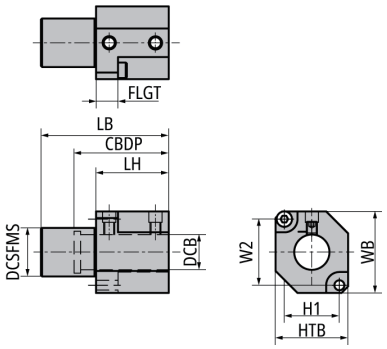
EDP	Item Number	Stock	CBDP mm	DCB mm	DCSFMS mm	FLGT mm	H mm	LB mm	LH mm	P.C.D. mm	Comment
5814512	**SS-DSU-L23**	●	43	16	22	10	28	58	23	40	for DS holder

Spare Parts

Item Number	Screw (for Sleeve)	Screw (for Holder)	Screw (for Holder)	Wrench (for Sleeve)	Wrench (for Holder)
SS-DSU-L23	CS0520	SS0506	SS0515	LW-4	LW-2.5

For Back 8-spindle unit

SS-DSU-B8L23

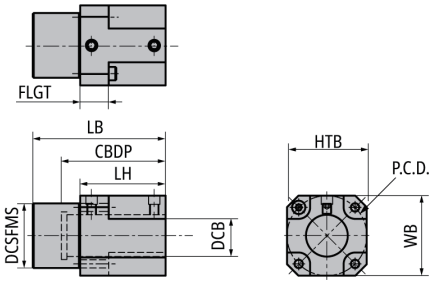


EDP	Item Number	Stock	CBDP mm	DCB mm	DCSFMS mm	FLGT mm	H1 mm	HTB mm	LB mm	LH mm	WB mm	W2 mm	Comment
5892070	**SS-DSU-B8L23**	●	43	16	22	10	25	33	58	33	37	30	for DS holder

Spare Parts

Item Number	Screw (for Sleeve)	Screw (for Holder)	Wrench (for Sleeve)	Wrench (for Holder)
SS-DSU-B8L23	CS0420	SS0506	LW-3	LW-2.5

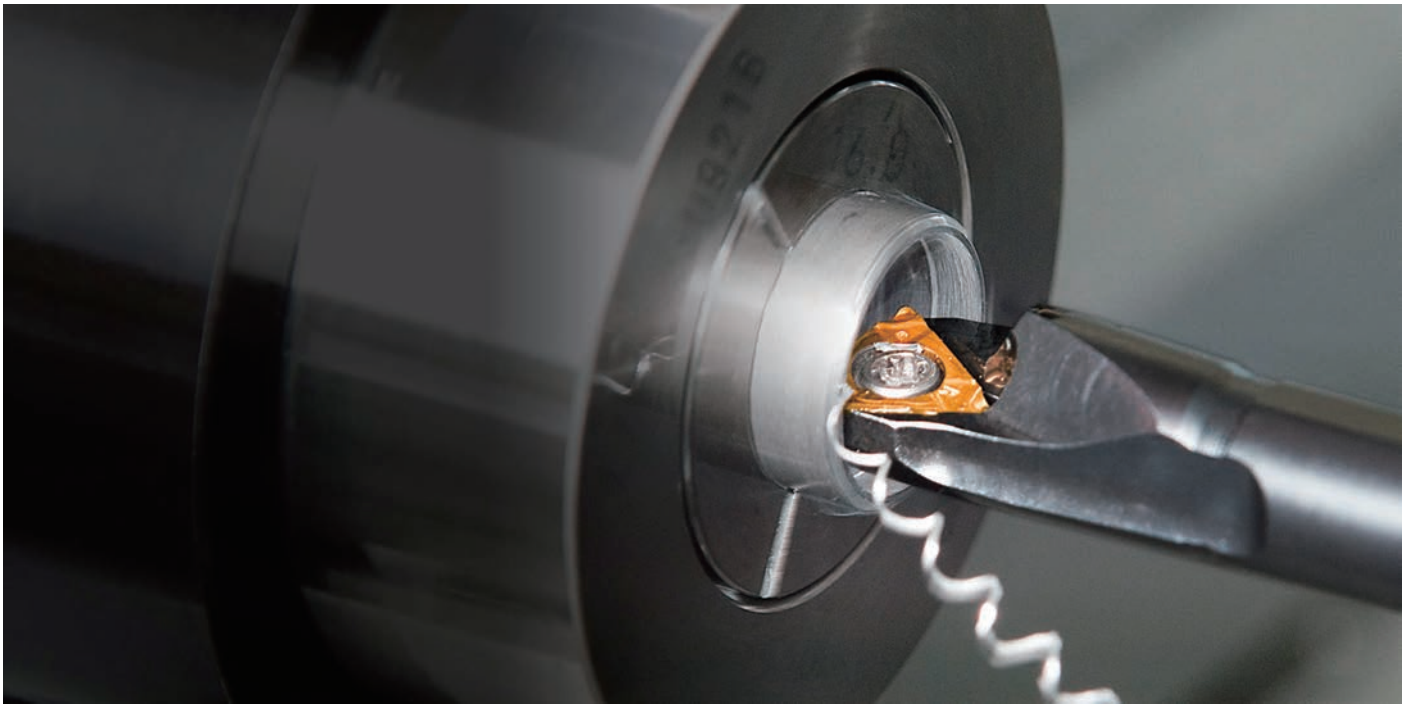
SS-DSU-B8D34



EDP	Item Number	Stock	CBDP mm	DCB mm	DCSFMS mm	FLGT mm	HTB mm	LB mm	LH mm	WB mm	P.C.D. mm	Comment
5948252	**SS-DSU-B8D34**	●	55	22	34	15	42	70	45	42	42	for DS holder

Spare Parts

Item Number	Screw (for Sleeve)	Screw (for Holder)	Wrench (for Sleeve)	Wrench (for Holder)
SS-DSU-B8D34	CS0425	SS0506	LW-3	LW-2.5



For ID boring operations | Swiss CNC Lathes

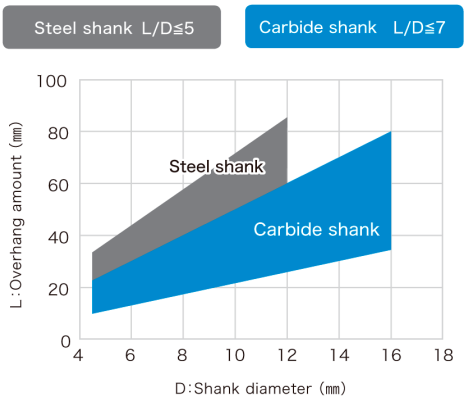
Mogul Bar

Highly rigid bars and inserts that direct chips away from the part

Unique boring bar design greatly improves rigidity combined with chipbreakers that control the direction of the chip evacuation during the boring operation

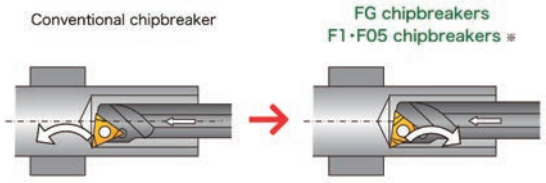
Features①

Toolholder overhang



Features②

F1, F05, FG chipbreakers developed for blind hole applications to direct chips backward and out of the hole to prevent chip packing
Coolant through boring bars to support chip evacuation

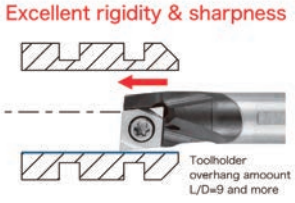


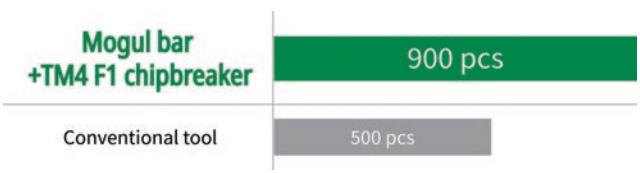
[Cutting conditions]
Material : Alloy steel,Stainless steel Vc = 80m/min f=0.05-0.1mm/rev ap=0.1-0.5mm WET

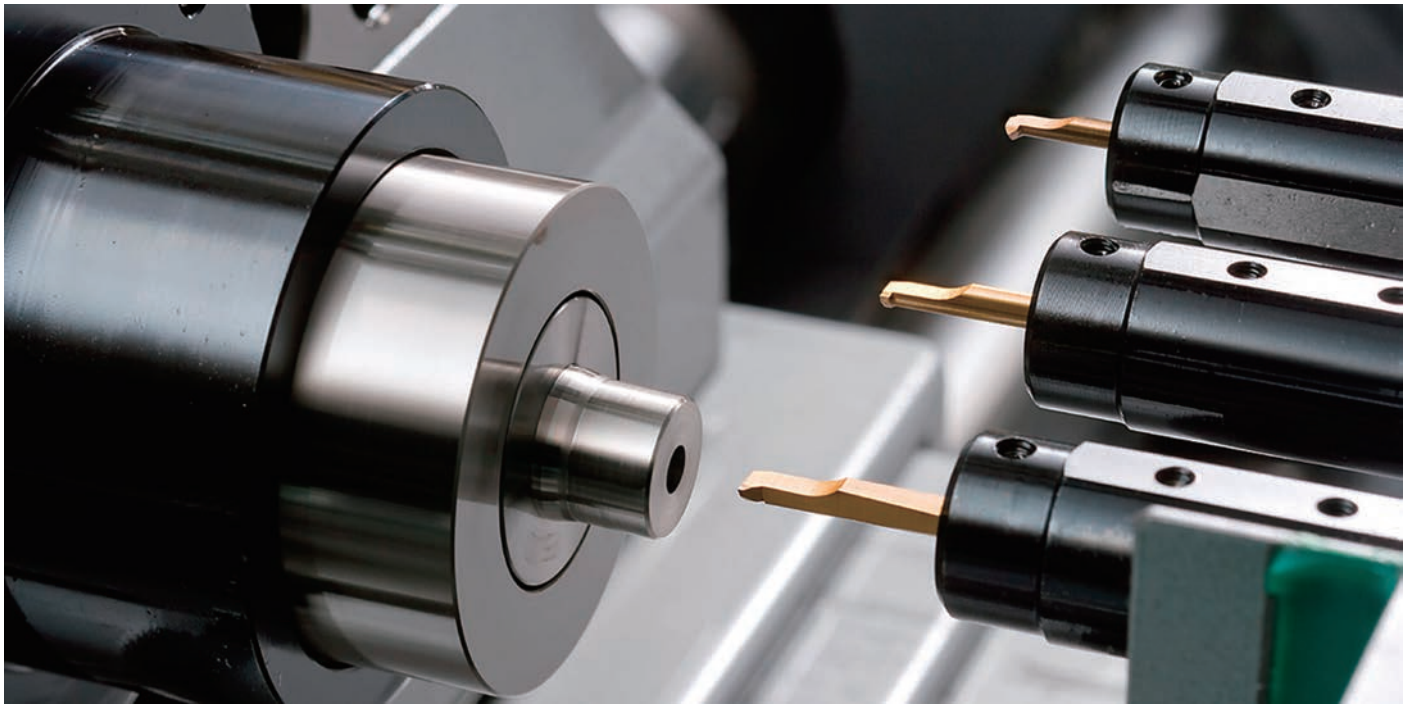
Case study Sleeve

The competitor's boring bar experienced a heavy amount of vibration due to extended overhang.
NTK's boring bar eliminated vibration issues and insert with F1 chipbreaker achieved 1.8 x more tool life.

Material	SUM43
Cutting speed	75m/min
Feed	0.05mm/rev
DOC	0.1mm
Coolant	WET







For ID boring operations | Swiss CNC Lathes

STICK DUO

2-cornered solid bar type
Available from Min. bore diameter φ2.2mm

Three types of breakers are set according to the machining application.

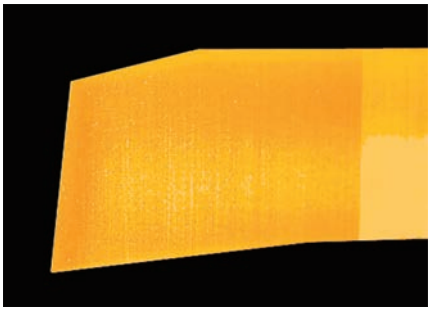
S chipbreaker

Sharp cutting edge
For Through hole

F chipbreaker

Evacuates chips BACKWARD
For Blind hole

H Flat type



Mirror finish edge
(Regrindable)

For ID Grooving	For ID Face Grooving	For ID Back turning	For ID threading
Min. Bore Dia. φ3.0 - Blade width 0.5- 2.0mm	Min. Bore Dia. φ6.0 - Blade width 1.0 - 3.0m	Min. Bore Dia. φ3.0 -	Min. Bore Dia. φ2.5 - Pitch 0.5 - 1.75mm

For ID boring operations | Swiss CNC Lathes

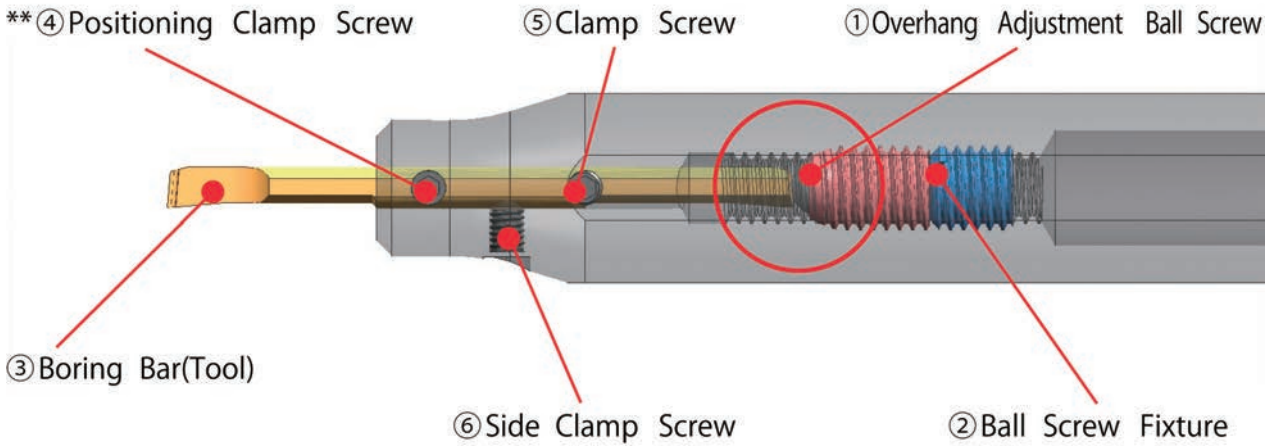
STICK DUO HYPER

Sleeves for ID Boring with Adjustable Overhang Mechanism

Adjustable overhang length

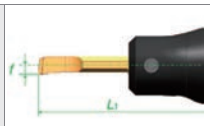
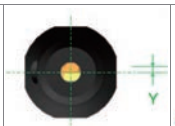
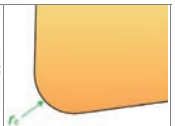
Offers high precision while maintaining compatibility with STICK DUO series

Can index boring bars like inserts



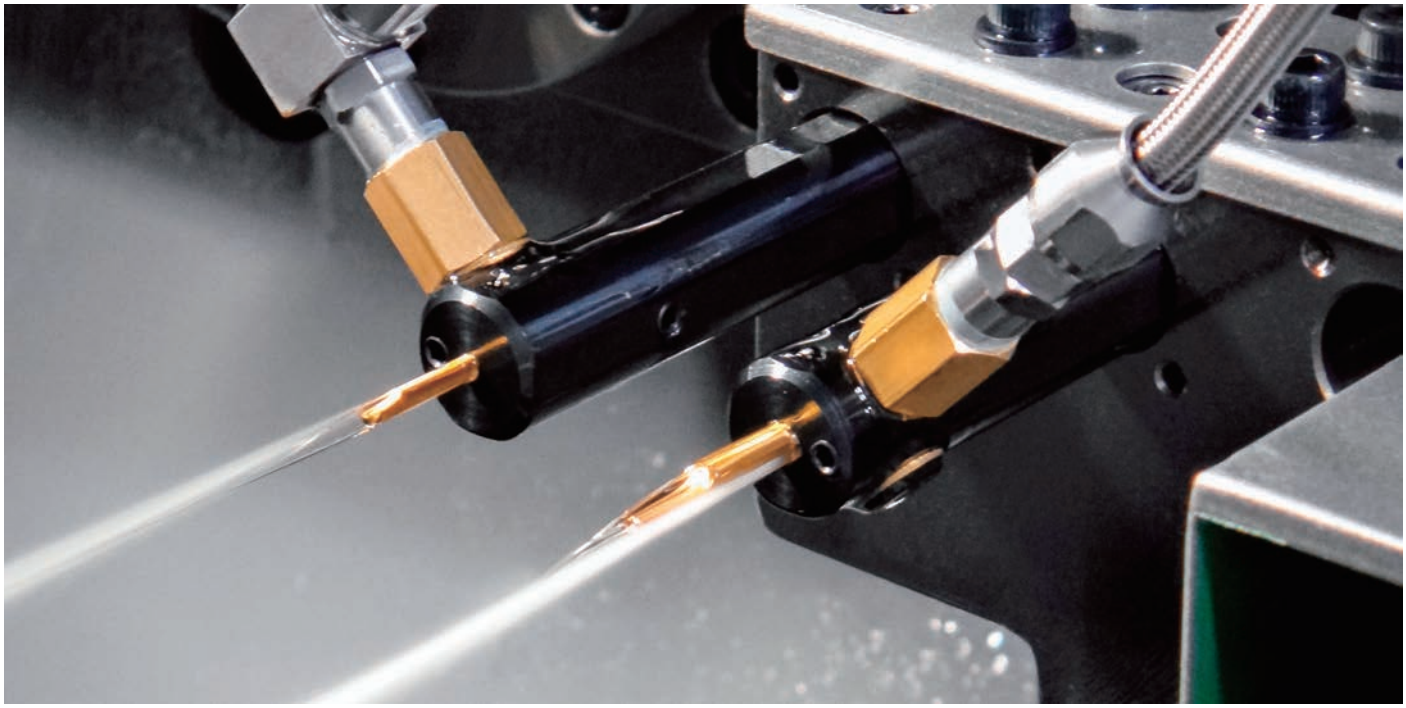
Features①

High Precision Insert

				
	Tool Length L_1	Offset f	Centerline Y	Corner
STICK DUO	±0.1mm	±0.025mm	±0.1/0mm	0.03mm
STICK DUO Hyper	±0.02mm	±0.015mm	0.05/0mm	0.05mm

Features②

- Min. Bore Dia. φ2.2 -
- Three types of breakers are set according to the machining application.



For ID boring operations | Swiss CNC Lathes

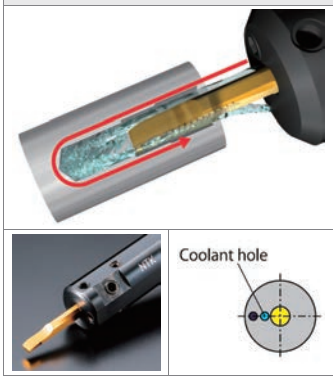
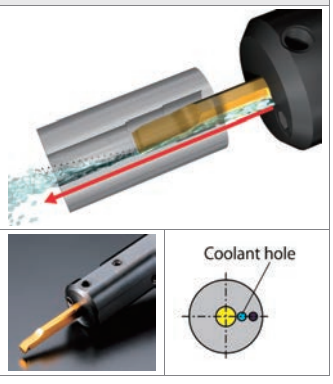
STICK DUO SPLASH

Coolant through sleeves for ID Boring with Adjustable Overhang Mechanism

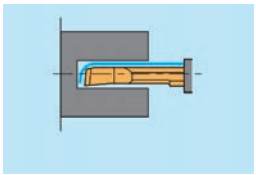
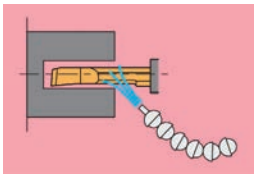
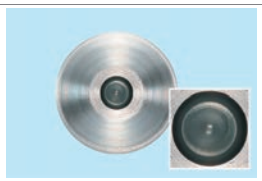
For high-precision machining, a combination of HYPER function and a coolant through holder
Offers high precision while maintaining compatibility with STICK DUO series

Choose from 2 coolant directions

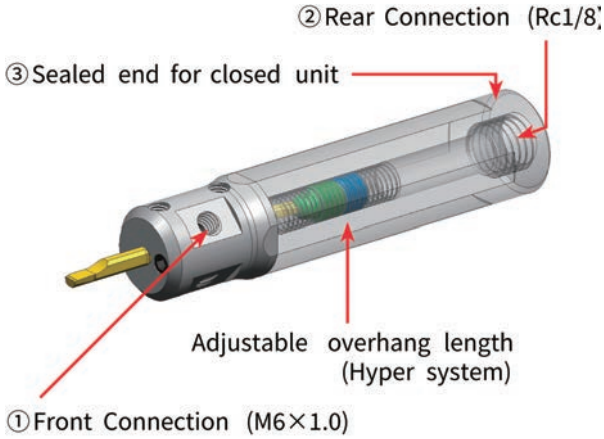
Just rotated 180 degrees

For Blind hole	For Through hole
	

No chip problems

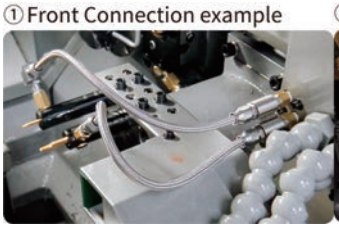
STICK DUO SPLASH	External coolant
	
	
No chips inside hole	Chips packed

3 coolant connection options

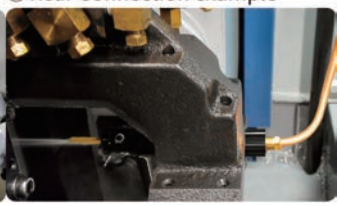


Coolant horse connection

①Front Connection example



②Rear Connection example



Tool Materials / Selection Guide

NTK's Recommendation for Swiss Tooling · P02
Tooling ····· P04
ISO insert code ····· P06
Carbide ····· P08
CBN ····· P20
PCD / Diamond coating ····· P26
Recommended cutting conditions ····· P30
Chipbreaker Introduction ····· P34
Multi-purpose Holders ····· P39

NTK's Recommendation for Swiss Tooling

Front turning

General Purpose

ap ~0.5mm

+ **Splash Series**

Y-axis with Coolant Through

=

- DM4 has excellent heat resistance. It is the best grade to machine for Titanium Alloys, Cobalt Chrome, and HRSA materials.
- YL chipbreaker is designed for both sharpness and chip control. It can hold dimensions very well and evacuate chips smoothly.
- AMX chipbreaker is optimized for very small DOC operations. It can perform very well in thin chip control situations.
- Use with a coolant through tool holder to help with chip evacuation. A Y-axis coolant through toolholder is the best solution for chip control problems.

Cut-off

~ϕ12

DM4-CTP-CX

~ϕ16

+ **Splash series**

=

- CTP/CTPA style cut-off tool is a best-seller in the Swiss market. They have excellent rigidity and sharpness. Now NTK added the CX chipbreaker to them. 3D shaped CX chipbreaker can control chips extremely well.
- Use with coolant through toolholder for better chip evacuation.
- **CTP style is designed for up to ϕ12** material and CTPA is for up to ϕ16.

~ϕ25.4

+ **Splash series**

=

- NTK recently added another coolant through cut-off toolholder for larger diameter materials.
- **CTDP-OH toolholder can cut up to 1"** materials and can control chips very well.

Back turning

General Purpose

DM4-TBP / TBPA-BM

+ **Splash Series**

Y-axis with Coolant through

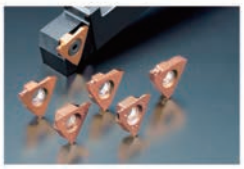
=

- NTK's TBP/TBPA back turning tools are solid and can provide stable machining even with heavy DOC operations.
- Now, NTK added a 3D chipbreaker named BM to this series. BM chipbreaker can manage chip direction. Just one pass is needed to get excellent face/OD finish.
- Use with coolant through tool holder to help with chip evacuation and the Y-axis coolant through toolholder is the best solution for chip problems.

Grooving

General Purpose

DM4-GX



Splash Series

Y-axis with Coolant through

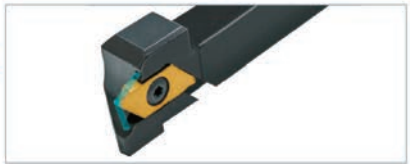
- NTK is expanding its triangle style grooving tools. Now NTK accommodates **wide grooving widths from 0.3㎜ to 3.0㎜.**
- GX chipbreaker can control chips very well, not only for grooving but also side-turning operations.
- Use with a coolant through tool holder to help with chip evacuation and the Y-axis coolant through toolholder is the best solution for chip problems.

Threading

General Purpose

QM3-TTP

TTP



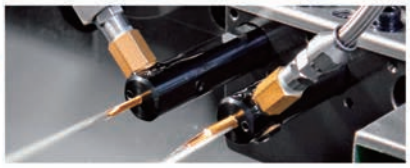
- NTK's side-clamping TTP inserts are rigid and produces high quality good threads. Various lineups are available for each specific threading operations.
- QM3 has good wear resistance and toughness and can cut most materials.

ID turning

General Purpose

STICK DUO Hyper

STICK DUO SPLASH



- Stick Duo Splash are coolant through sleeves for ID operations. NTK has a variety of ID tooling insert bars for ID boring, ID back turning, ID grooving and ID threading to use with Stick Duo Splash.
- The sleeves are equipped with an adjustable overhang mechanism that allow you to index bars easily without length adjustment.

Mogul Bar

- Mogul Bar is a series name for boring tools with indexable inserts. The series starts from 5mm minimum bore diameter and use with F-style chip breaker to make chips evacuate backward.
- They include a coolant through system that ensures better chip evacuation.

End milling

General Purpose

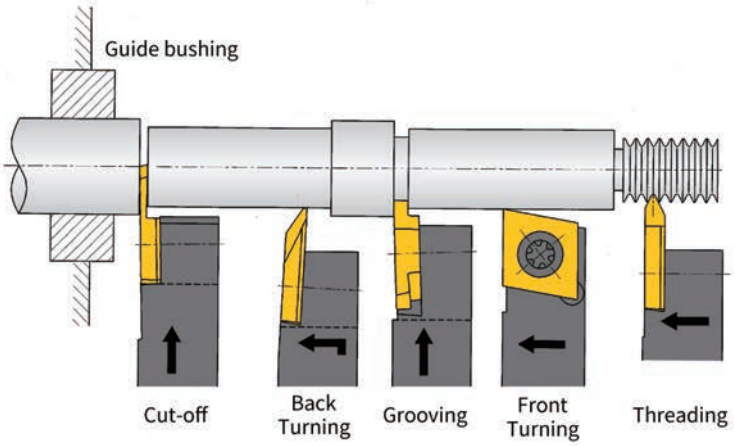
DM4-BL

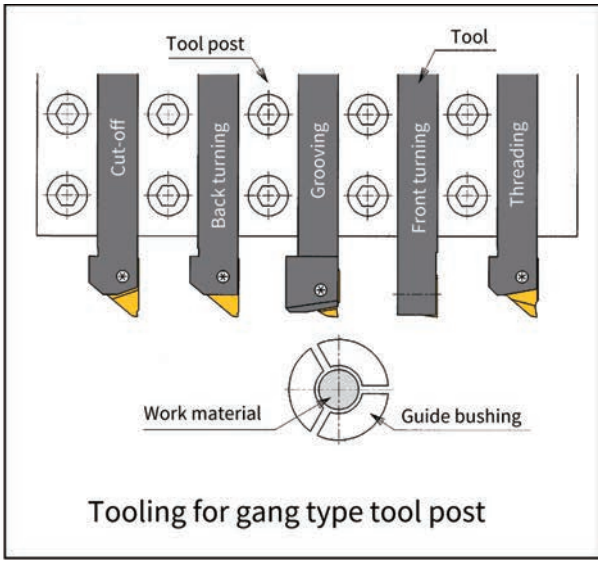
Indexable Endmill

- NTK has a variety of indexable type endmill tools for Swiss machines. The big head endmills can cut in close proximity to the Guide-bushing and provide excellent rigidity. Due to the big diameter, you can also run faster than small diameter endmills.

Tooling example for a small CNC automatic lathe

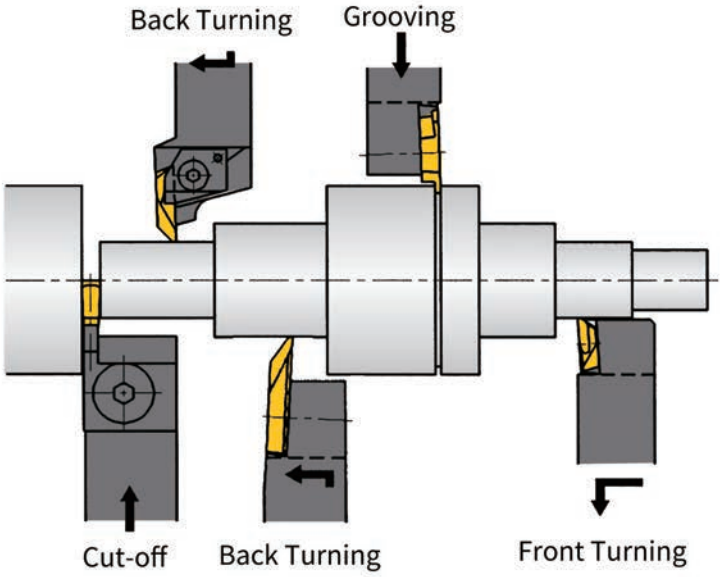
Gang type

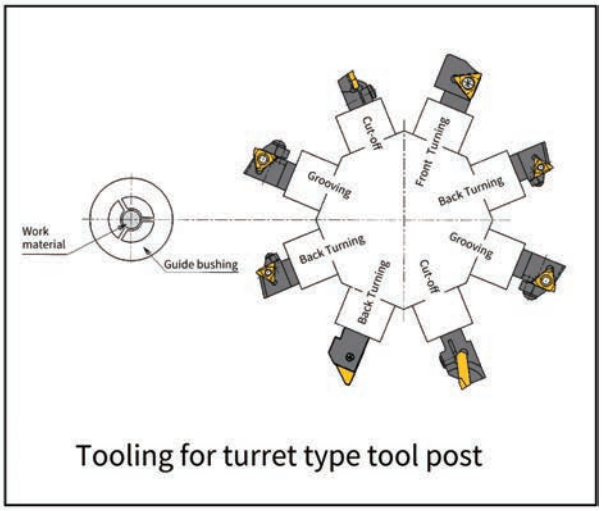




Tooling for gang type tool post

Turret type

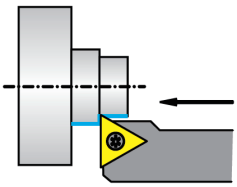




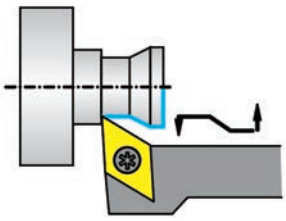
Tooling for turret type tool post

Horizontal gang type

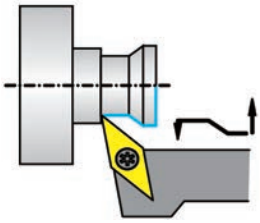
Front Turning



holder : CH-STUCL (screw-on type)
insert : TC..0902

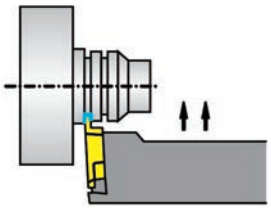


holder : CH-SDUCL (screw-on type)
insert : DC..11T3/TFD11

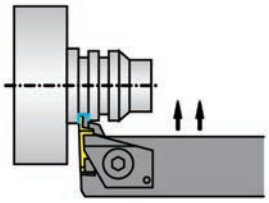


holder : CH-SVUCL(screw-on type)
insert : VC..1103/TFV11
holder : CH-SVUPL(screw-on type)
insert : VP..0802

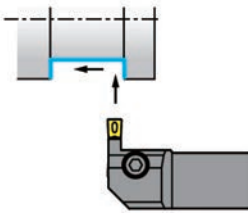
Grooving



holder : CH-GTTL(screw-on type)
insert : GTMH32/GTMX32

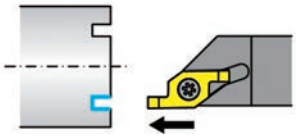


holder : NGTAL..32--..S(clamp-on type)
insert : GTMH32/GTMX32
holder : NGTAL..43-00S5(clamp-on type)
insert : GTMA43/GTMT43



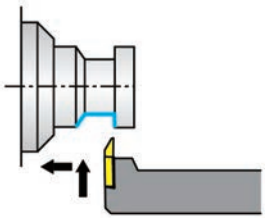
holder : GKWPL (clamp-on type)
insert : GWPG/GWPM

Face grooving

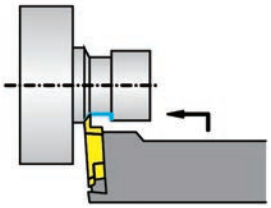


holder : CH-FGVR/L(screw-on type)
insert : FGV/FBV

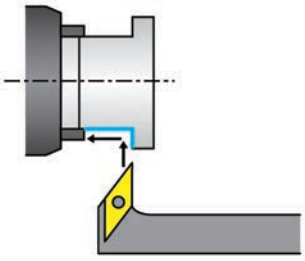
Back turning



holder : CH-TBPAL(screw-on type)
insert : TBPA..FR

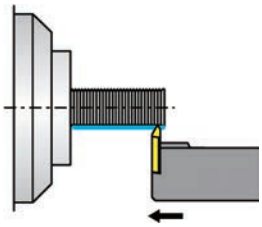


holder : CH-GTTL(screw-on type)
insert : TBMH32



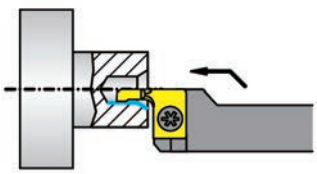
holder : CH-SVXCL(screw-on type)
insert : VC..1103

Threading



holder : CH-TTPL(screw-on type)
insert : TTP..FR

ID Tooling

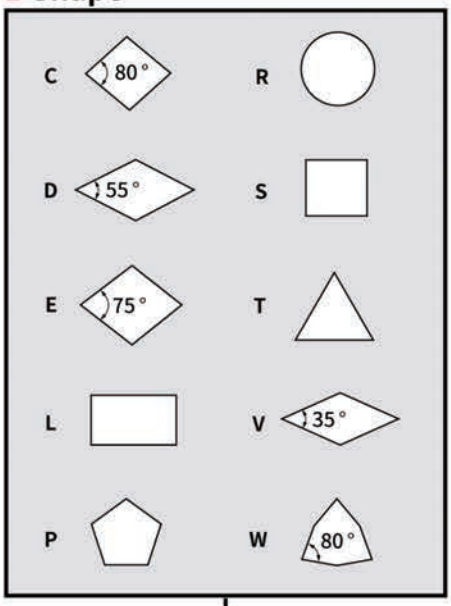


holder : CH-LBML(screw-on type)
insert : LBM

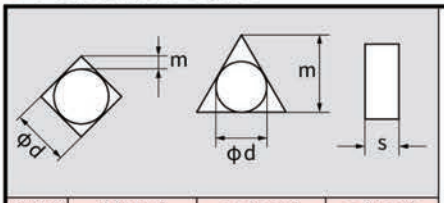
ISO insert code

Carbide

1 Shape



3 Tolerance Class



Symbol	d (mm)	m (mm)	s (mm)
A	±0.025	±0.005	±0.025
F	±0.013	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.013
J	±0.05	±0.05	±0.013
K	±0.05 ~±0.13	±0.013	±0.025
L	±0.05 ~±0.13	±0.025	±0.025
M	±0.05 ~±0.13	±0.08 ~±0.08	±0.013
N	±0.05 ~±0.13	±0.08 ~±0.08	±0.025
U	±0.08 ~±0.25	±0.13 ~±.015	±0.013

Accuracy of J,K,L,M,N,U class by form size
For inserts with apex angles greater than 55°

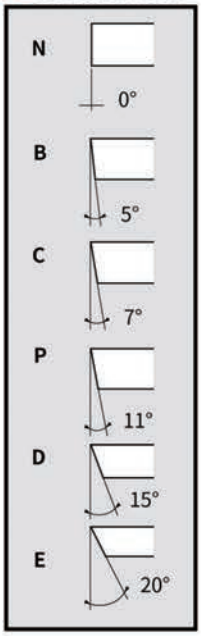
Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.08
9.525	±0.05	±0.08
12.7	±0.08	±0.13
15.875	±0.05	±0.15
19.05	±0.05	±0.15
25.4	±0.13	±0.08

For Class M inserts with apex angles of
55° (D), 35° (V), and 25° (Y)

Inscribed Circle	d (mm)	m (mm)
6.35	±0.05	±0.05
9.525	±0.05	±0.05
12.7	±0.08	±0.15
15.875	±0.05	±0.15
19.05	±0.05	±0.08

	1	2	3	4
Inch	C	C	G	T
Metric	C	C	G	T

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M	40°–60°	W
Special design	X		

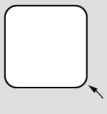
6 Thickness

Thickness S (mm)	Inch	Metric
2.38	1.5	02
3.18	2	03
3.97	2.5	T3
4.76	3	04
5.56	4	06
6.35	5	07
7.94	6	09
12.7	8	12

5 Cutting Edge Length

Inch		Metric					
Inscribed Circle		C	D	R S	T	V	W
5.56	2	06	07	06	11	11	04
7.94	3	09	11	09	16	16	06
12.7	4	12	15	12	22	22	08
15.875	5	16	19	15	27	27	10
19.05	6	19	23	19	33	33	13
25.4	8	25	31	25	44	44	17

7 Nose Radius

Corner Radius	Inch	Metric
	0.03	01	00
	0.08	04M	01M
	0.1	04	01
	0.18	08M	02M
	0.2	08	02
	0.38	1M	04M
	0.4	1	04
	0.8	2	08

3	2.5	08M	F	N	AM3
5	6	7	8	9	10
09	T3	02M	F	N	AM3

8 Edge Sharpness

F	Up-sharp edge (without any edge preparation)
(Blank)	Non up-sharp edge

9 Hand of Chipbreaker

N	Neutral*
R	Right-hand
L	Left-hand

* Omitted when edge is not "up-sharp"

10 Type of Chipbreaker

11 Wiper insert

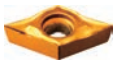
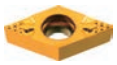
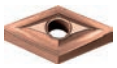
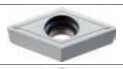
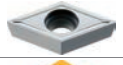
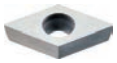
"-WP" after chipbreaker

Micro-grain Carbide and PVD/CVD-coated Carbide

Excellence in precision machining and machining of hard-to-cut materials

These material grades use WC micro-grain carbide, the hard base material which is granulated to a micro size 1μm as the substrate. Furthermore, the substrate is coated using a PVD method with TiN, TiCN, and/ or TiAlN. The resulting materials are suitable for machining difficult-to-cut materials and demanding high precision small part applications. Inserts in these grades are tougher and harder than carbide and come with ultra sharp cutting edges. This selection of micro-grain carbide grades exhibit excellent wear resistance and thermal crack resistance.

Features

Work material	Grade		Coating		Application	Physical properties*					
						Density g/cm³	Hardness HRA	Bending strength Mpa	Young's modulus GPa	Thermal expansion coefficient ×10⁻⁶/K	Thermal conductivity W/m.K
M Stainless steel	ST4		thick PVD	CrAlN	Best grade for 304 SS	14.4	91.0	3000	580	5.8	63
	DT4		thin PVD	TiAlN	Excellent oxidation resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63
	TM4		thin PVD	TiN-TiCN	Best combination of wear resistance, toughness and adhesion resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63
	ZM3		thick PVD	TiN	Best adhesion resistance enables high accuracy machining	14.4	91.0	3000	580	5.8	63
	DM4		thick PVD	TiAlN	Best oxidation resistance enables high temperature machining	14.4	91.0	3000	580	5.8	63
P Steel	QM3		thick PVD	TiCN	Best wear resistance enables stable machining	14.4	91.0	3000	580	5.8	63
	VM1		thin PVD	TiCN	Best edge sharpness and good wear resistance	14.8	92.0	2500	640	5.7	84
	CP7		thick CVD	Al_2O_3-TiCN	Roughing to semi-finishing of steel	13.8	90.1	2200	580	-	-
K Cast iron	CP1		thick CVD	Al_2O_3-TiCN	For cast iron and ductile cast iron	14.9	92.0	2400	640	-	-
N Non-ferrous material	KM1		uncoated	-	Best for non-ferrous material with a polished mirror finish surface	14.8	92.0	2500	640	5.7	84
M P N	AC3		thin PVD	TiAlN-TiAlCrN	Developed for solid carbide endmills	14.2	91.0	3000	560	6.1	49

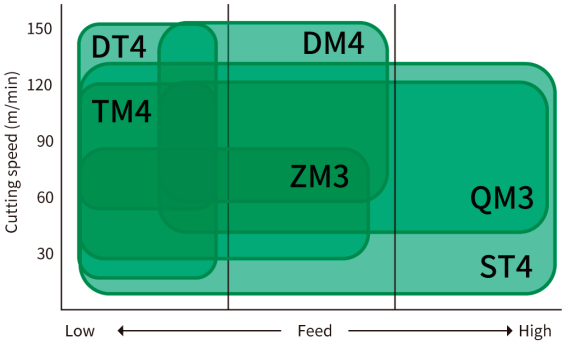
※The values of the base material are indicated.

Coating specifications

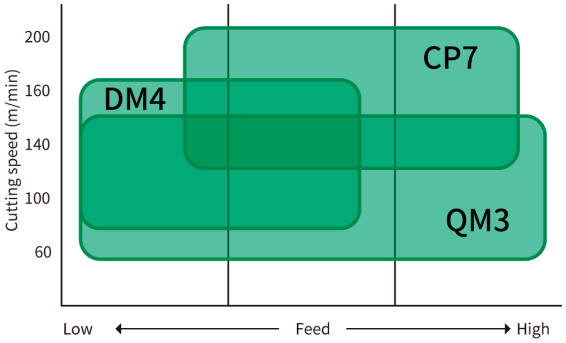
	ST4	QM3	DM4	DT4	TM4	VM1	ZM3
Thickness	Thick	Thick	Thick	Thin	Thin	Thin	Thick
Wear resistance	○	◎	○	○	○	○	
Heat resistance	○		◎	◎			○
Adhesion Resistance	◎				○		◎
Edge Sharpness				○	○	◎	
Composition	CrAlN	TiCN	TiAlN	TiAlN	TiN-TiCN	TiCN	TiN

◎1st choice ○2nd choice

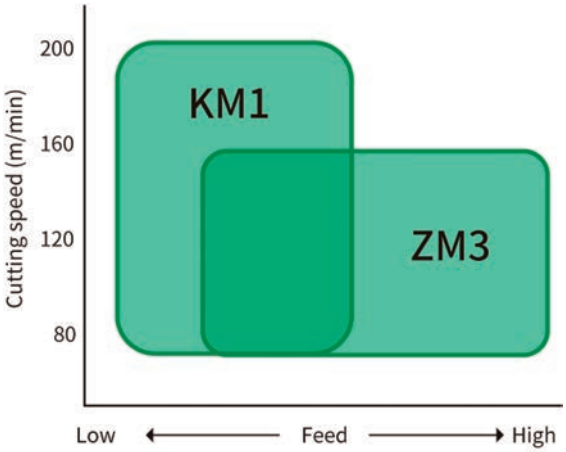
Stainless steel



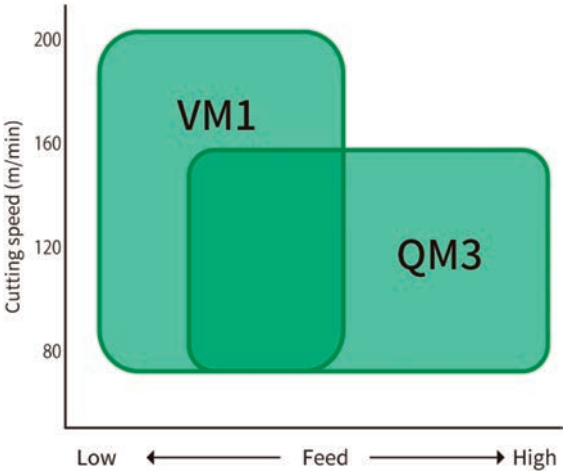
Carbon and alloy steel

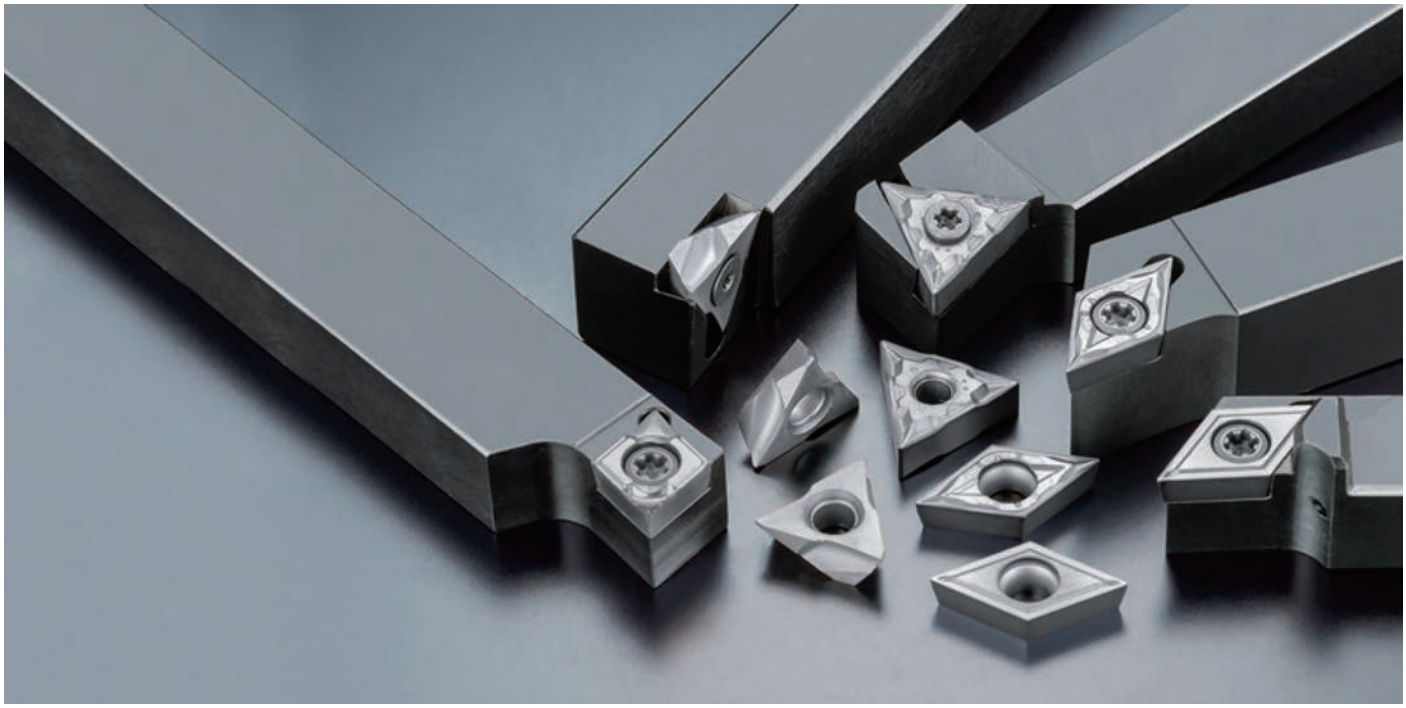


Aluminum and brass



Free-cutting steel





Ideal for stainless steel machining | PVD coated carbide

ST4

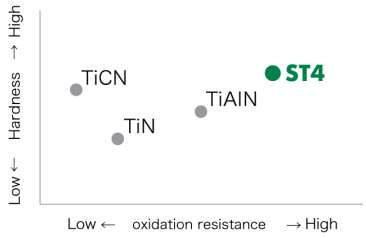
Stable and consistent performance machining tough materials like 304 SS

Solution for stainless steel machining issues like reduced tool life, inconsistency of part dimensions, and poor chip control.

Performance

Unique coating with a high aluminum composition dramatically improves hardness and oxidation resistance.
Extended tool life is achieved by suppressing wear from increased cutting temperatures.

Coating wear and oxidation chart



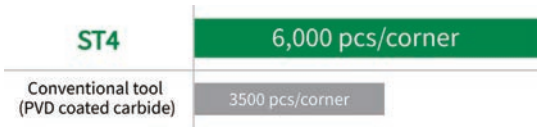
Coating layer adhesion strength

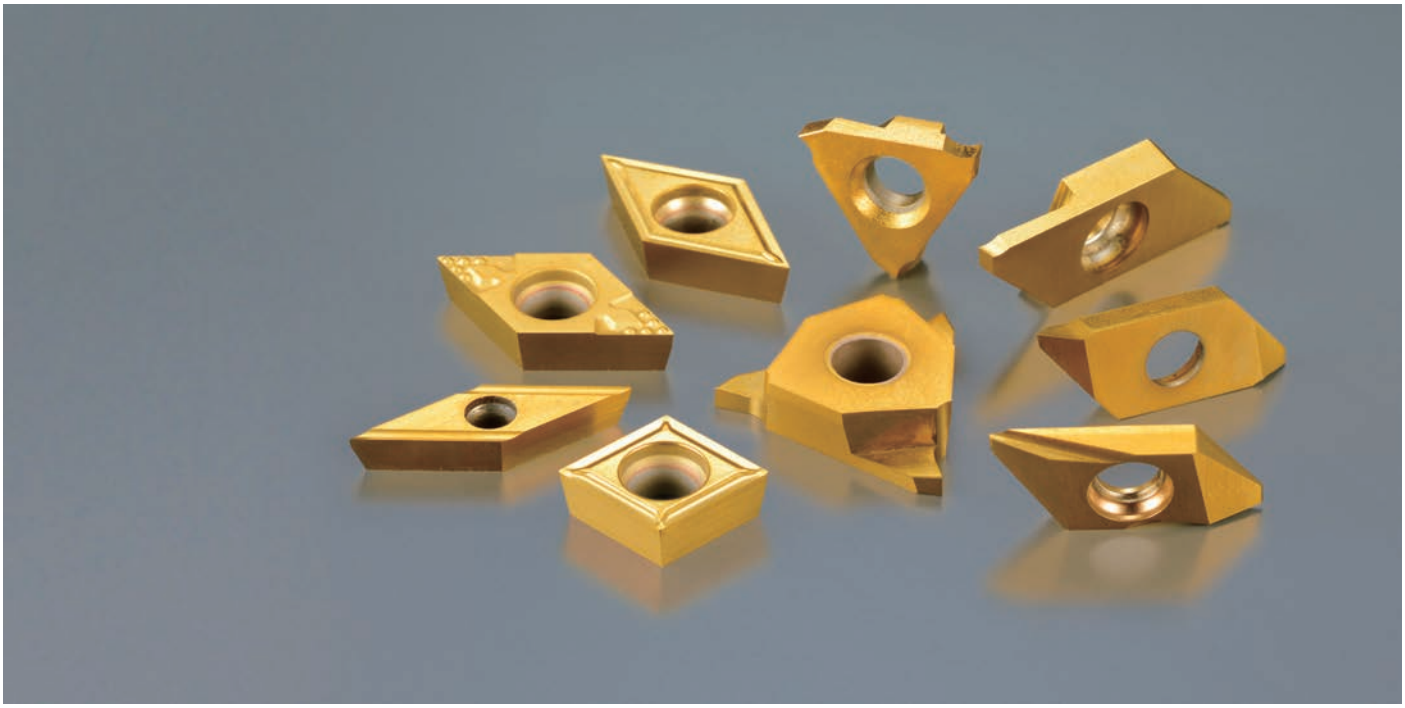
Significantly improved insert surface smoothness and coating adhesion.
Prevents adhesion to the cutting edge, which tends to occur in stainless steel machining, leading to stabilization of dimensional accuracy and machined surfaces.

Case study

ST4 has approximately 1.7 times longer tool life than competitor's tools.

Work material	SUS316L
Cutting speed	60m/min
Feed	End face 0.01mm/rev External 0.03mm/rev
Depth of cut	0.3 - 2.0mm
Coolant	WET





General-purpose machining with excellent adhesion resistance | PVD coated carbide

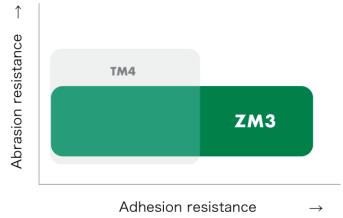
ZM3

Excellent adhesion resistance and dimensional stability, ideal for high-precision machining of small-diameter workpieces

Achieves stable machining with its resistance to built up edge

Performance

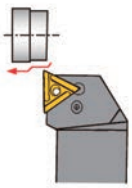
- Stable machining dimensions due to high adhesion of the coating
- Smooth TiN coating provides outstanding adhesion resistance

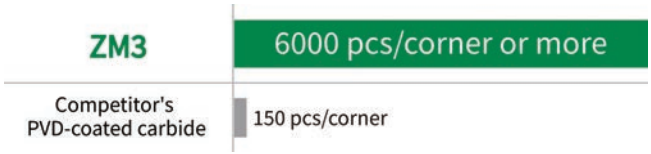


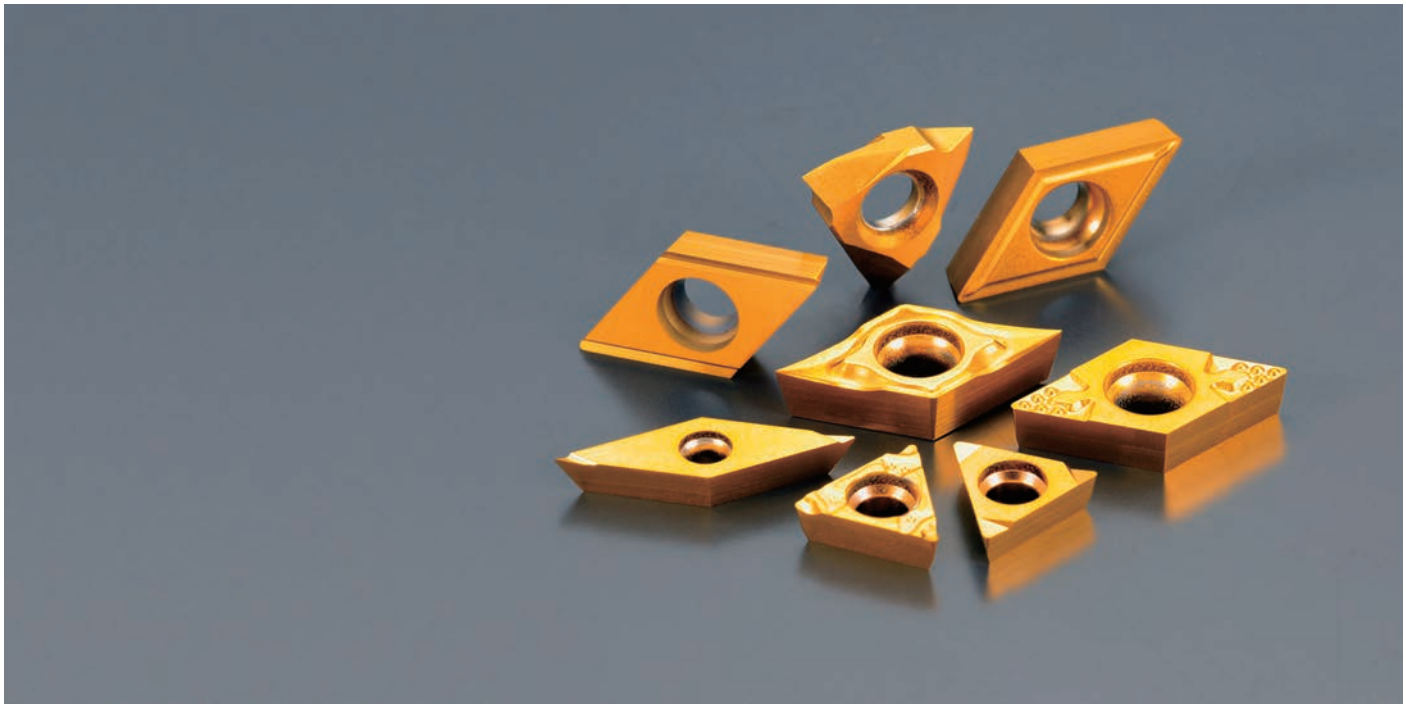
Case study

ZM3 offers outstanding adhesion resistance and dimensional stability with a tool life that is 40 times longer than that of competitor's tools.

Work material	S10C
Cutting speed	100m/min
Feed	0.12mm/rev
Depth of cut	0.3~0.4mm
Coolant	WET







General purpose machining with excellent wear resistance | PVD coated carbide

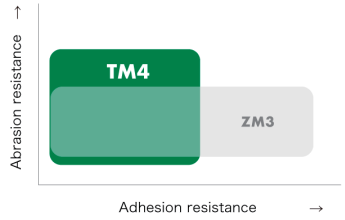
TM4

Versatile grade material for all types of work materials

Easy-to-use grade with excellent sharpness and adhesion resistance

Performance

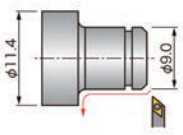
- Excellent workpiece dimensional stability and tool life due to multilayer coating
- A smooth hard coating with excellent adhesion resistance

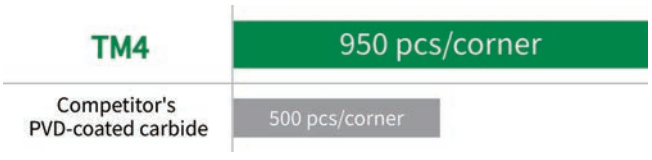


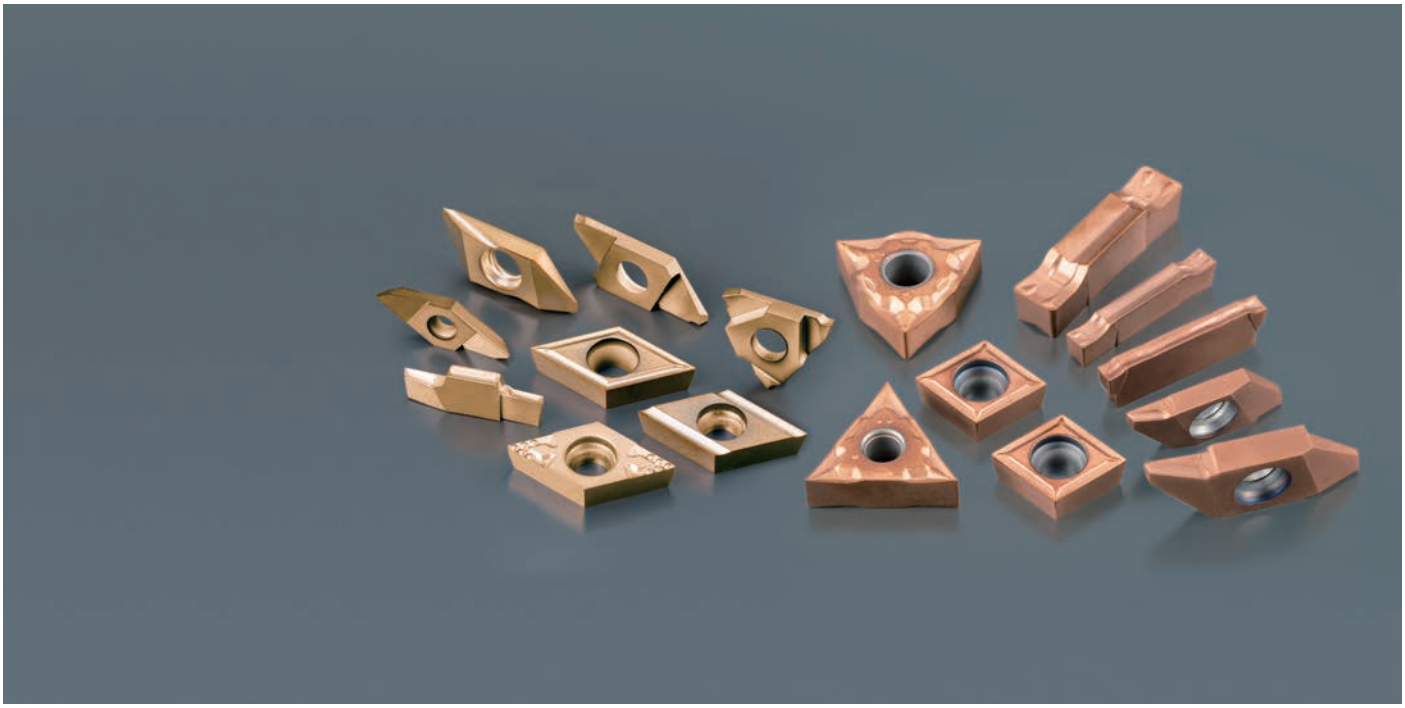
Case study automotive parts

TM4 achieved 1.9 times longer tool life than the competitor's product. Its superior wear resistance ensured long stable machining.

Work material	SUS304
Cutting speed	80m/min
Feed	0.02mm/rev
Depth of cut	-1.2mm
Coolant	WET







Machining difficult-to-cut materials | PVD-coated carbide

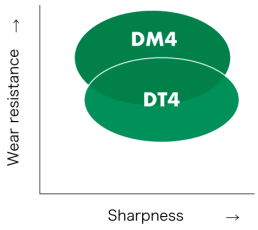
DT4 / DM4

Ideal for machining difficult-to-cut materials such as titanium and heat-resistant alloys

Stable machining even under conditions where cutting heat tends to concentrate on the cutting edge

Performance

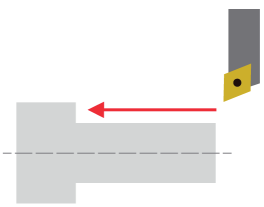
- Thick TiAlN coating reduces cutting tool damage due to machining heat.
- DT4 has a thin coating layer. A sharp cutting edge ideal for machining small diameter parts.
- DM4 has a thick coating layer. A combination of heat resistance and wear resistance makes it ideal for high load machining such as parting and grooving.

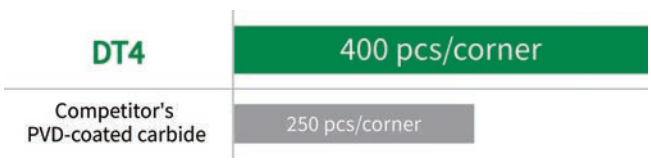


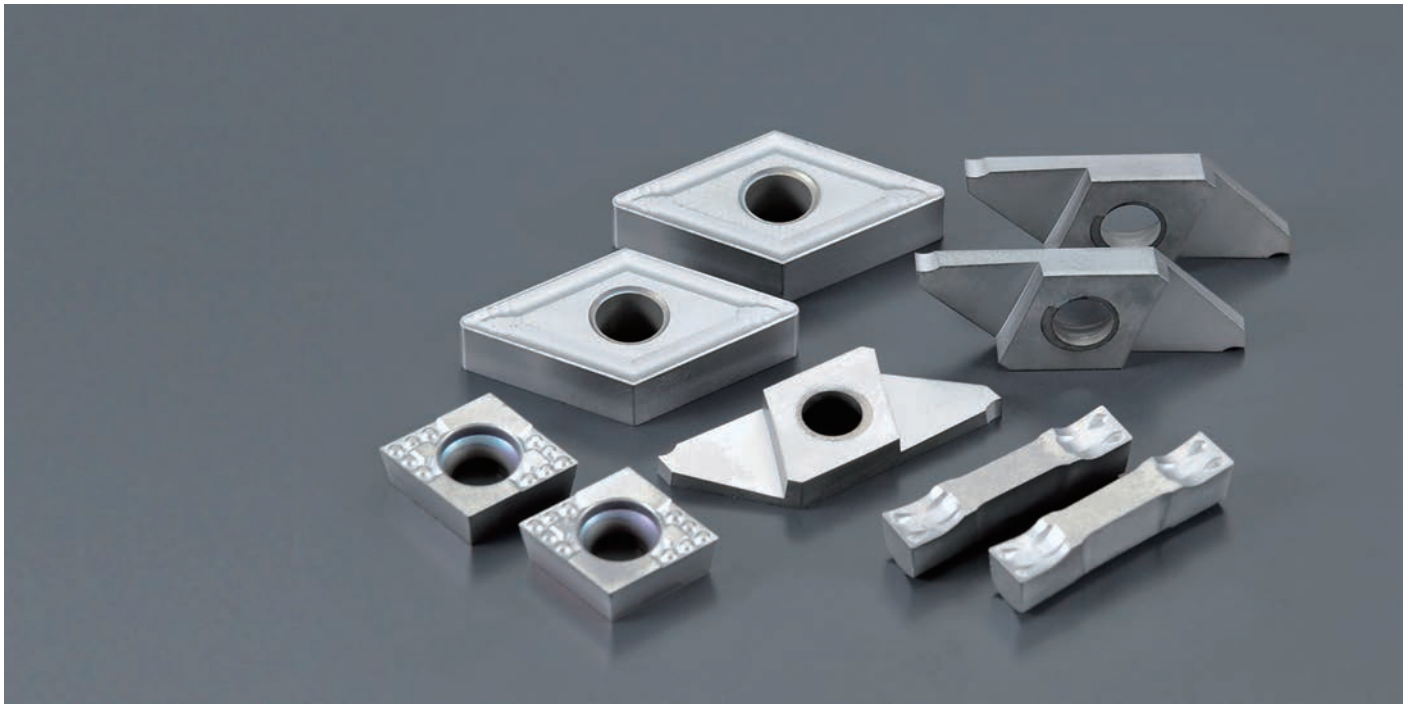
Case study medical screw

DM4 achieved approximately 1.6 times longer tool life than the competitor's product.

Work material	Titanium alloy
Cutting speed	60m/min
Feed	0.02mm/rev
Depth of cut	0.5mm
Coolant	WET







Carbon and alloy steel machining | PVD coated carbide

QM3

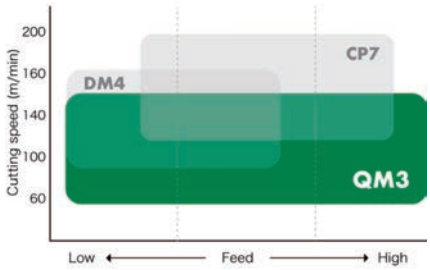
Longer tool life and stable machining of carbon and alloy steels such as S45C and SCM materials

Excellent wear resistance ensures stable machining and extended tool life

Performance

- Combination of tough carbide material and TiCN coating provides excellent chipping resistance.
- Excellent wear resistance, especially in the low speed range.
- Stable machining even in heavy interruptions.

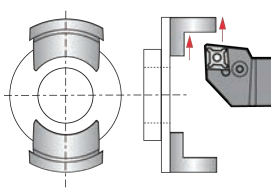
Application area

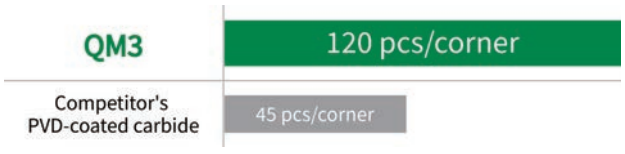


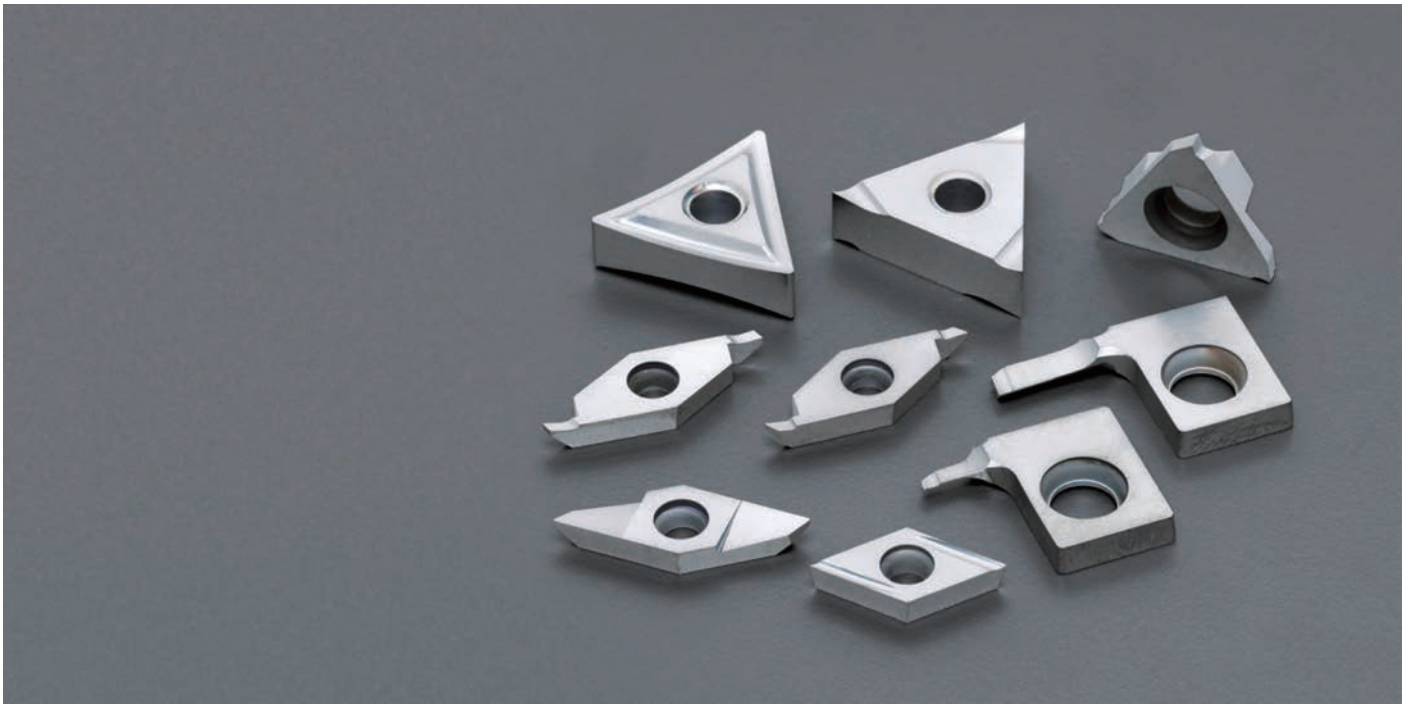
Case study

The combination of QM3 and Z5 chipbreaker extends the tool life by more than 2.5 times, while the competitor's tool experienced unstable tool life.

Work material	S50C
Cutting speed	156m/min
Feed	0.33mm/rev
Depth of cut	1.5mm
Coolant	WET







Free-cutting steel machining | PVD-coated carbide

VM1

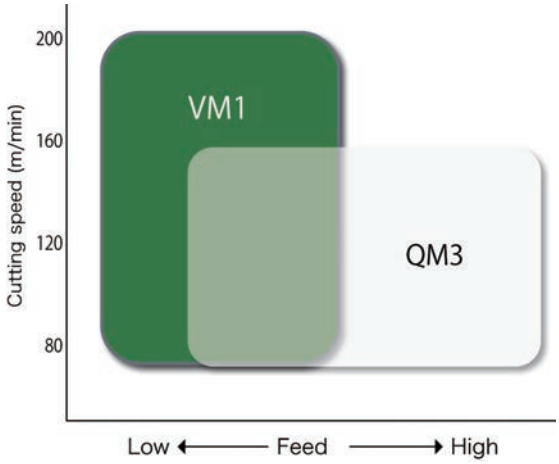
Ideal for machining free-cutting steel (SUM)

Long-tool life machining is achieved by reducing the built up edge on the cutting edge.

Performance

- Thin-layer TiCN coating provides both outstanding sharpness and wear resistance.
- Achieves long tool life and high-precision machining even at high speeds.

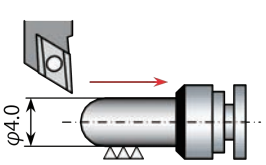
Application area

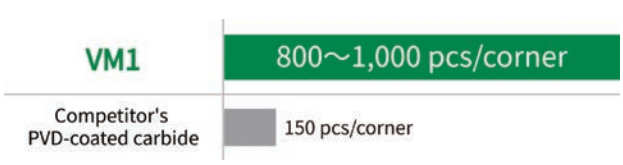


Case study

VM1 is stable in both dimensions and surface finish and has 5 times longer tool life than the competitor's product.

Work material	SUM24L
Cutting speed	140m/min
Feed	0.015mm/rev
Depth of cut	0.1mm
Coolant	WET





High-speed machining of carbon and alloy steel | CVD coated carbide

CP7

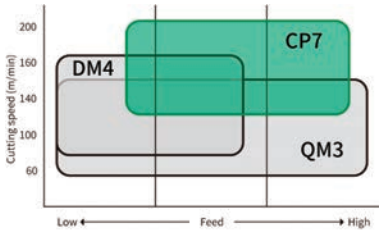
Ideal for high-speed machining of alloy steel and carbon steel

CVD multilayer coating for outstanding performance machining steel

Performance

The CVD multi-layer coating and high strength base material provides excellent wear resistance and toughness that can be used in a wide range of applications.

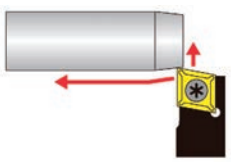
Application area

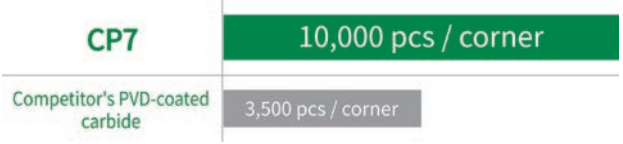


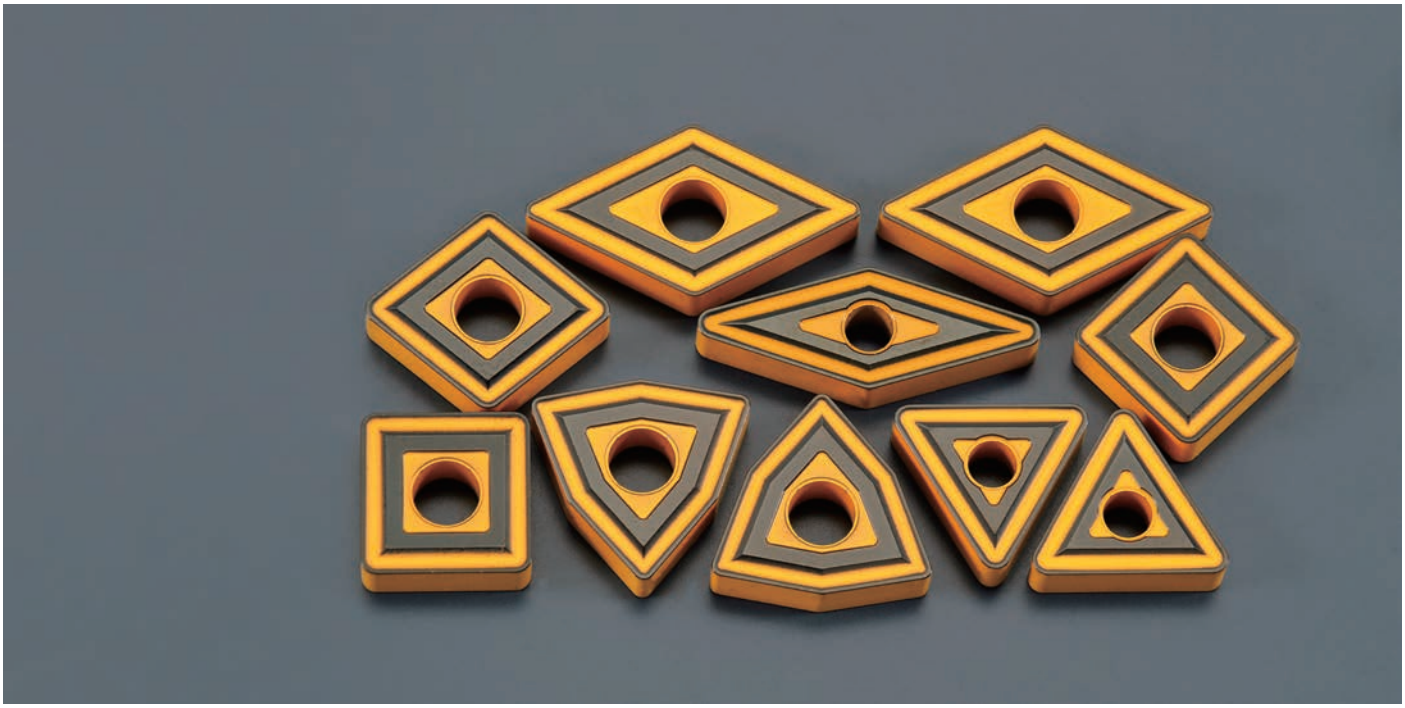
Case study

Achieves approximately 3 times the tool life of the competitor's coated carbide.
Wide range of applications are possible.

Work material	SUJ2
Cutting speed	90m/min
Feed	0.15mm/rev
Depth of cut	0.5mm
Coolant	WET







Grey cast iron and ductile cast iron with scale machining | CVD coated carbide

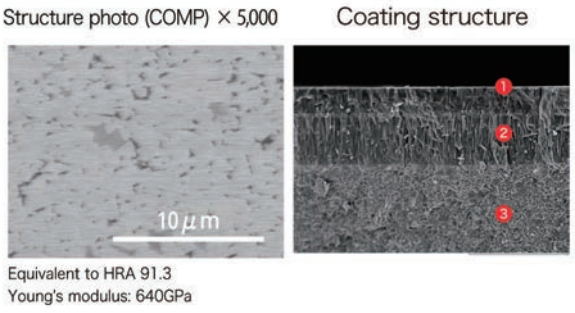
CP1

Achieves high efficiency and stable machining even under conditions where cutting speed cannot be increased

Outstanding wear resistance at Vc=~300m/min

Performance

- Specializing in scale machining of grey and ductile cast iron.
- Excellent wear resistance and stable machining are achieved with a thick TiCN layer and an Al2O3 layer in the coating.
- Unique rake face surface smoothing process provides superior performance in adhesion resistance.



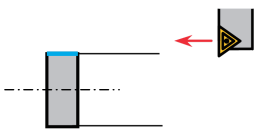
Equivalent to HRA 91.3
Young's modulus: 640GPa

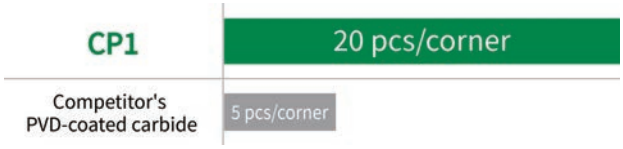
① A very smooth layer of fine grain Al2O3
② Fine column shaped grain TiCN layer
③ Ultra - hard carbide base material

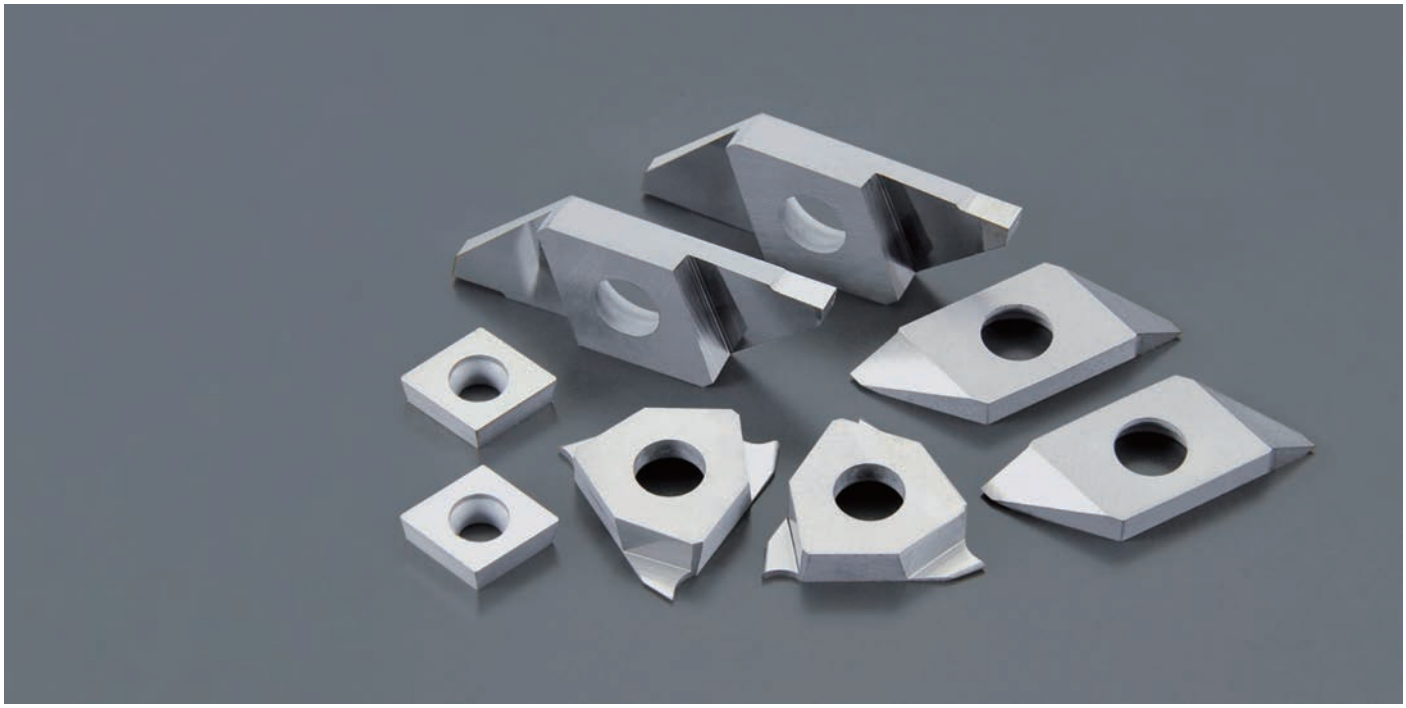
Case study

CP1 achieves higher machining efficiency than competitor's tools.

Work material	FCD450
Cutting speed	200m/min
Feed	0.12mm/rev
Depth of cut	1.0m
Coolant	WET







Nonferrous metal machining, cost effective | Uncoated carbide

KM1

Ideal for machining non-ferrous metals such as aluminum, brass, and resin

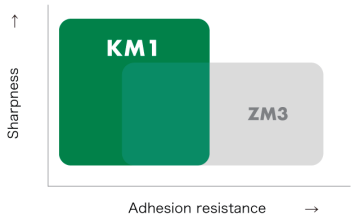
Excellent machined surfaces are achieved by reducing the occurrence of built up edge

Outstanding sharpness solves the problem of a rough machined surface

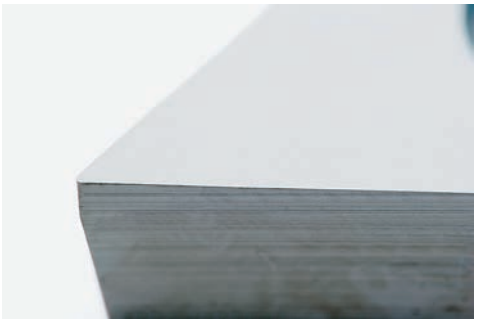
Performance

- Uncoated fine-grained carbide with excellent sharpness.
- Mirror polished surface reduces built up edge.
- Stable machining dimensions and excellent surface finishes.

KM1 comparison chart



Up sharp edges and mirror finish

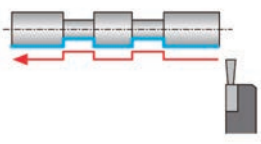


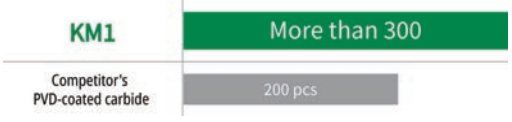
Case study

The competitor's product machined 3 roughing passes and a finishing pass. The chips often scratched the workpiece. The cycle time was more than 3 minutes.

The KM1 machined in a single pass, reducing the cycle time to 1 minute and 50 seconds.

Work material	A5056
Cutting speed	90~170m/min
Feed	0.04mm/rev
Depth of cut	0.5~5.0mm
Coolant	WET





End mill tools | PVD coated carbide

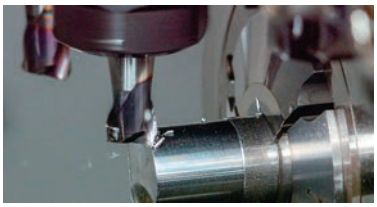
AC3

Developed for solid carbide end milling

Ideal for end milling of small-diameter workpieces that are prone to chattering, or applications that have problems with burrs forming

Performance

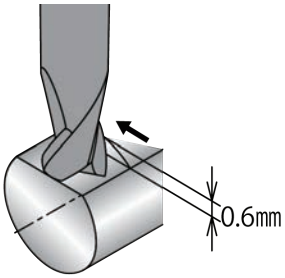
- TiAlN-TiAlCrN coated + fine grain carbide
- Grade with both excellent sharpness and wear resistance required for end milling on CNC type automatic lathes

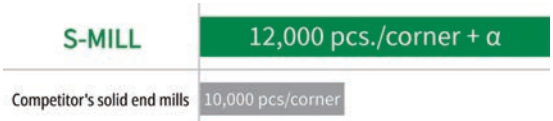


Case study

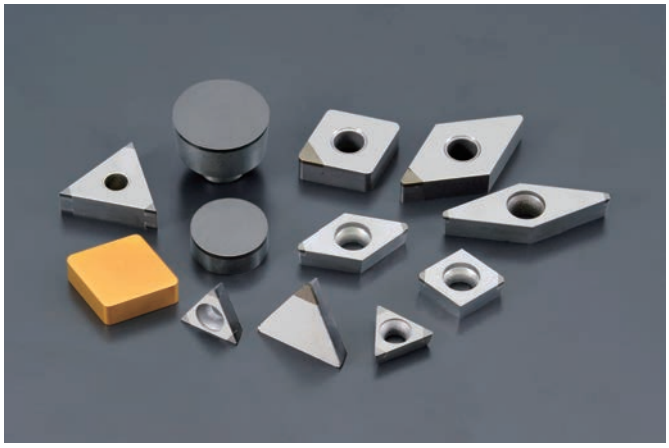
The current tool created a cloudy machined surface when it reached the end of its tool life. The S-Mill achieved good surface finish and an extended tool life.

Work material	SUS416F
Cutting speed	3,200rev/min
Feed	140mm/min
Depth of cut	0.6mm
Coolant	WET





CBN/Ultra-high pressure sintered body

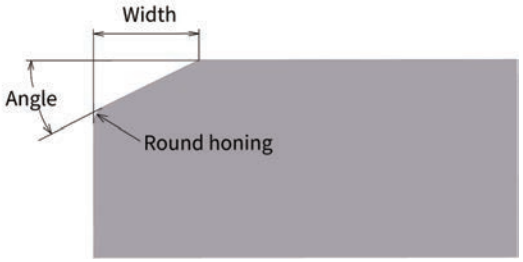


CBN grade inserts are composed mainly of CBN (Cubic Boron Nitride) particles with a special ceramic binder. The material has excellent cutting material properties including high hardness at normal and highly elevated temperatures, as well as little chemical reactions with work materials. CBN inserts can be used for machining hardened materials and high speed machining of cast iron.

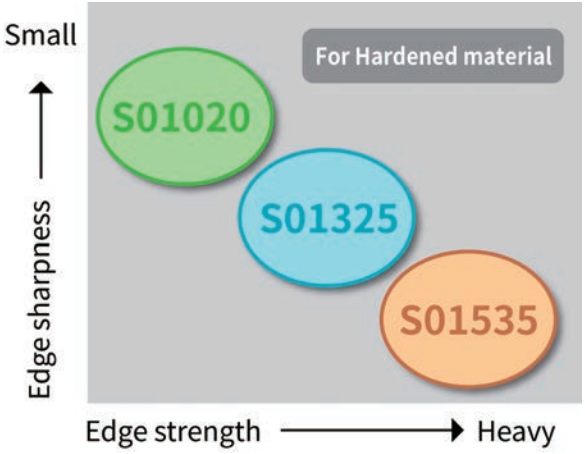
Features

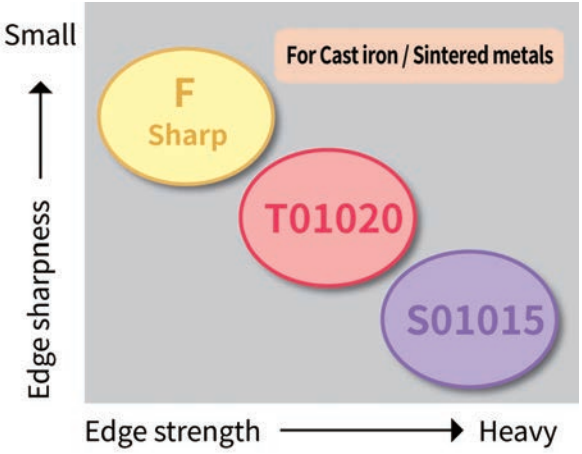
Work material	Grade	Coating	Corner	Application	CBN content	Main binder
H Hardened material	B36	-	multi	Light to heavy interrupted machining of hardened materials	65%	TiCN
	B40	-	multi	Heavy interrupted machining of hardened materials	65%	TiN
	B52	-	multi	Finishing of ductile iron Continuous machining of hardened materials	50%	TiC
	B5K	TiCN	multi	Continuous to light interrupted machining of hardened materials Finishing of ductile iron	50%	TiC
	B6K	TiCN	multi	Middle to heavy interrupted machining of hardened materials	65%	TiCN
K Cast iron	B16	-	solid	Roughing to finishing of gray cast iron Machining of sintered metals	82%	TiN
	B22	-	top-surface	Turning of hardened mill rolls Roughing to finishing of gray cast iron	80%	TiN
	B23	-	multi	Roughing of gray cast iron Machining of sintered metals	90%	Ti
	B30	-	multi	Finishing of gray cast iron Machining of sintered metals	95%	Ti

Edge treatment

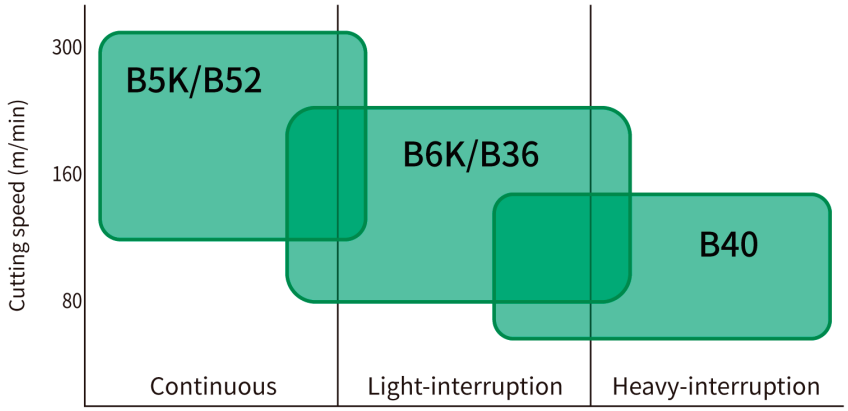


Code	Width	Angle	R-honing
F(sharp-edge)	0.00	0°	none
T01020	0.10	20°	none
S01015	0.10	15°	yes
S01020	0.10	20°	yes
S01325	0.13	25°	yes
S01535	0.15	35°	yes

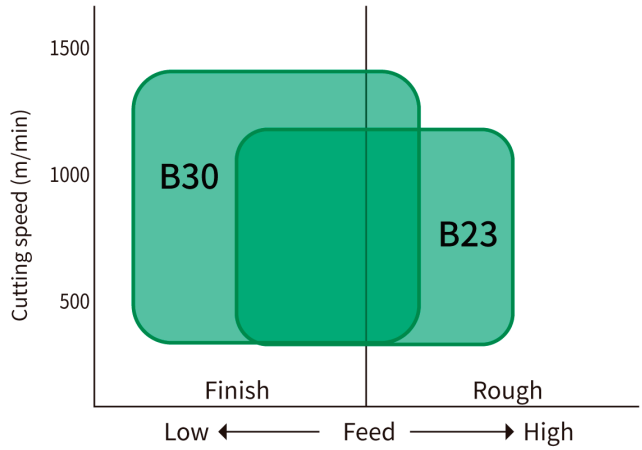




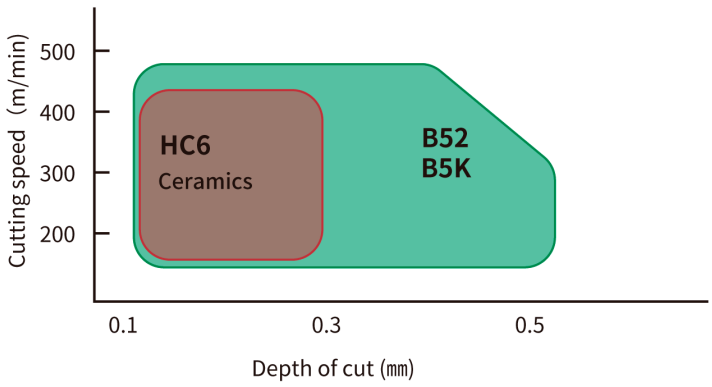
Hardened material



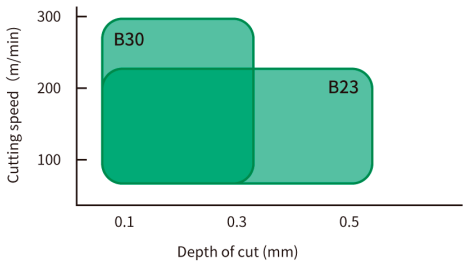
Gray cast iron

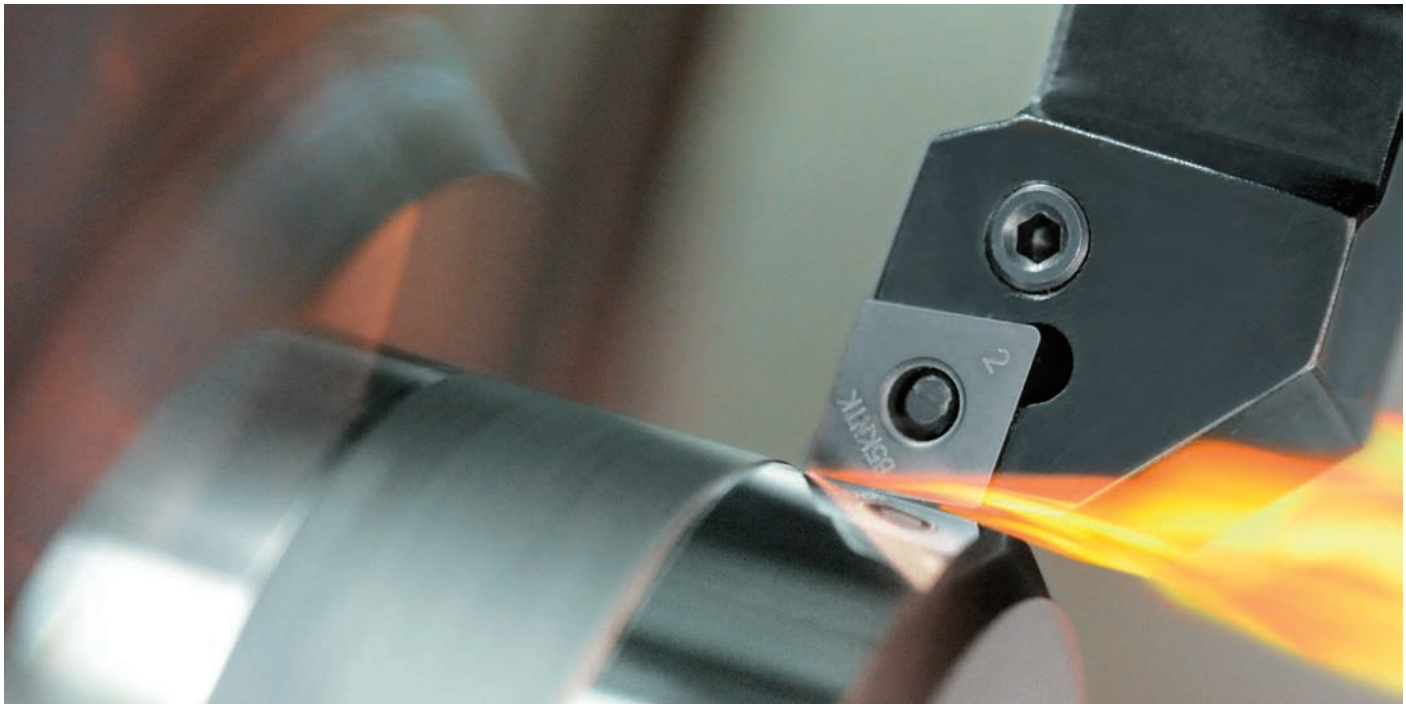


Ductile cast iron



Sintered metals





For continuous machining | CBN for hardened materials

B5K / B52

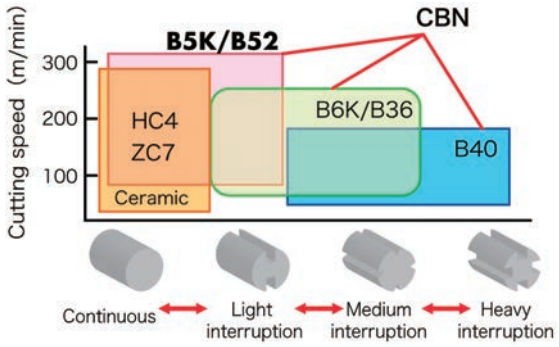
CBN grades ideal for high-precision machining

Roughing to finishing continuous cut operations

Ideal for hardened materials of HRC 60 or higher

Performance

- Excellent wear resistance due to optimum CBN content and special TiC binders
- Continuous machining



Application

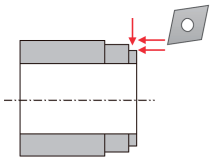
Continuous machining for hardened materials at HRC60 or higher

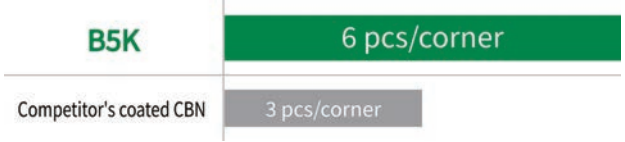
Case study OD Turning of shaft parts

B5K achieved 2 times longer tool life.

Due to dimensional changes and deterioration of the machined surface the competitor's coated CBN needed to be changed.

Work material	SUS440C(HRC58-60)
Cutting speed	150m/min
Feed	0.1mm/rev
Depth of cut	0.2mm
Coolant	DRY





For light to medium interrupted machining | CBN for hardened materials

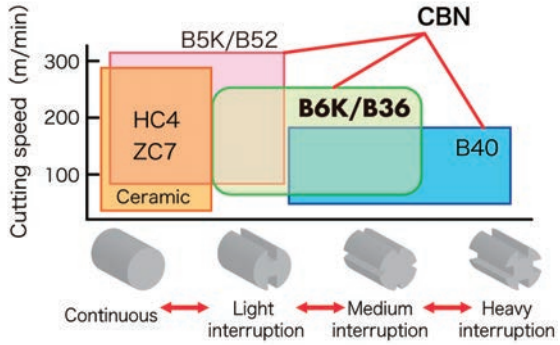
B6K / B36

Recommended for continuous to interrupted cuts

Versatile CBN designed for machining hardened materials at HRC 60 or above with light to medium interruptions

Performance

- CBN with a special TiCN binder achieves a combination of wear resistance and fracture resistance
- Stable performance through light to medium interrupted machining

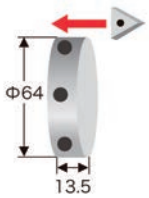


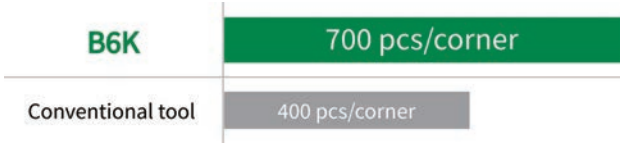
Application

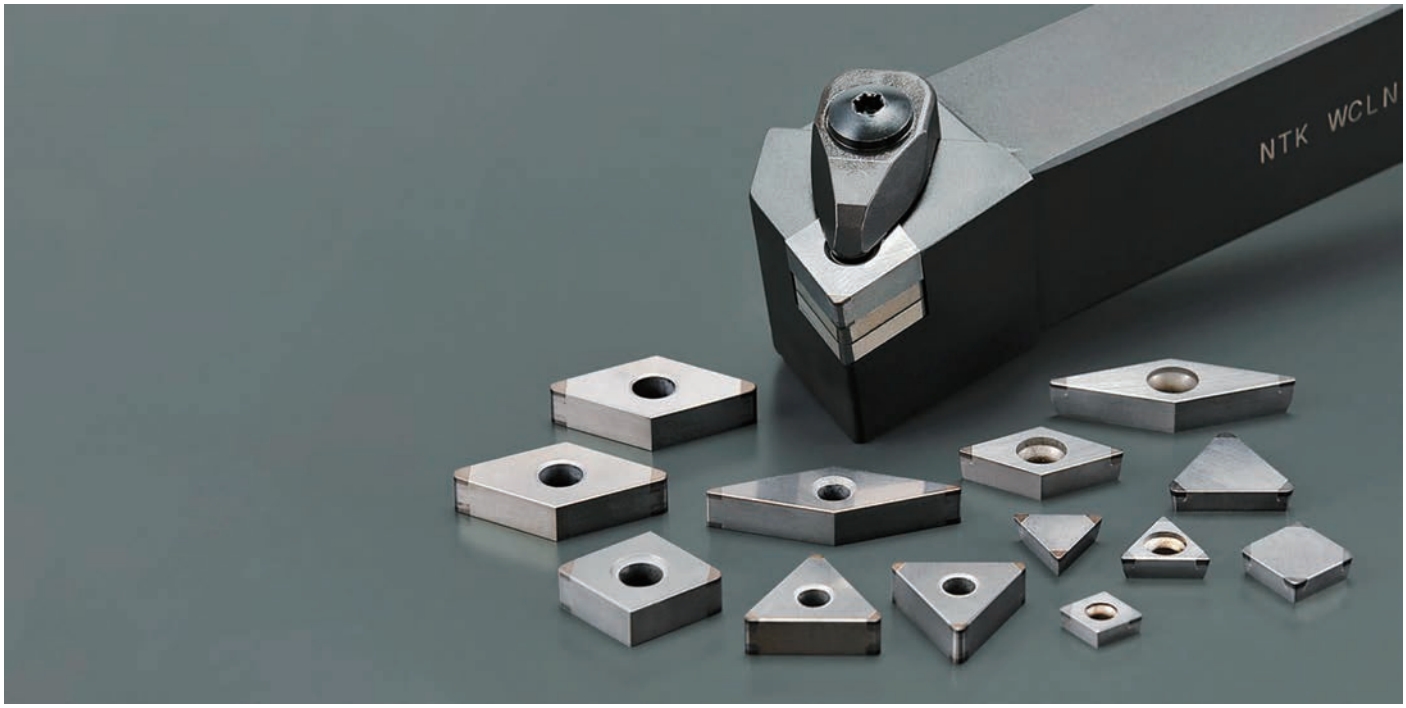
Light to medium interrupted machining of hardened materials of HRC 60 or higher

Case study Interrupted OD turning of machine parts

Work material	STKM(HRC50) interrupted
Cutting speed	210-220m/min
Feed	0.08 mm/rev
Depth of cut	0.2 mm
Coolant	WET







For heavy interrupted machining | CBN for hardened materials

B40

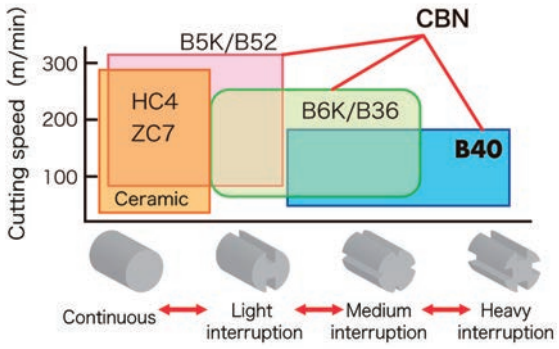
CBN material specialized for heavy intermittent machining

Excellent chipping resistance and stable machining

Best suited for machining of hardened materials over HRC60

Performance

- CBN with a special TiN binder enhances chipping resistance
- CBN material specialized for heavy interrupted machining



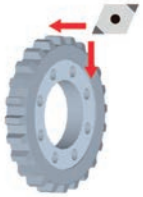
Application

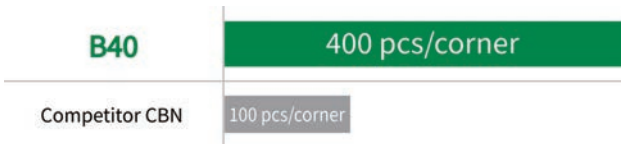
Hardened materials interrupted machining HRC60 or more

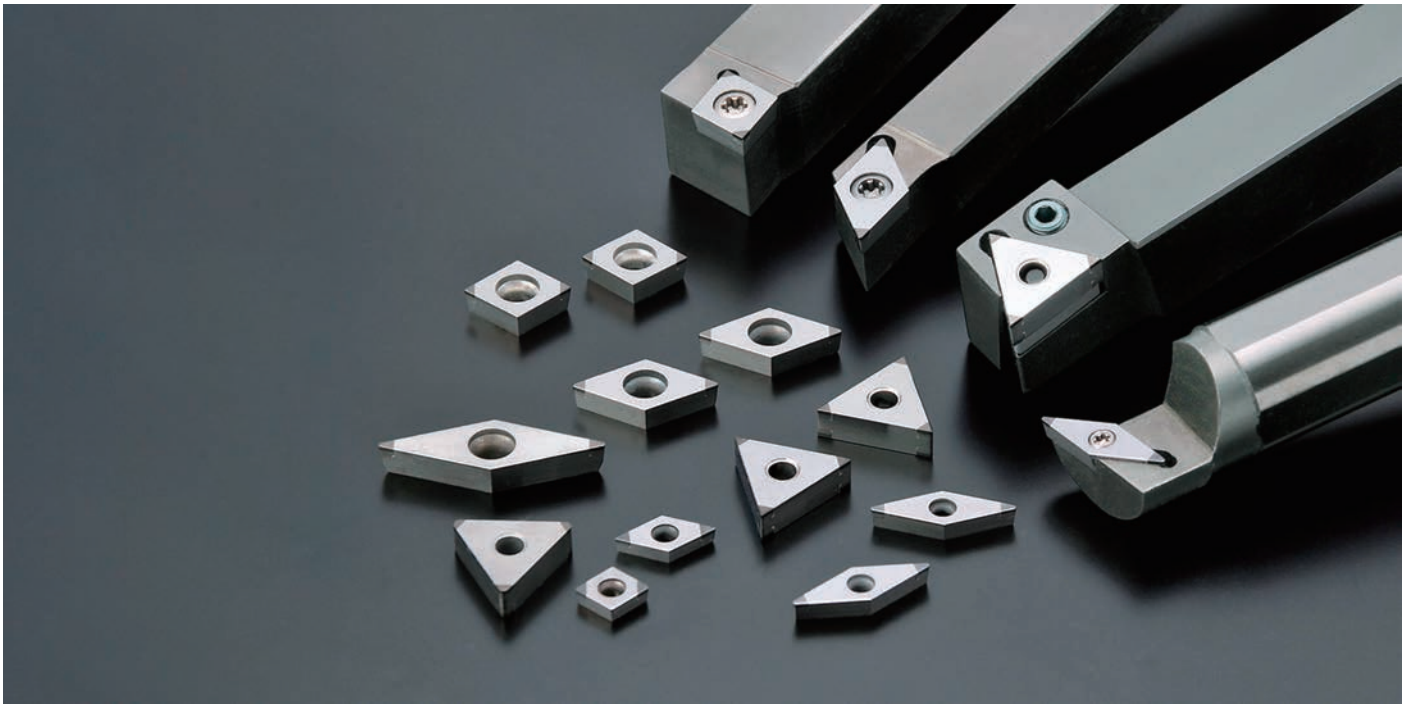
Case study gear parts

Although insert damage due to interrupted machining have been a problem, B40, with its superior resistance to wear, achieved a 4X longer tool life.

Work material	S50C(HRC61)
Cutting speed	28 m/min
Feed	0.12 mm/rev
Depth of cut	0.25 mm
Coolant	WET







High-speed machining of cast iron and sintered alloys | Non-coated CBN

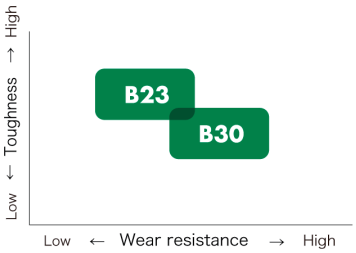
B23 / B30

High-speed machining at Vc=~1,200m/min

Highly efficient machining that significantly outperforms ceramics

Performance

- Specialized in high-speed roughing of gray cast iron
- Ultra high-speed machining at a maximum Vc-1,200m/min

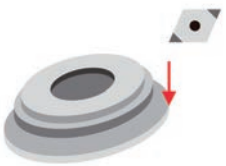


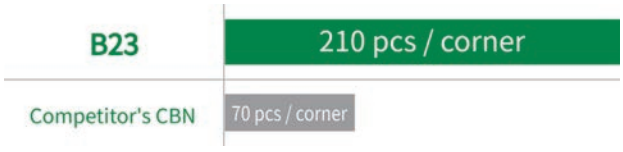
Application

Gray cast iron
Turning scale machining to semi-finishing

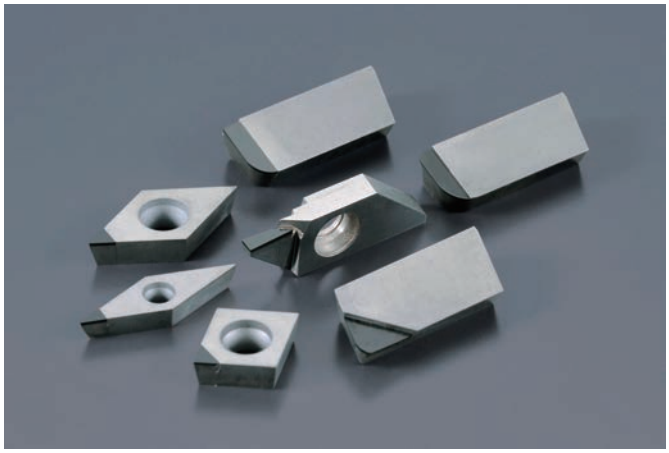
Case study Oil pump housing

Work material	FC250
Cutting speed	250 m/min
Feed	0.2 mm/rev
Depth of cut	2.0 mm
Coolant	WET





PCD / Diamond sintered grade

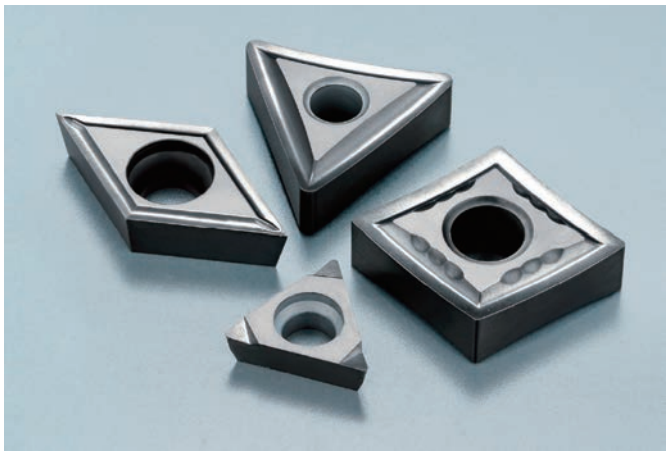


Diamond has low affinity with non-ferrous materials, providing excellent adhesion resistance, a high hardness, and wear resistance, but when used as a cutting tool, it has low strength, which causes a problem with its chipping resistance.

PCD is a material that solves the strength problem without losing the original characteristics of the diamond by sintering the diamond in a fine-grained, polycrystalline state.

Compared to carbide tools used in nonferrous metal machining, PCD enables high-speed machining.

Diamond Coating



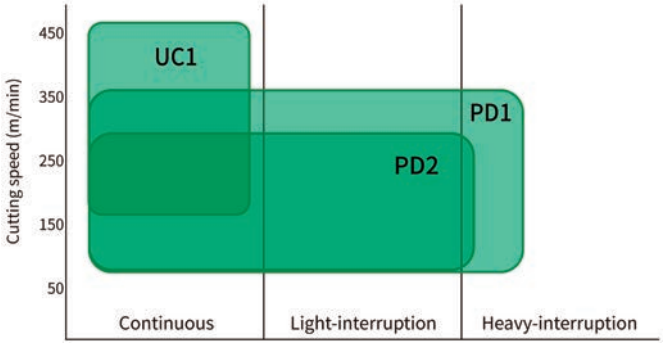
Highly pure diamond layer is precisely coated with high adhesion to our special carbide base material using a state of the art surface treatment technology.

Superior wear resistance compared to conventional PCD tools, especially in difficult-to-machine materials such as carbon and ceramic materials.

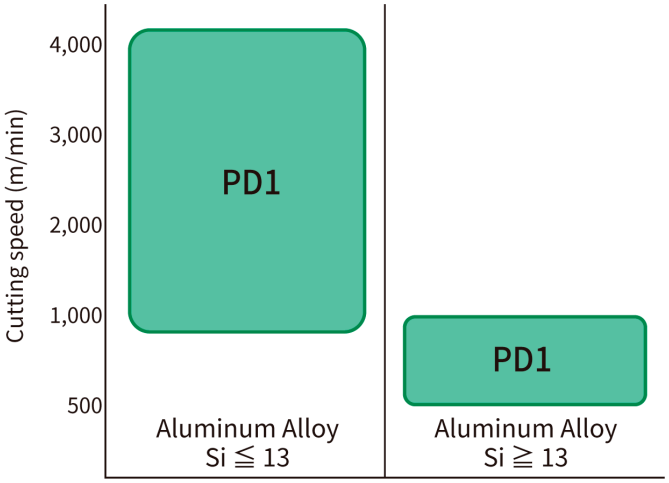
Features

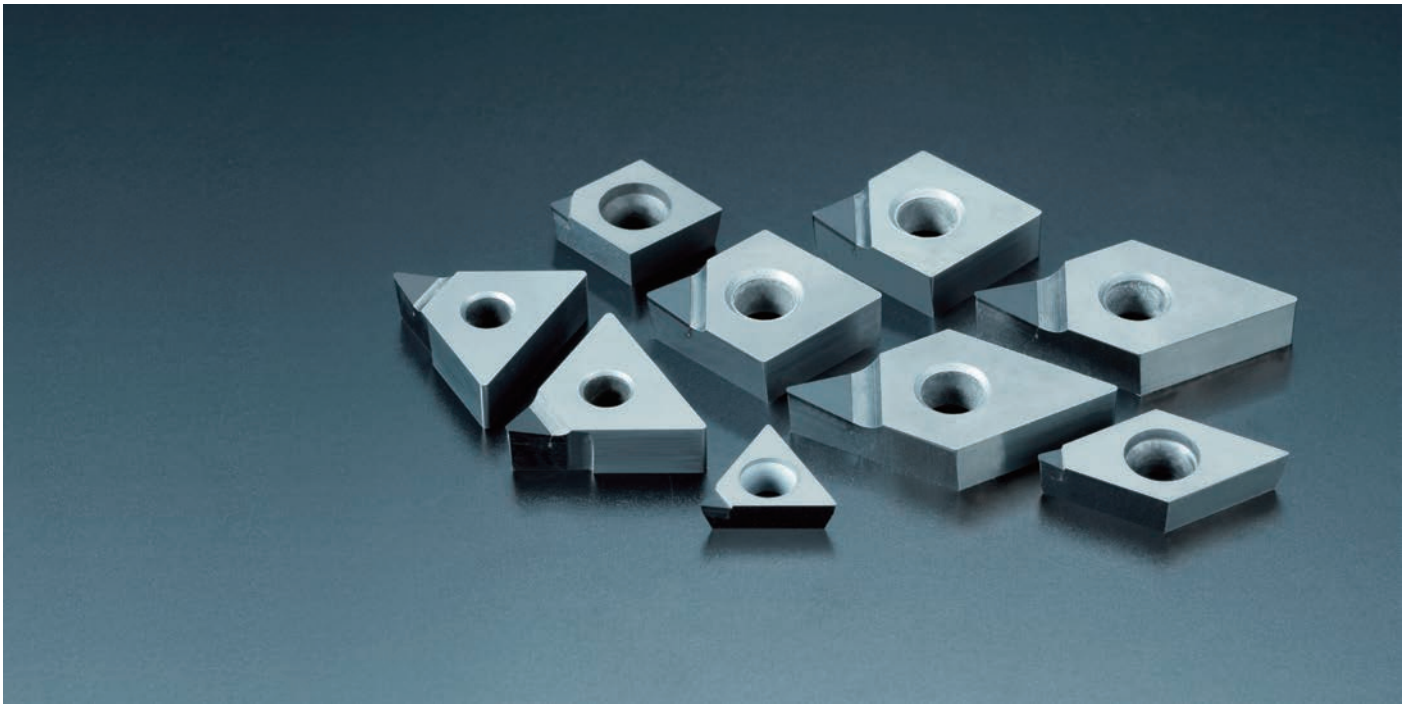
Work material	Grade	Component	Ave. particle size(μm)	Application
N Non-ferrous material	**PD1**	Diamond sintered	10	Machining of non-ferrous metals such as aluminum, brass, resin, copper, carbon, ceramics, etc. Superior adhesion resistance enables high-speed machining compared to carbide
	PD2	Diamond sintered	1	Nonferrous metal machining such as aluminum, brass, resin, copper, carbon, ceramics, etc. Improved sharpness and chipping resistance by ultrafine particle size of carbide base material
	UC1	Diamond Coating	0.1	Nonferrous metal machining such as aluminum, brass, resin, copper, carbon, ceramics, etc. Wear resistance is improved compared to PCD tools by coating a high-purity diamond layer.

Aluminum alloy/brass machining (turning)



Aluminum alloy (Milling)





Non-ferrous material machining | PCD grades

PD1 / PD2

Faster speed capabilities compared to carbide inserts

Optimum machining efficiency for non-ferrous materials PCD demonstrates excellent durability with sharp cutting edge and increased chipping resistance

PCD demonstrates excellent durability with sharp cutting edge and increased chipping resistance

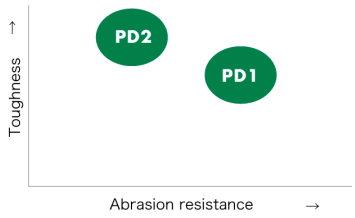
Performance

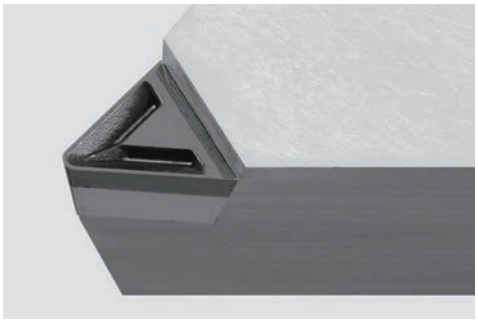
- The hardest fine grain diamond inserts.
- Achieves outstanding edge sharpness and high-speed machining compared to carbide
- The characteristics of diamonds prevent the formation of a built up edge, enabling high-precision and stable machining.

3D molded chipbreaker

Curl & control small chips, and provide high cutting performance.
Suitable for finish machining area (ap=0.5mm)

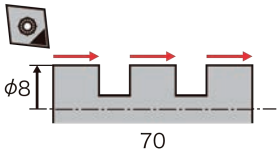
Performance

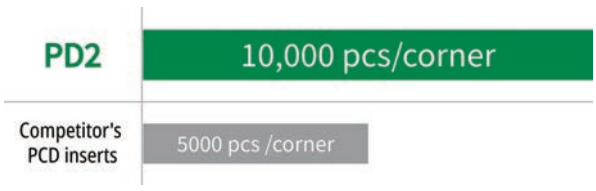


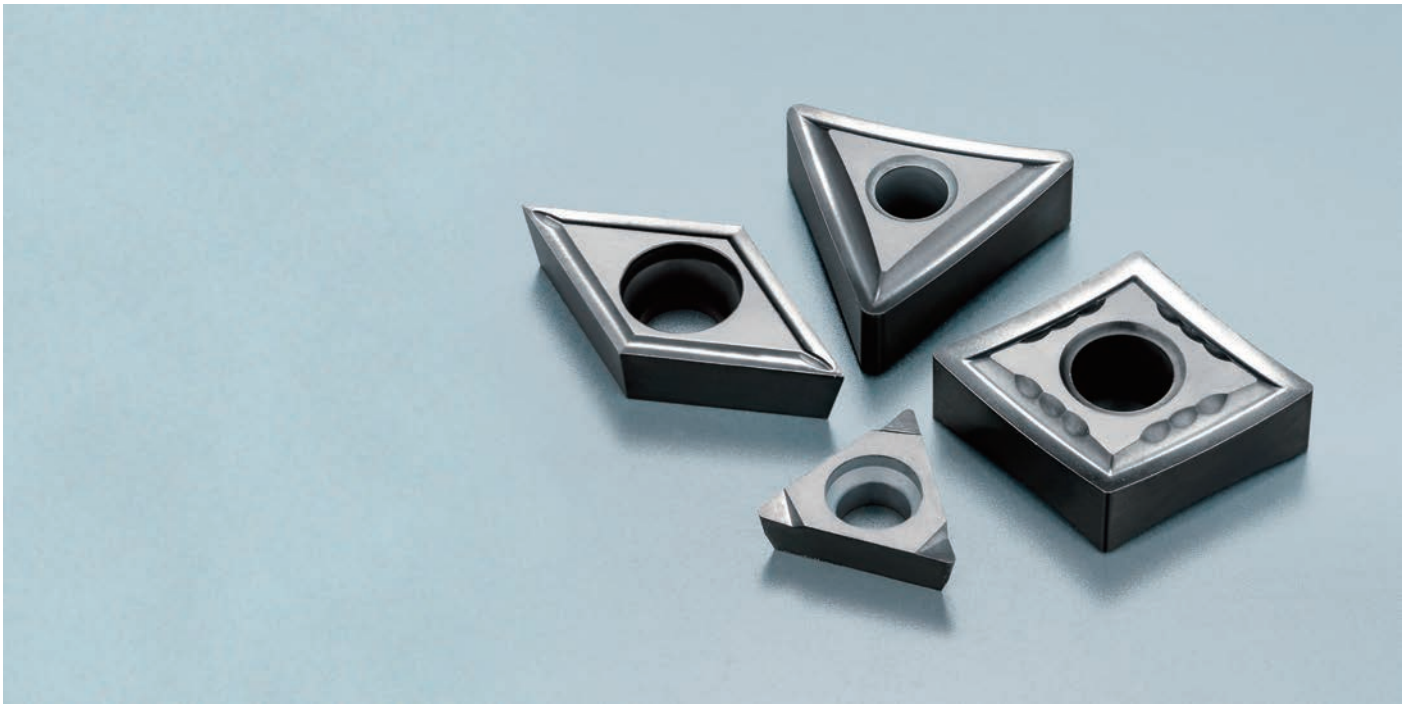


Case study Spool parts

Work material	A6061
Cutting speed	170m/min
Feed	0.06mm/rev
Depth of cut	0.15mm
Coolant	WET







For nonferrous metals and non-metallic machining | Diamond coating

UC1

Ideal for machining difficult-to-machine materials such as carbon and ceramic raw materials

Coated with a high-purity, high-hardness diamond layer with excellent wear resistance

Longer life in difficult-to-machine materials compared to conventional PCD tools and DLC

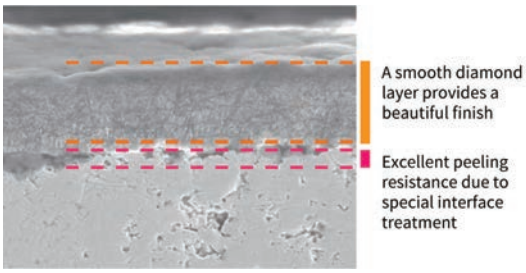
Performance

The dense coating of high-purity, high-hardness diamond layers provides superior wear resistance compared to conventional PCD tools, and can be used for carbon cutting and machining of raw ceramic materials, contributing to cost reduction.

	DLC	PCD	UC1
Binder	none	Co, Ni	none
Diamond grain size	Amorphous	10μm	<0.1μm
Diamond surface roughness	0.25	0.2S	2S
Hardness(GPa)	10	75	90

Good coating adherence

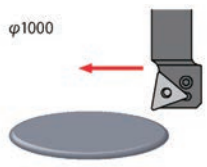
NTK's carbide base material and state of the art surface treatment ensures good coating adherence to reduce flaking which provides stable cutting and long tool life

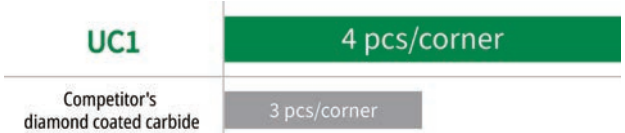


Case study carbon plate

UC1 has a 1.3 times longer tool life than the competitor's diamond coatings.

Work material	Carbon
Cutting speed	300m/min
Feed	0.1~0.4mm/rev
Depth of cut	1.0mm
Coolant	WET





Recommended cutting conditions

Front turning

CSVF / CC.. / DC.. / VC.. / VB.. / TN.. / TF

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100		45 110 180	45 90 150	
Feed Rate (mm/rev)	Depth of cut ≦0.1	AMX KHG 0.01 0.02 0.03					AMX KHG 0.01 0.03 0.04		
	Depth of cut 0.1~1.5	YL CL AM3 S 0.02 0.04 0.06					YL CL AM3 AZ7 S U/U1 UL 0.02 0.05 0.09		
	Depth of cut >1.5	YL CL AM3 S 0.02 0.04 0.06					YL CL AM3 ZP 0.03 0.06 0.1		

Back turning

CSVB

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (m/min)		20 40 65	30 55 80			30 60 90		
Feed Rate (mm/rev)	X Direction	0.01 0.02 0.03						
	Z Direction	0.01 0.03 0.04						

TBDP / TBMH / TBP / TBPA / TBVC

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4 QM3	TM4	QM3	
	2nd choice	TM4 / QM3			VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 40 65	30 55 80				45 90 150		
Feed Rate (mm/rev)	X Direction	0.01 0.02 0.03					0.01 0.02 0.04		
	Z Direction	0.02 0.04 0.06					0.02 0.04 0.08		

TB32 / TB43

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	ZM3					ZM3	
	2nd choice							
Cutting Speed (m/min)		15 30 45				45 90 130		
Feed Rate (mm/rev)	X Direction	0.01 0.03 0.05				0.01 0.03 0.05		
	Z Direction	0.04 0.05 0.08				0.04 0.08 0.15		

Cut-off

CSVT

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (m/min)		30 50 70				30 60 90		
Feed Rate (mm/rev)		0.01 0.02 0.03				0.01 0.03 0.05		

CTP / CTPA / CTPS / CTPW

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		30 50 70					30 60 90		
Feed Rate (mm/rev)		0.02 0.03 0.05					0.02 0.04 0.06		

CTDP / CTWP / CTV

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3					QM3	TM4 / DM4	
Cutting Speed (m/min)		30 50 70					30 60 90		
Feed Rate (mm/rev)		0.03 0.05 0.08					0.04 0.08 0.12		

Grooving

CSV / GTPS / GTMH / GTMX / GTMT / GTMA / SBG / GTG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 / SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4 / DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1	QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 - 40 - 65	30 - 55 - 80		40 - 70 - 100	45 - 90 - 180	45 - 90 - 150	
Feed Rate (mm/rev) A. Grooving B. Side turning ※	Width 0.25～0.5	A. 0.005 - 0.03						
		B. 0.002 - 0.005						
	0.5～1.0	A. 0.05 - 0.06					A. 0.02 - 0.07	
		B. 0.005 - 0.01					B. 0.005 - 0.01	
	1.0～2.0	A. 0.03 - 0.07					A. 0.03 - 0.08	
		B. 0.02 - 0.05					B. 0.03 - 0.06	
	> 2.0	A. 0.03 - 0.2						
		B. 0.03 - 0.06						

*MAX DOC when side turning (Under 0.4 width side turning impossible)

- MAX0.2mm CSV/GTPS
- MAX2.0mm GTMH/GTMX/GTMT/GTMA
- MAX0.1mm SBG/GTG

GWPG / GWPM / GTV / GEV / TWG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice / 2nd choice	QM3						
Cutting Speed (m/min)		20 - 40 - 65	30 - 55 - 80		40 - 70 - 100	45 - 90 - 180	45 - 90 - 150	
Feed Rate (mm/rev) A. Grooving B. Side turning *	Width 3.0～4.0	A. 0.05 - 0.15						
	4.0～5.0	A. .0.1 - 0.2					A. 0.1 - 0.25	
							B. 0.15 - 0.3	
	> 5.0	A. 0.15 - 0.35						

*Max DOC when side turning
Groove width x 0.5mm

GTPA

Work Material		Aluminum Alloy
Common Name		A5056 A6061
Grade	1st choice	PD1
	2nd choice	KM1
Cutting Speed (m/min)		PD1 100 - 200 - 300 KM1 50 - 100 - 200
Feed Rate (mm/rev) A. Grooving B. Side turning *		A. 0.05 - 0.2
		B. 0.1 - 0.2

※Max DOC is 80% of width

Threading

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	VM1			VM1 / ZM3		QM3	
	2nd choice	ZM3			QM3		VM1 / ZM3	
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100	45 90 180	45 90 150	

*Please set the feed rate to 2000mm/min or lower to prevent making incomplete threads
(Unless your machine is equipped with high speed threading program)

ID turning

diameter ≦ φ6 (LBM / STICK DUO)

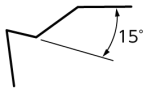
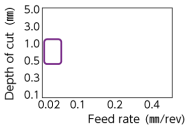
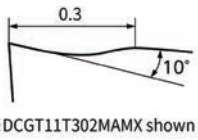
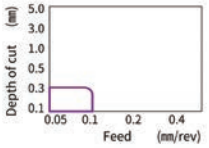
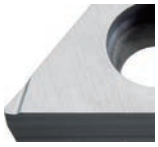
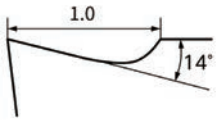
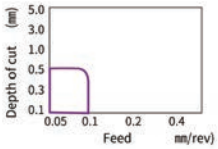
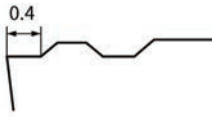
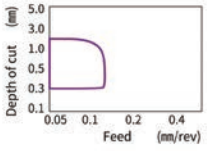
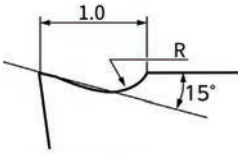
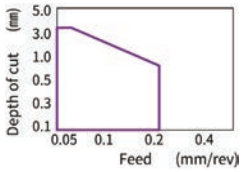
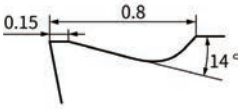
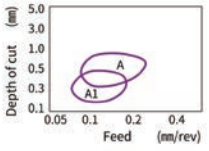
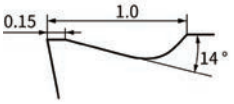
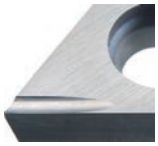
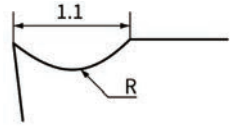
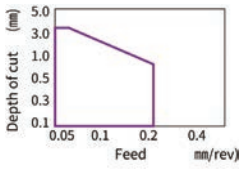
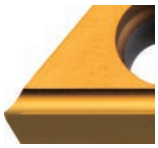
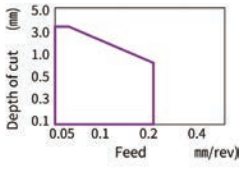
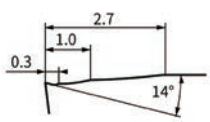
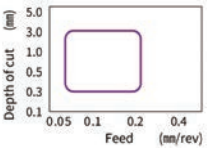
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name			Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1 / TM4	
	2nd choice	VM1 / ZM3					ZM3	
Cutting Speed (m/min)		20 50 70				30 60 90		
Feed Rate (mm/rev)		0.01 0.03 0.05						
Depth Of Cut (DOC)		0.05 0.08 0.1						

diameter > φ6

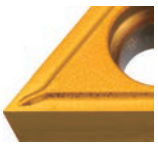
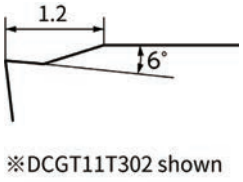
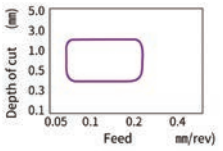
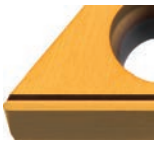
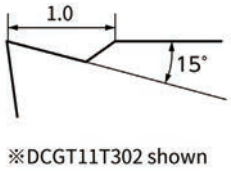
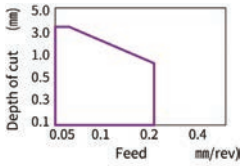
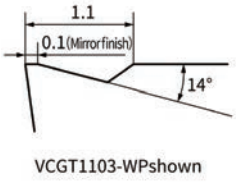
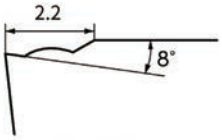
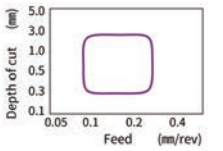
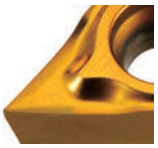
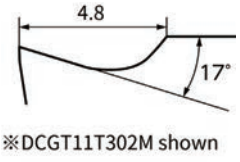
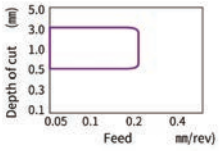
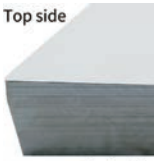
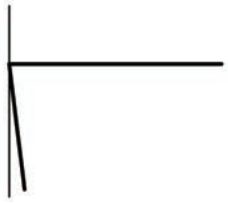
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name			Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / TM4		QM3	TM4 / DT4	
Cutting Speed (m/min)		45 70 100			40 70 100		45 90 180	45 90 150	
Feed Rate (mm/rev)		0.02 0.06 0.12							
Depth Of Cut (DOC)		0.1 0.5 2.0							

Chipbreaker for turning

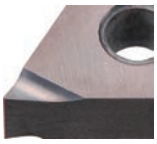
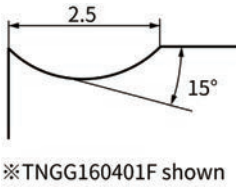
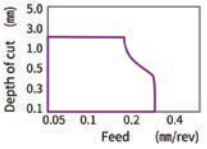
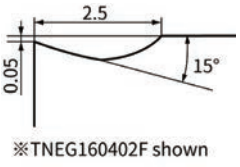
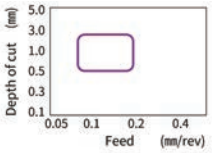
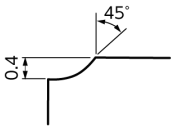
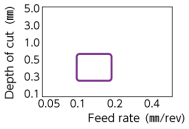
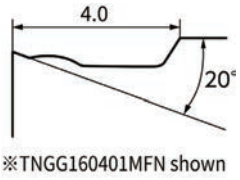
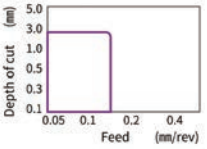
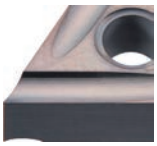
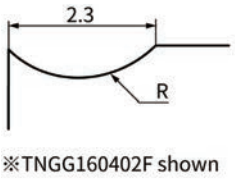
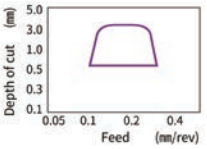
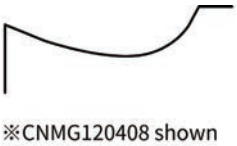
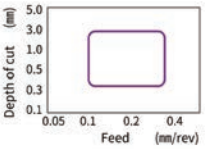
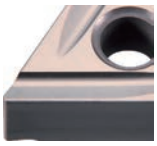
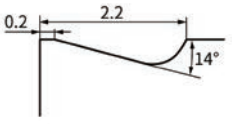
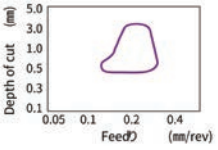
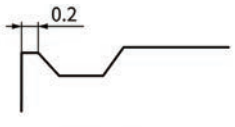
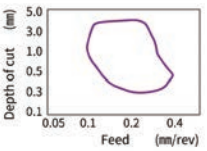
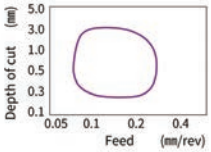
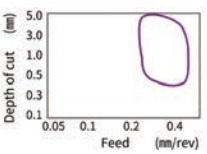
OD turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
Finishing	TMV			• Chipbreaker for Vibration Cutting • Reliably long tool life and stable chip evacuation during vibration cutting	
	AMX		 ※DCGT11T302MAMX shown	• Designed for very light depth of cut	
	KHG		 ※DCET11T302 shown	• Excellent chip control on finishing cuts • For super high-precision machining • Precision tolerance in corner radius: ±0.01	
	AZ7		 ※DCGT11T302MFN shown	• Excellent chip control at light feed and light depth of cut	
	AT		 ※DCGT11T302 shown	• Excellent adhesion resistance with dimensional stability • Best for small diameter parts and for machining low carbon steels	
For light cut	A1		 ※CPGH040102 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	A		 ※CPGH080202 shown		
	UHG		 ※DCET11T3008R shown	• Excellent chip control on finishing cuts • Precision tolerance in corner radius: ±0.01	
	U U1		 ※DCGT11T302 shown	• Sharp cutting edge prevents materials from work hardening [chipbreaker width] U →1.1mm U1→1.6mm	
	YL		 ※DCGT11T302MYL shown	• Great combination of sharpness and toughness • Excellent chip control	

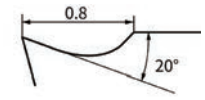
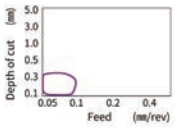
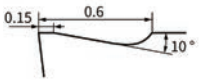
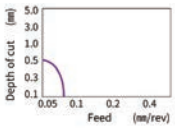
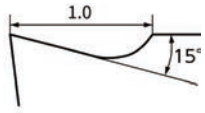
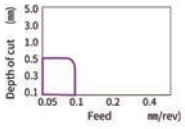
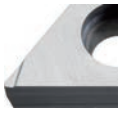
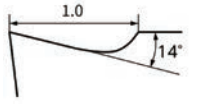
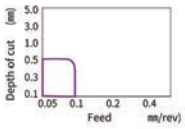
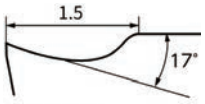
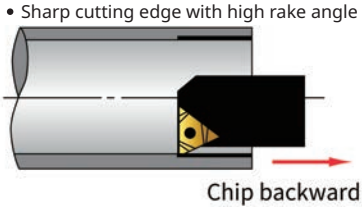
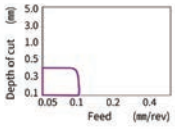
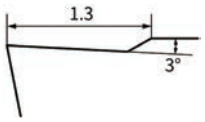
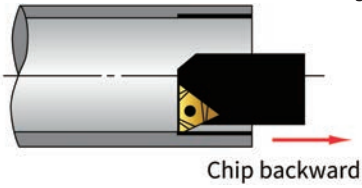
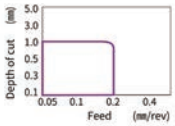
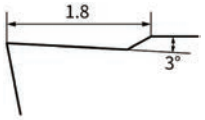
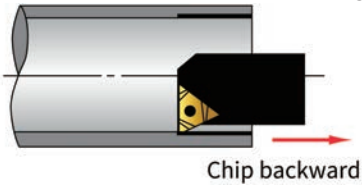
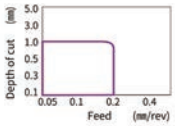
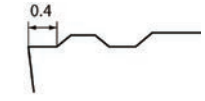
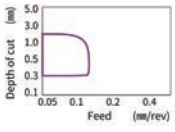
OD turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
For Middle Cut	AM3		 ※DCGT11T302 shown	• All purpose chipbreaker • Sharp edge with toughness	
	S		 ※DCGT11T302 shown	• Standard ground chipbreaker with wide cutting condition coverage • Sharp cutting edge with excellent chip control	
	SX		 VCGT1103-WPshown		
	AZ8		 ※DCMT11T302 shown	• Superior cutting quality and versatile breaker with CVD coating	
	CL		 ※DCGT11T302M shown	• Sharpest molded chipbreaker • Excellent chip control • Less tool pressure	
For non-ferrous	V P H			• Very up-sharp edge with mirror finish • V: Mirror finish on Top and Flank side with R0 nose radius • P: Mirror finish on Top and Flank side • H: Mirror finish on Top side	–

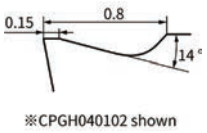
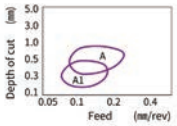
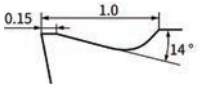
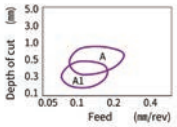
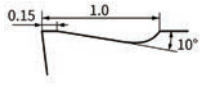
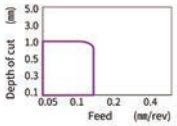
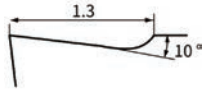
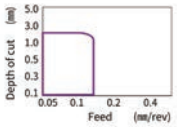
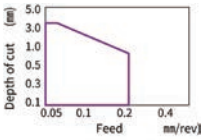
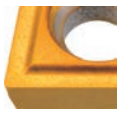
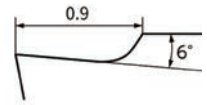
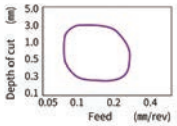
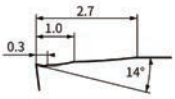
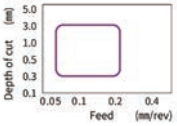
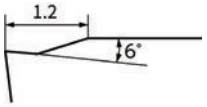
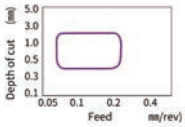
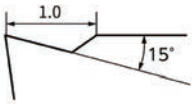
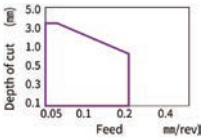
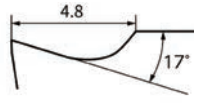
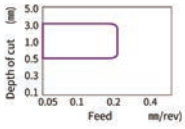
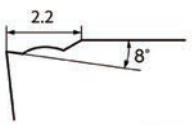
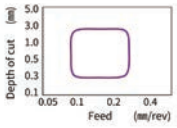
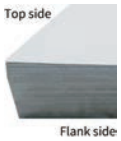
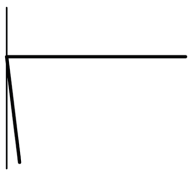
OD turning negative inserts

	Name	Chipbreaker geometry		Features	Chip control range
Finishing	DA		 ※TNGG160401F shown	• Excellent chip control and sharp cutting edge	
	D1		 ※TNEG160402F shown	• Excellent chip control and sharp cutting edge	
	AG			• Resolve chip entanglement, which is likely to occur during machining of low-hardness layer	
For light cut	UL		 ※TNGG160401MFN shown	• Negative insert with a positive insert's chipbreaker • Reduced burr • Improved microfinish • Superb advantage in cost per corner over positive inserts	
For Middle Cut	U2		 ※TNGG160402F shown	• Reduced burr and work hardening due to high rake design	
	ZP		 ※CNMG120408 shown	• Double-positive rake and sharp cutting edge • Low tool pressure even at heavy depth of cut	
	C		 ※TNGG160402F shown	• General-purpose chipbreaker with excellent toughness and chip control	
For Rough Cut	Z5		 ※CNMG120408ENB shown	• Very tough insert • Designed for machining with heavy interruption	
	AM1		※VNMG160404 shown	• Tough chipbreaker for roughing with exceptional stability	
	G		※CNMG120408 shown	• Tough chipbreaker for roughing with exceptional stability	

ID turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
Finishing	A2		 ※ERGHT30102F shown	• Control chips at light feed and light depth of cut • Sharp cutting edge due to large rake angle	
	B1		 ※TCGH060102FV shown	• Stable cutting thanks to sharp and tough cutting edge	
	K		 ※TPGH090202FL shown	• Superb chip control on finishing applications • Sharp cutting edge with the high rake angle	
	KHG		 ※DCET11T302 shown	• For super high-precision machining • Precision tolerance in corner radius: ±0.01	
	FG		 ※TPGH110304 shown	• Evacuates chips BACKWARD at light depth of cut • Sharp cutting edge with high rake angle 	
	F05		 ※TPGH060102F shown	• Evacuates chips BACKWARD • Excellent choice for blind hole machining 	
	F1		 ※TPGH110302F shown	• Evacuates chips BACKWARD • Excellent choice for blind hole machining 	
	AZ7		 ※DCGT11T302MFN shown	• Excellent chip control at light feed and light depth of cut	

ID turning positive inserts

	Name	Chipbreaker geometry		Features	Chip control range
For light cut	A1		 ※CPGH040102 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	A		 ※CPGH080202 shown	• Tough cutting edge and good chip control • General-purpose ID chipbreaker	
	B2		 ※TPGH090202FV shown	• Stable cutting thanks to sharp and tough cutting edge	
	B3		 ※TPGH090202F shown	• Stable cutting thanks to sharp and tough cutting edge	
	U U1		※DCGT11T302 shown	• Sharp cutting edge prevents materials from work hardening [chipbreaker width] U →1.1mm U1→1.6mm	
	AM5		 ※CPGH060202FN shown	• Provides both good cutting performance and chip control	
	YL		 ※DCGT11T302MYL shown	• Great combination of sharpness and toughness • Covers extremely wide range • Excellent chip control	
For Middle Cut	AM3		 ※DCGT11T302 shown	• All purpose chipbreaker • Sharp edge with toughness	
	S		 ※DCGT11T302 shown	• Standard ground chipbreaker with wide cutting condition coverage	
	CL		 ※DCGT11T302M shown	• Sharpest molded chipbreaker • Less tool pressure	
	AZ8		 ※DCMT11T302 shown	• CVD coated chip breaker with excellent sharpness and high versatility.	
For non-ferrous	V P H			• Very up-sharp edge with mirror finish • V: Mirror finish on Top and Flank side with R0 nose radius • P: Mirror finish on Top and Flank side • H: Mirror finish on Top side	–

Multi-purpose holders

All the inserts can use the same toolholder

CSV series

Able to use in Cam-style machine lathe

Front Turning — CSVF
Back Turning — CSVB
Threading — CSVT

Cut-off — CSVC
Grooving — CSVG

CTPS series

Best for

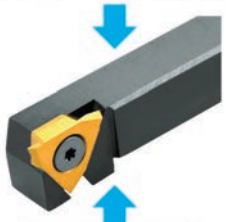
Cut-off — CTPS
Back Turning — TBPS

Grooving — GTPS
Threading — TTPS

GTT type

Grooving

GTM32 GTMH32 GTMH32-GX GTMX32

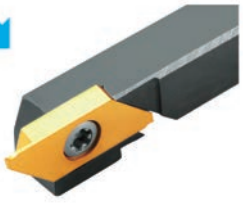


Back Turning

TBMH32

CTPA type

Cut-off — CTPA
Back Turning — TBPA



Grooving

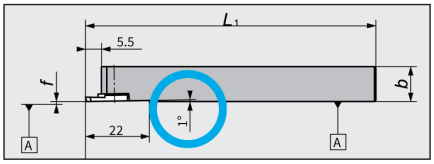
GTPA

Insert can be attached, but it will interfere the machining process due to the difference of set angle.

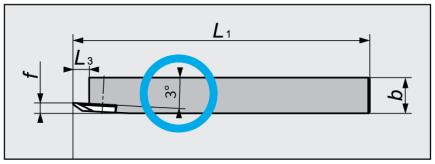
*** CTP (cut-off), TBP (back turning), and TTP (threading) tools are not interchangeable.**

The inserts may fit in the holders, but because the set angle is different there will be an interference during machining.

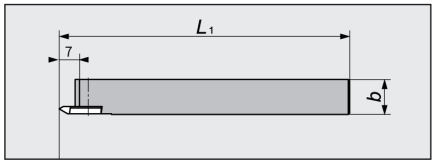
Cut-off CTP — Back Turning TBP — Threading TTP



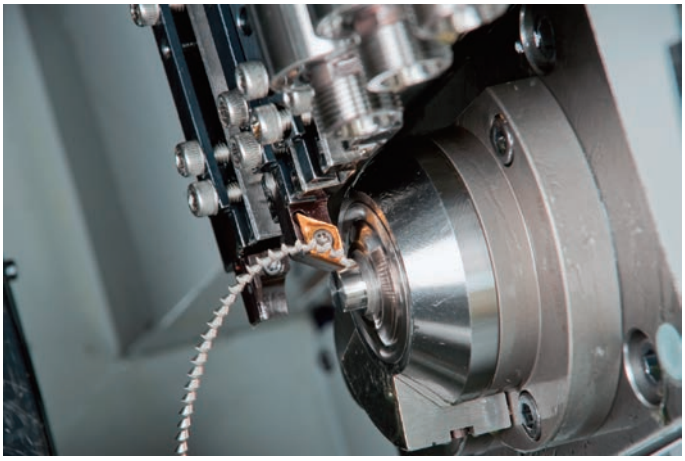
Set angle : 1˚



Set angle : −3˚



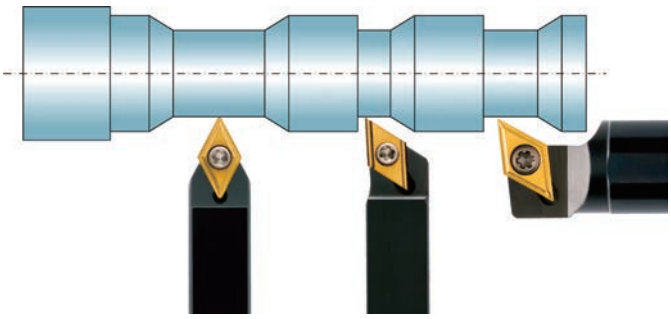
Set angle : 0˚

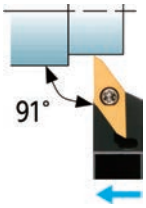


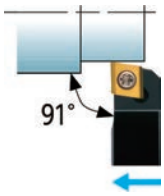
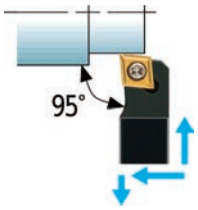
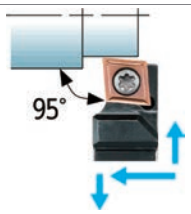
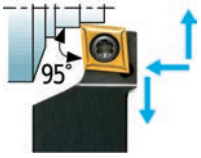
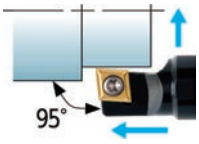
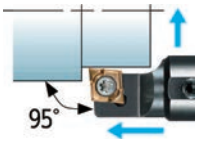
Front Turning

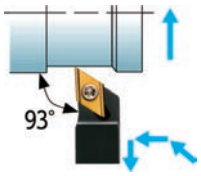
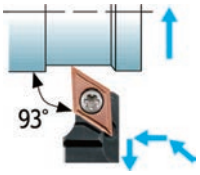
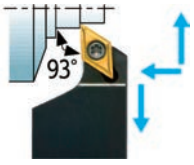
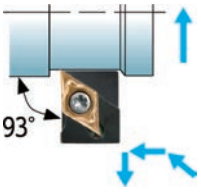
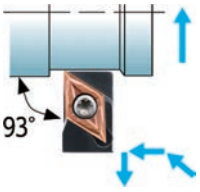
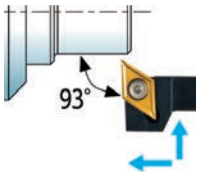
Product Lines Q02
Recommended Cutting Conditions Q04
General Information Q05
TF.. series Q06
CSV.. series Q09
CC.. series Q12
DC.. series Q22
VC.. series Q37
VP.. series Q46
TC.. series Q50
TN.. series Q52
CN.. series Q59
DN.. series Q63

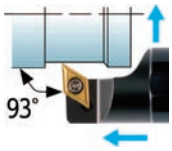
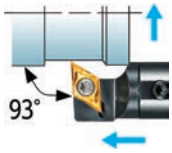
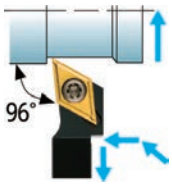
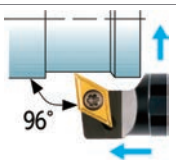
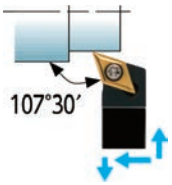
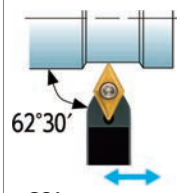
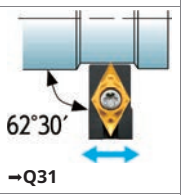
Product Lines

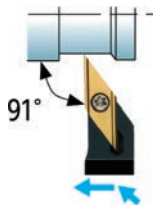
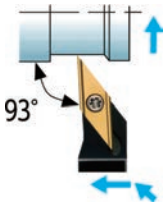
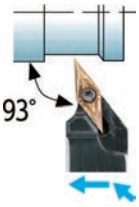
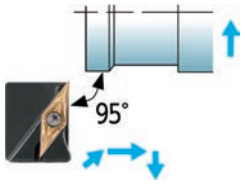
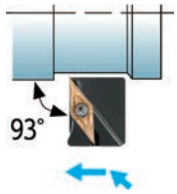


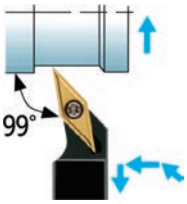
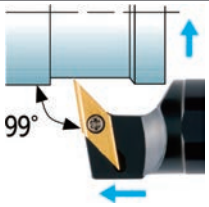
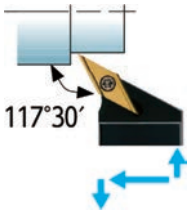
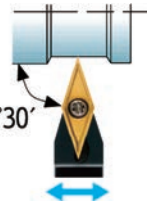
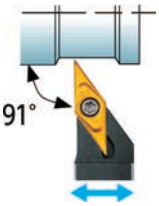
Insert	CSVF →Q11
	CSV
Holder	 →Q9

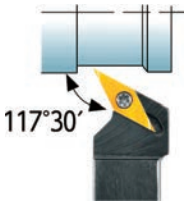
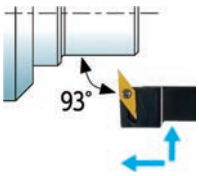
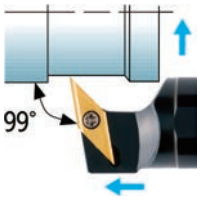
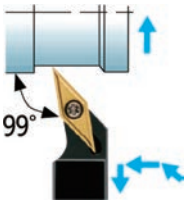
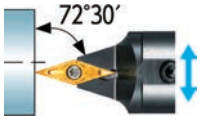
Insert	CC..0602/09T3.. →Q18					
	SCAC	SCLC	SCLC-OH3/OH2/OH	SCLC-F	DS-SCLL	DS-SCLL-ACH
Holder	 →Q17	 →Q14	 →Q12	 →Q14	 →Q16	 →Q15
			Coolant through	Shifted	DS	DS-ACH

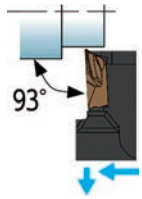
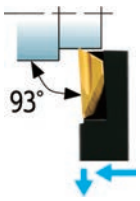
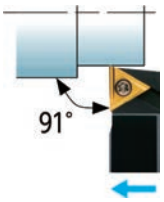
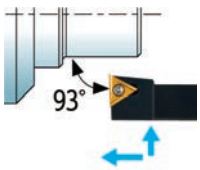
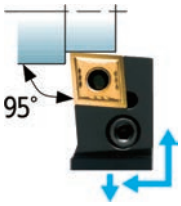
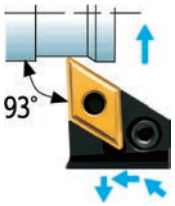
Insert	DC..0702/11T3.. →Q32					
	SDJC	SDJC-OH3/OH2/OH	SDJC-F	Y-SDJC	Y-SDJC-OH2/OH	CH-SDUC
Holder	 →Q24	 →Q22	 →Q25	 →Q27	 →Q26	 →Q29
		Coolant through	Shifted	Y-axis	Y-axis Coolant through	

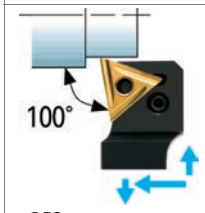
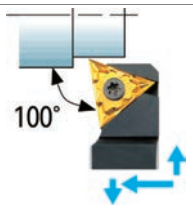
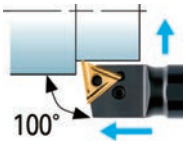
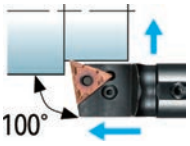
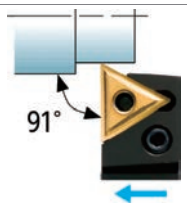
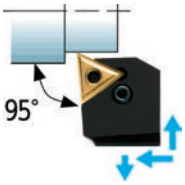
Insert	DC..0702/11T3.. →Q32						
	DC..0702/11T3..-WP →Q33						
	DS-SDUL	DS-SDUL-ACH	SDXC	DS-SDX	SDQC	SDNC	Y-SDNC
Holder	 →Q28	 →Q27	 →Q29	 →Q30	 →Q30	 →Q31	 →Q31
	DS	DS-ACH		DS			Y-axis

Insert	VC.1103.. →Q44				
	VC..1103..-WP →Q44				
Holder	SVAC	SVJC	SVJC-OH	Y-SVXCL	Y-SVJC-OH
	 →Q39	 →Q37	 →Q37	 →Q41	 →Q38
		-	Coolant through	Y-axis	Y-axis Coolant through

Insert	VC.1103.. →Q44				VC..1102.. →Q44
Holder	SVXC	DS-SVX	SVQC	SVVCN	SVAC-1L
	 →Q41	 →Q42	 →Q43	 →Q42	 →Q39
		DS			

Insert	VP..0802.. →Q49			VP..1103.. →Q49		
Holder	SVQP	CH-SVUP	DS-SVXP	SVXP	DS-SVVPN	DS-SVVPN-ACH
	 →Q47	 →Q48	 →Q46	 →Q46	 →Q48	→Q47
			DS		DS	DS-ACH

Insert	TFX33.. TF33.. →Q8		TC..0902.. →Q51		CN..1204.. →Q60	DN..1504.. →Q64
			TC..0902/1102..-WP →Q51			
Holder	TFX-OH3/OH2	TFT	STAC	CH-STUC	PCLN	PDJN
	 →Q6	 →Q7	 →Q50	 →Q50	 →Q59	 →Q63
	Coolant through					

Insert	TN..1604.. →Q56					
Holder	PTXN-OH3/OH2/PTXN	STXN	DS-PTX	DS-PTX-ACH	PTAN	PTLN
	 →Q52	 →Q53	 →Q54	 →Q54	 →Q55	 →Q55
			DS	DS-ACH		

Recommended Cutting Conditions

Front Turning

CSVF / CC.. / DC.. / VC.. / VB.. / TN.. / TF

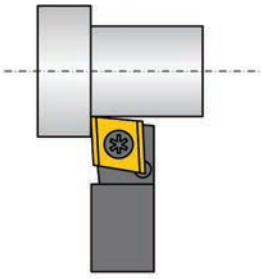
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100		45 110 180	45 90 150	
Feed Rate (mm/rev)	Depth of cut ≦0.1	AMX KHG 0.01 0.02 0.03					AMX KHG 0.01 0.03 0.04		
	Depth of cut 0.1~1.5	YL CL AM3 S 0.02 0.04 0.06					YL CL AM3 AZ7 S U/U1 UL 0.02 0.05 0.09		
	Depth of cut >1.5	YL CL AM3 S 0.02 0.04 0.06					YL CL AM3 ZP 0.03 0.06 0.1		

General Information

General Turning Inserts Explained

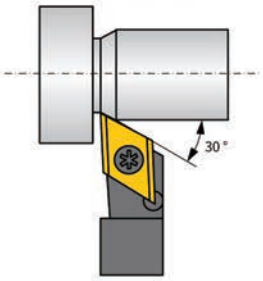
Advantage for each geometry

CC.. Style (80°)



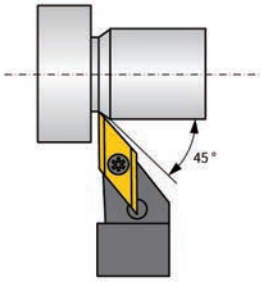
- Increased toughness. Cutting edge is close to insert pocket.
- Not applicable to undercut

DC.. Style (55°)



- Versatile geometry. Toughness of CC.. with flexibility of VC..
- Up to 30 deg. undercuts

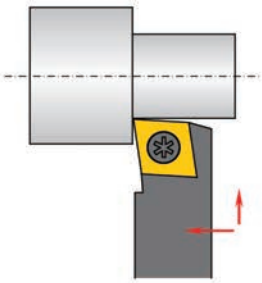
VB / VC / VP Style (35°)



- Wide coverage in work geometry.
- Up to 45 deg. undercuts

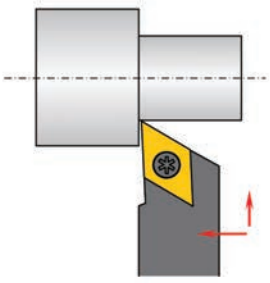
Chip Control and Finish

SCLCR



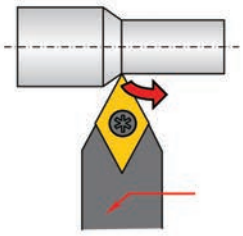
Rigid clamping
High dimensional repeatability

SDJCR



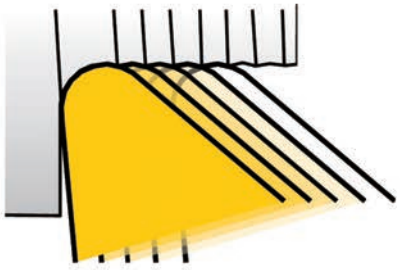
Increased room for chip evacuation creates better surface finish

SDNCN

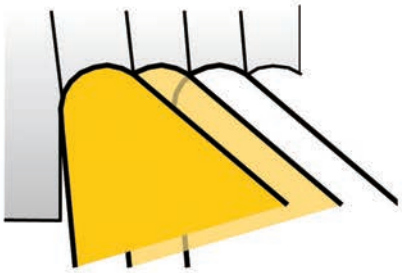


Chips flow away from the work

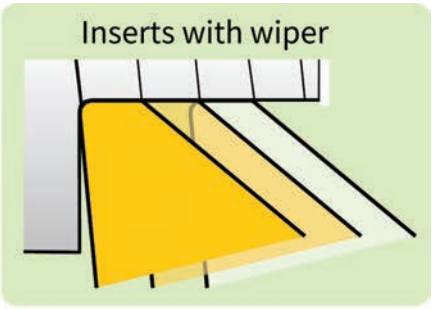
Surface Finish in General Front Turning Operations Using Inserts with Wiper Flat



Slower feed rates create better finishes but sacrifices cycle time, chip control, and tool life.



Fast feed rates improve chip control but produce a bad surface finish.



Inserts with a wiper flat create good chip control and surface finish when feed rates are increased.

Wiper Flat Insert - WP series

DCGT.. -WP (TFD)

for SDJC toolholders

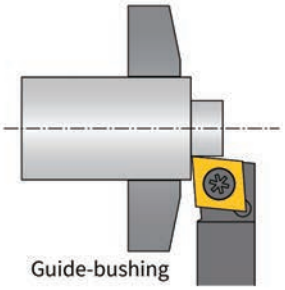
TCGT.. -WP (TFT)

for STAC toolholders

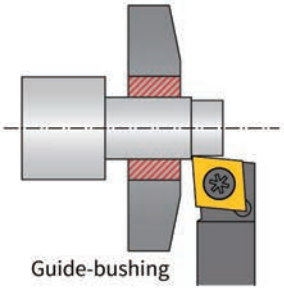
VCGT.. -WP (TFV)

for SVAC toolholders

Roughing and Finishing Long Work on Swiss Lathes

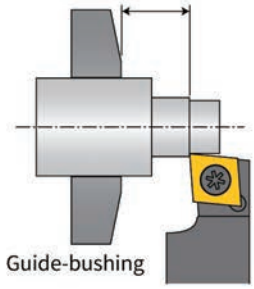


Single pass machining is common in Swiss front turning operations.



Conventional toolholders are not suitable for roughing or finishing of long parts. The guide-bushing cannot hold machined bar stock.

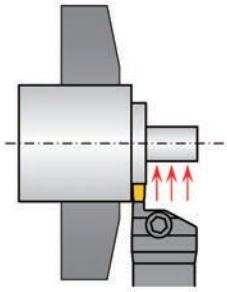
Shifted Holders



Shifted Holders make a finishing process possible without worrying about the bar stock coming out of the guide-bushing.
Coolant flows effectively which improves chip control thanks to the increased room between the tools and guide-bushing.

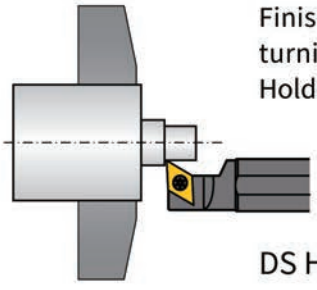
SCLC-N-F
SDJC-N-F
SVJC-N-F

Combination of Grooving Tool and DS Holders



Rough with grooving tool for good chip control

GTWP Holders

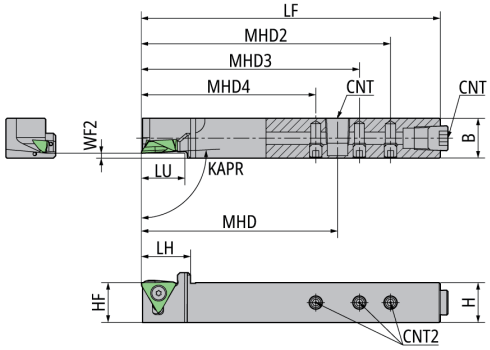


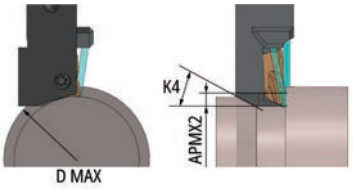
Finish by using general turning inserts with DS Holders

DS Holders

Front Turning Operations
TF.. series/Toolholder

TFT-OH3 [93 °] Coolant through (direct connect compatible) The Front Max.





[Workpiece shape restrictions during machining]
DMAX: Max. bar stock diameter during APMX2 max DOC
K4: Max. taper angle
APMX2: Max depth of cut

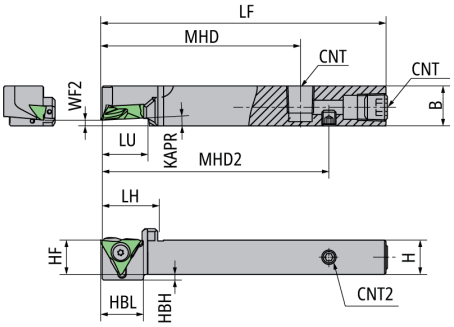
● Diagram shows right-hand tool

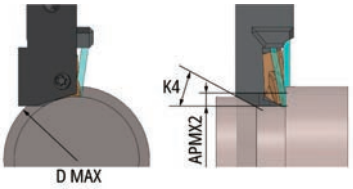
EDP	Item Number	Stock	Hand	DMAX mm	APMX2 mm	K4 °	B mm	CNT	CNT2	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage	
5121801	**TFTR1616X-OH3**	💧 ●	R	40	2.5	30	16	Rc1/8	M5	16	16	93	120	19.75	18	78.75	100	87.5	70	2	TFX33..	TF33..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
TFTR1616X-OH3	LR-S-4*10PW	SPR1/8L	SS0505SC	CLR-15S	LW-2.5

TFT-OH2 [93°] Coolant through (direct connect compatible) The Front Max.





[Workpiece shape restrictions during machining]
DMAX: Max. bar stock diameter during APMX2 max DOC
K4: Max. taper angle
APMX2: Max depth of cut

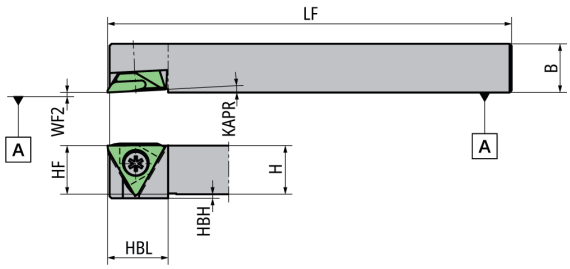
● Diagram shows right-hand tool

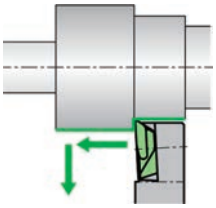
EDP	Item Number	Stock	Hand	DMAX mm	APMX2 mm	K4 °	B mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage	
5030630	**TFTR1014H-OH2**	💧 ●	R	20	2.5	30	14	M6*1	M5	10	4	15	10	3	100	20	15	70	80	2	TFX33..	TF33..
5030648	**TFTR1214H-OH2**	💧 ●	R	30	2.5	30	14	Rc1/8	M5	12	2	15	12	3	100	20	15	70	80	2	TFX33..	TF33..
5030655	**TFTR1616X-OH2**	💧 ●	R	40	2.5	30	16	Rc1/8	M5	16	–	–	16	3	120	20	17.5	70	100	2	TFX33..	TF33..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (forCNT2)
TFTR1014H-OH2	LR-S-4*10PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5
TFTR1214H-OH2	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
TFTR1616X-OH2	LR-S-4*10PW	SPR1/8L	SS0505SC	CLR-15S	LW-2.5

TFT [93°]





● Diagram shows right-hand tool

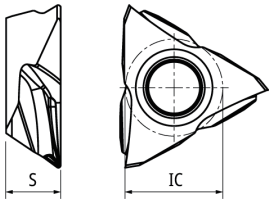
EDP	Item Number	Stock	Hand	B mm	H mm	HBH mm	HBL mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage	
5196993	**TFTR10**	●	R	10	10	3	15	10	3	120	0	TFX33..	TF33..
5197025	**TFTR12**	●	R	12	12	1	15	12	3	120	0	TFX33..	TF33..
5205190	**TFTR16**	●	R	16	16	–	–	16	3	120	0	TFX33..	TF33..
5562723	**TFTR20**	●	R	20	20	–	–	20	3	120	0	TFX33..	TF33..

Spare Parts

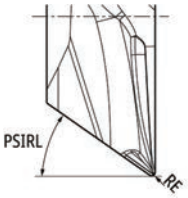
Item Number	Clamp screw	Wrench (for Clamp screw)
TFTR10	LR-S-4*10PW	CLR-15S
TFTR12	LR-S-4*10PW	CLR-15S
TFTR16	LR-S-4*10PW	CLR-15S
TFTR20	LR-S-4*10PW	CLR-15S

TF.. series/Inserts

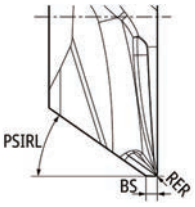
TFX The Front Max



No.1



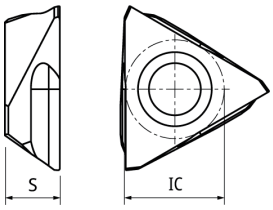
No.2

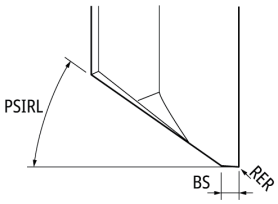


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Figure	Item Number	Hand	Wiper	APMX	IC	S	BS	PSIRL	RE	RER	Carbide PVD		
				mm	mm	mm	mm	°	mm	mm	DM4	ST4	ZM3
1	**TFX3301MR**	R	No	5	9.525	4.76	–	32	0.08	–	●	●	
1	**TFX3302MR**	R	No	5	9.525	4.76	–	32	0.18	–	●	●	
1	**TFX3304MR**	R	No	5	9.525	4.76	–	32	0.38	–	●	●	
2	**TFX3301MRW**	R	Straight	5	9.525	4.76	0.5	32	–	0.08	●	●	
2	**TFX3302MRW**	R	Straight	5	9.525	4.76	0.5	32	–	0.18	●	●	
2	**TFX3304MRW**	R	Straight	5	9.525	4.76	0.5	32	–	0.38	●	●	

TF



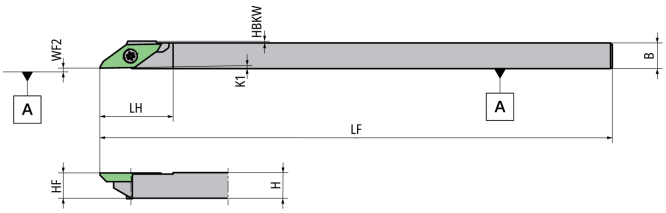


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

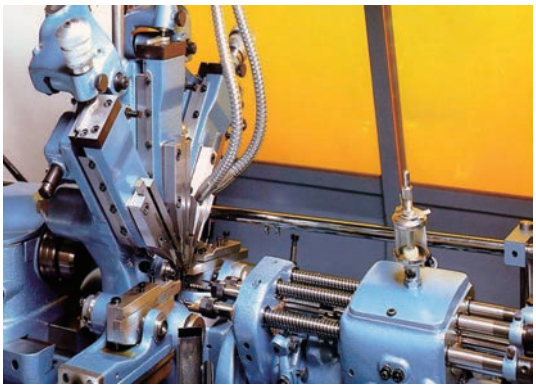
Item Number	Hand	Wiper	APMX	IC	S	BS	PSIRL	RER	Carbide PVD		
			mm	mm	mm	mm	°	mm	DT4	VM1	ZM3
TF3300R	R	Straight	4	9.525	4.76	0.5	32	0			●
TF3305R	R	Straight	4	9.525	4.76	0.5	32	0.05			●
TF3315R	R	Straight	4	9.525	4.76	0.5	32	0.15			●
TF3320R	R	Straight	4	9.525	4.76	0.5	32	0.2			○

CSVF.. series/Toolholder

CSV [91°] For Cam-style machine



● Diagram shows right-hand tool

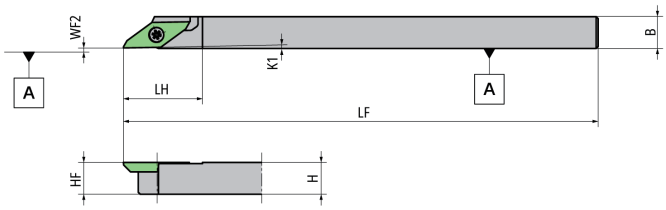


EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5303169	**CSVR07**	●	R	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492962	**CSVR07GX**	●	R	7	7	0.5	7	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303151	**CSVR08**	●	R	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492954	**CSVR08GX**	●	R	8	8	0	8	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303136	**CSVR095**	●	R	9.5	9.5	0	9.5	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303144	**CSVR10**	●	R	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5327929	**CSVR12**	●	R	12	12	0	12	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5474770	**CSVR12GX**	●	R	12	12	0	12	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303193	**CSVL07**	●	L	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303201	**CSVL08**	●	L	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303177	**CSVL10**	●	L	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR07	LRIS-2.5*7	CLR-15S
CSVR07GX	LRIS-2.5*7	CLR-15S
CSVR08	LRIS-2.5*7	CLR-15S
CSVR08GX	LRIS-2.5*7	CLR-15S
CSVR095	LRIS-2.5*7	CLR-15S
CSVR10	LRIS-2.5*7	CLR-15S
CSVR12	LRIS-2.5*7	CLR-15S
CSVR12GX	LRIS-2.5*7	CLR-15S
CSVL07	LRIS-2.5*7	CLR-15S
CSVL08	LRIS-2.5*7	CLR-15S
CSVL10	LRIS-2.5*7	CLR-15S

CSV-NC [91°] For Gang-style machine



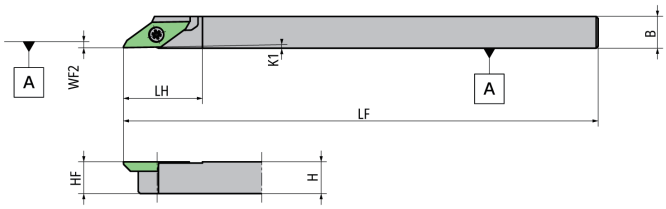
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5514062	**CSVR08NC**	●	R	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5563010	**CSVR10GXNC**	●	R	10	10	10	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477492	**CSVR10NC**	●	R	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477534	**CSVR12NC**	●	R	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5514070	**CSVL08NC**	●	L	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477542	**CSVL10NC**	●	L	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477500	**CSVL12NC**	●	L	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC	LRIS-2.5*7	CLR-15S
CSVR10GXNC	LRIS-2.5*7	CLR-15S
CSVR10NC	LRIS-2.5*7	CLR-15S
CSVR12NC	LRIS-2.5*7	CLR-15S
CSVL08NC	LRIS-2.5*7	CLR-15S
CSVL10NC	LRIS-2.5*7	CLR-15S
CSVL12NC	LRIS-2.5*7	CLR-15S

CSV-NC-F [91°] For Gang-style machine



● Diagram shows right-hand tool

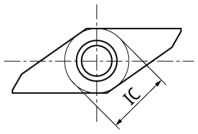
EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5789615	**CSVR08NC-F**	●	R	8	8	0	8	1	120	20	0-0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

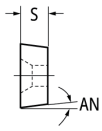
Spare Parts

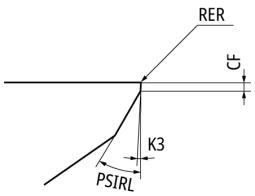
Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC-F	LRIS-2.5*7	CLR-15S

CSVF.. series/Inserts Carbide

CSVF-V



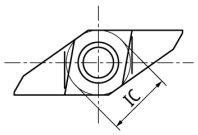


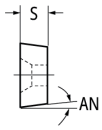


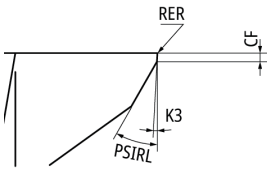
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand		APMX	EPSR	IC	S	AN	CF	K3	PSIRL	RER	Carbide PVD		
				mm	°	mm	mm	°	mm	°	°	mm	DT4	VM1	ZM3
CSVF11FRV	M	R	No	3	35	6.35	2.38	7	0.3	5	30	0		●	
CSVF11FRV-A	M	R	No	3	35	6.35	2.38	7	0.3	2	30	0		●	
CSVF11FRV-C	M	R	No	3	35	6.35	2.38	7	0.15	5	30	0		●	
CSVF11FRV-M	M	R	No	3	35	6.35	2.38	7	0.15	2	30	0	●	●	●
CSVF11FLV	M	L	No	3	35	6.35	2.38	7	0.3	5	30	0		●	
CSVF11FLV-M	M	L	No	3	35	6.35	2.38	7	0.15	2	30	0		●	

CSVF-VB



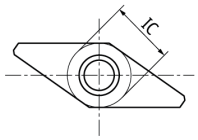


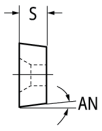


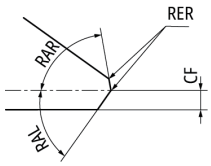
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand		APMX	EPSR	IC	S	AN	CF	K3	PSIRL	RER	Carbide PVD		
				mm	°	mm	mm	°	mm	°	°	mm	DT4	VM1	ZM3
CSVF11FRVB	M	R	Yes	3	35	6.35	2.38	7	0.3	5	30	0		●	
CSVF11FRVB-A	M	R	Yes	3	35	6.35	2.38	7	0.3	2	30	0		●	
CSVF11FRVB-C	M	R	Yes	3	35	6.35	2.38	7	0.15	5	30	0		●	
CSVF11FRVB-M	M	R	Yes	3	35	6.35	2.38	7	0.15	2	30	0	●	●	●
CSVF11FLVB	M	L	Yes	3	35	6.35	2.38	7	0.3	5	30	0		●	
CSVF11FLVB-M	M	L	Yes	3	35	6.35	2.38	7	0.15	2	30	0		●	

CSVF-VX For Profiling





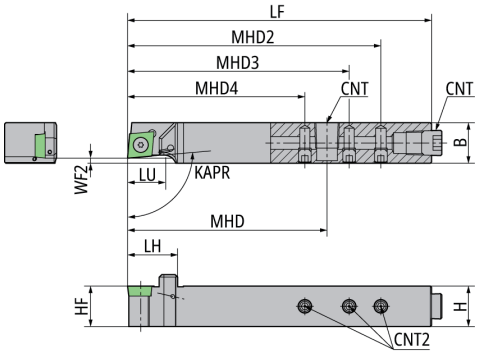


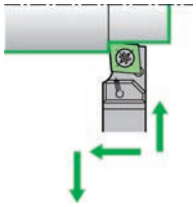
● Diagram shows left-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand		APMX	EPSR	IC	S	AN	CF	RAL	RAR	RER	Carbide PVD		
				mm	°	mm	mm	°	mm	mm	mm	mm	DT4	VM1	ZM3
CSVF11FLVX	M	L	No	3	35	6.35	2.38	7	0.7	45	80	0		●	

CC.. Series/Toolholder

SCLC-N-OH3 [95 °] Coolant through (direct connect compatible)





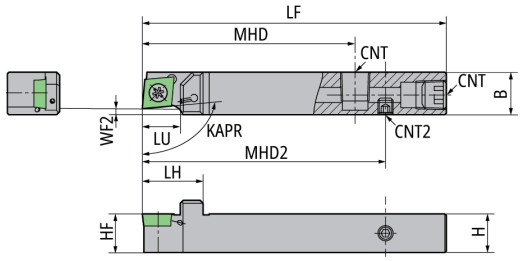
● Diagram shows right-hand tool

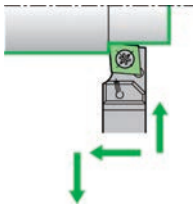
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage
5123468	**SCLCR1012H09N-OH3**		R	12	M6*1	M5	10	10	95	100	17	12	62.5	80	70	55	0	CC..09T3..
5121819	**SCLCR1616X09N-F02OH3**		R	16	Rc1/8	M5	16	16	95	120	20	17.7	78.75	100	87.5	70	2	CC..09T3..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
SCLCR1012H09N-OH3	LRIS-4*10	SS0605SC	SS0505SC	LLR-25S	LW-2.5
SCLCR1616X09N-F02OH3	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S	LW-2.5

SCLC-N-OH2 [95 °] Coolant through (direct connect compatible)





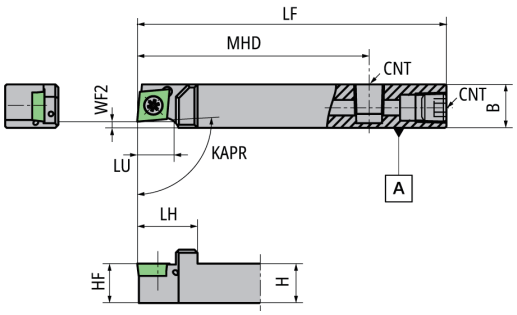
● Diagram shows right-hand tool

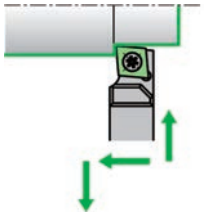
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage
5037957	**SCLCR1214H09N-F02OH2**	●	R	14	Rc1/8	M5	12	12	95	100	19.5	12	70	80	2	CC..09T3..
5044011	**SCLCR1616X09N-F02OH2**	●	R	16	Rc1/8	M5	16	16	95	120	19.5	17.7	70	100	2	CC..09T3..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
SCLCR1214H09N-F02OH2	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S	LW-2.5
SCLCR1616X09N-F02OH2	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S	LW-2.5

SCLC-N-OH [95 °] Coolant through





● Diagram shows right-hand tool

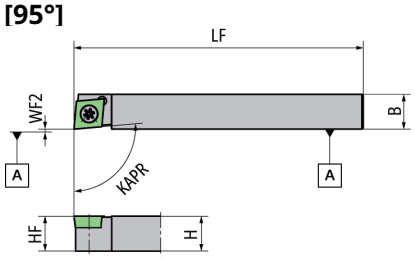
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	WF2 mm	Insert Gage
5905740	**SCLCR1014F09N-F02OH**	●	R	14	M6*1	10	10	95	80	19.5	12	55	2	CC..09T3..
5905732	**SCLCR1214H09N-F02OH**	●	R	14	Rc1/8	12	12	95	100	19.5	12	75	2	CC..09T3..
5905658	**SCLCR1616H09N-F02OH**	●	R	16	Rc1/8	16	16	95	100	19.5	17.7	75	2	CC..09T3..

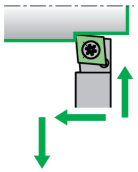
Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)	Wrench (for CNT)
SCLCR1014F09N-F02OH	LRIS-4*10	SS0605SC	LLR-25S	LW-3
SCLCR1214H09N-F02OH	LRIS-4*10	SPR1/8	LLR-25S	–
SCLCR1616H09N-F02OH	LRIS-4*10	SPR1/8	LLR-25S	–

CC.. Series/Toolholder

SCLC-N [95°]





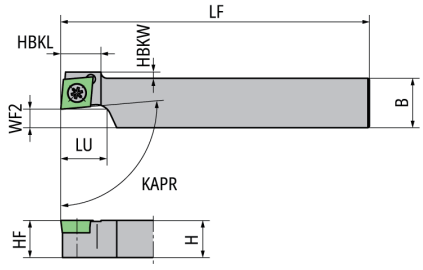
● Diagram shows right-hand tool

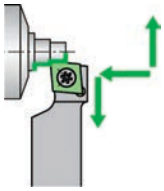
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5137021	**SCLCR0808X06N**	●	R	8	8	8	95	120	0	CC..0602..
5873872	**SCLCR1010H09N**	●	R	10	10	10	95	100	0	CC..09T3..
5122171	**SCLCR1010X06N**	●	R	10	10	10	95	120	0	CC..0602..
5152889	**SCLCR1010X09N**	●	R	10	10	10	95	120	0	CC..09T3..
5459839	**SCLCR1212GX09N**	●	R	12	12	12	95	85	0	CC..09T3..
5137039	**SCLCR1212X09N**	●	R	12	12	12	95	120	0	CC..09T3..
5191200	**SCLCR1616X09N**	●	R	16	16	16	95	120	0	CC..09T3..
5137898	**SCLCL0808X06N**	●	L	8	8	8	95	120	0	CC..0602..
5137880	**SCLCL1010X06N**	●	L	10	10	10	95	120	0	CC..0602..
5152897	**SCLCL1010X09N**	●	L	10	10	10	95	120	0	CC..09T3..
5459821	**SCLCL1212GX09N**	●	L	12	12	12	95	85	0	CC..09T3..
5137872	**SCLCL1212X09N**	●	L	12	12	12	95	120	0	CC..09T3..
5191218	**SCLCL1616X09N**	●	L	16	16	16	95	120	0	CC..09T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SCLCR0808X06N	LRIS-2.5*7	CLR-15S
SCLCR1010H09N	LRIS-4*10	LLR-25S
SCLCR1010X06N	LRIS-2.5*7	CLR-15S
SCLCR1010X09N	LRIS-4*10	LLR-25S
SCLCR1212GX09N	LRIS-4*10	LLR-25S
SCLCR1212X09N	LRIS-4*10	LLR-25S
SCLCR1616X09N	LRIS-4*10	LLR-25S
SCLCL0808X06N	LRIS-2.5*7	CLR-15S
SCLCL1010X06N	LRIS-2.5*7	CLR-15S
SCLCL1010X09N	LRIS-4*10	LLR-25S
SCLCL1212GX09N	LRIS-4*10	LLR-25S
SCLCL1212X09N	LRIS-4*10	LLR-25S
SCLCL1616X09N	LRIS-4*10	LLR-25S

SCLC-N-F [95°] Shifted





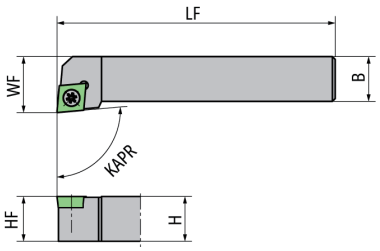
● Diagram shows right-hand tool

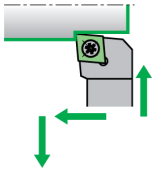
EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	KAPR °	LF mm	LU mm	WF2 mm	Insert Gage
5700240	**SCLCR1015X09N-F05**	●	R	15	10	2	10	95	120	12	5	CC..09T3..
5700265	**SCLCR1020X09N-F10**	●	R	20	10	2	10	95	120	12	10	CC..09T3..
5700364	**SCLCR1218X09N-F06**	●	R	18	12	–	12	95	120	12	6	CC..09T3..
5700380	**SCLCR1224X09N-F12**	●	R	24	12	–	12	95	120	12	12	CC..09T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SCLCR1015X09N-F05	LRIS-4*10	LLR-25S
SCLCR1020X09N-F10	LRIS-4*10	LLR-25S
SCLCR1218X09N-F06	LRIS-4*10	LLR-25S
SCLCR1224X09N-F12	LRIS-4*10	LLR-25S

SCLC [95°]





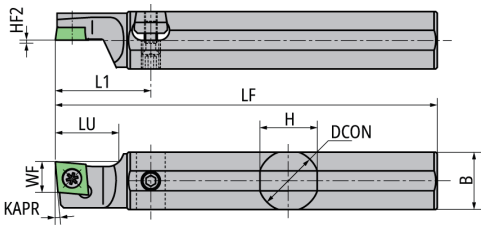
● Diagram shows right-hand tool

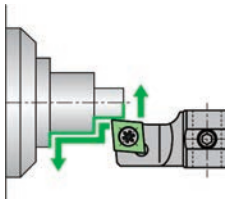
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage
5744719	**SCLCR20-X09**	●	R	20	20	20	95	120	24	CC..09T3..
5884911	**SCLCL20-X09**	●	L	20	20	20	95	120	24	CC..09T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SCLCR20-X09	LRIS-4*10	LLR-25S
SCLCL20-X09	LRIS-4*10	LLR-25S

DS-SCL-ACH [95°] Adjustable centerline height





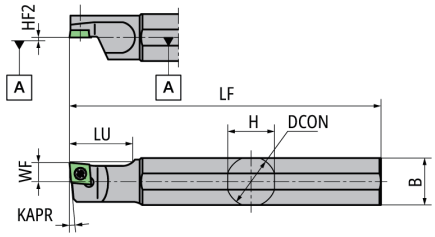
● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

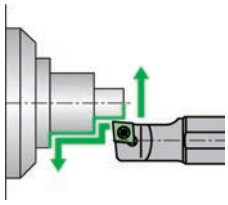
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	L1 mm	WF mm	Insert Gage
5833694	**DS-SCLL16F-09-ACH**	●	L	15.5	16	15.5	Type B(0~+0.3)	5	80	20	30	6	CC..09T3..
5833702	**DS-SCLL19-09-ACH**	●	L	18	19.05	18	Type A(0~+0.2)	5	120	20	30	6	CC..09T3..
5833710	**DS-SCLL20-09-ACH**	●	L	19	20	19	Type A(0~+0.2)	5	120	20	30	6	CC..09T3..
5833728	**DS-SCLL22-09-ACH**	●	L	21	22	21	Type A(0~+0.2)	5	120	20	30	6	CC..09T3..
5833736	**DS-SCLL25-09-ACH**	●	L	24	25.4	24	Type A(0~+0.2)	5	150	20	30	6	CC..09T3..
5934013	**DS-SCLL25-09MET-ACH**	●	L	24	25	24	Type A(0~+0.2)	5	150	20	30	6	CC..09T3..

Spare Parts

Item Number	Clamp screw	{Screw (for Wedge)	Wedge	Wrench (for Clamp screw)	Wrench (for Wedge)
DS-SCLL16F-09-ACH	LRIS-4*8	WS060415-003	ACH-W18	LLR-25S-20*65	LW-3
DS-SCLL19-09-ACH	LRIS-4*8	WS060415-003	ACH-W18	LLR-25S-20*65	LW-3
DS-SCLL20-09-ACH	LRIS-4*8	WS060419-004	ACH-W18	LLR-25S-20*65	LW-3
DS-SCLL22-09-ACH	LRIS-4*8	WS060419-004	ACH-W18	LLR-25S-20*65	LW-3
DS-SCLL25-09-ACH	LRIS-4*8	WS060419-004	ACH-W24	LLR-25S-20*65	LW-3
DS-SCLL25-09MET-ACH	LRIS-4*8	WS060419-004	ACH-W24	LLR-25S-20*65	LW-3

DS-SCL [95°] DS Toolholders





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

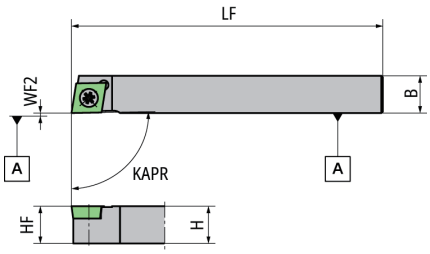
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	WF mm	Insert Gage
5602636	**DS-SCLL14F-06**	●	L	13	14	13	0	5	80	20	6	CC..0602..
5601729	**DS-SCLL14F-09**	●	L	13	14	13	0	5	80	20	6	CC..09T3..
5486923	**DS-SCLL15H-06**	●	L	15	15.875	15	0	5	100	20	6	CC..0602..
5486931	**DS-SCLL15H-09**	●	L	15	15.875	15	0	5	100	20	6	CC..09T3..
5601703	**DS-SCLL16F-06**	●	L	15	16	15	0	5	80	20	6	CC..0602..
5601711	**DS-SCLL16F-09**	●	L	15	16	15	0	5	80	20	6	CC..09T3..
5338876	**DS-SCLL19-06**	●	L	18	19.05	18	0	5	120	20	6	CC..0602..
5338884	**DS-SCLL19-09**	●	L	18	19.05	18	0	5	120	20	6	CC..09T3..
5563168	**DS-SCLL19GX-09**	●	L	18	19.05	18	0	5	85	20	6	CC..09T3..
5388608	**DS-SCLL20-06**	●	L	19	20	19	0	5	120	20	6	CC..0602..
5374699	**DS-SCLL20-09**	●	L	19	20	19	0	5	120	20	6	CC..09T3..
5520630	**DS-SCLL20X-06**	●	L	19	20	19	0	5	95	20	6	CC..0602..
5520655	**DS-SCLL20X-09**	●	L	19	20	19	0	5	95	20	6	CC..09T3..
5484936	**DS-SCLL22-06**	●	L	21	22	21	0	5	120	20	6	CC..0602..
5401096	**DS-SCLL22-09**	●	L	21	22	21	0	5	120	20	6	CC..09T3..
5486691	**DS-SCLL25-06**	●	L	24	25.4	24	0	5	120	20	6	CC..0602..
5520689	**DS-SCLL25-06MET**	●	L	24	25	24	0	5	120	20	6	CC..0602..
5486709	**DS-SCLL25-09**	●	L	24	25.4	24	0	5	150	20	6	CC..09T3..
5520671	**DS-SCLL25-09MET**	●	L	24	25	24	0	5	120	20	6	CC..09T3..
5939327	**DS-SCLL32-09**	●	L	30	32	30	0	5	150	20	6	CC..09T3..

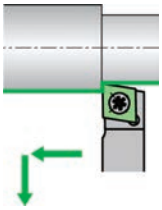
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SCLL14F-06	LRIS-2.5*7	CLR-15S
DS-SCLL14F-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL15H-06	LRIS-2.5*7	CLR-15S
DS-SCLL15H-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL16F-06	LRIS-2.5*7	CLR-15S
DS-SCLL16F-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL19-06	LRIS-2.5*7	CLR-15S
DS-SCLL19-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL19GX-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL20-06	LRIS-2.5*7	CLR-15S
DS-SCLL20-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL20X-06	LRIS-2.5*7	CLR-15S
DS-SCLL20X-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL22-06	LRIS-2.5*7	CLR-15S
DS-SCLL22-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL25-06	LRIS-2.5*7	CLR-15S
DS-SCLL25-06MET	LRIS-2.5*7	CLR-15S
DS-SCLL25-09	LRIS-4*8	LLR-25S-20*65
DS-SCLL25-09MET	LRIS-4*8	LLR-25S-20*65
DS-SCLL32-09	LRIS-4*8	LLR-25S-20*65

CC.. Series/Toolholder

SCAC-N F[91°]





● Diagram shows right-hand tool

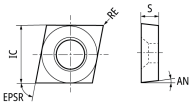
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5137013	**SCACR0808X06N**	●	R	8	8	8	91	120	0	CC..0602..
5119060	**SCACR1010X06N**	●	R	10	10	10	91	120	0	CC..0602..
5459847	**SCACR1212GX09N**	●	R	12	12	12	91	85	0	CC..09T3..
5137088	**SCACR1212X09N**	●	R	12	12	12	91	120	0	CC..09T3..
5137922	**SCACL0808X06N**	●	L	8	8	8	91	120	0	CC..0602..
5137914	**SCACL1010X06N**	●	L	10	10	10	91	120	0	CC..0602..
5137906	**SCACL1212X09N**	●	L	12	12	12	91	120	0	CC..09T3..

Spare Parts

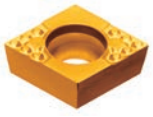
Item Number	Clamp screw	Wrench (for Clamp screw)
SCACR0808X06N	LRIS-2.5*7	CLR-15S
SCACR1010X06N	LRIS-2.5*7	CLR-15S
SCACR1212GX09N	LRIS-4*10	LLR-25S
SCACR1212X09N	LRIS-4*10	LLR-25S
SCACL0808X06N	LRIS-2.5*7	CLR-15S
SCACL1010X06N	LRIS-2.5*7	CLR-15S
SCACL1212X09N	LRIS-4*10	LLR-25S

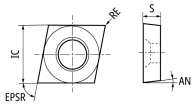
CC.. series/Inserts Carbide

CC..

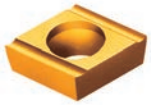
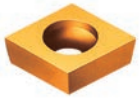


Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												●
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										Uncoated
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD		
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7		KM1
	CCGT09T300YL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●						
	CCGT09T301MYL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●						
	CCGT09T302MYL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●						
	CCGT09T304MYL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●						
	CCGT09T308MYL	Up-sharp edge	80	9.525	3.97	7	0.78	–	●	●	●	●	●						
	CCGT060201MCL	Up-sharp edge	80	6.35	2.38	7	0.08	–	●	●	●	●	●						
	CCGT060202MCL	Up-sharp edge	80	6.35	2.38	7	0.18	–	●	●	●	●	●						
	CCGT09T300CL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●						
	CCGT09T301MCL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●						
	CCGT09T302MCL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●						
	CCGT09T304MCL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●						
	CCGT060200FNAM3	Up-sharp edge	80	6.35	2.38	7	0.03	–			●		●	●					
	CCGT060201MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.08	–	●		●	●	●						
	CCGT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●				
	CCGT060202MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.18	–	●		●	●	●						
	CCGT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–							●				
	CCGT060204MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.38	–	●		●	●	●						
	CCGT09T300FNAM3	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●					
	CCGT09T301MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.08	–	●		●	●	●	●	●				
	CCGT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●					
	CCGT09T302MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.18	–	●		●	●	●	●	●				
	CCGT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–				●		●					
	CCGT09T304MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.38	–	●		●	●	●	●	●				
	CCMT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–		●									
	CCMT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–		●									
	CCMT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–		●									
	CCMT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–		●									
	CCMT09T308FNAM3	Up-sharp edge	80	9.525	3.97	7	0.8	–		●									
	CCGT060200AZ7	Up-sharp edge	80	6.35	2.38	7	0.03	–				●							
	CCGT060201MAZ7	Up-sharp edge	80	6.35	2.38	7	0.08	–				●							
	CCGT060202MAZ7	Up-sharp edge	80	6.35	2.38	7	0.18	–				●							
	CCGT09T300AZ7	Up-sharp edge	80	9.525	3.97	7	0.03	–			●	●	●		●				
	CCGT09T301MAZ7	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●		●				
	CCGT09T302MAZ7	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●		●				
	CCGT09T304MAZ7	Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●		●				
	CCMT060202E002AZ8	E002	80	6.35	2.38	7	0.2	–									●		
	CCMT060204E004AZ8	E004	80	6.35	2.38	7	0.4	–									●		
	CCMT060208E004AZ8	E004	80	6.35	2.38	7	0.8	–									●		
	CCMT09T302E002AZ8	E002	80	6.35	2.38	7	0.2	–									●		
	CCMT09T304E004AZ8	E004	80	6.35	2.38	7	0.4	–									●		
	CCMT09T308E004AZ8	E004	80	6.35	2.38	7	0.8	–									●		
	CCGT060200RS	Up-sharp edge	80	6.35	2.38	7	0.03	–			●			●	●				
	CCGT060200LS	Up-sharp edge	80	6.35	2.38	7	0.03	–						●	●				
	CCGT060201MRS	Up-sharp edge	80	6.35	2.38	7	0.08	–			●	●							
	CCGT060201RS	Up-sharp edge	80	6.35	2.38	7	0.1	–						●	●				
	CCGT060201LS	Up-sharp edge	80	6.35	2.38	7	0.1	–						●	●				
	CCGT060202MRS	Up-sharp edge	80	6.35	2.38	7	0.18	–			●	●							
	CCGT060202RS	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●				
	CCGT060202LS	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●				
	CCGT060204RS	Up-sharp edge	80	6.35	2.38	7	0.4	–											
	CCGT09T300RS	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●	●				
	CCGT09T300LS	Up-sharp edge	80	9.525	3.97	7	0.03	–						●					
	CCGT09T301MRS	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●						
	CCGT09T301RS	Up-sharp edge	80	9.525	3.97	7	0.1	–				●		●	●				
	CCGT09T301LS	Up-sharp edge	80	9.525	3.97	7	0.1	–						●	●				
	CCGT09T302MRS	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●						
	CCGT09T302RS	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●	●				
	CCGT09T302LS	Up-sharp edge	80	9.525	3.97	7	0.2	–						●					

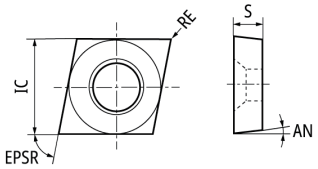


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron										●								
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

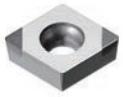
Shape	Item Number		CECC	EPSR	IC	S	AN	RE	BS	Carbide										
										PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated	
	(ISO)			°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	CCGT09T304MRS		Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●						
	CCGT09T304RS		Up-sharp edge	80	9.525	3.97	7	0.4	–				●							
	CCGT060200RU		Up-sharp edge	80	6.35	2.38	7	0.03	–			●				●				
	CCGT060201RU		Up-sharp edge	80	6.35	2.38	7	0.1	–			●				●				
	CCGT060201LU		Up-sharp edge	80	6.35	2.38	7	0.1	–							●				
	CCGT060202RU		Up-sharp edge	80	6.35	2.38	7	0.2	–			●				●				
	CCGT060202LU		Up-sharp edge	80	6.35	2.38	7	0.2	–							●				
	CCGT09T300RU1		Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●		●				
	CCGT09T300LU1		Up-sharp edge	80	9.525	3.97	7	0.03	–							●				
	CCGT09T301RU1		Up-sharp edge	80	9.525	3.97	7	0.1	–			●		●		●				
	CCGT09T301LU1		Up-sharp edge	80	9.525	3.97	7	0.1	–							●				
	CCGT09T302RU1		Up-sharp edge	80	9.525	3.97	7	0.2	–			●		●		●				
	CCGT09T302LU1		Up-sharp edge	80	9.525	3.97	7	0.2	–							●				
	CCGT09T304RU1		Up-sharp edge	80	9.525	3.97	7	0.4	–			●		●		●				
	CCGT09T304LU1		Up-sharp edge	80	9.525	3.97	7	0.4	–							●				
	CCET0602005RKHG		Up-sharp edge	80	6.35	2.38	7	0.05	–						●					
	CCET0602005LKHG		Up-sharp edge	80	6.35	2.38	7	0.05	–						●					
	CCET0602008RKHG		Up-sharp edge	80	6.35	2.38	7	0.08	–						●					
	CCET0602008LKHG		Up-sharp edge	80	6.35	2.38	7	0.08	–						●					
	CCET0602018RKHG		Up-sharp edge	80	6.35	2.38	7	0.18	–						●					
	CCET0602018LKHG		Up-sharp edge	80	6.35	2.38	7	0.18	–						●					
	CCET060202RKHG		Up-sharp edge	80	6.35	2.38	7	0.2	–						●					
	CCET060202LKHG		Up-sharp edge	80	6.35	2.38	7	0.2	–						●					
	CCET09T3005RKHG		Up-sharp edge	80	9.525	3.97	7	0.05	–					●	●					
	CCET09T3005LKHG		Up-sharp edge	80	9.525	3.97	7	0.05	–						●					
	CCET09T3008RKHG		Up-sharp edge	80	9.525	3.97	7	0.08	–					●	●					
	CCET09T3008LKHG		Up-sharp edge	80	9.525	3.97	7	0.08	–						●					
	CCET09T3018RKHG		Up-sharp edge	80	9.525	3.97	7	0.18	–					●	●					
	CCET09T3018LKHG		Up-sharp edge	80	9.525	3.97	7	0.18	–						●					
	CCET09T302RKHG		Up-sharp edge	80	9.525	3.97	7	0.2	–					●	●					
	CCET09T302LKHG		Up-sharp edge	80	9.525	3.97	7	0.2	–						●					
	CCGT060201FRF1		Up-sharp edge	80	6.35	2.38	7	0.1	–	●			●	●						
	CCGT060202FRF1		Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●						
	CCGT060204FRF1		Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●						
	CCGT09T302FRF1		Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●						
	CCGT09T304FRF1		Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●						
	CCGW09T30V	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0	–						●					
	CCGW09T300FN		Up-sharp edge	80	9.525	3.97	7	0.03	–							●				
	CCGW09T300H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.03	–										●	
	CCGW09T301FN		Up-sharp edge	80	9.525	3.97	7	0.1	–							●				
	CCGW09T301H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.1	–										●	
	CCGW09T301P	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.1	–						●					
	CCGW09T302H	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.2	–										●	
	CCGW09T302MP		Up-sharp edge	80	9.525	3.97	7	0.18	–			●								
	CCGW09T302P	Ⓜ	Up-sharp edge	80	9.525	3.97	7	0.2	–						●					

CC.. series/Inserts CBN

CCGW

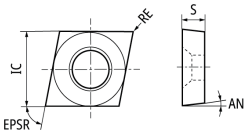


Steel																				
Stainless Steel																				
Cast Iron											●	●	●	●			○	○		
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

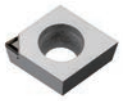
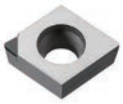
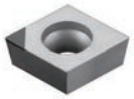
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	PVD B6K	B40	PVD B52	B5K
	CCGW060202PDFNX	Up-sharp edge	80	6.35	2.38	7	0.2	–	2.3	2	–				●				●	
	CCGW060202PDS01015	S01015	80	6.35	2.38	7	0.2	–	2.3	2	–					●		●	●	
	CCGW060202PDS01325	S01325	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060202PDS01535	S01535	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060204PDFNX	Up-sharp edge	80	6.35	2.38	7	0.4	–	2.3	2	–				●					
	CCGW060204PDS01015	S01015	80	6.35	2.38	7	0.4	–	2.3	2	–					●		●	●	
	CCGW060204PDS01325	S01325	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060204PDS01535	S01535	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060208PDFNX	Up-sharp edge	80	6.35	2.38	7	0.8	–	2.2	2	–								●	
	CCGW060208PDS01015	S01015	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01325	S01325	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01535	S01535	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDT01520	T01520	80	6.35	2.38	7	0.8	–	2.2	2	–					●				
	**CCGW09T302PDFNX**	Up-sharp edge	80	9.525	3.97	7	0.2	–	2.3	2	–				●				●	
	CCGW09T302PDS01015	S01015	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01325	S01325	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01535	S01535	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T304PDFNX	Up-sharp edge	80	9.525	3.97	7	0.4	–	2.3	2	–				●				●	
	CCGW09T304PDS01015	S01015	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01325	S01325	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01535	S01535	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T308PDFNX	Up-sharp edge	80	9.525	3.97	7	0.8	–	2.2	2	–				●					
	CCGW09T308PDS01015	S01015	80	9.525	3.97	7	0.8	–	2.2	2	–							●	●	
	CCGW09T308PDS01535	S01535	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T308PTS01325	S01325	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T312PDFNX	Up-sharp edge	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PDS01015	S01015	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PTS01325	S01325	80	9.525	3.97	7	1.2	–	2.7	2	–					●				

CC.. series/Inserts PCD

CCM.

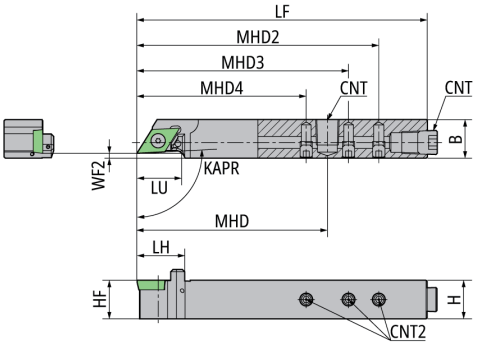


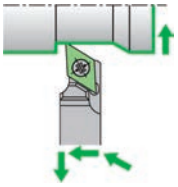
Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	● ● ●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**CCMT060201PBF**	Up-sharp edge	80	6.35	2.38	7	0.1	1		●	
	CCMT060202PBF	Up-sharp edge	80	6.35	2.38	7	0.2	1		●	
	CCMT060204PBF	Up-sharp edge	80	6.35	2.38	7	0.4	1		●	
	CCMT09T301PBF	Up-sharp edge	80	9.525	3.97	7	0.1	1		●	
	CCMT09T302PBF	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PBF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMT09T302PF**	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMW09T301**	Up-sharp edge	80	9.525	3.97	7	0.1	1	●		
	CCMW09T302	Up-sharp edge	80	9.525	3.97	7	0.2	1	●		
	CCMW09T304	Up-sharp edge	80	9.525	3.97	7	0.4	1	●		
	CCMW09T308	Up-sharp edge	80	9.525	3.97	7	0.8	1	●		

DC.. series/Toolholder

SDJC-N-OH3 [93 °] Coolant through (direct connect compatible)





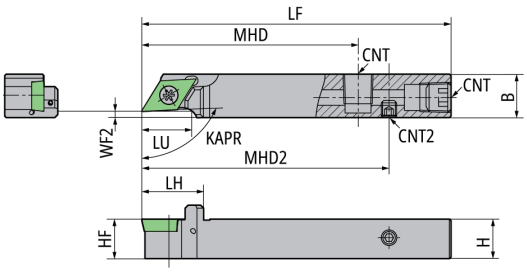
● Diagram shows right-hand tool

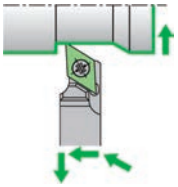
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage	
5117767	**SDJCR1012H11N-OH3**	●	R	12	M6*1	M5	10	10	93	100	17	16	62.5	80	70	55	0	DC..11T3..	DC..11T3..WP(TFD11..)
5122353	**SDJCR1616X11N-F02OH3**	●	R	16	Rc1/8	M5	16	16	93	120	20	18.4	78.75	100	87.5	70	2	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
SDJCR1012H11N-OH3	LRIS-4*10	SS0605SC	SS0505SC	LLR-25S	LW-2.5
SDJCR1616X11N-F02OH3	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S	LW-2.5

SDJC-N-OH2 [93 °] Coolant through (direct connect compatible)





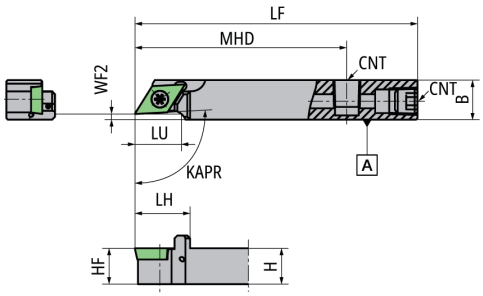
● Diagram shows right-hand tool

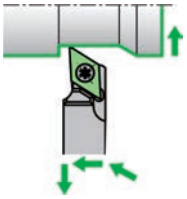
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage	
5034871	**SDJCR1214H11N-F02OH2**	●	R	14	Rc1/8	M5	12	12	93	100	19.5	16	70	80	2	DC..11T3..	DC..11T3..WP(TFD11..)
5044029	**SDJCR1616X11N-F02OH2**	●	R	16	Rc1/8	M5	16	16	93	120	19.5	18.4	70	100	2	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
SDJCR1214H11N-F02OH2	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S	LW-2.5
SDJCR1616X11N-F02OH2	LRIS-4*10	SPNPT1/8L	SS0505SC	LLR-25S	LW-2.5

SDJC-N-OH [93 °] Coolant through





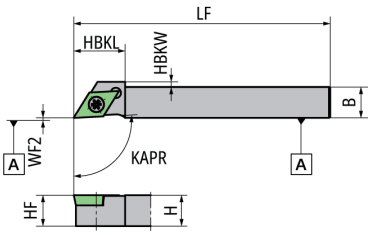
● Diagram shows right-hand tool

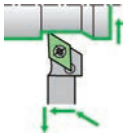
EDP	Item Number		Stock	Hand	B mm	CNT	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	WF2 mm	Insert Gage	
5903208	**SDJCR1014F11N-F02OH**	💧	●	R	14	M6*1	10	10	93	80	19.5	16	55	2	DC..11T3..	DC..11T3..WP(TFD11..)
5886254	**SDJCR1214H11N-F02OH**	💧	●	R	14	Rc1/8	12	12	93	100	19.5	16	75	2	DC..11T3..	DC..11T3..WP(TFD11..)
5903216	**SDJCR1616H11N-F02OH**	💧	●	R	16	Rc1/8	16	16	93	100	19.5	18.4	75	2	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)	Wrench (for CNT2)
SDJCR1014F11N-F02OH	LRIS-4*10	SS0605SC	LLR-25S	LW-3
SDJCR1214H11N-F02OH	LRIS-4*10	SPR1/8	LLR-25S	–
SDJCR1616H11N-F02OH	LRIS-4*10	SPR1/8	LLR-25S	–

SDJC-N [93°]





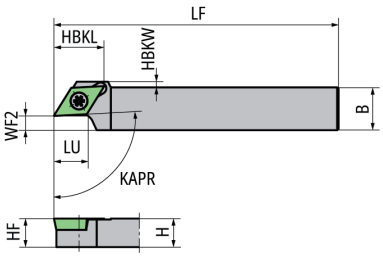
● Diagram shows right-hand tool

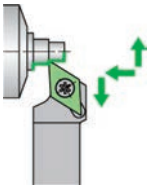
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage	
5137047	**SDJCR0808X07N**	●	R	8	8	–	–	8	93	120	0	DC..0702..	DC..0702..WP(TFD07..)
5502125	**SDJCR1010GX07N**	●	R	10	10	–	–	10	93	85	0	DC..0702..	DC..0702..WP(TFD07..)
5873880	**SDJCR1010H11N**	●	R	10	10	19	2	10	93	100	0	DC..11T3..	DC..11T3..WP(TFD11..)
5120464	**SDJCR1010X07N**	●	R	10	10	–	–	10	93	120	0	DC..0702..	DC..0702..WP(TFD07..)
5152863	**SDJCR1010X11N**	●	R	10	10	19	2	10	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)
5459813	**SDJCR1212GX11N**	●	R	12	12	–	–	12	93	85	0	DC..11T3..	DC..11T3..WP(TFD11..)
5463070	**SDJCR1212X07N**	●	R	12	12	–	–	12	93	120	0	DC..0702..	DC..0702..WP(TFD07..)
5122163	**SDJCR1212X11N**	●	R	12	12	–	–	12	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)
5593215	**SDJCR1216GX11N**	●	R	16	12	–	–	12	93	85	0	DC..11T3..	DC..11T3..WP(TFD11..)
5180583	**SDJCR1616X11N**	●	R	16	16	–	–	16	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)
5137864	**SDJCL0808X07N**	●	L	8	8	–	–	8	93	120	0	DC..0702..	DC..0702..WP(TFD07..)
5137856	**SDJCL1010X07N**	●	L	10	10	–	–	10	93	120	0	DC..0702..	DC..0702..WP(TFD07..)
5153234	**SDJCL1010X11N**	●	L	10	10	19	2	10	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)
5473681	**SDJCL1212GX11N**	●	L	12	12	–	–	12	93	85	0	DC..11T3..	DC..11T3..WP(TFD11..)
5137849	**SDJCL1212X11N**	●	L	12	12	–	–	12	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)
5180609	**SDJCL1616X11N**	●	L	16	16	–	–	16	93	120	0	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDJCR0808X07N	LRIS-2.5*7	CLR-15S
SDJCR1010GX07N	LRIS-2.5*7	CLR-15S
SDJCR1010H11N	LRIS-4*10	LLR-25S
SDJCR1010X07N	LRIS-2.5*7	CLR-15S
SDJCR1010X11N	LRIS-4*10	LLR-25S
SDJCR1212GX11N	LRIS-4*10	LLR-25S
SDJCR1212X07N	LRIS-2.5*7	CLR-15S
SDJCR1212X11N	LRIS-4*10	LLR-25S
SDJCR1216GX11N	LRIS-4*10	LLR-25S
SDJCR1616X11N	LRIS-4*10	LLR-25S
SDJCL0808X07N	LRIS-2.5*7	CLR-15S
SDJCL1010X07N	LRIS-2.5*7	CLR-15S
SDJCL1010X11N	LRIS-4*10	LLR-25S
SDJCL1212GX11N	LRIS-4*10	LLR-25S
SDJCL1212X11N	LRIS-4*10	LLR-25S
SDJCL1616X11N	LRIS-4*10	LLR-25S

SDJC-N-F [93°] Shifted





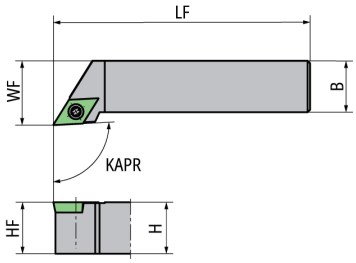
● Diagram shows right-hand tool

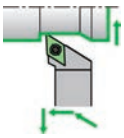
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	LU mm	WF2 mm	Insert Gage	
5700588	**SDJCR1015X07N-F05**	●	R	15	10	10	93	120	12	5	DC..0702..	DC..0702..WP(TFD07..)
5700547	**SDJCR1015X11N-F05**	●	R	15	10	10	93	120	12	5	DC..11T3..	DC..11T3..WP(TFD11..)
5700562	**SDJCR1020X07N-F10**	●	R	20	10	10	93	120	12	10	DC..0702..	DC..0702..WP(TFD07..)
5700521	**SDJCR1020X11N-F10**	●	R	20	10	10	93	120	12	10	DC..11T3..	DC..11T3..WP(TFD11..)
5700505	**SDJCR1218X11N-F06**	●	R	18	12	12	93	120	12	6	DC..11T3..	DC..11T3..WP(TFD11..)
5700471	**SDJCR1224X11N-F12**	●	R	24	12	12	93	120	12	12	DC..11T3..	DC..11T3..WP(TFD11..)
5974456	**SDJCR1620X11N-F08**	●	R	20	16	16	93	120	18.5	8	DC..11T3..	DC..11T3..WP(TFD11..)
5974464	**SDJCR1628X11N-F16**	●	R	28	16	16	93	120	18.5	16	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDJCR1015X07N-F05	LRIS-2.5*7	CLR-15S
SDJCR1015X11N-F05	LRIS-4*10	LLR-25S
SDJCR1020X07N-F10	LRIS-2.5*7	CLR-15S
SDJCR1020X11N-F10	LRIS-4*10	LLR-25S
SDJCR1218X11N-F06	LRIS-4*10	LLR-25S
SDJCR1224X11N-F12	LRIS-4*10	LLR-25S
SDJCR1620X11N-F08	LRIS-4*10	LLR-25S
SDJCR1628X11N-F16	LRIS-4*10	LLR-25S

SDJC [93°]





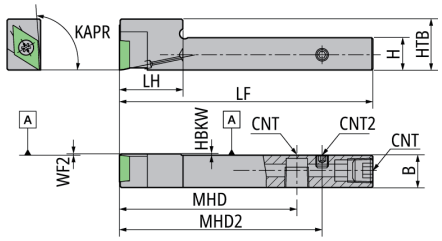
● Diagram shows right-hand tool

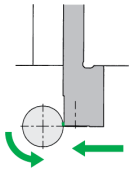
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage	
5744743	**SDJCR20-X11**	●	R	20	20	20	93	120	25	DC..11T3..	DC..11T3..WP(TFD11..)
5852793	**SDJCL20-X11**	●	L	20	20	20	93	120	25	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDJCR20-X11	LRIS-4*10	LLR-25S
SDJCL20-X11	LRIS-4*10	LLR-25S

Y-SDJC-N-OH2 [93 °] Y-axis Coolant through (direct connect compatible)





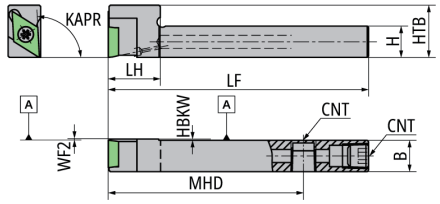
● Diagram shows right-hand tool
NOTE: Use a right-handed (R) or non-handed insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

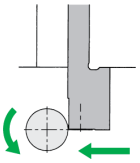
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	H mm	HBKW mm	HTB mm	KAPR °	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage	
5035209	**Y-SDJCR1212H11S-OH2**	●	R	12	Rc1/8	M5	12	0.5	20	93	100	20	70	80	0	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
Y-SDJCR1212H11S-OH2	LRIS-4*10	SPR1/8	SS0505SC	LLR-25S-20*65	LW-2.5

Y-SDJC-N-OH [93 °] Y-axis Coolant through





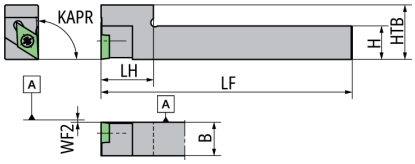
● Diagram shows right-hand tool
NOTE: Use a right-handed (R) or non-handed insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

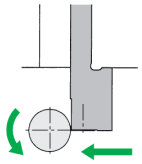
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HBKW mm	HTB mm	KAPR °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5910575	**Y-SDJCR1212H11S-OH**	●	R	12	Rc1/8	12	0.5	20	93	100	20	75	0	DC..11T3..	DC..11T3..WP(TFD11..)
5910583	**Y-SDJCR1616H11-OH**	●	R	16	Rc1/8	16	0.5	20	93	100	25	75	0	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-SDJCR1212H11S-OH	LRIS-4*10	SPR1/8	LLR-25S-20*65
Y-SDJCR1616H11-OH	LRIS-4*10	SPR1/8	LLR-25S-20*65

Y-SDJC [93°] Y-axis





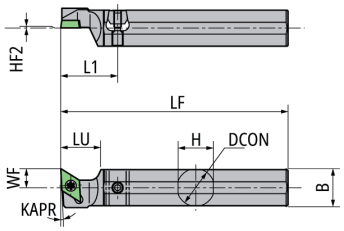
● Diagram shows right-hand tool
NOTE: Use a right-handed (R) or non-handed insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

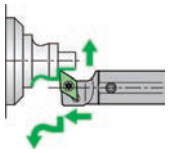
EDP	Item Number	Stock	Hand	B mm	H mm	HTB mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage	
5371646	**Y-SDJCR10-07S**	●	R	10	10	20	93	120	20	0	DC..0702..	DC..0702..WP(TFD07..)
5950431	**Y-SDJCR10-11MS**	●	R	10	10	20	93	120	22	0	DC..11T3..	DC..11T3..WP(TFD11..)
5926001	**Y-SDJCR10-11S**	●	R	10	10	20	93	120	20	0	DC..11T3..	DC..11T3..WP(TFD11..)
5371661	**Y-SDJCR12-07S**	●	R	12	12	20	93	120	20	0	DC..0702..	DC..0702..WP(TFD07..)
5950423	**Y-SDJCR12-11MS**	●	R	12	12	20	93	120	22	0	DC..11T3..	DC..11T3..WP(TFD11..)
5600671	**Y-SDJCR12-11S**	●	R	12	12	20	93	120	20	0	DC..11T3..	DC..11T3..WP(TFD11..)
5890025	**Y-SDJCR16-11S**	●	R	16	16	20	93	120	20	0	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-SDJCR10-07S	LRIS-2.5*7	CLR-15S
Y-SDJCR10-11MS	LRIS-4*10	LLR-25S-20*65
Y-SDJCR10-11S	LRIS-4*10	LLR-25S-20*65
Y-SDJCR12-07S	LRIS-2.5*7	CLR-15S
Y-SDJCR12-11MS	LRIS-4*10	LLR-25S-20*65
Y-SDJCR12-11S	LRIS-4*10	LLR-25S-20*65
Y-SDJCR16-11S	LRIS-4*10	LLR-25S-20*65

DS-SDU-ACH [93°] Adjustable centerline height





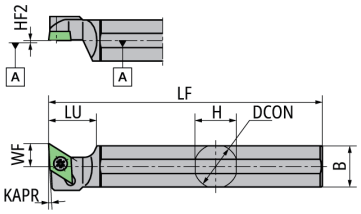
● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

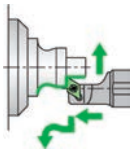
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	L1 mm	WF mm	Insert Gage	
5805635	**DS-SDUL16F-11-ACH**	●	L	15	16	15.5	Type B(0~+0.3)	3	80	17	30	10	DC..11T3..	DC..11T3..WP(TFD11..)
5805627	**DS-SDUL19-11-ACH**	●	L	18	19.05	18	Type A(0~+0.2)	3	120	20	30	10	DC..11T3..	DC..11T3..WP(TFD11..)
5799614	**DS-SDUL20-11-ACH**	●	L	19	20	19	Type B(0~+0.3)	3	120	20	30	10	DC..11T3..	DC..11T3..WP(TFD11..)
5799622	**DS-SDUL22-11-ACH**	●	L	21	22	21	Type B(0~+0.3)	3	120	20	30	10	DC..11T3..	DC..11T3..WP(TFD11..)
5799648	**DS-SDUL25-11-ACH**	●	L	24	25.4	24	Type A(0~+0.2)	3	150	20	30	10	DC..11T3..	DC..11T3..WP(TFD11..)
5934021	**DS-SDUL25-11MET-ACH**	●	L	24	25	24	Type A(0~+0.2)	3	150	20	30	10	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Screw (for Wedge)	Wedge	Wrench (for Clamp screw)	Wrench (for Wedge)
DS-SDUL16F-11-ACH	LRIS-4*10	WS060415-003	ACH-W18	LLR-25S-20*65	LW-3
DS-SDUL19-11-ACH	LRIS-4*10	WS060415-003	ACH-W18	LLR-25S-20*65	LW-3
DS-SDUL20-11-ACH	LRIS-4*10	WS060419-004	ACH-W18	LLR-25S-20*65	LW-3
DS-SDUL22-11-ACH	LRIS-4*10	WS060419-004	ACH-W18	LLR-25S-20*65	LW-3
DS-SDUL25-11-ACH	LRIS-4*10	WS060419-004	ACH-W24	LLR-25S-20*65	LW-3
DS-SDUL25-11MET-ACH	LRIS-4*10	WS060419-004	ACH-W24	LLR-25S-20*65	LW-3

DS-SDU [93°] DS Toolholders





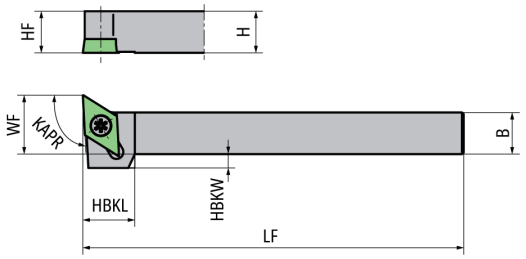
● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

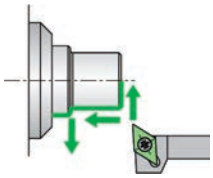
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	WF mm	Insert Gage	
5348545	**DS-SDUL14F-07**	●	L	13	14	13	0	3	80	20	6	DC..0702..	DC..0702..WP(TFD07..)
5601745	**DS-SDUL14F-11**	●	L	13	14	13	0	3	80	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5348107	**DS-SDUL15H-07**	●	L	15	15.875	15	0	3	100	20	6	DC..0702..	DC..0702..WP(TFD07..)
5520598	**DS-SDUL16F-07**	●	L	15	16	15	0	3	80	20	6	DC..0702..	DC..0702..WP(TFD07..)
5601737	**DS-SDUL16F-11**	●	L	15	16	15	0	3	80	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5341516	**DS-SDUL16X-07**	●	L	15	16	15	0	3	95	20	6	DC..0702..	DC..0702..WP(TFD07..)
5278247	**DS-SDUL19-07**	●	L	18	19.05	18	0	3	120	20	6	DC..0702..	DC..0702..WP(TFD07..)
5278262	**DS-SDUL19-11**	●	L	18	19.05	18	0	3	120	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5572730	**DS-SDUL19-11SPL**	●	L	18	19.05	18	0	3	160	20	11	DC..11T3..	DC..11T3..WP(TFD11..)
5278239	**DS-SDUL20-07**	●	L	19	20	19	0	3	120	20	6	DC..0702..	DC..0702..WP(TFD07..)
5278254	**DS-SDUL20-11**	●	L	19	20	19	0	3	120	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5520606	**DS-SDUL20X-07**	●	L	19	20	19	0	3	95	20	6	DC..0702..	DC..0702..WP(TFD07..)
5520614	**DS-SDUL20X-11**	●	L	19	20	19	0	3	95	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5330758	**DS-SDUL22-07**	●	L	21	22	21	0	3	120	20	6	DC..0702..	DC..0702..WP(TFD07..)
5324025	**DS-SDUL22-11**	●	L	21	22	21	0	3	120	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5638606	**DS-SDUL23-11-007**	●	L	22	23	22	0	3	70	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5317136	**DS-SDUL25-11**	●	L	24	25.4	24	0	3	150	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5483417	**DS-SDUL25-11MET**	●	L	24	25	24	0	3	120	20	10	DC..11T3..	DC..11T3..WP(TFD11..)
5713581	**DS-SDUL25-11SPL**	●	L	24	25.4	24	0	3	150	20	12.5	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SDUL14F-07	LRIS-2.5*7	CLR-15S
DS-SDUL14F-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL15H-07	LRIS-2.5*7	CLR-15S
DS-SDUL16F-07	LRIS-2.5*7	CLR-15S
DS-SDUL16F-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL16X-07	LRIS-2.5*7	CLR-15S
DS-SDUL19-07	LRIS-2.5*7	CLR-15S
DS-SDUL19-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL19-11SPL	LRIS-4*10	LLR-25S-20*65
DS-SDUL20-07	LRIS-2.5*7	CLR-15S
DS-SDUL20-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL20X-07	LRIS-2.5*7	CLR-15S
DS-SDUL20X-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL22-07	LRIS-2.5*7	CLR-15S
DS-SDUL22-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL23-11-007	LRIS-4*10	LLR-25S-20*65
DS-SDUL25-11	LRIS-4*10	LLR-25S-20*65
DS-SDUL25-11MET	LRIS-4*10	LLR-25S-20*65
DS-SDUL25-11SPL	LRIS-4*10	LLR-25S-20*65

CH-SDUC [93°] for horizontal gang style tool post





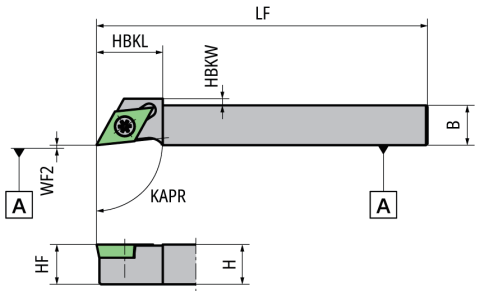
● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

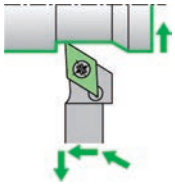
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage	
5659222	**CH-SDUCL1010H11**	●	L	10	10	15	6	10	93	100	15	DC..11T3..	DC..11T3..WP(TFD11..)
5659230	**CH-SDUCL1212H11**	●	L	12	12	15	4	12	93	100	17	DC..11T3..	DC..11T3..WP(TFD11..)
5004148	**CH-SDUCL1616H11**	●	L	16	16	–	–	16	93	100	21	DC..11T3..	DC..11T3..WP(TFD11..)
5939616	**CH-SDUCL2020H11**	●	L	20	20	–	–	20	93	100	25	DC..11T3..	DC..11T3..WP(TFD11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-SDUCL1010H11	LRIS-4*12PW	CLR-15S
CH-SDUCL1212H11	LRIS-4*12PW	CLR-15S
CH-SDUCL1616H11	LRIS-4*12PW	CLR-15S
CH-SDUCL2020H11	LRIS-4*12PW	CLR-15S

SDXC-N [96°]





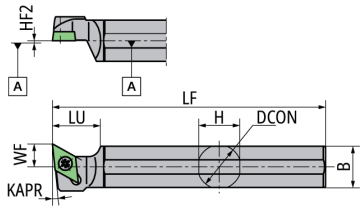
● Diagram shows right-hand tool

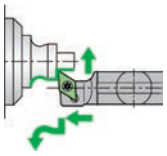
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5525449	**SDXCR1010X11N**	●	R	10	10	20	3	10	96	120	0	DC..11T3..
5553169	**SDXCR1016X11N**	●	R	16	10	–	–	10	96	120	0	DC..11T3..
5525456	**SDXCR1212X11N**	●	R	12	12	20	1	12	96	120	0	DC..11T3..
5553177	**SDXCR1216X11N**	●	R	16	12	–	–	12	96	120	0	DC..11T3..
5525464	**SDXCR1616X11N**	●	R	16	16	–	–	16	96	120	0	DC..11T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDXCR1010X11N	LRIS-4*10	LLR-25S
SDXCR1016X11N	LRIS-4*10	LLR-25S
SDXCR1212X11N	LRIS-4*10	LLR-25S
SDXCR1216X11N	LRIS-4*10	LLR-25S
SDXCR1616X11N	LRIS-4*10	LLR-25S

DS-SDX [96°] DS Toolholders





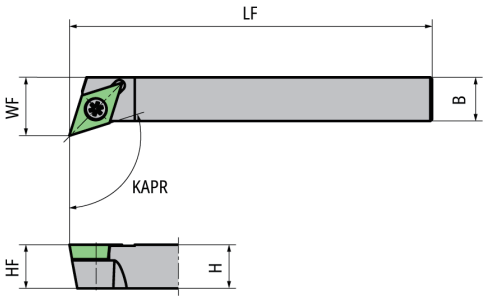
● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

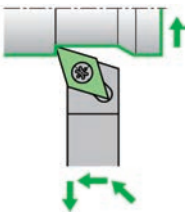
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	WF mm	Insert Gage
5462429	**DS-SDXL19-11**	●	L	18	19.05	18	0	6	120	20	10	DC..11T3..
5462437	**DS-SDXL20-11**	●	L	19	20	19	0	6	120	20	10	DC..11T3..
5520622	**DS-SDXL20X-11**	●	L	19	20	19	0	6	95	20	10	DC..11T3..
5520697	**DS-SDXL25-11MET**	●	L	24	25	24	0	6	120	20	10	DC..11T3..
5939335	**DS-SDXL32-11**	●	L	30	32	30	0	6	150	20	10	DC..11T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SDXL19-11	LRIS-4*10	LLR-25S
DS-SDXL20-11	LRIS-4*10	LLR-25S
DS-SDXL20X-11	LRIS-4*10	LLR-25S
DS-SDXL25-11MET	LRIS-4*10	LLR-25S
DS-SDXL32-11	LRIS-4*10	LLR-25S

SDQC [107.5°]





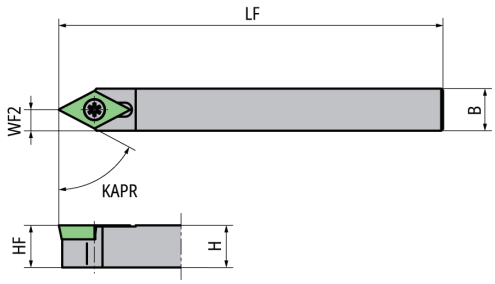
● Diagram shows right-hand tool

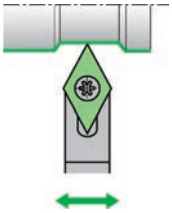
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage
5743711	**SDQCR10-X07**	●	R	10	10	10	107.5	120	12	DC..0702..
5743729	**SDQCR12-X11**	●	R	12	12	12	107.5	120	16	DC..11T3..
5743737	**SDQCR16-X11**	●	R	16	16	16	107.5	120	20	DC..11T3..
5743745	**SDQCR20-X11**	●	R	20	20	20	107.5	120	25	DC..11T3..
5743752	**SDQCL10-X07**	●	L	10	10	10	107.5	120	12	DC..0702..
5743760	**SDQCL12-X11**	●	L	12	12	12	107.5	120	16	DC..11T3..
5747332	**SDQCL16-X11**	●	L	16	16	16	107.5	120	20	DC..11T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDQCR10-X07	LRIS-2.5*7	CLR-15S
SDQCR12-X11	LRIS-4*10	LLR-25S
SDQCR16-X11	LRIS-4*10	LLR-25S
SDQCR20-X11	LRIS-4*10	LLR-25S
SDQCL10-X07	LRIS-2.5*7	CLR-15S
SDQCL12-X11	LRIS-4*10	LLR-25S
SDQCL16-X11	LRIS-4*10	LLR-25S

SDNC [62.5°]



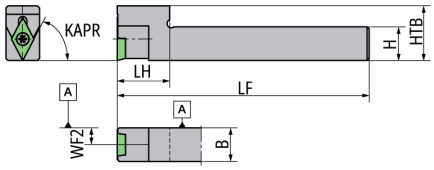


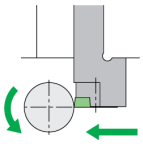
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5742184	**SDNCN08-X07**	●	N	8	8	8	62.5	120	4	DC..0702..
5742192	**SDNCN10-X07**	●	N	10	10	10	62.5	120	5	DC..0702..
5742200	**SDNCN12-X11**	●	N	12	12	12	62.5	120	6	DC..11T3..
5742218	**SDNCN16-X11**	●	N	16	16	16	62.5	120	8	DC..11T3..
5742226	**SDNCN20-X11**	●	N	20	20	20	62.5	120	10	DC..11T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SDNCN08-X07	LRIS-2.5*7	CLR-15S
SDNCN10-X07	LRIS-2.5*7	CLR-15S
SDNCN12-X11	LRIS-4*10	LLR-25S
SDNCN16-X11	LRIS-4*10	LLR-25S
SDNCN20-X11	LRIS-4*10	LLR-25S

Y-SDNC [62.5°] Y-axis





NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

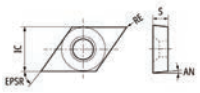
EDP	Item Number	Stock	Hand	B mm	H mm	HTB mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage
5479191	**Y-SDNCN12-11S**	●	N	12	12	21	62.5	120	20	6	DC..11T3..
5485875	**Y-SDNCN16-11S**	●	N	16	16	21	62.5	120	20	8	DC..11T3..

Spare Parts

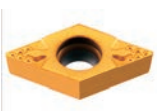
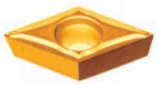
Item Number	Clamp screw	Wrench (for Clamp screw)
Y-SDNCN12-11S	LRIS-4*10	LLR-25S-20*65
Y-SDNCN16-11S	LRIS-4*10	LLR-25S-20*65

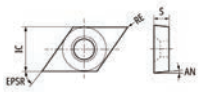
DC.. series/Inserts Carbide

DC..

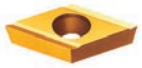
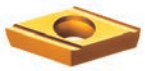
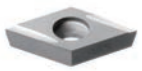
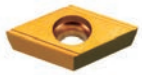


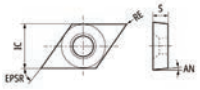
Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												●
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated	
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	DCGT11T301MRTMV	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●			●						
	DCGT11T301MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●			●						
	DCGT11T302MRTMV	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●			●						
	DCGT11T302MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●			●						
	DCGT11T304MRTMV	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●			●						
	DCGT11T304MRTMV2	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●			●						
	DCGT070201MYL	Up-sharp edge	55	6.35	2.38	7	0.08	–		●		●							
	DCGT070202MYL	Up-sharp edge	55	6.35	2.38	7	0.18	–		●		●							
	DCGT070204MYL	Up-sharp edge	55	6.35	2.38	7	0.38	–		■		■							
	DCGT11T300YL	Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●						
	DCGT11T301MYL	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●	●	●	●						
	DCGT11T302MYL	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●	●	●	●						
	DCGT11T304MYL	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●	●	●	●						
	DCGT11T308MYL	Up-sharp edge	55	9.525	3.97	7	0.78	–	●	●	●	●	●						
	DCGT070201MCL	Up-sharp edge	55	6.35	2.38	7	0.08	–	●	●	●	●	●						
	DCGT070202MCL	Up-sharp edge	55	6.35	2.38	7	0.18	–	●	●	●	●	●						
	DCGT070204MCL	Up-sharp edge	55	6.35	2.38	7	0.38	–	●	●	●	●	●						
	DCGT11T301MCL	Up-sharp edge	55	9.525	3.97	7	0.08	–	●	●	●	●	●						
	DCGT11T302MCL	Up-sharp edge	55	9.525	3.97	7	0.18	–	●	●	●	●	●						
	DCGT11T304MCL	Up-sharp edge	55	9.525	3.97	7	0.38	–	●	●	●	●	●						
	DCGT070201FNAM3	Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●				
	DCGT070202FNAM3	Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●				
	DCGT070204FNAM3	Up-sharp edge	55	6.35	2.38	7	0.4	–						●	●				
	DCGT070200FNAM3	Up-sharp edge	55	6.35	2.38	7	0.03	–			●		●	●	●				
	DCGT070201MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.08	–	●		●	●	●						
	DCGT070202MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.18	–	●		●	●	●						
	DCGT070204MFNAM3	Up-sharp edge	55	6.35	2.38	7	0.38	–	●		●	●	●						
	DCGT11T300FNAM3	Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●				
	DCGT11T301MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.08	–	●		●	●	●	●	●				
	DCGT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	–				●		●	●				
	DCGT11T302MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.18	–	●		●	●	●	●	●				
	DCGT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	–				●		●	●				
	DCGT11T304MFNAM3	Up-sharp edge	55	9.525	3.97	7	0.38	–	●		●	●	●	●	●				
	DCMT070202FNAM3	Up-sharp edge	55	6.35	2.38	7	0.2	–		●									
	DCMT070204FNAM3	Up-sharp edge	55	6.35	2.38	7	0.4	–		●									
	DCMT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	–		●									
	DCMT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	–		●									
	DCMT11T308FNAM3	Up-sharp edge	55	9.525	3.97	7	0.8	–		●									
	DCGT070201MAMX	Up-sharp edge	55	6.35	2.38	7	0.08	–		●	●		●						
	DCGT070202MAMX	Up-sharp edge	55	6.35	2.38	7	0.18	–		●	●		●						
	DCGT070204MAMX	Up-sharp edge	55	6.35	2.38	7	0.38	–		●	●		●						
	DCGT11T301MAMX	Up-sharp edge	55	9.525	3.97	7	0.08	–		●	●		●						
	DCGT11T302MAMX	Up-sharp edge	55	9.525	3.97	7	0.18	–		●	●		●						
	DCGT11T304MAMX	Up-sharp edge	55	9.525	3.97	7	0.38	–		●	●		●						
	DCGT070200AZ7	Up-sharp edge	55	6.35	2.38	7	0.03	–				●							
	DCGT070201MAZ7	Up-sharp edge	55	6.35	2.38	7	0.08	–				●							
	DCGT070202MAZ7	Up-sharp edge	55	6.35	2.38	7	0.18	–				●							
	DCGT11T300AZ7	Up-sharp edge	55	9.525	3.97	7	0.03	–			●	●	●		●				
	DCGT11T301MAZ7	Up-sharp edge	55	9.525	3.97	7	0.08	–			●	●	●		●				
	DCGT11T302MAZ7	Up-sharp edge	55	9.525	3.97	7	0.18	–			●	●	●		●				
	DCGT11T304MAZ7	Up-sharp edge	55	9.525	3.97	7	0.38	–			●	●	●		●				
	DCGT11T308AZ7	Up-sharp edge	55	9.525	3.97	7	0.8	–			●	●			●				
	DCMT11T304E004AZ8	E004	55	9.525	3.97	7	0.4	–									●		
	DCMT11T308E004AZ8	E004	55	9.525	3.97	7	0.8	–									●		

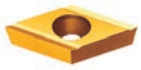
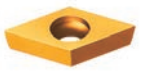
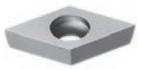


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○			●								
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

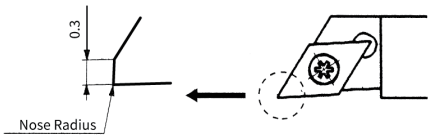
Shape	Item Number		CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	(ISO)			°	mm	mm	°	mm	mm										
	DCGT070200RS		Up-sharp edge	55	6.35	2.38	7	0.03	–			●			●	●			
	DCGT070200LS		Up-sharp edge	55	6.35	2.38	7	0.03	–						●	●			
	DCGT070201MRS		Up-sharp edge	55	6.35	2.38	7	0.08	–			●	●						
	DCGT070201RS		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●			
	DCGT070201LS		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●			
	DCGT070202MRS		Up-sharp edge	55	6.35	2.38	7	0.18	–			●	●						
	DCGT070202RS		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●			
	DCGT070202LS		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●			
	DCGT070204RS		Up-sharp edge	55	6.35	2.38	7	0.4	–						●				
	DCGT11T300RS		Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●			
	DCGT11T300LS		Up-sharp edge	55	9.525	3.97	7	0.03	–						●				
	DCGT11T301MRS		Up-sharp edge	55	9.525	3.97	7	0.08	–			●	●	●					
	DCGT11T301RS		Up-sharp edge	55	9.525	3.97	7	0.1	–				●		●	●			
	DCGT11T301LS		Up-sharp edge	55	9.525	3.97	7	0.1	–						●				
	DCGT11T302MRS		Up-sharp edge	55	9.525	3.97	7	0.18	–			●	●	●					
	DCGT11T302RS		Up-sharp edge	55	9.525	3.97	7	0.2	–				●		●	●			
	DCGT11T302LS		Up-sharp edge	55	9.525	3.97	7	0.2	–						●				
	DCGT11T304MRS		Up-sharp edge	55	9.525	3.97	7	0.38	–			●	●	●					
	DCGT11T304RS		Up-sharp edge	55	9.525	3.97	7	0.4	–				●						
	DCGT070200RU		Up-sharp edge	55	6.35	2.38	7	0.03	–						●	●			
	DCGT070201RU		Up-sharp edge	55	6.35	2.38	7	0.1	–						●	●			
	DCGT070202RU		Up-sharp edge	55	6.35	2.38	7	0.2	–						●	●			
	DCGT070202LU		Up-sharp edge	55	6.35	2.38	7	0.2	–							●			
	DCGT11T300RU1		Up-sharp edge	55	9.525	3.97	7	0.03	–			●		●	●	●			
	DCGT11T300LU1		Up-sharp edge	55	9.525	3.97	7	0.03	–							●			
	DCGT11T301RU1		Up-sharp edge	55	9.525	3.97	7	0.1	–			●		●	●	●			
	DCGT11T301LU1		Up-sharp edge	55	9.525	3.97	7	0.1	–							●			
	DCGT11T302RU1		Up-sharp edge	55	9.525	3.97	7	0.2	–			●		●	●	●			
	DCGT11T302LU1		Up-sharp edge	55	9.525	3.97	7	0.2	–							●			
	DCGT11T304RU1		Up-sharp edge	55	9.525	3.97	7	0.4	–			●		●	●	●			
	DCGT11T304LU1		Up-sharp edge	55	9.525	3.97	7	0.4	–							●			
	DCET0702005RKHG		Up-sharp edge	55	6.35	2.38	7	0.05	–						●				
	DCET0702005LKHG		Up-sharp edge	55	6.35	2.38	7	0.05	–						●				
	DCET0702008RKHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●				
	DCET0702008LKHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●				
	DCET0702018RKHG		Up-sharp edge	55	6.35	2.38	7	0.18	–						●				
	DCET0702018LKHG		Up-sharp edge	55	6.35	2.38	7	0.18	–						●				
	DCET070202RKHG		Up-sharp edge	55	6.35	2.38	7	0.2	–						●				
	DCET070202LKHG		Up-sharp edge	55	6.35	2.38	7	0.2	–						●				
	DCET11T3005RKHG		Up-sharp edge	55	9.525	3.97	7	0.05	–					●	●				
	DCET11T3005LKHG		Up-sharp edge	55	9.525	3.97	7	0.05	–						●				
	DCET11T3008RKHG		Up-sharp edge	55	9.525	3.97	7	0.08	–					●	●				
	DCET11T3008LKHG		Up-sharp edge	55	9.525	3.97	7	0.08	–						●				
	DCET11T3018RKHG		Up-sharp edge	55	9.525	3.97	7	0.18	–					●	●				
	DCET11T3018LKHG		Up-sharp edge	55	9.525	3.97	7	0.18	–						●				
	DCET11T302RKHG		Up-sharp edge	55	9.525	3.97	7	0.2	–					●	●				
	DCET11T302LKHG		Up-sharp edge	55	9.525	3.97	7	0.2	–						●				
	DCET0702008RUHG		Up-sharp edge	55	6.35	2.38	7	0.08	–						●				
	DCET11T3008RUHG		Up-sharp edge	55	9.525	3.97	7	0.08	–						●				
	DCET11T301MRAT	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.08	–					●					
	DCET11T302MRAT	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.18	–					●					
	DCGT11T3005AM3-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)		●	●	●						
	DCGT11T3015AM3-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)		●	●	●						
	DCGT0702005RS-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)				●		●	●			
	DCGT0702005LS-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)							●			
	DCGT0702015RS-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)				●			●			
	DCGT0702015LS-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)							●			
	DCGT11T3005RS-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)				●		●	●			
	DCGT11T3015RS-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)				●			●			



Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number (ISO)		CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	DCGT0702005RU-WP		Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)				●		●	●			
	DCGT0702015RU-WP		Up-sharp edge	55	6.35	2.38	7	0.15	(0.3)				●			●			
	DCGT11T3005RU1-WP		Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)				●		●	●			
	DCGT11T3015RU1-WP		Up-sharp edge	55	9.525	3.97	7	0.15	(0.3)				●			●			
	DCGW07020V	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0	–						●				
	DCGW070200FN		Up-sharp edge	55	6.35	2.38	7	0.03	–							●			
	DCGW070200H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.03	–										●
	DCGW070201FN		Up-sharp edge	55	6.35	2.38	7	0.1	–							●			
	DCGW070201H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.1	–										●
	DCGW070202H	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.2	–										●
	DCGW11T30V	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0	–						●				
	DCGW11T300FN		Up-sharp edge	55	9.525	3.97	7	0.03	–							●			
	DCGW11T300H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.03	–										●
	DCGW11T301FN		Up-sharp edge	55	9.525	3.97	7	0.1	–							●			
	DCGW11T301H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.1	–										●
	DCGW11T302H	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.2	–										●
	DCGW0702005RH-WP	Ⓜ	Up-sharp edge	55	6.35	2.38	7	0.05	(0.3)										●
	DCGW11T3005RH-WP	Ⓜ	Up-sharp edge	55	9.525	3.97	7	0.05	(0.3)										●

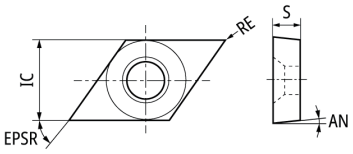
Features of DC.T-WP insert



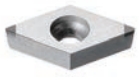
NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SDJC, CH-SDUL and DS-SDUL.

DC.. series/Inserts CBN

DCGW

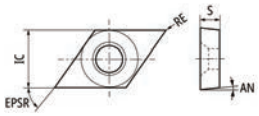


Steel																					
Stainless Steel																					
Cast Iron													●	●	●	●				○	○
Non-Ferrous Material																					
Heat Resistant Alloy																					
Hardened Material																●	●	●	●	●	
Others (non-metallic)																					

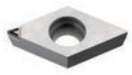
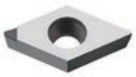
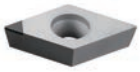
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD	B22	B23	B30	B36	B6K	PVD	B40	B52	B5K	PVD
	DCGW070202PDFNX	Up-sharp edge	55	6.35	2.38	7	0.2	–	2.4	2	–										●		
	DCGW070202PDS01015	S01015	55	6.35	2.38	7	0.2	–	2.4	2	–										●		
	DCGW070202PDS01535	S01535	55	6.35	2.38	7	0.2	–	2.4	2	–									●			
	DCGW070204PDFNX	Up-sharp edge	55	6.35	2.38	7	0.4	–	2.2	2	–					●					●		
	DCGW070204PDS01015	S01015	55	6.35	2.38	7	0.4	–	2.2	2	–										●		
	DCGW070204PDS01535	S01535	55	6.35	2.38	7	0.4	–	2.2	2	–									●			
	DCGW070208PDFNX	Up-sharp edge	55	6.35	2.38	7	0.8	–	1.9	2	–										●		
	DCGW070208PDS01015	S01015	55	6.35	2.38	7	0.8	–	1.9	2	–									●	●		
	DCGW070208PDS01535	S01535	55	6.35	2.38	7	0.8	–	1.9	2	–									●			
	DCGW070208PTS01325	S01325	55	6.35	2.38	7	0.8	–	1.9	2	–									●			
	DCGW11T301PDS01015	S01015	55	9.525	3.97	7	0.1	–	2.3	2	–										●		
	**DCGW11T302PDFNX**	Up-sharp edge	55	9.525	3.97	7	0.2	–	2.4	2	–					●					●		
	DCGW11T302PDS01015	S01015	55	9.525	3.97	7	0.2	–	2.4	2	–						●			●	●	●	
	DCGW11T302PTS01325	S01325	55	9.525	3.97	7	0.2	–	2.4	2	–						●			●	●		
	DCGW11T302PDS01535	S01535	55	9.525	3.97	7	0.2	–	2.4	2	–						●			●	●		
	DCGW11T304PDFNX	Up-sharp edge	55	9.525	3.97	7	0.4	–	2.2	2	–					●					●		
	DCGW11T304PDS01015	S01015	55	9.525	3.97	7	0.4	–	2.2	2	–						●			●	●	●	
	DCGW11T304PDS01535	S01535	55	9.525	3.97	7	0.4	–	2.2	2	–						●			●	●		
	DCGW11T304PDT01015	T01015	55	9.525	3.97	7	0.4	–	2.2	2	–						●						
	DCGW11T304PTS01325	S01325	55	9.525	3.97	7	0.4	–	2.2	2	–						●			●	●		
	DCGW11T308PDFNX	Up-sharp edge	55	9.525	3.97	7	0.8	–	1.9	2	–										●		
	DCGW11T308PDS01015	S01015	55	9.525	3.97	7	0.8	–	1.9	2	–									●	●		
	DCGW11T308PTS01325	S01325	55	9.525	3.97	7	0.8	–	1.9	2	–									●	●		
	DCGW11T308PDS01535	S01535	55	9.525	3.97	7	0.8	–	1.9	2	–									●	●		
	DCGW11T312PDS01015	S01015	55	9.525	3.97	7	1.2	–	2.6	2	–										●		

DC.. series/Inserts PCD / Diamond Coating

DCM.

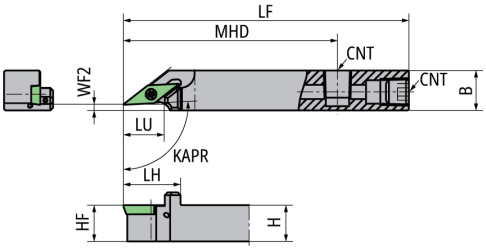


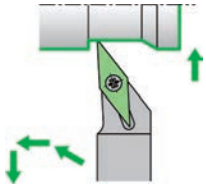
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**DCMT070201PBF**	Up-sharp edge	55	6.35	2.38	7	0.1	1		●	
	DCMT070202PBF	Up-sharp edge	55	6.35	2.38	7	0.2	1		●	
	DCMT11T301PBF	Up-sharp edge	55	9.525	3.97	7	0.1	1		●	
	DCMT11T302PBF	Up-sharp edge	55	9.525	3.97	7	0.2	1		●	
	DCMT11T304PBF	Up-sharp edge	55	9.525	3.97	7	0.4	1		●	
	**DCMT070201PF**	Up-sharp edge	55	6.35	2.38	7	0.1	1		●	
	DCMT070202PF	Up-sharp edge	55	6.35	2.38	7	0.2	1		●	
	DCMT11T302PF	Up-sharp edge	55	9.525	3.97	7	0.2	1		●	
	DCMT11T304PF	Up-sharp edge	55	9.525	3.97	7	0.4	1		●	
	**DCMW11T301**	Up-sharp edge	55	9.525	3.97	7	0.1	1	●		
	DCMW11T302	Up-sharp edge	55	9.525	3.97	7	0.2	1	●		
	DCMW11T304	Up-sharp edge	55	9.525	3.97	7	0.4	1	●		
	DCMW11T308	Up-sharp edge	55	9.525	3.97	7	0.8	1	●		
	DCMT11T301FNAM3	Up-sharp edge	55	9.525	3.97	7	0.1	2			●
	DCMT11T302FNAM3	Up-sharp edge	55	9.525	3.97	7	0.2	2			●
	DCMT11T304FNAM3	Up-sharp edge	55	9.525	3.97	7	0.4	2			●

VC.. series/Toolholder

SVJC-N-OH [93 °] Coolant through





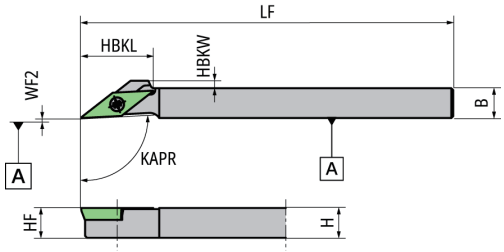
• Diagram shows right-hand tool

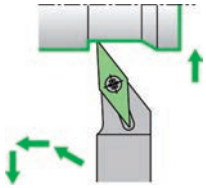
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	WF2 mm	Insert Gage	
5020482	**SVJCR1014F11N-F02OH**	●	R	14	M6*1	10	10	93	80	21	18	55	2	VC..1103..	VC..1103..WP(TFV11..)
5000419	**SVJCR1214H11N-F02OH**	●	R	14	Rc1/8	12	12	93	100	21	18	75	2	VC..1103..	VC..1103..WP(TFV11..)
5020508	**SVJCR1616H11N-F02OH**	●	R	16	Rc1/8	16	16	93	100	21	18	75	2	VC..1103..	VC..1103..WP(TFV11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)	Wrench (for CNT)
SVJCR1014F11N-F02OH	LRIS-2.5*7	SS0605SC	CLR-15S	LW-3
SVJCR1214H11N-F02OH	LRIS-2.5*7	SPR1/8	CLR-15S	–
SVJCR1616H11N-F02OH	LRIS-2.5*7	SPR1/8	CLR-15S	–

SVJC-N [93°]





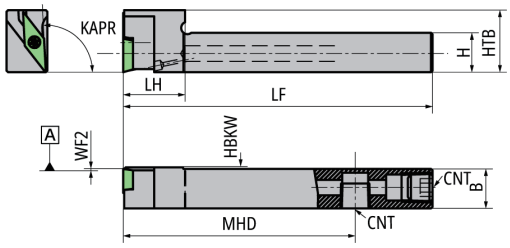
• Diagram shows right-hand tool

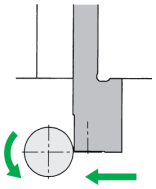
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage	
5878012	**SVJCR0808H11N**	●	R	8	8	19	2	8	93	100	0	VC..1103..	VC..1103..WP(TFV11..)
5339940	**SVJCR1010X11N**	●	R	10	10	–	–	10	93	120	0	VC..1103..	VC..1103..WP(TFV11..)
5339932	**SVJCR1212X11N**	●	R	12	12	–	–	12	93	120	0	VC..1103..	VC..1103..WP(TFV11..)
5339924	**SVJCR1616X11N**	●	R	16	16	–	–	16	93	120	0	VC..1103..	VC..1103..WP(TFV11..)
5517750	**SVJCL1010X11N**	●	L	10	10	–	–	10	93	120	0	VC..1103..	VC..1103..WP(TFV11..)
5517768	**SVJCL1212X11N**	●	L	12	12	–	–	12	93	120	0	VC..1103..	VC..1103..WP(TFV11..)
5517743	**SVJCL1616X11N**	●	L	16	16	–	–	16	93	120	0	VC..1103..	VC..1103..WP(TFV11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVJCR0808H11N	LRIS-2.5*7	CLR-15S
SVJCR1010X11N	LRIS-2.5*7	CLR-15S
SVJCR1212X11N	LRIS-2.5*7	CLR-15S
SVJCR1616X11N	LRIS-2.5*7	CLR-15S
SVJCL1010X11N	LRIS-2.5*7	CLR-15S
SVJCL1212X11N	LRIS-2.5*7	CLR-15S
SVJCL1616X11N	LRIS-2.5*7	CLR-15S

Y-SVJC-OH [93 °] Y-Axis Coolant through





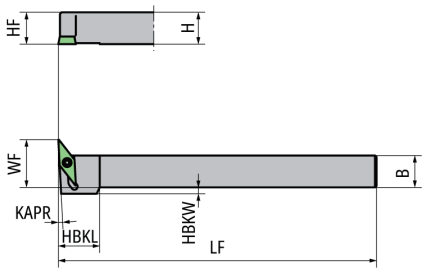
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) or non-handed insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

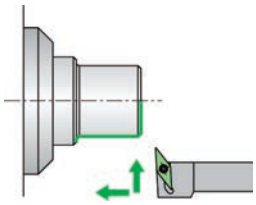
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HBKW mm	HTB mm	KAPR °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5021209	**Y-SVJCR1212H11S-OH**	●	R	12	Rc1/8	12	0.5	20	93	100	20	75	0	VC..1103..	VC..1103..WP(TFV11..)
5021191	**Y-SVJCR1616H11S-OH**	●	R	16	Rc1/8	16	0.5	20	93	100	20	75	0	VC..1103..	VC..1103..WP(TFV11..)

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-SVJCR1212H11S-OH	LRIS-2.5*7	SPR1/8	CLR-15S
Y-SVJCR1616H11S-OH	LRIS-2.5*7	SPR1/8	CLR-15S

CH-SVUC [93°] for horizontal gang style tool post





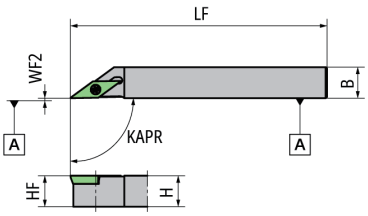
・Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

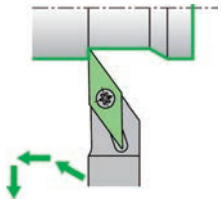
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage
5997077	**CH-SVUCL1010H11**	●	L	10	10	15	2	10	3	100	18	VC..1103..
5995634	**CH-SVUCL1212H11**	●	L	12	12	–	–	12	3	100	20	VC..1103..
5997085	**CH-SVUCL1616H11**	●	L	16	16	–	–	16	3	100	24	VC..1103..
5997093	**CH-SVUCL2020H11**	●	L	20	20	–	–	20	3	100	28	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-SVUCL1010H11	LRIS-2.5*7	CLR-15S
CH-SVUCL1212H11	LRIS-2.5*7	CLR-15S
CH-SVUCL1616H11	LRIS-2.5*7	CLR-15S
CH-SVUCL2020H11	LRIS-2.5*7	CLR-15S

SVAC-N [91°]





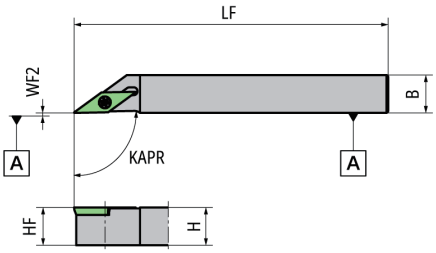
・Diagram shows right-hand tool

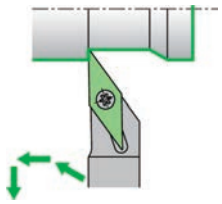
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5304043	**SVACR1010X11N**	●	R	10	10	10	91	120	0	VC..1103..
5304050	**SVACR1212X11N**	●	R	12	12	12	91	120	0	VC..1103..
5304068	**SVACR1616X11N**	●	R	16	16	16	91	120	0	VC..1103..
5304092	**SVACL1010X11N**	●	L	10	10	10	91	120	0	VC..1103..
5304076	**SVACL1212X11N**	●	L	12	12	12	91	120	0	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR1010X11N	LRIS-2.5*7	CLR-15S
SVACR1212X11N	LRIS-2.5*7	CLR-15S
SVACR1616X11N	LRIS-2.5*7	CLR-15S
SVACL1010X11N	LRIS-2.5*7	CLR-15S
SVACL1212X11N	LRIS-2.5*7	CLR-15S

SVAC-N-1L [91°]





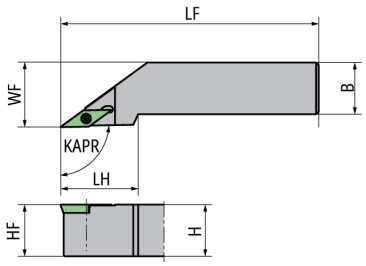
・Diagram shows right-hand tool

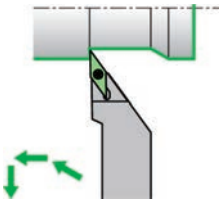
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5473053	**SVACR1010X11N-1L**	●	R	10	10	10	91	120	0	VC..1102..
5473061	**SVACR1212X11N-1L**	●	R	12	12	12	91	120	0	VC..1102..
5473038	**SVACL1010X11N-1L**	●	L	10	10	10	91	120	0	VC..1102..
5473046	**SVACL1212X11N-1L**	●	L	12	12	12	91	120	0	VC..1102..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR1010X11N-1L	LRIS-2.5*7	CLR-15S
SVACR1212X11N-1L	LRIS-2.5*7	CLR-15S
SVACL1010X11N-1L	LRIS-2.5*7	CLR-15S
SVACL1212X11N-1L	LRIS-2.5*7	CLR-15S

SVAC [91°]





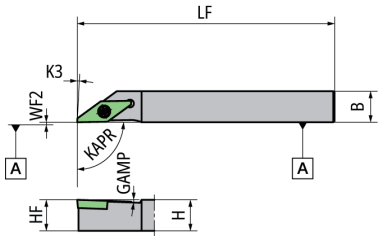
・Diagram shows right-hand tool

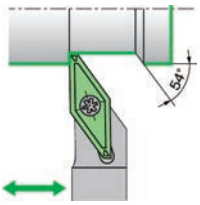
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage
5744768	**SVACR20-X11**	●	R	20	20	20	91	120	30	25	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR20-X11	LRIS-2.5*7	CLR-15S

SVAC-NW [91°] for VCGT1303





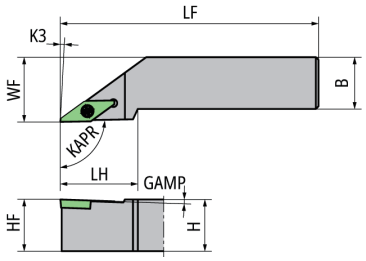
・Diagram shows right-hand tool

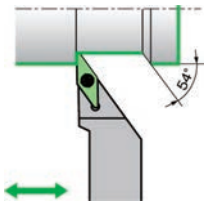
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	K3 °	LF mm	WF2 mm	Insert Gage
5401724	**SVACR1010L13NW**	●	R	10	1	10	10	91	3	140	0	VC..1303..2M
5401732	**SVACR1212L13NW**	●	R	12	1	12	12	91	3	140	0	VC..1303..2M
5401740	**SVACR1616M13NW**	●	R	16	1	16	16	91	3	140	0	VC..1303..2M
5401708	**SVACL1010L13NW**	●	L	10	1	10	10	91	3	140	0	VC..1303..2M
5401716	**SVACL1212L13NW**	●	L	12	1	12	12	91	3	140	0	VC..1303..2M
5431077	**SVACL1616M13NW**	●	L	16	1	16	16	91	3	140	0	VC..1303..2M

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR1010L13NW	LRIS-3*8	RLR-20S
SVACR1212L13NW	LRIS-3*8	RLR-20S
SVACR1616M13NW	LRIS-3*8	RLR-20S
SVACL1010L13NW	LRIS-3*8	RLR-20S
SVACL1212L13NW	LRIS-3*8	RLR-20S
SVACL1616M13NW	LRIS-3*8	RLR-20S

SVAC-W [91°] for VCGT1303





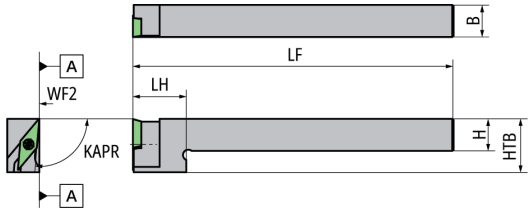
・Diagram shows right-hand tool

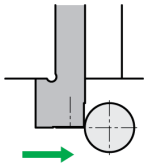
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	K3 °	LF mm	LH mm	WF mm	Insert Gage
5474549	**SVACR2020M13W**	●	R	20	1	20	20	91	3	150	30	25	VC..1303..2M

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR2020M13W	LRIS-3*8	RLR-20S

Y-SVXC [95°] Y-axis





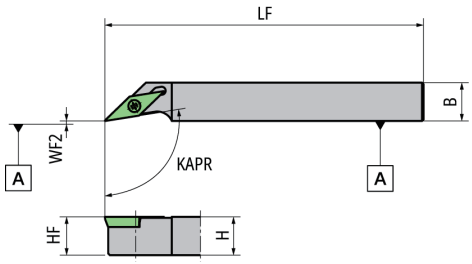
・Diagram shows left-hand tool
NOTE: Use a left-handed (L) or non-handed insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

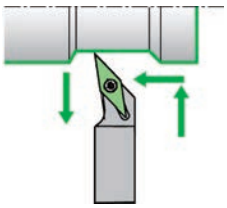
EDP	Item Number	Stock	Hand	B mm	H mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage
5917182	**Y-SVXCL12-11S**	●	L	12	12	95	120	20	0	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-SVXCL12-11S	LRIS-2.5*7	CLR-15S

SVXC-N [99°]





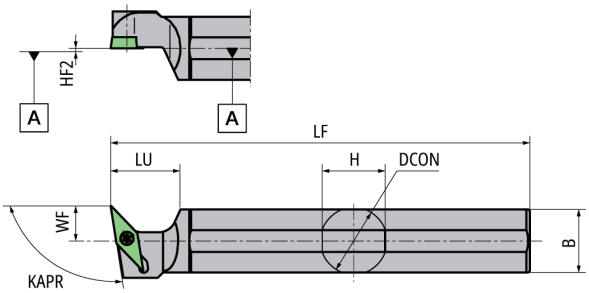
・Diagram shows right-hand tool

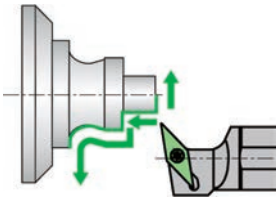
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5393731	**SVXCR1012X11N**	●	R	12	10	10	99	120	0	VC..1103..
5393749	**SVXCR1212X11N**	●	R	12	12	12	99	120	0	VC..1103..
5415815	**SVXCL1012X11N**	●	L	12	10	10	99	120	0	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVXCR1012X11N	LRIS-2.5*7	CLR-15S
SVXCR1212X11N	LRIS-2.5*7	CLR-15S
SVXCL1012X11N	LRIS-2.5*7	CLR-15S

DS-SVX [99°] DS Toolholders





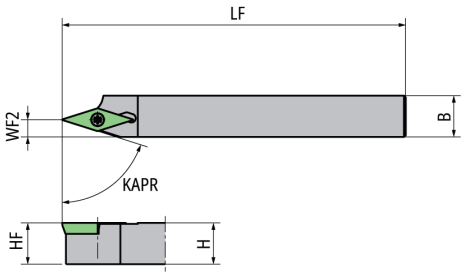
・Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

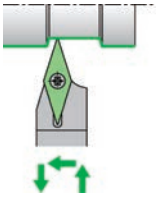
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	WF mm	Insert Gage
5601778	**DS-SVXL14F-11**	●	L	13	14	13	0	99	80	20.5	10	VC..1103..
5418413	**DS-SVXL15H-11**	●	L	15	15.875	15	0	99	100	20.5	10	VC..1103..
5601752	**DS-SVXL16F-11**	●	L	15	16	15	0	99	80	20.5	10	VC..1103..
5393756	**DS-SVXL19-11**	●	L	18	19.05	18	0	99	120	20	10	VC..1103..
5572722	**DS-SVXL19-11SPL**	●	L	18	19.05	18	0	99	160	20	11	VC..1103..
5393764	**DS-SVXL20-11**	●	L	19	20	19	0	99	120	20	10	VC..1103..
5520663	**DS-SVXL20X-11**	●	L	19	20	19	0	99	95	20	10	VC..1103..
5486675	**DS-SVXL22-11**	●	L	21	22	21	0	99	120	20	10	VC..1103..
5486683	**DS-SVXL25-11**	●	L	24	25.4	24	0	99	150	20	10	VC..1103..
5953252	**DS-SVXL25-11MET**	●	L	24	25	24	0	99	150	20	10	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SVXL14F-11	LRIS-2.5*7	CLR-15S
DS-SVXL15H-11	LRIS-2.5*7	CLR-15S
DS-SVXL16F-11	LRIS-2.5*7	CLR-15S
DS-SVXL19-11	LRIS-2.5*7	CLR-15S
DS-SVXL19-11SPL	LRIS-2.5*7	CLR-15S
DS-SVXL20-11	LRIS-2.5*7	CLR-15S
DS-SVXL20X-11	LRIS-2.5*7	CLR-15S
DS-SVXL22-11	LRIS-2.5*7	CLR-15S
DS-SVXL25-11	LRIS-2.5*7	CLR-15S
DS-SVXL25-11MET	LRIS-2.5*7	CLR-15S

SVVC-N [72.5°]





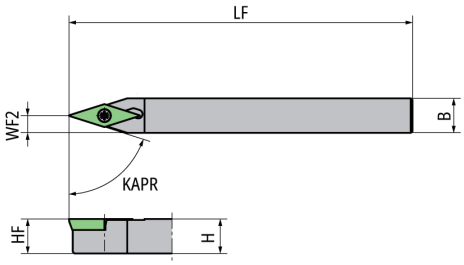
・Diagram shows right-hand tool

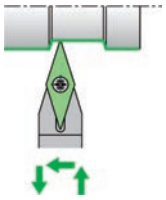
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5523238	**SVVCR1212X11N**	●	R	12	12	12	72.5	120	5	VC..1103..
5523212	**SVVCR1616X11N**	●	R	16	16	16	72.5	120	5	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVVCR1212X11N	LRIS-2.5*7	CLR-15S
SVVCR1616X11N	LRIS-2.5*7	CLR-15S

SVVCN [72.5°]



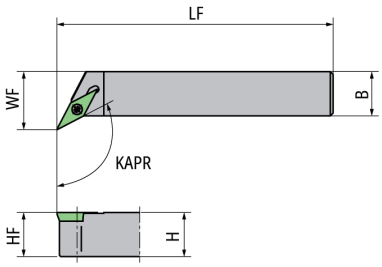


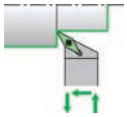
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5877998	**SVVCN0808H11N**	●	N	8	8	8	72.5	100	4	VC..1103..
5461835	**SVVCN1010X11N**	●	N	10	10	10	72.5	120	5	VC..1103..
5744792	**SVVCN20-X11**	●	N	20	20	20	72.5	120	10	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVVCN0808H11N	LRIS-2.5*7	CLR-15S
SVVCN1010X11N	LRIS-2.5*7	CLR-15S
SVVCN20-X11	LRIS-2.5*7	CLR-15S

SVQC [117.5°]





・Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage
5744776	**SVQCR20-X11**	●	R	20	20	20	117.5	120	25	VC..1103..

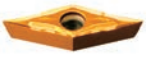
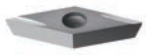
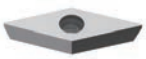
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVQCR20-X11	LRIS-2.5*7	CLR-15S

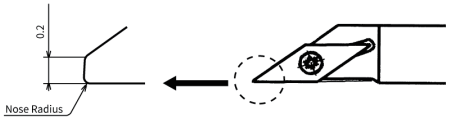
VC.. series/Inserts Carbide

VC..

Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number (ISO)		CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	VCGT110301MYL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MYL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110304MYL		Up-sharp edge	35	6.35	3.18	7	0.38	–	●	●	●	●	●					
	VCGT110202MCL		Up-sharp edge	35	6.35	2.38	7	0.18	–		●	●	●	●					
	VCGT110301MCL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MCL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110300FNAM3		Up-sharp edge	35	6.35	3.18	7	0.03	–			●		●	●				
	VCGT110301MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.08	–	●		●	●	●	●				
	VCGT110301FNAM3		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.18	–	●		●	●	●	●				
	VCGT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCGT110304MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.38	–	●		●	●	●	●				
	VCMT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–		●								
	VCMT110304FNAM3		Up-sharp edge	35	6.35	3.18	7	0.4	–		●								
	VCGT110300AZ7		Up-sharp edge	35	6.35	3.18	7	0.03	–				●			●			
	VCGT110301MAZ7		Up-sharp edge	35	6.35	3.18	7	0.08	–				●			●			
	VCGT110302MAZ7		Up-sharp edge	35	6.35	3.18	7	0.18	–				●			●			
	VCGT110304MAZ7		Up-sharp edge	35	6.35	3.18	7	0.38	–				●			●			
	VCGT130300FR2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130300FL2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130301FR2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT130301FL2M		Up-sharp edge	35	7.94	3.18	7	–	–		●								
	VCGT110300RU		Up-sharp edge	35	6.35	3.18	7	0.03	–						●	●			
	VCGT110301MRU		Up-sharp edge	35	6.35	3.18	7	0.08	–			●							
	VCGT110301RU		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MRU		Up-sharp edge	35	6.35	3.18	7	0.18	–			●							
	VCGT110302RU		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCET1103008RUHG		Up-sharp edge	35	6.35	3.18	7	0.08	–						●				
	VCGT1103005RU-WP		Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RU-WP		Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGT1103005RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGW110300H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.03	–										●
	VCGW110301H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	–										●
	VCGW110302H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.2	–										●

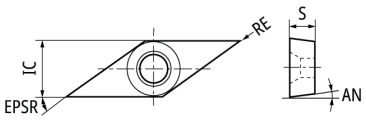
Features of VCGT-WP insert



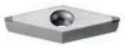
NTK WP style inserts have a wiper facet design.
The insert has a 0.2mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SVAC

VC.. series/Inserts CBN

VCGW

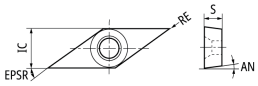


	CBN									
	PVD					PVD			PVD	
Steel										
Stainless Steel										
Cast Iron	●	●	●	●				○	○	
Non-Ferrous Material										
Heat Resistant Alloy										
Hardened Material				●	●		●	●	●	
Others (non-metallic)										

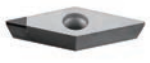
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	B16	B22	B23	B30	B36	B6K	B40	B52	B5K
	VCGW080202PDS01015	S01015	35	4.76	2.38	7	0.2	–	2.6	2	–								●	
	VCGW080204PDS01015	S01015	35	4.76	2.38	7	0.4	–	2.5	2	–								●	
	VCGW080208PDS01015	S01015	35	4.76	2.38	7	0.8	–	1.6	2	–								●	
	VCGW110302PDS01015	S01015	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110302PDS01535	S01535	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110304PDS01015	S01015	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110304PDS01535	S01535	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110308PDS01015	S01015	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110308PDS01535	S01535	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110312PDS01015	S01015	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	
	VCGW110312PDS01535	S01535	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	
	VCGW160402PDS01015	S01015	35	9.525	4.76	7	0.2	–	2.6	2	–							●		
	VCGW160402PDS01535	S01535	35	9.525	4.76	7	0.2	–	2.6	2	–							●		
	VCGW160404PDS01015	S01015	35	9.525	4.76	7	0.4	–	2.5	2	–							●	●	
	VCGW160404PDS01535	S01535	35	9.525	4.76	7	0.4	–	2.5	2	–							●	●	
	VCGW160404PDT01020	T01020	35	9.525	4.76	7	0.4	–	2.5	2	–				●					
	VCGW160408PDS01015	S01015	35	9.525	4.76	7	0.8	–	1.6	2	–							●	●	
	VCGW160408PDS01535	S01535	35	9.525	4.76	7	0.8	–	1.6	2	–							●	●	
	VCGW160408PDT01020	T01020	35	9.525	4.76	7	0.8	–	1.6	2	–				●					
	VCGW160412PDS01015	S01015	35	9.525	4.76	7	1.2	–	2.7	2	–							●	●	
	VCGW160412PDS01535	S01535	35	9.525	4.76	7	1.2	–	2.7	2	–							●	●	
	VCGW160412PDT01020	T01020	35	9.525	4.76	7	1.2	–	2.7	2	–				●					

VC.. series/Inserts PCD

VCMW

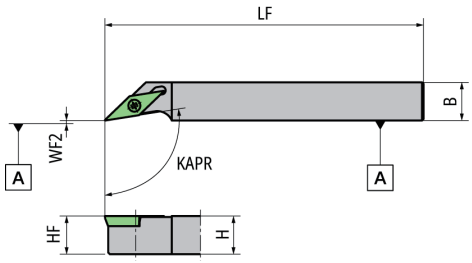


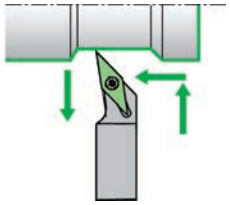
	PCD		Diamond Coating
	PD1	PD2	UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PD1	PD2	UC1
	VCMW110301	Up-sharp edge	35	6.35	3.18	7	0.1	1	●		
	VCMW110302	Up-sharp edge	35	6.35	3.18	7	0.2	1	●		
	VCMW110304	Up-sharp edge	35	6.35	3.18	7	0.4	1	●		

VP.. series/Toolholder

SVXP-N [99°]





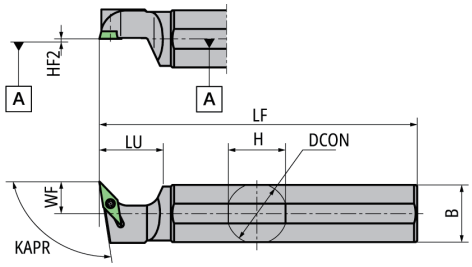
● Diagram shows right-hand tool

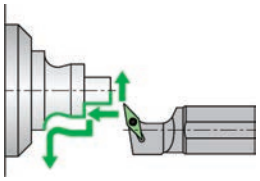
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5511506	**SVXPR1012X11N**	●	R	12	10	10	99	120	0	VP..1103..
5511522	**SVXPR1212X11N**	●	R	12	12	12	99	120	0	VP..1103..
5511514	**SVXPL1012X11N**	●	L	12	10	10	99	120	0	VP..1103..
5511548	**SVXPL1212X11N**	●	L	12	12	12	99	120	0	VP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVXPR1012X11N	LRIS-2.5*7	CLR-15S
SVXPR1212X11N	LRIS-2.5*7	CLR-15S
SVXPL1012X11N	LRIS-2.5*7	CLR-15S
SVXPL1212X11N	LRIS-2.5*7	CLR-15S

DS-SVXP [99°] DS Toolholders





● Diagram shows left-hand tool

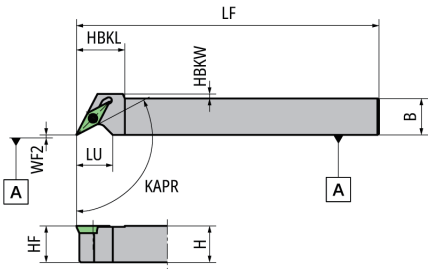
NOTE: Use a right-handed (R) or non-handed insert.

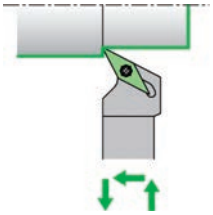
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	LU mm	WF mm	Insert Gage
5534003	**DS-SVXPL19-08**	●	L	18	19.05	18	0	99	120	20	10	VP..0802..
5534011	**DS-SVXPL20-08**	●	L	19	20	19	0	99	120	20	10	VP..0802..
5600549	**DS-SVXPL22-08**	●	L	21	22	21	0	99	120	20	10	VP..0802..
5533997	**DS-SVXPL25-08**	●	L	24	25.4	24	0	99	150	20	10	VP..0802..

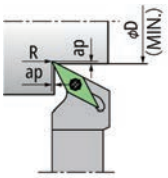
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SVXPL19-08	LRIS-2*6	CLR-13S
DS-SVXPL20-08	LRIS-2*6	CLR-13S
DS-SVXPL22-08	LRIS-2*6	CLR-13S
DS-SVXPL25-08	LRIS-2*6	CLR-13S

SVQP-N [117.5°]







R	ap	ϕD(Min)
0.05	0.2	2.5
	0.5	4.5
0.08	0.2	2.5
	0.5	4.5
0.18	0.2	3.5
	0.5	5.5
0.2	0.2	3.5
	0.5	5.5

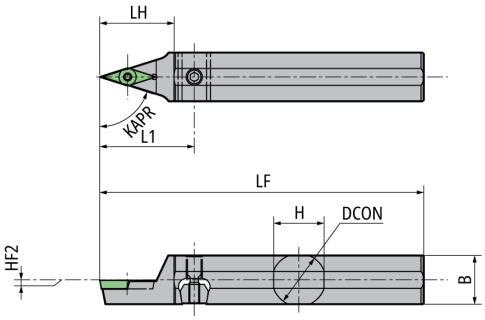
● Diagram shows right-hand tool

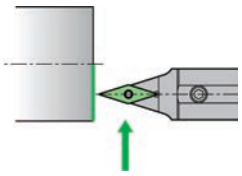
EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	LU mm	WF2 mm	Insert Gage
5600622	**SVQPR1010X08N**	●	R	10	10	16	3.5	10	117.5	120	12	0	VP..0802..
5600598	**SVQPR1212X08N**	●	R	12	12	16	1.5	12	117.5	120	12	0	VP..0802..
5600580	**SVQPR1616X08N**	●	R	16	16	–	–	16	117.5	120	12	0	VP..0802..
5600614	**SVQPL1010X08N**	●	L	10	10	16	3.5	10	117.5	120	12	0	VP..0802..
5600606	**SVQPL1212X08N**	●	L	12	12	16	1.5	12	117.5	120	12	0	VP..0802..
5600564	**SVQPL1616X08N**	●	L	16	16	–	–	16	117.5	120	12	0	VP..0802..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVQPR1010X08N	LRIS-2*6	CLR-13S
SVQPR1212X08N	LRIS-2*6	CLR-13S
SVQPR1616X08N	LRIS-2*6	CLR-13S
SVQPL1010X08N	LRIS-2*6	CLR-13S
SVQPL1212X08N	LRIS-2*6	CLR-13S
SVQPL1616X08N	LRIS-2*6	CLR-13S

DS-SVVPN-ACH [72.5°] Adjustable centerline height



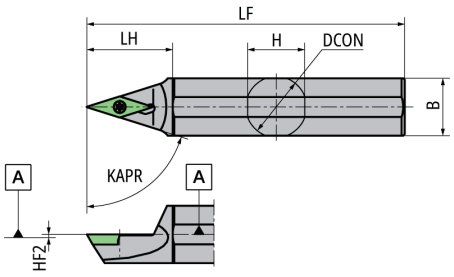


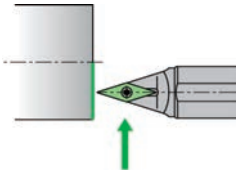
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	L1 mm	Insert Gage
5805643	**DS-SVVPN16-11-ACH**	●	N	15	16	15.5	Type B(0~+0.3)	72.5	120	31	VP..1103..
5799655	**DS-SVVPN19-11-ACH**	●	N	18	19.05	18	Type B(0~+0.3)	72.5	120	35	VP..1103..
5799663	**DS-SVVPN20-11-ACH**	●	N	19	20	19	Type B(0~+0.3)	72.5	120	35	VP..1103..
5799671	**DS-SVVPN22-11-ACH**	●	N	21	22	21	Type A(0~+0.2)	72.5	120	35	VP..1103..
5807524	**DS-SVVPN25-11-ACH**	●	N	24	25.4	24	Type A(0~+0.2)	72.5	150	35	VP..1103..

Spare Parts

Item Number	Clamp screw	Screw (for Wedge)	Wedge	Wrench (for Clamp screw)	Wrench (for Wedge)
DS-SVVPN16-11-ACH	LRIS-2.5*7	WS060415-003	ACH-W18	CLR-15S	LW-3
DS-SVVPN19-11-ACH	LRIS-2.5*7	WS060415-003	ACH-W18	CLR-15S	LW-3
DS-SVVPN20-11-ACH	LRIS-2.5*7	WS060419-004	ACH-W18	CLR-15S	LW-3
DS-SVVPN22-11-ACH	LRIS-2.5*7	WS060419-004	ACH-W18	CLR-15S	LW-3
DS-SVVPN25-11-ACH	LRIS-2.5*7	WS060419-004	ACH-W24	CLR-15S	LW-3

DS-SVVPN [72.5°] DS Toolholders



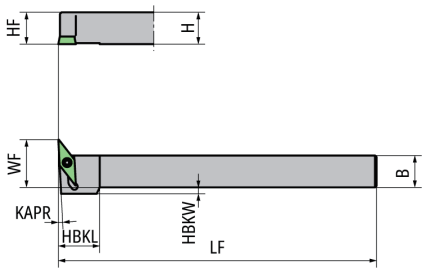


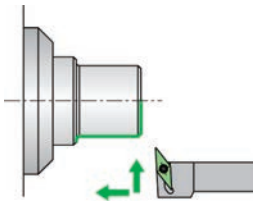
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	KAPR °	LF mm	Insert Gage
5511555	**DS-SVVPN19-11**	●	N	18	19.05	18	0	72.5	120	VP..1103..
5511563	**DS-SVVPN22-11**	●	N	21	22	21	0	72.5	120	VP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-SVVPN19-11	LRIS-2.5*7	CLR-15S
DS-SVVPN22-11	LRIS-2.5*7	CLR-15S

CH-SVUP [93°] for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

EDP	Item Number	Stock	Hand	B mm	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	WF mm	Insert Gage
5659206	**CH-SVUPL1010H08**	●	L	10	10	13	2	10	3	100	15	VP..0802..
5659214	**CH-SVUPL1212H08**	●	L	12	12	–	–	12	3	100	17	VP..0802..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-SVUPL1010H08	LRIS-2*6	CLR-13S
CH-SVUPL1212H08	LRIS-2*6	CLR-13S

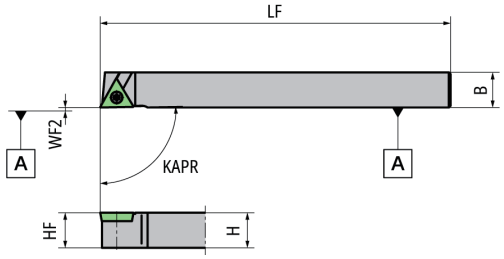
VP.. series/Inserts Carbide

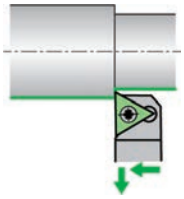
VP..

Steel	○	●	●	●	●	●	●		●								
Stainless Steel	●	○	○	○	●	○	●		●								
Cast Iron								●									
Non-Ferrous Material					○		○										●
Heat Resistant Alloy		●	○	○													
Hardened Material		○	○	○													
Others (non-metallic)																	●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	VPET0802005LKHG	Up-sharp edge	35	4.76	2.38	11	0.05	–						●				
	VPET0802008RKHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●		●	●				
	VPET0802008LKHG	Up-sharp edge	35	4.76	2.38	11	0.08	–						●				
	VPET0802018RKHG	Up-sharp edge	35	4.76	2.38	11	0.18	–					●	●				
	VPET0802018LKHG	Up-sharp edge	35	4.76	2.38	11	0.18	–						●				
	VPET080202RKHG	Up-sharp edge	35	4.76	2.38	11	0.2	–					●	●				
	VPET080202LKHG	Up-sharp edge	35	4.76	2.38	11	0.2	–						●				
	VPET1103005RKHG	Up-sharp edge	35	6.35	3.18	11	0.05	–					●	●				
	VPET1103005LKHG	Up-sharp edge	35	6.35	3.18	11	0.05	–						●				
	VPET1103008RKHG	Up-sharp edge	35	6.35	3.18	11	0.08	–					●	●				
	VPET1103008LKHG	Up-sharp edge	35	6.35	3.18	11	0.08	–						●				
	VPET1103018RKHG	Up-sharp edge	35	6.35	3.18	11	0.18	–					●	●				
	VPET1103018LKHG	Up-sharp edge	35	6.35	3.18	11	0.18	–						●				
	VPET110302RKHG	Up-sharp edge	35	6.35	3.18	11	0.2	–					●	●				
	VPET110302LKHG	Up-sharp edge	35	6.35	3.18	11	0.2	–						●				
	VPET0802008LUHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●							
	VPET0802008RUHG	Up-sharp edge	35	4.76	2.38	11	0.08	–			●							
	VPGT110300FNAM3	Up-sharp edge	35	6.35	3.18	11	0.03	–			●		●					
	VPGT110301MFNAM3	Up-sharp edge	35	6.35	3.18	11	0.08	–	●		●	●	●					
	VPGT110302MFNAM3	Up-sharp edge	35	6.35	3.18	11	0.18	–	●		●	●	●					

STAC-N [91°]





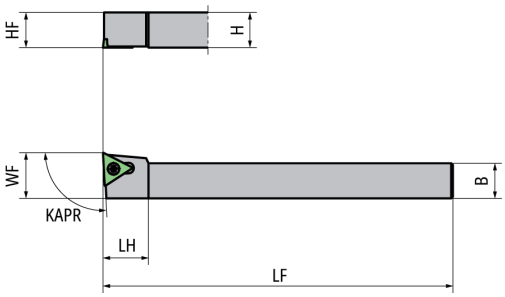
● Diagram shows right-hand tool

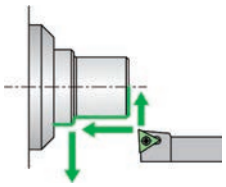
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage	
5137005	**STACR0808X09N**	●	R	8	8	8	91	120	0	TC..0902..	TC..0902..WP(TFT09..)
5137096	**STACR1010X09N**	●	R	10	10	10	91	120	0	TC..0902..	TC..0902..WP(TFT09..)
5119078	**STACR1212X11N**	●	R	12	12	12	91	120	0	TC..1102..	TC..1102..WP(TFT11..)
5137948	**STACL1010X09N**	●	L	10	10	10	91	120	0	TC..0902..	TC..0902..WP(TFT09..)
5137930	**STACL1212X11N**	●	L	12	12	12	91	120	0	TC..1102..	TC..1102..WP(TFT11..)

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
STACR0808X09N	LRIS-2.2*6	CLR-13S
STACR1010X09N	LRIS-2.2*6	CLR-13S
STACR1212X11N	LRIS-2.5*7	CLR-15S
STACL1010X09N	LRIS-2.2*6	CLR-13S
STACL1212X11N	LRIS-2.5*7	CLR-15S

CH-STUC [93°] for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

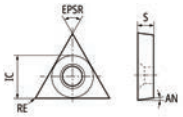
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage
5659180	**CH-STUCL1010H09**	●	L	10	10	10	93	100	13	13	TC..0902..
5659198	**CH-STUCL1212H09**	●	L	12	12	12	93	100	13	15	TC..0902..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-STUCL1010H09	LRIS-2.2*6	CLR-13S
CH-STUCL1212H09	LRIS-2.2*6	CLR-13S

TC.. series/Inserts Carbide

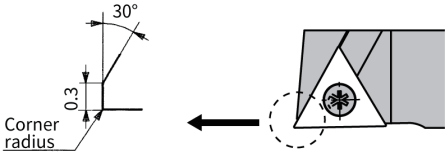
TC..



Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

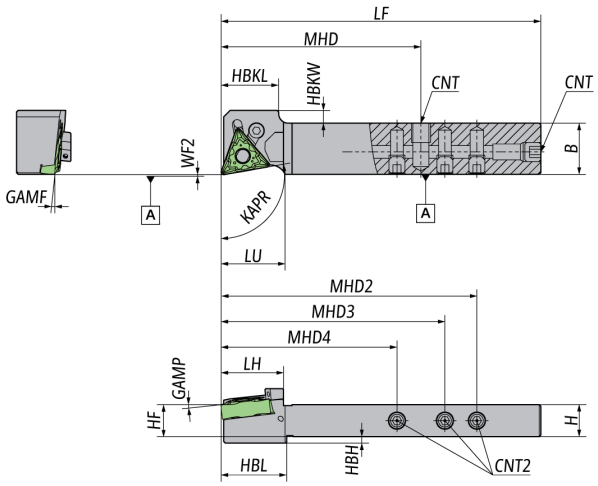
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	(ISO)		°	mm	mm	°	mm	mm										
	TCGT090201RS	Up-sharp edge	60	5.56	2.38	7	0.1	–						●	●			
	TCGT090201LS	Up-sharp edge	60	5.56	2.38	7	0.1	–						●				
	TCGT090202RS	Up-sharp edge	60	5.56	2.38	7	0.2	–							●			
	TCGT110201RS	Up-sharp edge	60	6.35	2.38	7	0.1	–						●	●			
	TCGT110201LS	Up-sharp edge	60	6.35	2.38	7	0.1	–						●				
	TCGT090201RU	Up-sharp edge	60	5.56	2.38	7	0.1	–							●			
	TCGT090202RU	Up-sharp edge	60	5.56	2.38	7	0.2	–							●			
	TCGT0902005RS-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902005LS-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902015RS-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT0902015LS-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT1102005RS-WP	Up-sharp edge	60	6.35	2.38	7	0.05	(0.3)							●			
	TCGT1102015RS-WP	Up-sharp edge	60	6.35	2.38	7	0.15	(0.3)							●			
	TCGT0902005RU-WP	Up-sharp edge	60	5.56	2.38	7	0.05	(0.3)							●			
	TCGT0902015RU-WP	Up-sharp edge	60	5.56	2.38	7	0.15	(0.3)							●			
	TCGT1102005RU1-WP	Up-sharp edge	60	6.35	2.38	7	0.05	(0.3)							●			
	TCGT1102015RU1-WP	Up-sharp edge	60	6.35	2.38	7	0.15	(0.3)							●			
	TCGW090200FN	Up-sharp edge	60	5.56	2.38	7	0.03	–							●			
	TCGW090201FN	Up-sharp edge	60	5.56	2.38	7	0.1	–							●			
	TCGW110200FN	Up-sharp edge	60	6.35	2.38	7	0.03	–							●			
	TCGW110201FN	Up-sharp edge	60	6.35	2.38	7	0.1	–							●			

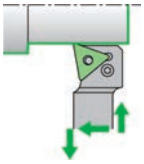
Features of TCGT-WP insert



NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: STAC

PTXN-OH3 [100°] Coolant through (direct connect compatible)





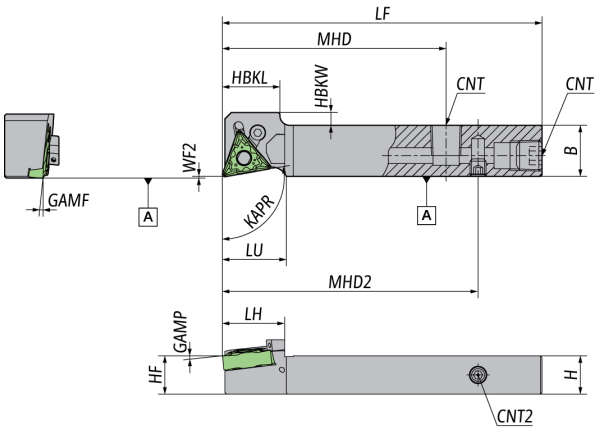
· Diagram shows right-hand tool

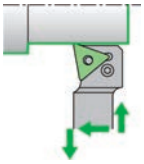
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	GAMF °	GMAP °	H mm	HBH mm	HBKL mm	HBKW mm	HBL mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage
5128939	**PTXNR1016X33N-OH3**		R	16	M6*1	M5	6	6	10	2	18	4	20.5	10	100	100	19.5	20	62.5	80	70	55	0	TN..1604..
5129374	**PTXNR1616X33N-OH3**		R	16	Rc1/8	M5	6	6	16	–	18	4	–	16	100	120	19.5	20	78.75	100	87.5	70	0	TN..1604..

Spare Parts

Item Number	Clamp screw	Clamp Pin	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)
PTXNR1016X33N-OH3	LCS33	LCL33N	SS0605SC	SS0505SC	LW2.5
PTXNR1616X33N-OH3	LCS33	LCL33N	SPR1/8	SS0505SC	LW2.5

PTXN-OH2 [100°] Coolant through (direct connect compatible)





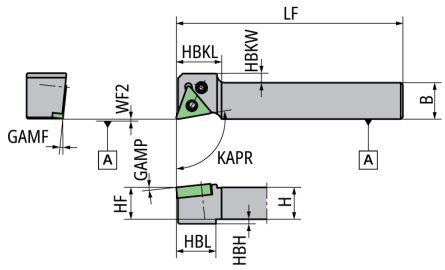
· Diagram shows right-hand tool

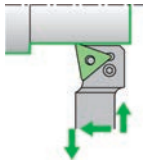
EDP	Item Number	Stock	Hand	B mm	CNT	CNT2	GAMF °	GMAP °	H mm	HBKL mm	HBKW mm	HF mm	KAPR °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage
5129309	**PTXNR1216X33N-OH2**		R	16	Rc1/8	M5	6	6	12	18	4	12	100	100	19.5	20	70	80	0	TN..1604..

Spare Parts

Item Number	Clamp screw	Clamp Pin	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)
PTXNR1216X33N-OH2	LCS33	LCL33N	SPR1/8	SS0505SC	LW2.5

PTXN-N [100°]





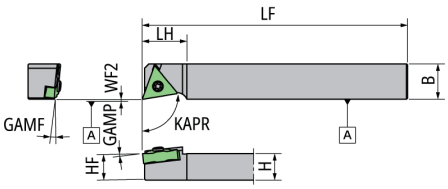
· Diagram shows right-hand tool

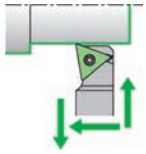
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HBH mm	HBKL mm	HBKW mm	HBL mm	HF mm	KAPR °	LF mm	WF2 mm	Insert Gage
5479860	**PTXNR1016X33N**	●	R	16	6	6	10	2	18	4	17.5	10	100	120	0	TN..1604..
5479852	**PTXNR1216X33N**	●	R	16	6	6	12	–	18	4	–	12	100	120	0	TN..1604..
5016183	**PTXNR1216X33NGX**	●	R	16	6	6	12	–	18	4	–	12	100	85	0	TN..1604..
5489901	**PTXNR1616X33N**	●	R	16	6	6	16	–	18	4	–	16	100	120	0	TN..1604..
5513965	**PTXNR2020X33N**	●	R	20	6	6	20	–	18	–	–	20	100	120	0	TN..1604..

Spare Parts

Item Number	Clamp screw	Clamp Pin	Wrench (for Clamp screw)
PTXNR1016X33N	LCS33	LCL33N	LW-2
PTXNR1216X33N	LCS33	LCL33N	LW-2
PTXNR1216X33NGX	LCS33	LCL33N	LW-2
PTXNR1616X33N	LCS33	LCL33N	LW-2
PTXNR2020X33N	LCS33	LCL33N	LW-2

STXN-N [100°] For Screw-on Toolholders





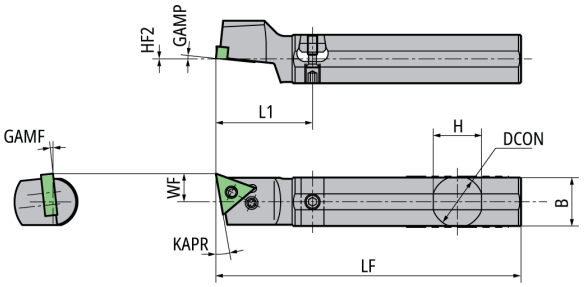
· Diagram shows right-hand tool

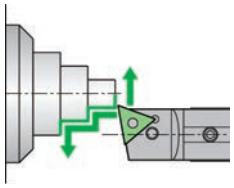
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP °	H mm	HF mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage
5837893	**STXNR1016X33N**	●	R	16	6	6	10	10	100	120	18	0	TN..1604..UL
5837901	**STXNR1216X33N**	●	R	16	6	6	12	12	100	120	18	0	TN..1604..UL
5016191	**STXNR1216GX33N**	●	R	16	6	6	12	12	100	85	18	0	TN..1604..UL
5837919	**STXNR1616X33N**	●	R	16	6	6	16	16	100	120	18	0	TN..1604..UL

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
STXNR1016X33N	LR-S-3.5*10.6	RLR-20S
STXNR1216X33N	LR-S-3.5*10.6	RLR-20S
STXNR1216GX33N	LR-S-3.5*10.6	RLR-20S
STXNR1616X33N	LR-S-3.5*10.6	RLR-20S

DS-PTX-ACH [100°] Adjustable centerline height





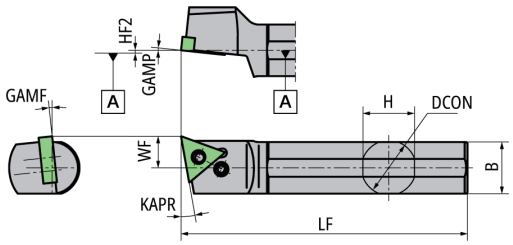
• Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

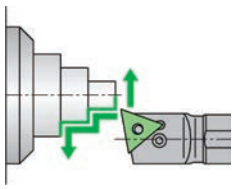
EDP	Item Number	Stock	Hand	B mm	DCON mm	GAMF °	GMAP °	H mm	HF2 mm	KAPR °	LF °	L1 mm	WF mm	Insert Gage
5805650	**DS-PTXL16-33-ACH**	●	L	15	16	6	6	15.5	Type B(0~+0.3)	10	120	38	11	TN..1604..
5799689	**DS-PTXL19-33-ACH**	●	L	18	19.05	6	6	18	Type B(0~+0.3)	10	120	38	11	TN..1604..
5799697	**DS-PTXL20-33-ACH**	●	L	19	20	6	6	19	Type B(0~+0.3)	10	120	38	11	TN..1604..
5799705	**DS-PTXL22-33-ACH**	●	L	21	22	6	6	21	Type B(0~+0.3)	10	120	38	12	TN..1604..
5799713	**DS-PTXL25-33-ACH**	●	L	24	25.4	6	6	24	Type A(0~+0.2)	10	150	38	13	TN..1604..
5934039	**DS-PTXL25-33MET-ACH**	●	L	24	25	6	6	24	Type A(0~+0.2)	10	150	38	13	TN..1604..

Spare Parts

Item Number	Clamp screw	Screw (for Wedge)	Clamp Pin	Wedge	Wrench (for Wedge)
DS-PTXL16-33-ACH	LCS33	WS060415-003	LCL33N	ACH-W18	LW-2
DS-PTXL19-33-ACH	LCS33	WS060415-003	LCL33N	ACH-W18	LW-2
DS-PTXL20-33-ACH	LCS33	WS060419-004	LCL33N	ACH-W18	LW-2
DS-PTXL22-33-ACH	LCS33	WS060419-004	LCL33N	ACH-W18	LW-2
DS-PTXL25-33-ACH	LCS33	WS060419-004	LCL33N	ACH-W24	LW-2
DS-PTXL25-33MET-ACH	LCS33	WS060419-004	LCL33N	ACH-W24	LW-2

DS-PTX [100°] DS Toolholders





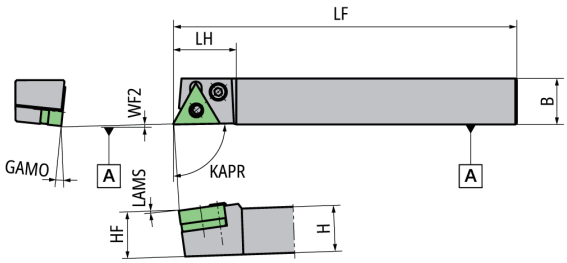
• Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

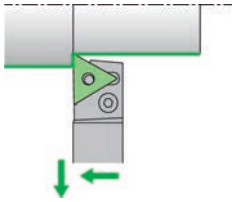
EDP	Item Number	Stock	Hand	B mm	DCON mm	GAMF °	GMAP °	H mm	HF2 mm	KAPR °	LF mm	L1 mm	WF mm	Insert Gage
5815766	**DS-PTXL16-33**	●	L	15	16	6	6	15	0	10	120	–	11	TN..1604..
5519707	**DS-PTXL19-33**	●	L	18	19.05	6	6	18	0	10	120	–	11	TN..1604..
5519715	**DS-PTXL20-33**	●	L	19	20	6	6	19	0	10	120	–	11	TN..1604..
5591029	**DS-PTXL22-33**	●	L	21	22	6	6	21	0	10	120	–	12	TN..1604..
5519699	**DS-PTXL25M-33**	●	L	24	25.4	6	6	24	0	10	150	–	13	TN..1604..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Clamp Pin	Wedge	Wrench (for Clamp screw)
DS-PTXL16-33	LCS33	–	LCL33N	–	LW-2
DS-PTXL19-33	LCS33	–	LCL33N	–	LW-2
DS-PTXL20-33	LCS33	–	LCL33N	–	LW-2
DS-PTXL22-33	LCS33	–	LCL33N	–	LW-2
DS-PTXL25M-33	LCS33	–	LCL33N	–	LW-2

PTAN-N [91°]





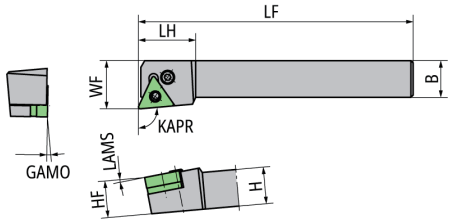
・Diagram shows right-hand tool

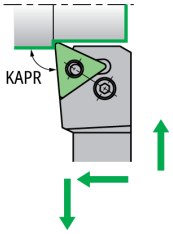
EDP	Item Number	Stock	Hand	B mm	°	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF2 mm	Insert Gage
5252325	**PTANR1616X33N**	●	R	16		16	16	91	6	120	22	0	TN..1604..

Spare Parts

Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PTANR1616X33N	LST317	LCS3	LCL3	LSP3	LW-2.5

PTLN [95°]





・Diagram shows right-hand tool

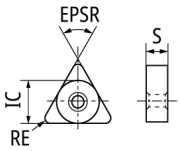
EDP	Item Number	Stock	Hand	B mm	°	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5552336	**PTLNR2020L33**	●	R	20		20	20	95	6	140	25	25	TN..1604..
5552344	**PTLNL2020L33**	●	L	20		20	20	95	6	140	25	25	TN..1604..

Spare Parts

Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PTLNR2020L33	LST317	LCS3	LCL3	LSP3	LW-2.5
PTLNL2020L33	LST317	LCS3	LCL3	LSP3	LW-2.5

TN.. series/Inserts Carbide

TN..

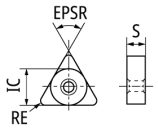


Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												●
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TNGG160401MFNUL	Up-sharp edge	60	9.525	4.76	–	0.1	–	●	●		●	●					
	TNGG160402MFNUL	Up-sharp edge	60	9.525	4.76	–	0.2	–	●	●		●	●					
	TNGG160404MFNUL	Up-sharp edge	60	9.525	4.76	–	0.4	–	●	●		●	●					
	TNGG160408MFNUL	Up-sharp edge	60	9.525	4.76	–	0.8	–	●	●		●	●					
	TNGG160402FNZP	Up-sharp edge	60	9.525	4.76	–	0.2	–		●		●	●	●	●			
	TNGG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	–		●		●	●	●	●			
	TNGG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	–		●		●		●	●			
	TNMG160408G	–	60	9.525	4.76	–	0.8	–								●		
	TNMG160412G	–	60	9.525	4.76	–	1.2	–								●		
	TNMG160404T00525Z5	T00525	60	9.525	4.76	–	0.4	–		●		●						
	TNMG160408T00525Z5	T00525	60	9.525	4.76	–	0.8	–		●		●						
	TNEG160402FLD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160402FRD1	Up-sharp edge	60	9.525	4.76	–	0.2	–					●					
	TNEG160404FLD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160404FRD1	Up-sharp edge	60	9.525	4.76	–	0.4	–					●					
	TNEG160408FLD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNEG160408FRD1	Up-sharp edge	60	9.525	4.76	–	0.8	–					●					
	TNGG160401FRU2	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			
	TNGG160402FLU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160402FRU2	Up-sharp edge	60	9.525	4.76	–	0.2	–		●					●			
	TNGG160404FLU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160404FRU2	Up-sharp edge	60	9.525	4.76	–	0.4	–		●					●			
	TNGG160408FLU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160408FRU2	Up-sharp edge	60	9.525	4.76	–	0.8	–							●			
	TNGG160402FRC	Up-sharp edge	60	9.525	4.76	–	0.2	–							●			
	TNGG160401FRDA	Up-sharp edge	60	9.525	4.76	–	0.1	–						●	●			

TN.. series/Inserts CBN

TNGA

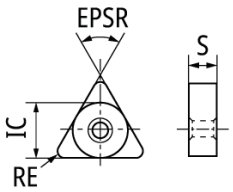


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	TNGA160401PHFNX	Up-sharp edge	60	9.525	4.76	–	0.1	–	2.1	6	–								●	
	TNGA160401PHS01015	S01015	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01325	S01325	60	9.525	4.76	–	0.1	–	2.1	6	–						●	●	●	●
	TNGA160401PHS01535	S01535	60	9.525	4.76	–	0.1	–	2.1	6	–							●	●	
	TNGA160402PHFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	6	–				●				●	
	TNGA160402PHS01015	S01015	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01325	S01325	60	9.525	4.76	–	0.2	–	2.2	6	–					●	●	●	●	●
	TNGA160402PHS01535	S01535	60	9.525	4.76	–	0.2	–	2.2	6	–					●		●	●	●
	TNGA160402PTFNX	Up-sharp edge	60	9.525	4.76	–	0.2	–	2.2	3	–				●					
	TNGA160404PHFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	6	–								●	
	TNGA160404PHS01015	S01015	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01020	S01020	60	9.525	4.76	–	0.4	–	2	6	–			●						
	TNGA160404PHS01325	S01325	60	9.525	4.76	–	0.4	–	2	6	–					●	●	●	●	●
	TNGA160404PHS01535	S01535	60	9.525	4.76	–	0.4	–	2	6	–				●	●	●	●	●	●
	TNGA160404PHT01020	T01020	60	9.525	4.76	–	0.4	–	2	6	–				●					
	TNGA160404PTFNX	Up-sharp edge	60	9.525	4.76	–	0.4	–	2	3	–				●					
	TNGA160408PHFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	6	–								●	
	TNGA160408PHS01015	S01015	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01020	S01020	60	9.525	4.76	–	0.8	–	1.7	6	–			●						
	TNGA160408PHS01325	S01325	60	9.525	4.76	–	0.8	–	1.7	6	–					●	●	●	●	●
	TNGA160408PHS01535	S01535	60	9.525	4.76	–	0.8	–	1.7	6	–				●	●	●	●	●	●
	TNGA160408PHT01020	T01020	60	9.525	4.76	–	0.8	–	1.7	6	–				●					
	TNGA160408PTFNX	Up-sharp edge	60	9.525	4.76	–	0.8	–	1.7	3	–				●					
	TNGA160412PHFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	6	–				●				●	
	TNGA160412PHS01015	S01015	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01020	S01020	60	9.525	4.76	–	1.2	–	2.3	6	–			●						
	TNGA160412PHS01325	S01325	60	9.525	4.76	–	1.2	–	2.3	6	–					●	●	●	●	●
	TNGA160412PHS01535	S01535	60	9.525	4.76	–	1.2	–	2.3	6	–				●	●	●	●	●	●
	TNGA160412PHT01020	T01020	60	9.525	4.76	–	1.2	–	2.3	6	–				●					
	TNGA160412PTFNX	Up-sharp edge	60	9.525	4.76	–	1.2	–	2.3	3	–				●					
	TNGA160416PHS01015	S01015	60	9.525	4.76	–	1.6	–	2.1	6	–						●		●	●
	TNGA160416PHS01325	S01325	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHS01535	S01535	60	9.525	4.76	–	1.6	–	2.1	6	–					●	●			●
	TNGA160416PHT01020	T01020	60	9.525	4.76	–	1.6	–	2.1	6	–				●					
	TNGA220412PHS01015	S01015	60	12.7	4.76	–	1.2	–	2.3	6	–							●		
	TNGA220412PHS01535	S01535	60	12.7	4.76	–	1.2	–	2.3	6	–							●		

TN.. series/Inserts PCD / Diamond Coating

TNM.

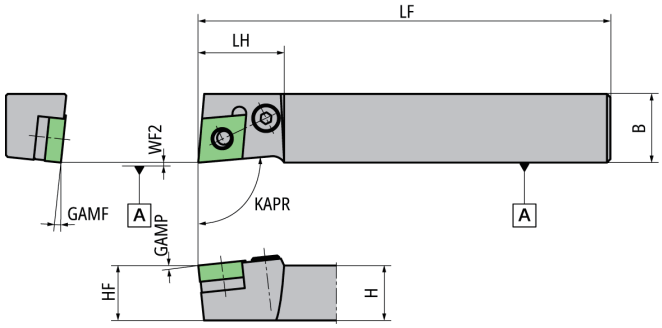


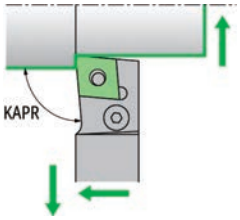
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	TNMX160404PF	Up-sharp edge	60	9.525	4.76	–	0.4	1		●	
	TNMX160408PF	Up-sharp edge	60	9.525	4.76	–	0.8	1		●	
	TNMG160402FNZP	Up-sharp edge	60	9.525	4.76	–	0.2	6			●
	TNMG160404FNZP	Up-sharp edge	60	9.525	4.76	–	0.4	6			●
	TNMG160408FNZP	Up-sharp edge	60	9.525	4.76	–	0.8	6			●

CN.. series/Toolholders

PCLN-N [95°]





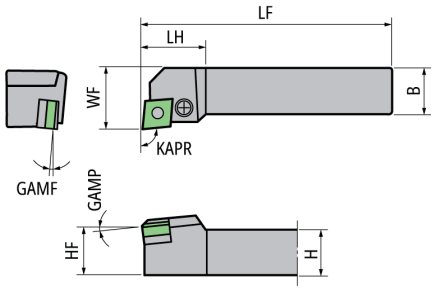
● Diagram shows right-hand tool

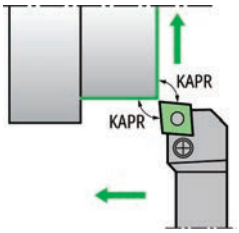
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP mm	H mm	HF mm	KAPR °	LF mm	LH mm	WF2 mm	Insert Gage
5259056	**PCLNR1620X43N**	●	R	20	6	6	16	16	95	120	25	0	CN..1204..

Spare Parts

Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PCLNR1620X43N	LSC42	LCS4CA	LCL4	LSP4	LW-3

PCLN [95°]





● Diagram shows right-hand tool

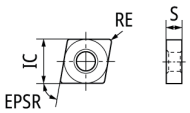
EDP	Item Number	Stock	Hand	B mm	GAMF °	GMAP mm	H mm	HF mm	KAPR °	LF mm	LH mm	WF mm	Insert Gage
5321997	**PCLNR2020K43**	●	R	20	6	6	20	20	95	125	28	25	CN..1204..
5322011	**PCLNR2525M43**	●	R	25	6	6	25	25	95	150	28	32	CN..1204..
5322003	**PCLNL2020K43**	●	L	20	6	6	20	20	95	125	28	25	CN..1204..
5322029	**PCLNL2525M43**	●	L	25	6	6	25	25	95	150	28	32	CN..1204..

Spare Parts

Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PCLNR2020K43	LSC42	LCS4	LCL4	LSP4	LW-3
PCLNR2525M43	LSC42	LCS4	LCL4	LSP4	LW-3
PCLNL2020K43	LSC42	LCS4	LCL4	LSP4	LW-3
PCLNL2525M43	LSC42	LCS4	LCL4	LSP4	LW-3

CN.. series/Inserts Carbide

CN..

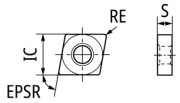


Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			

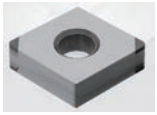
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	CNGG120404FNUL	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●	●					
	CNGG120408FNUL	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●	●					
	CNGG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	–		●		●			●			
	CNGG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	–		●		●			●			
	CNMG120408T00525Z5	T00525	80	12.7	4.76	–	0.8	–		●		●						
	CNMG120408G	–	80	12.7	4.76	–	0.8	–								●		
	CNMG120412G	–	80	12.7	4.76	–	1.2	–								●		
	CNMG120416G	–	80	12.7	4.76	–	1.6	–								●		

CN.. series/Inserts CBN

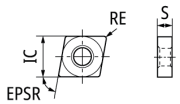
CNGA



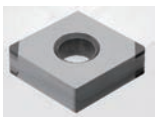
Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	CNGA120402PQS01015	S01015	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01325	S01325	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQS01535	S01535	80	12.7	4.76	–	0.2	–	2.3	4	–					●		●	●	
	CNGA120402PQT01020	T01020	80	12.7	4.76	–	0.2	–	2.3	4	–				●					
	CNGA120404PDFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	2	–				●				●	
	CNGA120404PQFNX	Up-sharp edge	80	12.7	4.76	–	0.4	–	2.3	4	–				●				●	
	CNGA120404PQS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01020	S01020	80	12.7	4.76	–	0.4	–	2.3	4	–			●						
	CNGA120404PQS01325	S01325	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●	●	●	●	●
	CNGA120404PQT01020	T01020	80	12.7	4.76	–	0.4	–	2.3	4	–				●					
	CNGA120408PDFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	2	–				●					
	CNGA120408PQFNX	Up-sharp edge	80	12.7	4.76	–	0.8	–	2.2	4	–				●				●	
	CNGA120408PQS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01020	S01020	80	12.7	4.76	–	0.8	–	2.2	4	–			●						
	CNGA120408PQS01325	S01325	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●	●	●	●	●
	CNGA120408PQT00515	T00515	80	12.7	4.76	–	0.8	–	2.2	4	–					●				
	CNGA120408PQT01020	T01020	80	12.7	4.76	–	0.8	–	2.2	4	–				●					
	CNGA120412PDFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	2	–				●					
	CNGA120412PQFNX	Up-sharp edge	80	12.7	4.76	–	1.2	–	2.7	4	–				●				●	
	CNGA120412PQS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01020	S01020	80	12.7	4.76	–	1.2	–	2.7	4	–			●						
	CNGA120412PQS01325	S01325	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●	●	●	●	●
	CNGA120412PQT00515	T00515	80	12.7	4.76	–	1.2	–	2.7	4	–					●				
	CNGA120412PQT01020	T01020	80	12.7	4.76	–	1.2	–	2.7	4	–				●					
	CNGA120416PQS01015	S01015	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQS01020	S01020	80	12.7	4.76	–	1.6	–	2.6	4	–			●						
	CNGA120416PQS01325	S01325	80	12.7	4.76	–	1.6	–	2.6	4	–					●	●	●	●	
	CNGA120416PQS01535	S01535	80	12.7	4.76	–	1.6	–	2.6	4	–					●		●	●	
	CNGA120416PQT01020	T01020	80	12.7	4.76	–	1.6	–	2.6	4	–				●					
	CNGA120420PQS01015	S01015	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQS01020	S01020	80	12.7	4.76	–	2	–	2.6	4	–			●						
	CNGA120420PQS01325	S01325	80	12.7	4.76	–	2	–	2.6	4	–					●	●	●	●	
	CNGA120420PQS01535	S01535	80	12.7	4.76	–	2	–	2.6	4	–					●		●	●	
	CNGA120420PQT01020	T01020	80	12.7	4.76	–	2	–	2.6	4	–				●					

CNGA-W with wiper for higher feed



Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

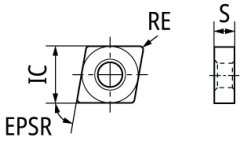
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	CNGA120404PQWS01015	S01015	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120404PQWS01535	S01535	80	12.7	4.76	–	0.4	–	2.3	4	–					●		●	●	
	CNGA120408PQWS01015	S01015	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120408PQWS01535	S01535	80	12.7	4.76	–	0.8	–	2.2	4	–					●		●	●	
	CNGA120412PQWS01015	S01015	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	
	CNGA120412PQWS01535	S01535	80	12.7	4.76	–	1.2	–	2.7	4	–					●		●	●	

Wiper Width: 0.25mm

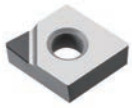
Applicable holders: 95°cutting edge angle (C31, CCLN) holders can be mounted.

CN.. series/Inserts PCD / Diamond Coating

CNM.

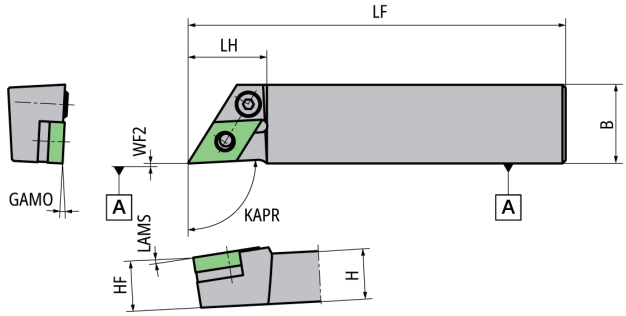


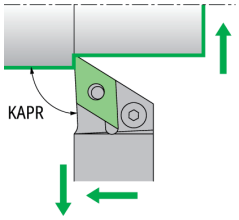
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	CNMG120404FNZP	Up-sharp edge	80	12.7	4.76	–	0.4	4			●
	CNMG120408FNZP	Up-sharp edge	80	12.7	4.76	–	0.8	4			●
	**CNMX120404PF**	Up-sharp edge	80	12.7	4.76	–	0.4	1		●	
	CNMX120408PF	Up-sharp edge	80	12.7	4.76	–	0.8	1		●	

DN.. series/Toolholder

PDJN-N [93°]





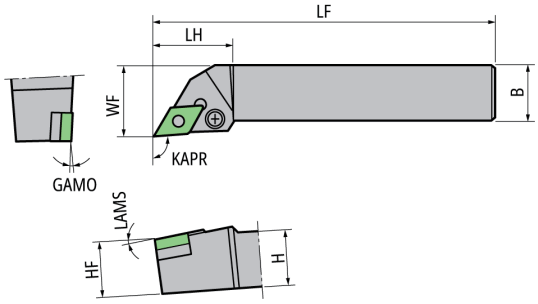
● Diagram shows right-hand tool

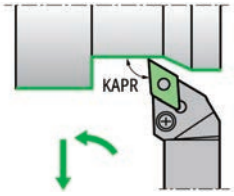
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF2 mm	Insert Gage
5259072	**PDJNR1625X43N**	●	R	25	6	16	16	93	6	120	25	0	DN..1504..

Spare Parts

Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PDJNR1625X43N	LSD42	LCS4CA	LCL4	LSP4	LW-3

PDJN [93°]





● Diagram shows right-hand tool

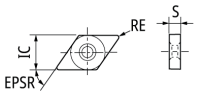
EDP	Item Number	Stock	Hand	B mm	GAMO °	H mm	HF mm	KAPR °	LAMS °	LF mm	LH mm	WF mm	Insert Gage
5322037	**PDJNR2020K43**	●	R	20	6	20	20	93	6	125	32	25	DN..1504..
5682463	**PDJNR2525M43**	●	R	25	6	25	25	93	6	150	32	32	DN..1504..
5322045	**PDJNL2020K43**	●	L	20	6	20	20	93	6	125	32	25	DN..1504..

Spare Parts

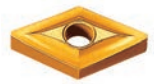
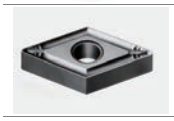
Item Number	Shim	Clamp screw	Clamp Pin	Spring	Wrench (for Clamp screw)
PDJNR2020K43	LSD42	LCS4	LCL4	LSP4	LW-3
PDJNR2525M43	LSD42	LCS4	LCL4	LSP4	LW-3
PDJNL2020K43	LSD42	LCS4	LCL4	LSP4	LW-3

DN.. series/Inserts Carbide

DN..

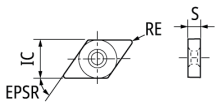


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron										●								
Non-Ferrous Material					○		○				●							
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

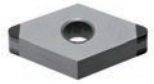
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	DNGG150404FNZP	Up-sharp edge	55	12.7	4.76	–	0.4	–		●		●			●			
	DNGG150408FNZP	Up-sharp edge	55	12.7	4.76	–	0.8	–		●		●			●			
	DNMG150408T00525Z5	T00525	55	12.7	4.76	–	0.8	–		●		●						
	DNMG150404TNG	T01025	55	12.7	4.76	–	0.4	–				●						
	DNMG150404G	–	55	12.7	4.76	–	0.4	–								●		
	DNMG150408G	–	55	12.7	4.76	–	0.8	–								●		
	DNMG150412G	–	55	12.7	4.76	–	1.2	–								●		

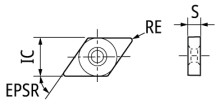
DN.. series/Inserts CBN

DNGA



Steel																		
Stainless Steel																		
Cast Iron	●	●	●	●												○	○	
Non-Ferrous Material																		
Heat Resistant Alloy																		
Hardened Material					●	●	●	●	●									
Others (non-metallic)																		

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	D2	Length of edge	No. of edge	S1	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	(ISO)		°	mm	mm	°	mm	mm			mm									
	DNGA150402PQS01015	S01015	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01325	S01325	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQS01535	S01535	55	12.7	4.76	–	0.2	–	2.4	4	–							●	●	
	DNGA150402PQT01020	T01020	55	12.7	4.76	–	0.2	–	2.4	4	–				●					
	DNGA150404PDFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	2	–				●					
	DNGA150404PQFNX	Up-sharp edge	55	12.7	4.76	–	0.4	–	2.2	4	–				●				●	
	DNGA150404PQS01015	S01015	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01020	S01020	55	12.7	4.76	–	0.4	–	2.2	4	–			●						
	DNGA150404PQS01325	S01325	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQS01535	S01535	55	12.7	4.76	–	0.4	–	2.2	4	–					●	●	●	●	●
	DNGA150404PQT01020	T01020	55	12.7	4.76	–	0.4	–	2.2	4	–				●					
	DNGA150408PDFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	2	–				●					
	DNGA150408PQFNX	Up-sharp edge	55	12.7	4.76	–	0.8	–	1.9	4	–				●				●	
	DNGA150408PQS01015	S01015	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01020	S01020	55	12.7	4.76	–	0.8	–	1.9	4	–			●						
	DNGA150408PQS01325	S01325	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQS01535	S01535	55	12.7	4.76	–	0.8	–	1.9	4	–					●	●	●	●	●
	DNGA150408PQT01020	T01020	55	12.7	4.76	–	0.8	–	1.9	4	–				●					
	DNGA150412PDFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	2	–				●					
	DNGA150412PQFNX	Up-sharp edge	55	12.7	4.76	–	1.2	–	2.6	4	–								●	
	DNGA150412PQS01015	S01015	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01020	S01020	55	12.7	4.76	–	1.2	–	2.6	4	–			●						
	DNGA150412PQS01325	S01325	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQS01535	S01535	55	12.7	4.76	–	1.2	–	2.6	4	–					●	●	●	●	●
	DNGA150412PQT01020	T01020	55	12.7	4.76	–	1.2	–	2.6	4	–				●					

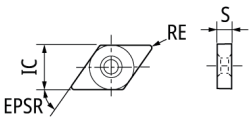


Steel																				
Stainless Steel																				
Cast Iron												●	●	●	●			○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material																●	●	●	●	●
Others (non-metallic)																				

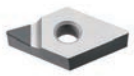
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	DNGA150416PQS01015	S01015	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01020	S01020	55	12.7	4.76	–	1.6	–	2.2	4	–			●						
	DNGA150416PQS01325	S01325	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQS01535	S01535	55	12.7	4.76	–	1.6	–	2.2	4	–					●	●	●	●	●
	DNGA150416PQT01020	T01020	55	12.7	4.76	–	1.6	–	2.2	4	–				●					
	DNGA150420PQS01015	S01015	55	12.7	4.76	–	2	–	2.4	4	–						●			
	DNGA150420PQS01325	S01325	55	12.7	4.76	–	2	–	2.4	4	–					●	●			
	DNGA150420PQS01535	S01535	55	12.7	4.76	–	2	–	2.4	4	–						●			

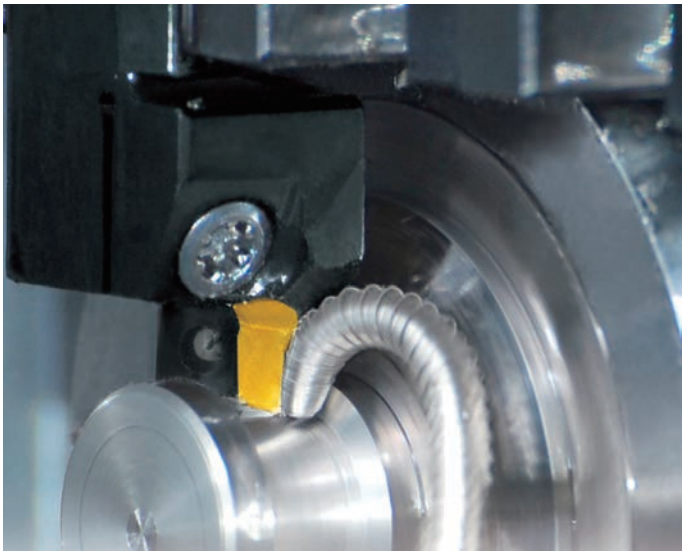
DN.. series/Inserts PCD

DNMX



Steel										
Stainless Steel										
Cast Iron										
Non-Ferrous Material								●	●	●
Heat Resistant Alloy										
Hardened Material										
Others (non-metallic)										●

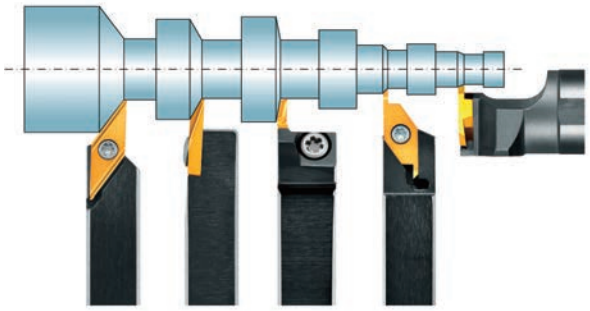
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**DNMX150404PF**	Up-sharp edge	55	12.7	4.76	–	0.4	1		●	
	DNMX150408PF	Up-sharp edge	55	12.7	4.76	–	0.8	1		●	

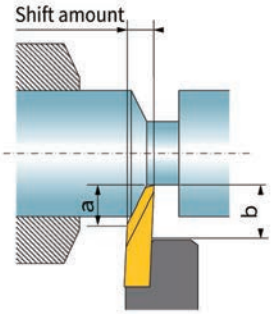


Back Turning

Product Lines R02
Recommended Cutting Conditions R03
General Information R04
CSV.. series R06
CTPS.. series R09
TBP.. series R10
TBPA.. series R15
TBDP.. series R19
TB.. series R21
TBMH.. series R23
TBVC.. series R30
VC.. series R31
VC..2M series R34
ID Back Turning R36
SBB.. series R36
MBL.. series R39
TP.. series R40
TC.. series R44

Product Lines

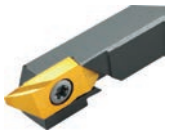


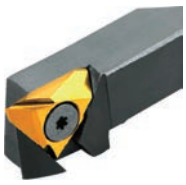
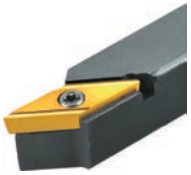
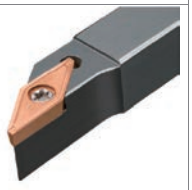


a: Length of Blade
b: Max Depth of Cut

Insert	CSVB →R8
Holder	CSV-NC →R6
a	-1.0mm
b	-2.0mm
Shift amount	1.1 - 1.5mm

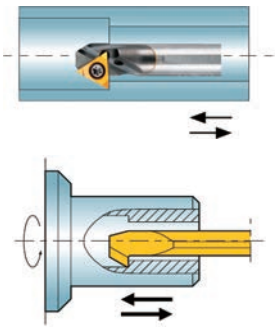
Insert	TBPS →R9	TBP →R14				
Holder	CTPS →R9	TBP →R11	TBP-OH3/OH2/OH →R10 Coolant through	Y-TBP →R12 Y-axis	Y-TBP-OH →R12 Y-axis Coolant through	DS-TBP →R13 DS
a	-4.8mm	-4.8mm				
b	-4.8mm	-5.3mm				
Shift amount	2.4mm	3.5mm				

Insert	TBPA →R18			
Holder	CTPA-OH2/OH →R15,R16 Coolant through	CTPA  →R16	TBPA-OH →R15 Coolant through	CH-TBPA →R17
a	-6.3mm			
b	-6.8mm			
Shift amount	3.4mm			

Insert	TBDP →R20		TB →R22	VC..1103.. →R32 / TBVC →R30		VC..1303 →R35
Holder	TBDP →R19	Y-TBDP →R19 Y-axis	TB  →R21	TBVC  →R30	CH-SVXCL →R31	SVAC..(N)W  →R34
a	3.5mm		-4.0mm	-8.0mm	–	–
b	-5.0mm		-8.8mm	-8.0mm	–	–
Shift amount	2.05mm		4.0mm	7.5/10mm	10mm	–

Insert	TBMH →R28					
Holder	GTT →R24	GTT-OH2/OH →R23 Coolant through	Y-GTT →R26 Y-axis	Y-GTT..-OH →R26 Y-axis Coolant through	DS-GTT →R27	CH-GTT →R27
a	-1.3mm					
b	-2.7mm					
Shift amount	1.0/1.5mm					

ID Back Turning



Insert	SBB →R38	TC/TP →R41,R45	MBL →R39
Holder	NBH	C-STZP/C (Carbide shank)	C-MSBR (Carbide shank)
	→R36	→R40,R44	→R39
Min. Bore Dia.	φ3.0	φ10.0	φ5.7 / φ7.7

Recommended Cutting Conditions

Back Turning

CSVB

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (m/min)		20 **40** 65	30 **55** 80			30 **60** 90		
Feed Rate (mm/rev)	X Direction	0.01 **0.02** 0.03						
	Z Direction	0.01 **0.03** 0.04						

TBDP / TBMH / TBP / TBPA / TBVC

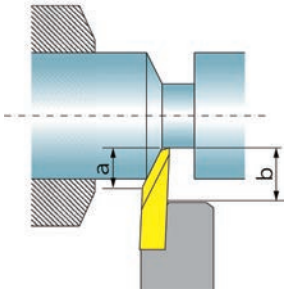
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4 QM3	TM4	QM3	
	2nd choice	TM4 / QM3			VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 **40** 65	30 **55** 80				45 **90** 150		
Feed Rate (mm/rev)	X Direction	0.01 **0.02** 0.03					0.01 **0.02** 0.04		
	Z Direction	0.02 **0.04** 0.06					0.02 **0.04** 0.08		

TB32 / TB43

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	ZM3					ZM3	
	2nd choice							
Cutting Speed (m/min)		15 **30** 45				45 **90** 130		
Feed Rate (mm/rev)	X Direction	0.01 **0.03** 0.05				0.01 **0.03** 0.05		
	Z Direction	0.04 **0.05** 0.08				0.04 **0.08** 0.15		

General Information

Recommended max. depth of cut for each pass

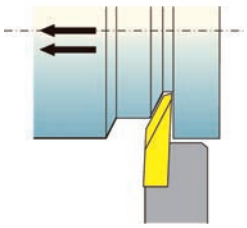


Multiply this ratio by the length of blade (a) to obtain the max. depth of cut for each pass

Work material / Grade	PVD Carbide ST4, QM3, DT4, DM4, TM4, VM1, ZM3
Steel	0.7
Stainless Steel	0.6
Non-ferrous material	0.9
Plastic	0.9

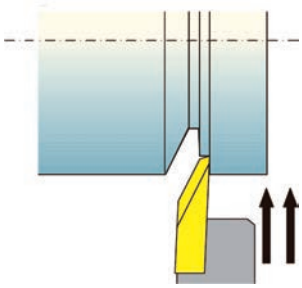
a) Length of Blade **b) Max. Depth of Cut**

When the length of blade (a) is not long enough

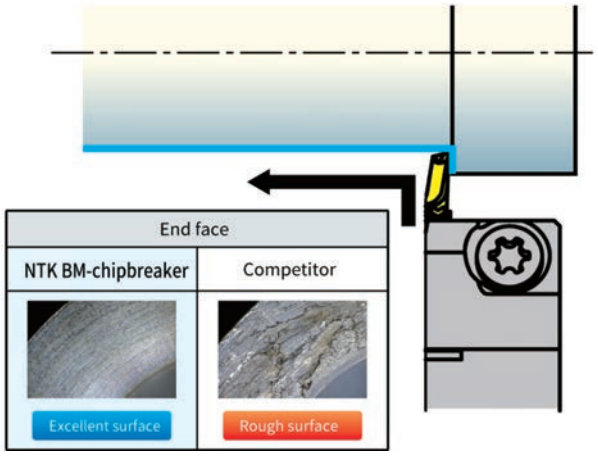


Back turning can be performed multiple times until the total depth of cut reaches (b).

When experiencing rough finish on shoulder



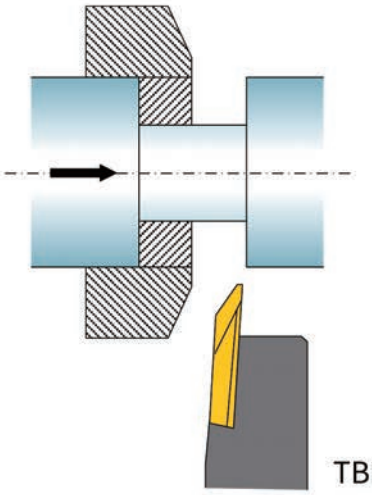
Turning the shoulder twice can improve the finish.
This problem can be solved by using TBP-BM, TBPA-BM, TBDP inserts without increasing the number of passes



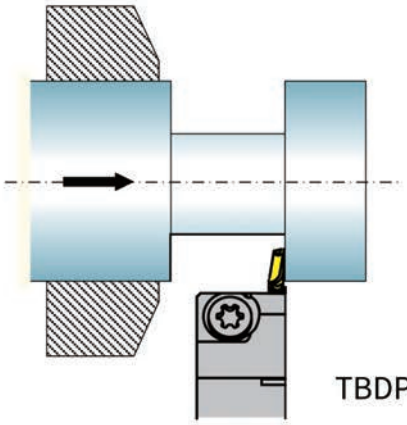
TBP-BM, TBPA-BM, TBDP come with NTK's uniquely designed molded chipbreaker providing single pass machining. These inserts can provide excellent surface finish.

TBDP	➡**R20**
TBP-BM	➡**R14**
TBPA-BM	➡**R18**

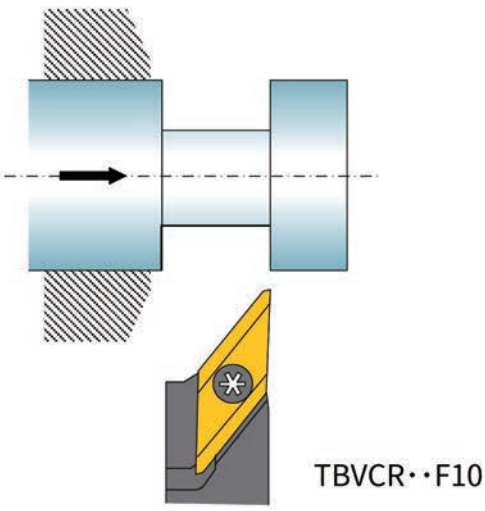
Finishing cut



Roughed section goes into the guide bushing when performing finish cuts. (Deburring may be required after roughing)

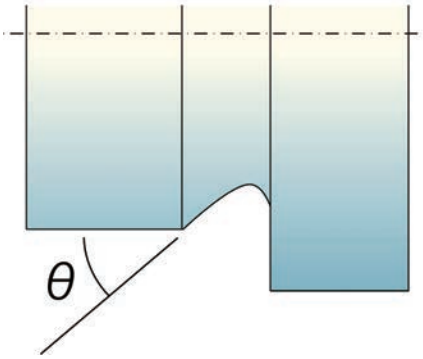


TBDP Left-hand toolholder will eliminate the risky process of pulling back the turned bar stock into the guide-bushing for finishing process, because its cutting point is away from the guide-bushing.



Cutting edge is located away from the guide-bushing. Roughing can be performed without retracting roughed part into the guide-bushing.

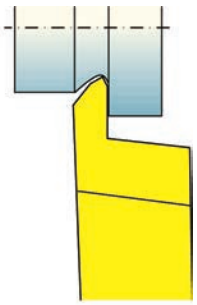
Undercut



If an undercut exists on the back turning area

θ=22° type

θ=45° type

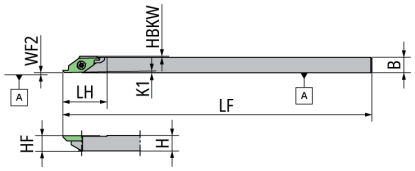


TBMH style inserts should be used to generate the undercut

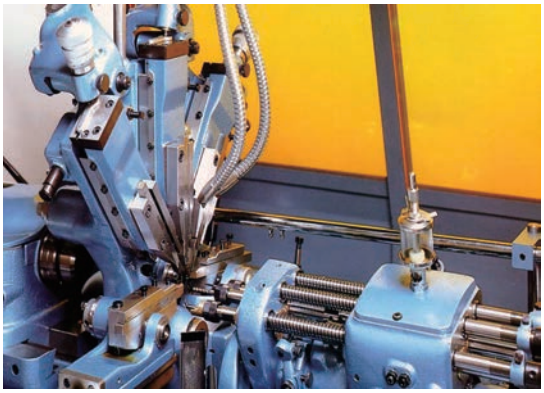
Insert	TBMH32	➡**R29**
Holder	GTTR	➡**R23**
	DS-GTTL	➡**R28**

CSVB.. series/Toolholder

CSV [91°] For Cam-style machine



● Diagram shows right-hand tool

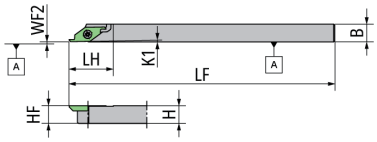


EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5303169	**CSVR07**	●	R	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492962	**CSVR07GX**	●	R	7	7	0.5	7	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303151	**CSVR08**	●	R	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492954	**CSVR08GX**	●	R	8	8	0	8	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303136	**CSVR095**	●	R	9.5	9.5	0	9.5	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303144	**CSVR10**	●	R	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5327929	**CSVR12**	●	R	12	12	0	12	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5474770	**CSVR12GX**	●	R	12	12	0	12	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303193	**CSVL07**	●	L	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303201	**CSVL08**	●	L	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303177	**CSVL10**	●	L	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR07	LRIS-2.5*7	CLR-15S
CSVR07GX	LRIS-2.5*7	CLR-15S
CSVR08	LRIS-2.5*7	CLR-15S
CSVR08GX	LRIS-2.5*7	CLR-15S
CSVR095	LRIS-2.5*7	CLR-15S
CSVR10	LRIS-2.5*7	CLR-15S
CSVR12	LRIS-2.5*7	CLR-15S
CSVR12GX	LRIS-2.5*7	CLR-15S
CSVL07	LRIS-2.5*7	CLR-15S
CSVL08	LRIS-2.5*7	CLR-15S
CSVL10	LRIS-2.5*7	CLR-15S

CSV-NC [91°] For Gang-style machine



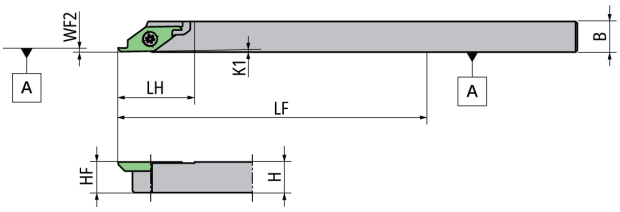
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5514062	**CSVR08NC**	●	R	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5563010	**CSVR10GXNC**	●	R	10	10	10	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477492	**CSVR10NC**	●	R	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477534	**CSVR12NC**	●	R	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5514070	**CSVL08NC**	●	L	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477542	**CSVL10NC**	●	L	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477500	**CSVL12NC**	●	L	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC	LRIS-2.5*7	CLR-15S
CSVR10GXNC	LRIS-2.5*7	CLR-15S
CSVR10NC	LRIS-2.5*7	CLR-15S
CSVR12NC	LRIS-2.5*7	CLR-15S
CSVL08NC	LRIS-2.5*7	CLR-15S
CSVL10NC	LRIS-2.5*7	CLR-15S
CSVL12NC	LRIS-2.5*7	CLR-15S

CSV-NC-F [91°] For Gang-style machine



● Diagram shows right-hand tool

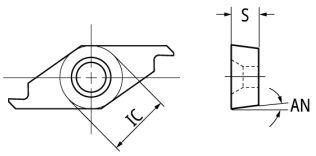
EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5789615	**CSVR08NC-F**	●	R	8	8	0	8	1	120	20	0-0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

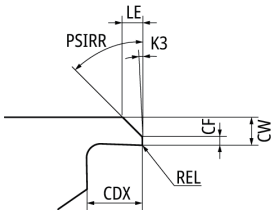
Spare Parts

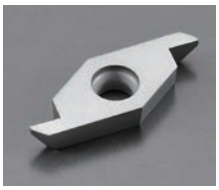
Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC-F	LRIS-2.5*7	CLR-15S

CSVB.. series/Inserts Carbide

CSVB-V



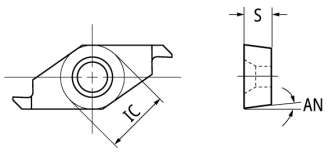


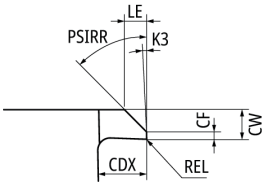


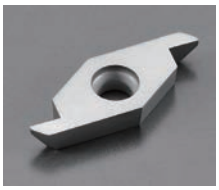
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand	Chip-breaker	AN	CDX	CF	CW	EPSR	IC	K3	LE	PSIRR	REL	S	Carbide PVD		
				°	mm	mm	mm	°	mm	°	mm	°	mm	mm	DT4	VM1	ZM3
CSVB11FRV	Ⓜ	R	No	7	2	0.3	1	35	6.35	5	0.7	45	0	2.38		●	
CSVB11FRV12	Ⓜ	R	No	7	2	0.3	1.2	35	6.35	5	0.8	45	0	2.38		●	
CSVB11FRV14	Ⓜ	R	No	7	2	0.3	1.4	35	6.35	5	1	45	0	2.38		●	
CSVB11FRV-A	Ⓜ	R	No	7	2	0.3	1	35	6.35	2	0.7	45	0	2.38		●	
CSVB11FRV-C	Ⓜ	R	No	7	2	0.15	1	35	6.35	5	0.7	45	0	2.38		●	
CSVB11FRV-M	Ⓜ	R	No	7	2	0.15	1	35	6.35	2	0.7	45	0	2.38	●	●	●
CSVB11FLV	Ⓜ	L	No	7	2	0.3	1	35	6.35	5	0.7	45	0	2.38		●	
CSVB11FLV-M	Ⓜ	L	No	7	2	0.15	1	35	6.35	2	0.7	45	0	2.38		●	

CSVB-VB



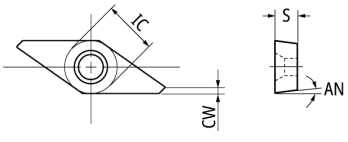


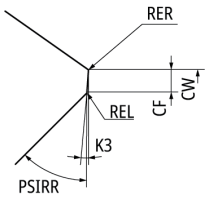


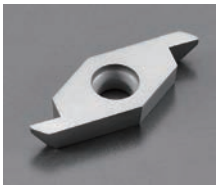
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand	Chip-breaker	AN	CDX	CF	CW	EPSR	IC	K3	LE	PSIRR	REL	S	Carbide PVD		
				°	mm	mm	mm	°	mm	°	mm	°	mm	mm	DT4	VM1	ZM3
CSVB11FRVB	Ⓜ	R	Yes	7	2	0.3	1	35	6.35	5	0.7	45	0	2.38		●	
CSVB11FRVB12	Ⓜ	R	Yes	7	2	0.3	1.2	35	6.35	5	0.8	45	0	2.38		●	
CSVB11FRVB14	Ⓜ	R	Yes	7	2	0.3	1.4	35	6.35	5	1	45	0	2.38		●	
CSVB11FRVB-A	Ⓜ	R	Yes	7	2	0.3	1	35	6.35	2	0.7	45	0	2.38		●	
CSVB11FRVB-C	Ⓜ	R	Yes	7	2	0.15	1	35	6.35	5	0.7	45	0	2.38		●	
CSVB11FRVB-M	Ⓜ	R	Yes	7	2	0.15	1	35	6.35	2	0.7	45	0	2.38	●	●	●
CSVB11FLVB-M	Ⓜ	L	Yes	7	2	0.15	1	35	6.35	2	0.7	45	0	2.38		●	

CSVB-VX For Profiling





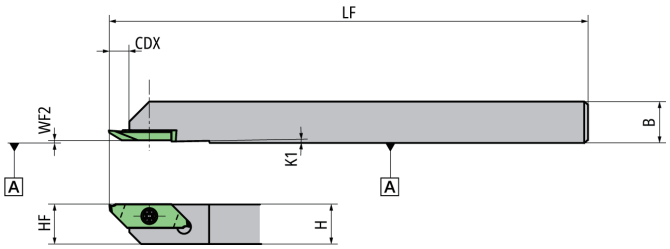


● Diagram shows left-hand tool
All angles shown are obtained when insert is set in the holder.

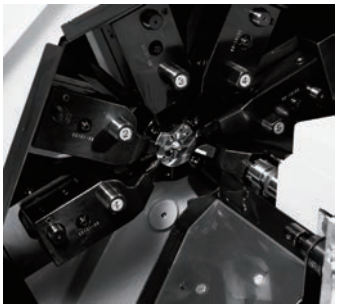
Item Number		Hand	Chip-breaker	AN	CF	CW	EPSR	IC	K3	PSIRL	REL	RER	S	Carbide PVD		
				°	mm	mm	°	mm	°	°	mm	mm	mm	DT4	VM1	ZM3
CSVB11FLVX	Ⓜ	L	No	7	0.035	0.7	35	6.35	5	45	0	0	2.38		●	

CTPS.. series/Toolholder

CTPS



● Diagram shows right-hand tool



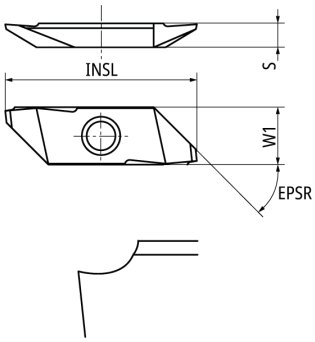
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	K1 °	LF mm	WF2 mm	Insert Gage	
5346572	**CTPSR10**	●	R	10	5	10	10	1	120	0	TBPS../CTPS..	GTPS../TTPS..
5397187	**CTPSR12**	●	R	12	5	12	12	1	120	0	TBPS../CTPS..	GTPS../TTPS..

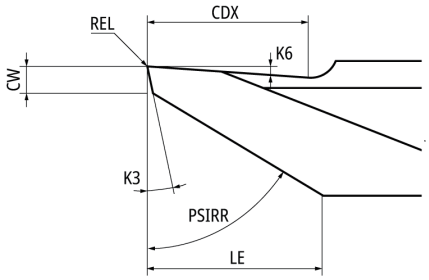
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPSR10	LRIS-2.5*7	CLR-15S
CTPSR12	LRIS-2.5*7	CLR-15S

TBPS.. series/Inserts Carbide

TBPS

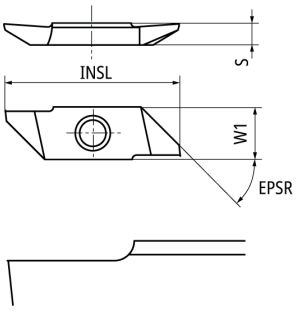


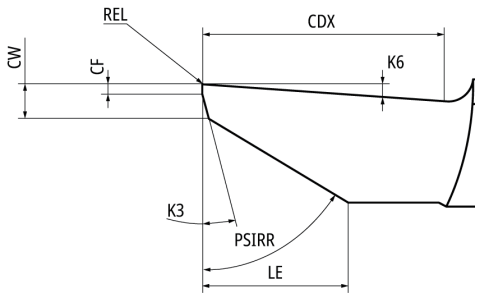


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number	Hand	Chip-breaker	LE mm	CDX mm	CW mm	EPSR °	INSL mm	K3 °	K6 °	PSIRR °	REL mm	S mm	W1 mm	Carbide PVD VM1	Carbide PVD ZM3
TBPS60FR00	R	Yes	3.1	3.5	0.5	45	20	12	3	60	0	2.5	6	●	●
TBPS60FR10	R	Yes	3.1	3.5	0.5	45	20	12	3	60	0.1	2.5	6	●	●

TBPS-V



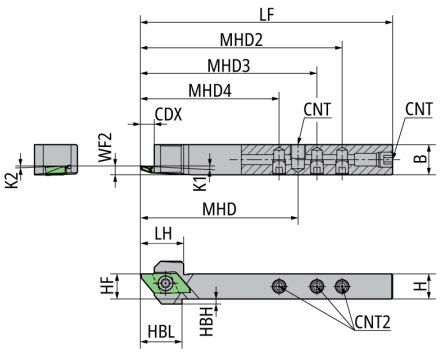


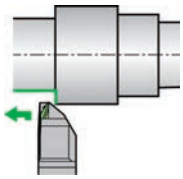
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand	Chip-breaker	LE mm	CDX mm	CF mm	CW mm	EPSR °	INSL mm	K3 °	K6 °	PSIRR °	REL mm	S mm	W1 mm	Carbide PVD VM1	Carbide PVD ZM3
TBPS60FRV	Ⓜ	R	No	3.1	4.8	0.2	0.7	45	20	15	3	60	0	2.5	6	●	●

TBP.. series/Toolholder

TBP-OH3 Coolant through (direct connect compatible)





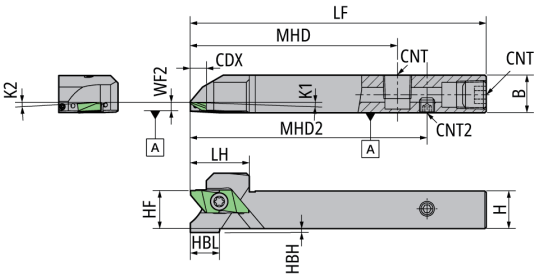
· Diagram shows right-hand tool

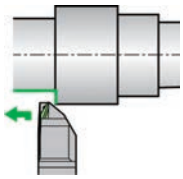
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage
5117759	**TBPR1012H-OH3**	●	R	12	5.5	M6*1	M5	10	2	16.5	10	3	2	100	17.33	62.5	80.18	70.18	55.18	3.5	TBP..
5121793	**TBPR16X-OH3**	●	R	16	5.5	Rc1/8	M5	16	–	–	16	3	2	120	20	78.75	100	87.5	70	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
TBPR1012H-OH3	LRIS-4*10PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5
TBPR16X-OH3	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

TBP-OH2 Coolant through (direct connect compatible)





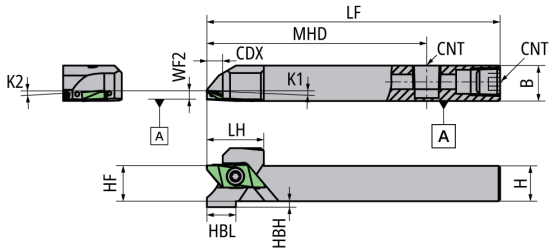
· Diagram shows right-hand tool

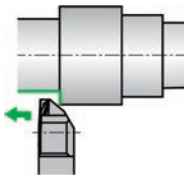
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage
5037965	**TBPR12H-OH2**	●	R	12	5.5	Rc1/8	M5	12	2	10	12	3	2	100	19.5	70	80	3.5	TBP..
5043971	**TBPR16X-OH2**	●	R	16	5.5	Rc1/8	M5	16	–	–	16	3	2	120	19.5	70	100	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
TBPR12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
TBPR16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

TBP-OH Coolant through





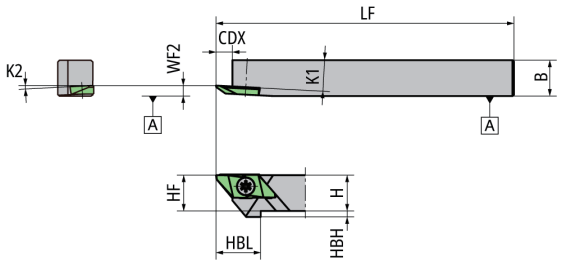
• Diagram shows right-hand tool

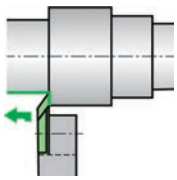
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	MHD mm	WF2 mm	Insert Gage
5925722	**TBPR1012H-OH**	●	R	12	5.5	M6*1	10	4	19	10	3	2	100	75	3.5	TBP..
5925730	**TBPR12H-OH**	●	R	12	5.5	Rc1/8	12	2	10	12	3	2	100	75	3.5	TBP..
5925748	**TBPR16H-OH**	●	R	16	5.5	Rc1/8	16	–	–	16	3	2	100	75	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
TBPR1012H-OH	LRIS-4*10PW	SS0605SC	CLR-15S
TBPR12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
TBPR16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

TBP





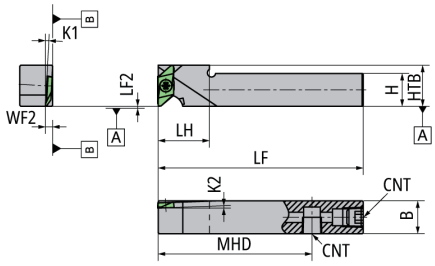
• Diagram shows right-hand tool

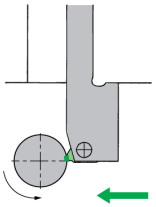
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF2 mm	Insert Gage
5133285	**TBPR08**	●	R	10	5.5	8	4	15	8	3	2	120	3.5	TBP..
5090436	**TBPR10**	●	R	10	5.5	10	2	15	10	3	2	120	3.5	TBP..
5873856	**TBPR10H**	●	R	10	5.5	10	2	15	10	3	2	100	3.5	TBP..
5090451	**TBPR12**	●	R	12	5.5	12	–	–	12	3	2	120	3.5	TBP..
5459771	**TBPR12GX**	●	R	12	5.5	12	–	–	12	3	2	85	3.5	TBP..
5090477	**TBPR13**	●	R	13	5.5	13	–	–	13	3	2	120	3.5	TBP..
5270822	**TBPR16**	●	R	16	5.5	16	–	–	16	3	2	120	3.5	TBP..
5459789	**TBPR16H**	●	R	16	5.5	16	–	–	16	3	2	100	3.5	TBP..
5133293	**TBPL08**	●	L	10	5.5	8	4	15	8	3	2	120	3.5	TBP..
5090444	**TBPL10**	●	L	10	5.5	10	2	15	10	3	2	120	3.5	TBP..
5090469	**TBPL12**	●	L	12	5.5	12	–	–	12	3	2	120	3.5	TBP..
5270830	**TBPL16**	●	L	16	5.5	16	–	–	16	3	2	120	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TBPR08	LRIS-4*10PW	CLR-15S
TBPR10	LRIS-4*10PW	CLR-15S
TBPR10H	LRIS-4*10PW	CLR-15S
TBPR12	LRIS-4*12PW	CLR-15S
TBPR12GX	LRIS-4*12PW	CLR-15S
TBPR13	LRIS-4*12PW	CLR-15S
TBPR16	LRIS-4*12PW	CLR-15S
TBPR16H	LRIS-4*12PW	CLR-15S
TBPL08	LRIS-4*10PW	CLR-15S
TBPL10	LRIS-4*10PW	CLR-15S
TBPL12	LRIS-4*12PW	CLR-15S
TBPL16	LRIS-4*12PW	CLR-15S

Y-TBP-OH Y-axis coolant through





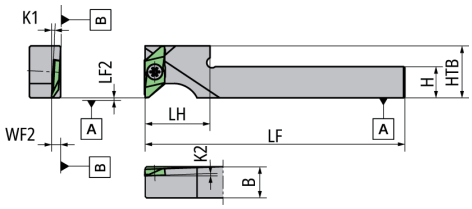
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

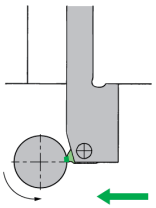
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	MHD mm	WF2 mm	Insert Gage
5911508	**Y-TBPR12HS-OH**	●	R	12	Rc1/8	12	20	3	2	100	0	20	75	3.5	TBP..
5911516	**Y-TBPR16H-OH**	●	R	16	Rc1/8	16	20	3	2	100	0	25	75	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-TBPR12HS-OH	LRIS-4*12PW	SPR1/8	CLR-15S
Y-TBPR16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

Y-TBP Y-axis





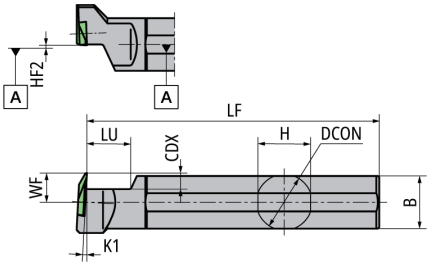
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

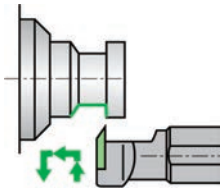
EDP	Item Number	Stock	Hand	B mm	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	WF2 mm	Insert Gage
5950399	**Y-TBPR10MS**	●	R	10	10	20	3	2	120	0	22	3.5	TBP..
5371554	**Y-TBPR10S**	●	R	10	10	20	3	2	120	0	20	3.5	TBP..
5950407	**Y-TBPR12MS**	●	R	12	12	20	3	2	120	0	22	3.5	TBP..
5371588	**Y-TBPR12S**	●	R	12	12	20	3	2	120	0	20	3.5	TBP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-TBPR10MS	LRIS-4*10PW	CLR-15S
Y-TBPR10S	LRIS-4*10PW	CLR-15S
Y-TBPR12MS	LRIS-4*10PW	CLR-15S
Y-TBPR12S	LRIS-4*12PW	CLR-15S

DS-TBP DS Toolholders





• Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

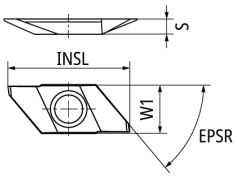
EDP	Item Number	Stock	Hand	B mm	CDX mm	DCON mm	H mm	HF2 mm	K1 °	K2 °	LF mm	LU mm	WF mm	Insert Gage
5540414	**DS-TBPL19**	●	L	18	5.5	19.05	18	0	3	2	120	14	10	TBP..
5540422	**DS-TBPL20**	●	L	19	5.5	20	19	0	3	2	120	14	10	TBP..
5540430	**DS-TBPL25**	●	L	24	5.5	25.4	24	0	3	2	150	14	10	TBP..

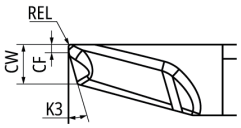
Spare Parts

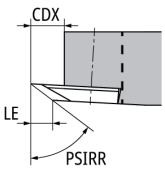
Item Number	Clamp screw	Wrench (for Clamp screw)
DS-TBPL19	LRIS-4*10	LLR-25S-20*65
DS-TBPL20	LRIS-4*10	LLR-25S-20*65
DS-TBPL25	LRIS-4*10	LLR-25S-20*65

TBP.. series/Inserts Carbide

TBP-BM with BM-Chipbreaker



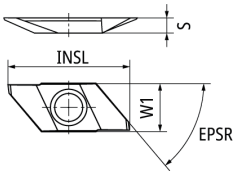


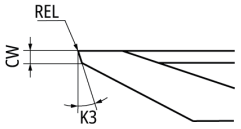


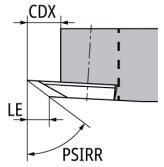
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD						PCD
			mm	mm	mm	mm	°	mm	°	mm	°	mm	mm	DM4	ST4	TM4	VM1	ZM3	KM1	PD1
TBP72FR05-BM	**R**	Yes	3.5	5.3	0.3	1.4	50	20	16	72	0.05	2.5	8	●	●	●				
TBP72FR10M-BM	**R**	Yes	3.5	5.3	0.3	1.4	50	20	16	72	0.08	2.5	8	●	●	●				
TBP72FR20M-BM	**R**	Yes	3.5	5.3	0.3	1.4	50	20	16	72	0.18	2.5	8	●	●	●				

TBP with Chipbreaker



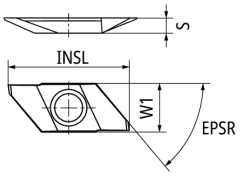


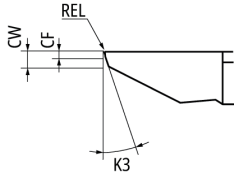


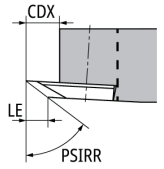
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD						PCD
			mm	mm	mm	mm	°	mm	°	mm	°	mm	mm	DM4	ST4	TM4	VM1	ZM3	KM1	PD1
TBP55FR00	**R**	Yes	3	5.3	–	0.5	50	20	15	55	0	2.5	8				●	●		
TBP55FR10	**R**	Yes	3	5.3	–	0.5	50	20	15	55	0.1	2.5	8				●	●		
TBP60FR00	**R**	Yes	3.7	5.3	–	0.5	50	20	15	60	0	2.5	8			●	●	●		
TBP60FR10	**R**	Yes	3.7	5.3	–	0.5	50	20	15	60	0.1	2.5	8			●	●	●		
TBP60FR10M	**R**	Yes	3.7	5.3	–	0.5	50	20	15	60	0.08	2.5	8				●			
TBP60FR20	**R**	Yes	3.7	5.3	–	0.5	50	20	15	60	0.2	2.5	8			●				
TBP55FL00	**L**	Yes	3	5.3	–	0.5	50	20	15	55	0	2.5	8					●		
TBP55FL10	**L**	Yes	3	5.3	–	0.5	50	20	15	55	0.1	2.5	8					●		
TBP60FL00	**L**	Yes	3.7	5.3	–	0.5	50	20	15	60	0	2.5	8					●		
TBP60FL10	**L**	Yes	3.7	5.3	–	0.5	50	20	15	60	0.1	2.5	8					●		

TBP-V without Chipbreaker



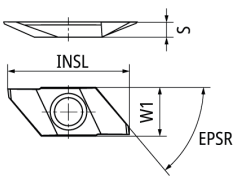


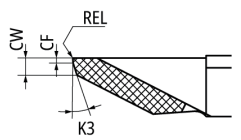


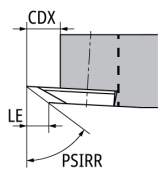
● Diagram shows right-hand tool

Item Number		Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD						PCD
				mm	mm	mm	°	mm	°	mm	°	mm	mm	mm	DM4	ST4	TM4	VM1	ZM3	KM1	PD1
TBP60FRV	Ⓜ	**R**	No	4.8	5.3	0.2	0.7	50	20	15	60	0	2.5	8				●	●	●	
TBP60FRV05	Ⓜ	**R**	No	4.8	5.3	0.2	0.7	50	20	15	60	0.05	2.5	8				●		●	
TBP60FRV10	Ⓜ	**R**	No	4.8	5.3	0.2	0.7	50	20	15	60	0.1	2.5	8				●	●	●	
TBP60FLV	Ⓜ	**L**	No	4.8	5.3	0.2	0.7	50	20	15	60	0	2.5	8				●			

TBP-P PCD tipped





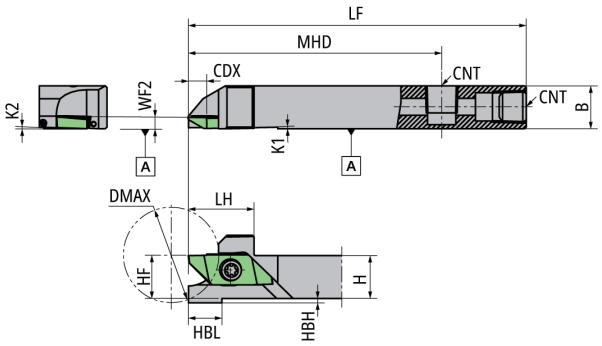


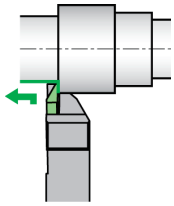
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD						PCD
			mm	mm	mm	°	mm	°	mm	°	mm	mm	mm	DM4	ST4	TM4	VM1	ZM3	KM1	PD1
TBP60FRV00-P	**R**	No	4	5.3	0.2	0.7	50	20	15	60	0	2.5	8							●
TBP60FRV10-P	**R**	No	4	5.3	0.2	0.7	50	20	15	60	0.1	2.5	8							●

TBPA.. series/Toolholder

TBPA-OH Coolant through





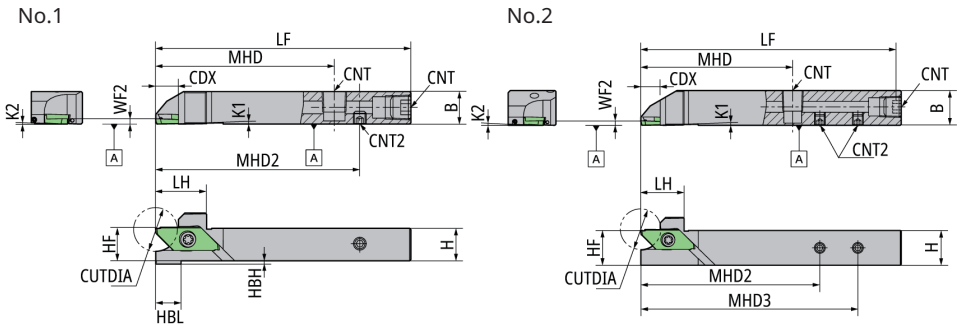
● Diagram shows right-hand tool

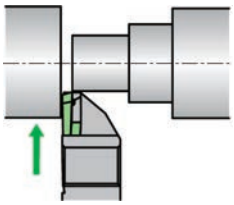
EDP	Item Number	Stock	Hand	DMAX mm	B mm	CDX mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage
5932983	**TBPAR12H-OH**	💧 ●	R	25	12	6.8	Rc1/8	12	4	10	12	1	2	100	19.5	75	(3.4)	TBPA..
5932991	**TBPAR16H-OH**	💧 ●	R	35	16	6.8	Rc1/8	16	2	10	16	1	2	100	19.5	75	(3.4)	TBPA..
5945811	**TBPAR20H-OH**	💧 ●	R	50	20	6.8	Rc1/8	20	–	–	20	1	2	100	19.5	75	(3.4)	TBPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
TBPAR12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
TBPAR16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
TBPAR20H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

CTPA-OH2 Coolant through (direct connect compatible)





CTPAR/L16X-OH2

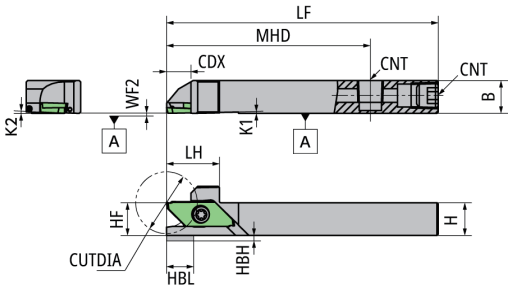
● Diagram shows right-hand tool

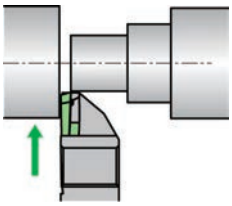
Figure	EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	WF2 mm	Insert Gage
1	5037932	**CTPAR12H-OH2**	💧 ●	R	16	12	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	–	2	CTPA.. TBPA..
2	5043872	**CTPAR16X-OH2**	💧 ●	R	16	16	Rc1/8	M5	16	–	–	16	1	2	120	19.5	70	82.5	100	2	CTPA.. TBPA..
1	5037924	**CTPAL12H-OH2**	💧 ●	L	16	12	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	–	2	CTPA.. TBPA..
2	5043864	**CTPAL16X-OH2**	💧 ●	L	16	16	Rc1/8	M5	16	–	–	16	1	2	120	19.5	70	82.5	100	2	CTPA.. TBPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
CTPAR12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAR16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAL12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAL16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

CTPA-OH Coolant through





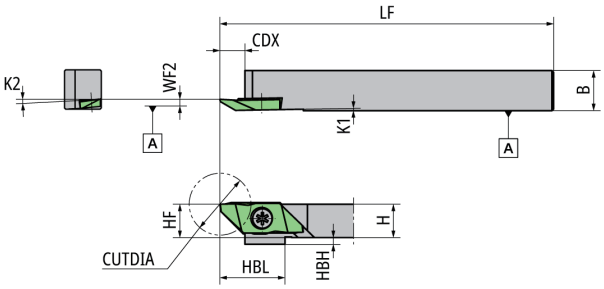
● Diagram shows right-hand tool

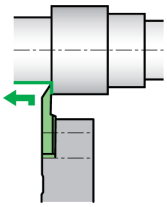
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5931522	**CTPAR12H-OH**	●	R	16	12	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTPA..	TBPA..
5931548	**CTPAR16H-OH**	●	R	16	16	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTPA..	TBPA..
5931530	**CTPAL12H-OH**	●	L	16	12	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTPA..	TBPA..
5931563	**CTPAL16H-OH**	●	L	16	16	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTPA..	TBPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPAR12H-OH	LRIS-4*12PW	CLR-15S
CTPAR16H-OH	LRIS-4*12PW	CLR-15S
CTPAL12H-OH	LRIS-4*12PW	CLR-15S
CTPAL16H-OH	LRIS-4*12PW	CLR-15S

CTPA





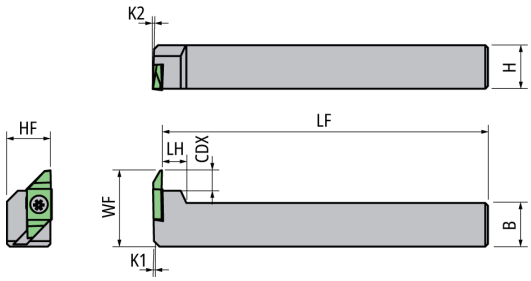
● Diagram shows right-hand tool

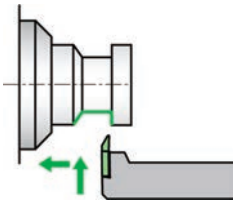
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF2 mm	Insert Gage	
5199187	**CTPAR10**	●	R	16	10	7.5	10	2	19.5	10	1	2	120	0	CTPA..	TBPA..
5199195	**CTPAR12**	●	R	16	12	7.5	12	–	–	12	1	2	120	0	CTPA..	TBPA..
5016209	**CTPAR12GX**	●	R	16	12	7.5	12	–	–	12	1	2	85	0	CTPA..	TBPA..
5199203	**CTPAR16**	●	R	16	16	7.5	16	–	–	16	1	2	120	0	CTPA..	TBPA..
5459540	**CTPAR20F**	●	R	16	20	7.5	20	–	–	20	1	2	80	0	CTPA..	TBPA..
5199153	**CTPAL10**	●	L	16	10	7.5	10	2	19.5	10	1	2	120	0	CTPA..	TBPA..
5199161	**CTPAL12**	●	L	16	12	7.5	12	–	–	12	1	2	120	0	CTPA..	TBPA..
5016217	**CTPAL12GX**	●	L	16	12	7.5	12	–	–	12	1	2	85	0	CTPA..	TBPA..
5199179	**CTPAL16**	●	L	16	16	7.5	16	–	–	16	1	2	120	0	CTPA..	TBPA..
5459557	**CTPAL20F**	●	L	16	20	7.5	20	–	–	20	1	2	80	0	CTPA..	TBPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPAR10	LRIS-4*10PW	CLR-15S
CTPAR12	LRIS-4*12PW	CLR-15S
CTPAR12GX	LRIS-4*12PW	CLR-15S
CTPAR16	LRIS-4*12PW	CLR-15S
CTPAR20F	LRIS-4*10	LLR-25S
CTPAL10	LRIS-4*10PW	CLR-15S
CTPAL12	LRIS-4*12PW	CLR-15S
CTPAL12GX	LRIS-4*12PW	CLR-15S
CTPAL16	LRIS-4*12PW	CLR-15S
CTPAL20F	LRIS-4*10	LLR-25S

CH-TBPA for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed insert.

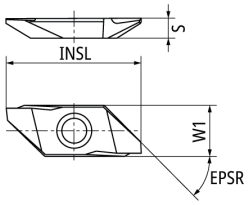
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage
5884945	**CH-TBPAL16**	●	L	16	7.5	16	16	1	2	120	9	28	TBPA..
5884952	**CH-TBPAL20**	●	L	20	7.5	20	20	1	2	120	9	32	TBPA..

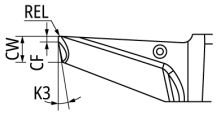
Spare Parts

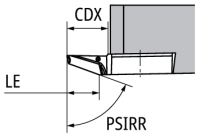
Item Number	Clamp screw	Wrench (for Clamp screw)
CH-TBPAL16	LRIS-4*10	LLR-25S
CH-TBPAL20	LRIS-4*10	LLR-25S

TBPA.. series/Inserts Carbide

TBPA-BM with BM-Chipbreaker



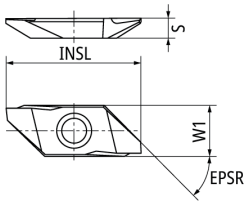


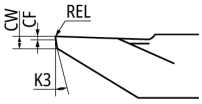


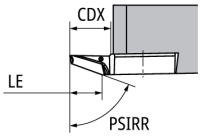
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD		
			mm	mm	mm	mm	°	mm	°	°	mm	mm	mm	DM4	ST4	TM4
TBPA70FR05-BM	**R**	Yes	5.5	6.5	0.3	1.35	45	25	12	70	0.05	3.5	9.4	●	●	●
TBPA70FR10M-BM	**R**	Yes	5.5	6.5	0.3	1.35	45	25	12	70	0.08	3.5	9.4	●	●	●
TBPA70FR20M-BM	**R**	Yes	5.5	6.5	0.3	1.35	45	25	12	70	0.18	3.5	9.4	●	●	●

TBPA with Chipbreaker



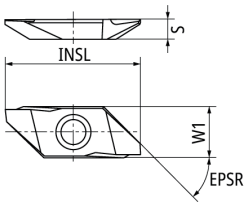


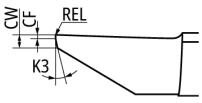


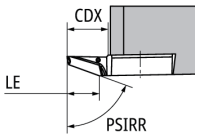
● Diagram shows right-hand tool

Item Number		Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD			
				mm	mm	mm	mm	°	mm	°	°	mm	mm	mm	DT4	QM3	VM1	ZM3
TBPA60FR10M		**R**	Yes	4.5	5.3	0.3	0.7	45	25	15	60	0.08	3.5	9.4		●		
TBPA60FRPB10	Ⓜ	**R**	Yes	4.5	5.3	0.3	0.7	45	25	15	60	0.1	3.5	9.4			●	●
TBPA60FRPB10M	Ⓜ	**R**	Yes	4.5	5.3	0.3	0.7	45	25	15	60	0.08	3.5	9.4	●		●	
TBPA60FRPB20M	Ⓜ	**R**	Yes	4.5	5.3	0.3	0.7	45	25	15	60	0.18	3.5	9.4	●			
TBPA60FRVB	Ⓜ	**R**	Yes	4.5	5.3	0.2	0.7	45	25	15	60	0	3.5	9.4	●		●	●
TBPA60FLPB10	Ⓜ	**L**	Yes	4.5	5.3	0.3	0.7	45	25	15	60	0.1	3.5	9.4				●
TBPA60FLVB	Ⓜ	**L**	Yes	4.5	5.3	0.2	0.7	45	25	15	60	0	3.5	9.4				●

TBPA-V without Chipbreaker





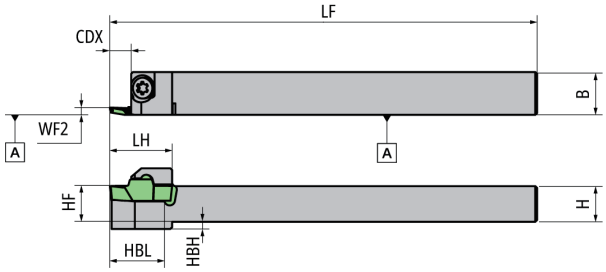


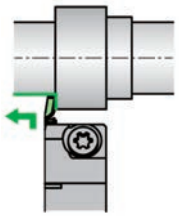
● Diagram shows right-hand tool

Item Number		Hand	Chip-breaker	LE	CDX	CF	CW	EPSR	INSL	K3	PSIRR	REL	S	W1	Carbide PVD	
				mm	mm	mm	mm	°	mm	°	°	mm	mm	mm	VM1	ZM3
TBPA60FRV	Ⓜ	**R**	No	6.3	6.8	0.2	0.7	45	25	15	60	0	3.5	9.4	●	●
TBPA60FLV	Ⓜ	**L**	No	6.3	6.8	0.2	0.7	45	25	15	60	0	3.5	9.4		●

BACK DUO
TBDP.. series/Toolholder

TBDP





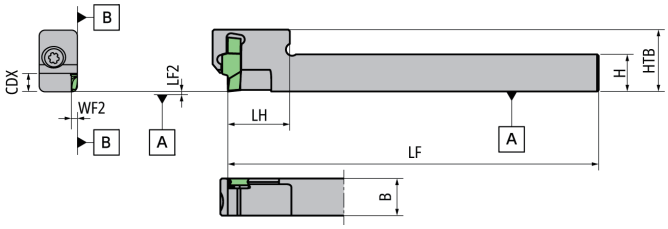
・Diagram shows right-hand tool

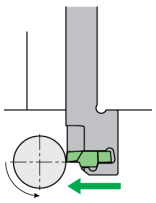
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage
5814678	**TBDPR1012**	●	R	12	3	10	2	14.5	10	120	15	2.05	TBDP..
5873864	**TBDPR1012H**	●	R	12	3	10	2	14.5	10	100	15	2.05	TBDP..
5810445	**TBDPR12**	●	R	12	5	12	–	–	12	120	18	2.05	TBDP..
5810452	**TBDPR16**	●	R	16	5	16	–	–	16	120	19.5	2.05	TBDP..
5842414	**TBDPR20**	●	R	20	5	20	–	–	20	120	19.5	2.05	TBDP..
5837265	**TBDPL1012**	●	L	12	3	10	2	14.5	10	120	15	2.05	TBDP..
5837273	**TBDPL12**	●	L	12	5	12	–	–	12	120	18	2.05	TBDP..
5837281	**TBDPL16**	●	L	16	5	16	–	–	16	120	19.5	2.05	TBDP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TBDPR1012	LRIS-4*12	LLR-25S
TBDPR1012H	LRIS-4*12	LLR-25S
TBDPR12	LRIS-4*12	LLR-25S
TBDPR16	LRIS-4*12	LLR-25S
TBDPR20	LRIS-4*12	LLR-25S
TBDPL1012	LRIS-4*12	LLR-25S
TBDPL12	LRIS-4*12	LLR-25S
TBDPL16	LRIS-4*12	LLR-25S

Y-TBDP Y-axis





・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HTB mm	LF mm	LF2 mm	LH mm	WF2 mm	Insert Gage
5839139	**Y-TBDPR12S**	●	R	12	5	12	20	120	0	20	2.05	TBDP..

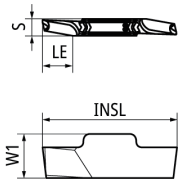
Spare Parts

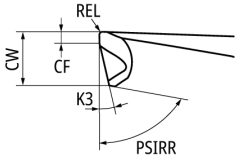
Item Number	Clamp screw	Wrench (for Clamp screw)
Y-TBDPR12S	LRIS-4*12	LLR-25S

BACK DUO

TBDP.. series/Inserts Carbide

TBDP



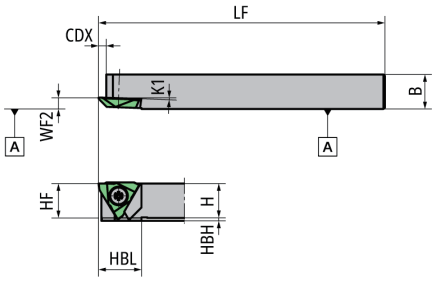


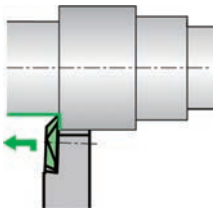
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CF	CW	INSL	K3	PSIRR	REL	S	W1	Carbide PVD		
			mm	mm	mm	mm	°	°	mm	mm	mm	DM4	QM3	TM4
TBDP22005R	R	Yes	3.5	0.3	1.4	17.48	13	80	0.05	2.2	6	●	●	●
TBDP2201MR	R	Yes	3.5	0.3	1.4	17.48	13	80	0.08	2.2	6	●	●	●
TBDP2202MR	R	Yes	3.5	0.3	1.4	17.48	13	80	0.18	2.2	6	●	●	●

TB.. series/Toolholder

TBT





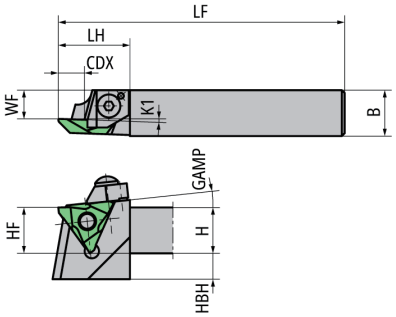
● Diagram shows right-hand tool

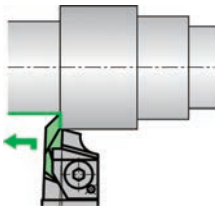
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	LF mm	WF2 mm	Insert Gage
5107511	**TBTR08F**	●	R	8	5	8	5	15	8	2	80	4	TB32..
5107578	**TBTR08K**	●	R	8	5	8	5	15	8	2	120	4	TB32..
5107495	**TBTR10F**	●	R	10	5	10	3	15	10	2	80	4	TB32..
5107552	**TBTR10K**	●	R	10	5	10	3	15	10	2	120	4	TB32..
5107479	**TBTR12F**	●	R	12	5	12	1	15	12	2	80	4	TB32..
5107537	**TBTR12K**	●	R	12	5	12	1	15	12	2	120	4	TB32..
5107503	**TBTL08F**	●	L	8	5	8	5	15	8	2	80	4	TB32..
5107560	**TBTL08K**	●	L	8	5	8	5	15	8	2	120	4	TB32..
5107487	**TBTL10F**	●	L	10	5	10	3	15	10	2	80	4	TB32..
5107545	**TBTL10K**	●	L	10	5	10	3	15	10	2	120	4	TB32..
5107461	**TBTL12F**	●	L	12	5	12	1	15	12	2	80	4	TB32..
5107529	**TBTL12K**	●	L	12	5	12	1	15	12	2	120	4	TB32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TBTR08F	LR-S-4*10PW	CLR-15S
TBTR08K	LR-S-4*10PW	CLR-15S
TBTR10F	LR-S-4*10PW	CLR-15S
TBTR10K	LR-S-4*10PW	CLR-15S
TBTR12F	LR-S-4*10PW	CLR-15S
TBTR12K	LR-S-4*10PW	CLR-15S
TBTL08F	LR-S-4*10PW	CLR-15S
TBTL08K	LR-S-4*10PW	CLR-15S
TBTL10F	LR-S-4*10PW	CLR-15S
TBTL10K	LR-S-4*10PW	CLR-15S
TBTL12F	LR-S-4*10PW	CLR-15S
TBTL12K	LR-S-4*10PW	CLR-15S

TB-N





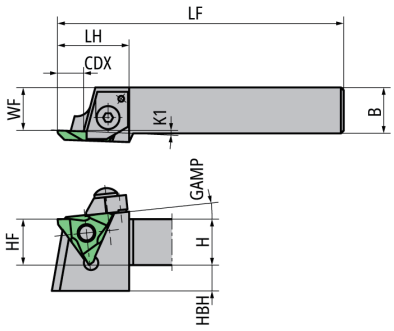
● Diagram shows right-hand tool

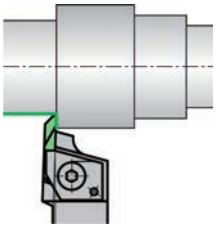
EDP	Item Number	Stock	Hand	B mm	CDX mm	GMAP °	H mm	HBH mm	HF mm	K1 °	LF mm	LH mm	WF mm	Insert Gage
5504550	**TBR16N**	●	R	16	9	6	16	9	16	2	78	25	10	TB43..
5837141	**TBR16N-42**	●	R	16	9	6	16	9	16	2	78	25	11.5	TB42..
5820618	**TBR16N-H**	●	R	16	9	6	16	9	16	2	100	25	10	TB43..
5848288	**TBR16N-K**	●	R	16	9	6	16	9	16	2	125	25	10	TB43..
5504543	**TBR16NS**	●	R	16	5	6	16	9	16	2	78	25	10	TB43..
5553540	**TBR20N**	●	R	20	9	6	20	5	20	2	100	25	14	TB43..
5524145	**TBL16N**	●	L	16	9	6	16	9	16	2	78	25	10	TB43..
5524152	**TBL20N**	●	L	20	9	6	20	5	20	2	100	25	14	TB43..
5524160	**TBL25N**	●	L	25	9	6	25	–	25	2	150	25	19	TB43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
TBR16N	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBR16N-42	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBR16N-H	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBR16N-K	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBR16NS	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBR20N	CPR5S	AOS-5*25	ASG-5	LW-2.5
TBL16N	CPL5S	AOS-5*25	ASG-5	LW-2.5
TBL20N	CPL5S	AOS-5*25	ASG-5	LW-2.5
TBL25N	CPL5S	AOS-5*25	ASG-5	LW-2.5

TB-F





● Diagram shows right-hand tool

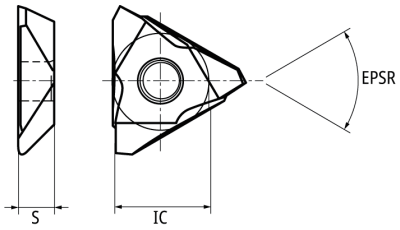
EDP	Item Number	Stock	Hand	B	CDX	GMAP	H	HBH	HF	K1	LF	LH	WF	Insert Gage
				mm	mm	°	mm	mm	mm	°	mm	mm	mm	
5505037	**TBR16F**	●	R	16	9	6	16	9	16	2	100	25	15	TB43..
5505029	**TBR16FS**	●	R	16	5	6	16	9	16	2	100	25	15	TB43..
5505052	**TBR20F**	●	R	20	9	6	20	5	20	2	100	25	20	TB43..
5526298	**TBR20FS**	●	R	20	5	6	20	5	20	2	100	25	20	TB43..
5519723	**TBR25F**	●	R	25	9	6	25	–	25	2	150	25	25	TB43..

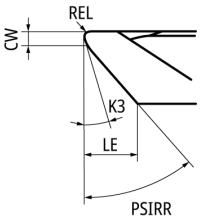
Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
TBR16F	CPR5	AOS-5*25	ASG-5	LW-2.5
TBR16FS	CPR5	AOS-5*25	ASG-5	LW-2.5
TBR20F	CPR5	AOS-5*25	ASG-5	LW-2.5
TBR20FS	CPR5	AOS-5*25	ASG-5	LW-2.5
TBR25F	CPR5	AOS-5*25	ASG-5	LW-2.5

TB.. series/Inserts Carbide

TB



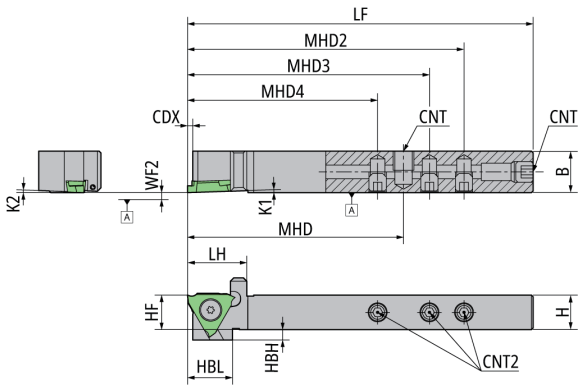


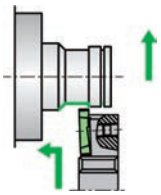
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	LE	CW	EPSR	IC	K3	PSIRR	REL	S	Carbide PVD
			mm	mm	°	mm	°	°	mm	mm	ZM3
TB3200R	**R**	Yes	2.7	0.5	60	9.525	13	45	0	3.18	●
TB3205R	**R**	Yes	2.7	0.5	60	9.525	13	45	0.05	3.18	●
TB3215R	**R**	Yes	2.7	0.5	60	9.525	13	45	0.15	3.18	●
TB3220R	**R**	Yes	2.7	0.5	60	9.525	13	45	0.2	3.18	●
TB3205L	**L**	Yes	2.7	0.5	60	9.525	13	45	0.05	3.18	●
TB3215L	**L**	Yes	2.7	0.5	60	9.525	13	45	0.15	3.18	●
TB4215R	**R**	Yes	2.3	1	60	12.7	13	45	0.15	3.18	●
TB4305R	**R**	Yes	4	1	60	12.7	13	45	0.05	4.76	●
TB4315R	**R**	Yes	4	1	60	12.7	13	45	0.15	4.76	●
TB4340R	**R**	Yes	3.9	1	60	12.7	13	45	0.4	4.76	●

TBMH.. Series/Toolholder

GTT-OH3 Coolant through (direct connect compatible)





● Diagram shows right-hand tool

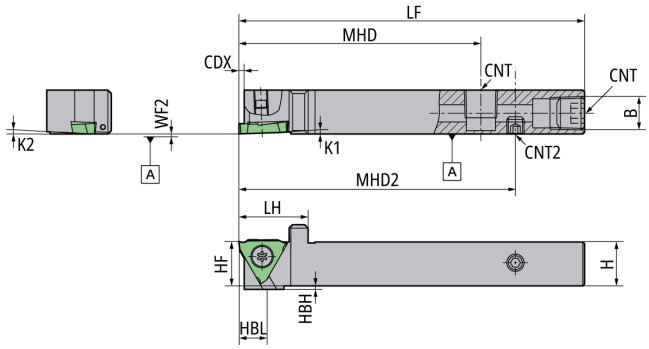
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage	
5117734	**GTTR1012H00-OH3**	💧 ●	R	12	3	Rc1/8	M5	0.3-3	10	3	13	10	2	2	100	17.15	62.5	80	70	55	0	GT..32..	TBMH32..
5121330	**GTTR16X00-OH3**	💧 ●	R	16	3.65	Rc1/8	M5	0.3-3	16	–	–	16	2	2	120	20	78.75	100	87.5	70	0	GT..32..	TBMH32..

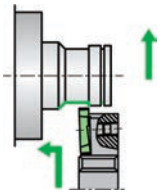
Back Turning R

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
GTTR1012H00-OH3	LR-S-4*10PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5
GTTR16X00-OH3	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

GTT-OH2 Coolant through (direct connect compatible)





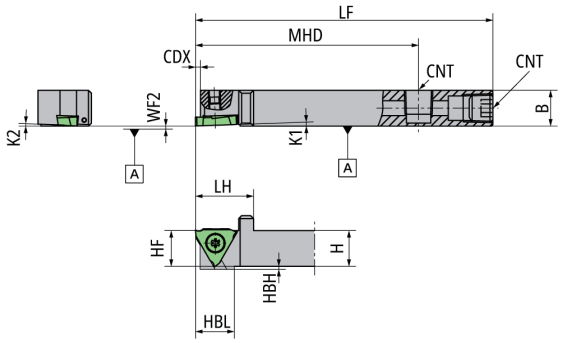
● Diagram shows right-hand tool

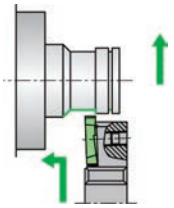
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage	
5035381	**GTTR12H00-OH2**	💧 ●	R	12	1.6	Rc1/8	M5	12	1	13	12	2	2	100	19.5	70	80	0	GT..32..	TBMH32..
5043997	**GTTR16X00-OH2**	💧 ●	R	16	1.6	Rc1/8	M5	16	–	–	16	2	2	120	19.5	70	100	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
GTTR12H00-OH2	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
GTTR16X00-OH2	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

GTT-OH Coolant through





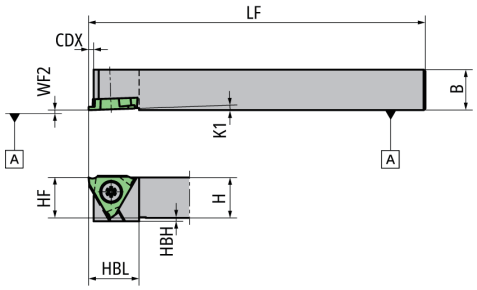
● Diagram shows right-hand tool

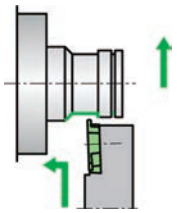
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5921705	**GTTR1012H00-OH**	●	R	12	1.6	M6*1	10	1	13	10	2	2	100	19.5	70	0	GT..32..	TBMH32..
5890157	**GTTR12H00-OH**	●	R	12	1.6	Rc1/8	12	1	13	12	2	2	100	19.5	70	0	GT..32..	TBMH32..
5921713	**GTTR16H00-OH**	●	R	16	1.6	Rc1/8	16	–	–	16	2	2	100	19.5	70	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
GTTR1012H00-OH	LR-S-4*10PW	SS0605SC	CLR-15S
GTTR12H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S
GTTR16H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S

GTT





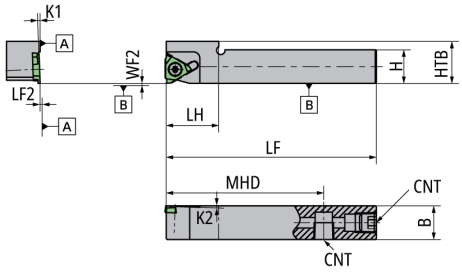
● Diagram shows right-hand tool

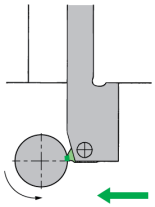
EDP	Item Number	Stock	Hand	B	CDX	H	HBH	HBL	HF	K1	K2	LF	WF2	Insert Gage	
				mm	mm	mm	mm	mm	mm	°	°	mm	mm		
5608682	**GTTR0810F00**	●	R	10	1.6	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5608690	**GTTR0810K00**	●	R	10	1.6	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107305	**GTTR08F00**	●	R	8	1.6	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5107206	**GTTR08K00**	●	R	8	1.6	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107321	**GTTR10F00**	●	R	10	1.6	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107362	**GTTR10F15**	●	R	10	2.7	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107388	**GTTR10F25**	●	R	10	2.7	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107222	**GTTR10K00**	●	R	10	1.6	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107263	**GTTR10K15**	●	R	10	2.7	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107289	**GTTR10K25**	●	R	10	2.7	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107347	**GTTR12F00**	●	R	12	1.6	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537220	**GTTR12F15**	●	R	12	2.7	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537238	**GTTR12F25**	●	R	12	2.7	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5107248	**GTTR12K00**	●	R	12	1.6	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537246	**GTTR12K15**	●	R	12	2.7	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537253	**GTTR12K25**	●	R	12	2.7	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5459896	**GTTR16H00**	●	R	16	1.6	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537261	**GTTR16H15**	●	R	16	2.7	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537279	**GTTR16H25**	●	R	16	2.7	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5173687	**GTTR16K00**	●	R	16	1.6	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537287	**GTTR16K15**	●	R	16	2.7	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537295	**GTTR16K25**	●	R	16	2.7	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5530852	**GTTR20K00**	●	R	20	2.7	20	–	–	20	2	2	125	0	GT..32..	TBMH32..
5780309	**GTTR25M00**	●	R	25	2.7	25	–	–	25	2	2	150	0	GT..32..	TBMH32..
5107313	**GTTL08F00**	●	L	8	1.6	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5107214	**GTTL08K00**	●	L	8	1.6	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107339	**GTTL10F00**	●	L	10	1.6	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107370	**GTTL10F15**	●	L	10	2.7	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107396	**GTTL10F25**	●	L	10	2.7	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107230	**GTTL10K00**	●	L	10	1.6	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107271	**GTTL10K15**	●	L	10	2.7	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107297	**GTTL10K25**	●	L	10	2.7	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107354	**GTTL12F00**	●	L	12	1.6	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537147	**GTTL12F15**	●	L	12	2.7	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537154	**GTTL12F25**	●	L	12	2.7	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5107255	**GTTL12K00**	●	L	12	1.6	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537162	**GTTL12K15**	●	L	12	2.7	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537170	**GTTL12K25**	●	L	12	2.7	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5551387	**GTTL16H00**	●	L	16	1.6	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537188	**GTTL16H15**	●	L	16	2.7	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537196	**GTTL16H25**	●	L	16	2.7	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5173679	**GTTL16K00**	●	L	16	1.6	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537204	**GTTL16K15**	●	L	16	2.7	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537212	**GTTL16K25**	●	L	16	2.7	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5780317	**GTTL20K00**	●	L	20	1.6	20	–	–	20	2	2	125	0	GT..32..	TBMH32..
5780291	**GTTL25M00**	●	L	25	1.6	25	–	–	25	2	2	150	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
GTTR0810F00	LR-S-4*10PW	CLR-15S
GTTR0810K00	LR-S-4*10PW	CLR-15S
GTTR08F00	LR-S-4*10PW	CLR-15S
GTTR08K00	LR-S-4*10PW	CLR-15S
GTTR10F00	LR-S-4*10PW	CLR-15S
GTTR10F15	LR-S-4*10PW	CLR-15S
GTTR10F25	LR-S-4*10PW	CLR-15S
GTTR10K00	LR-S-4*10PW	CLR-15S
GTTR10K15	LR-S-4*10PW	CLR-15S
GTTR10K25	LR-S-4*10PW	CLR-15S
GTTR12F00	LR-S-4*10PW	CLR-15S
GTTR12F15	LR-S-4*10PW	CLR-15S
GTTR12F25	LR-S-4*10PW	CLR-15S
GTTR12K00	LR-S-4*10PW	CLR-15S
GTTR12K15	LR-S-4*10PW	CLR-15S
GTTR12K25	LR-S-4*10PW	CLR-15S
GTTR16H00	LR-S-4*10PW	CLR-15S
GTTR16H15	LR-S-4*10PW	CLR-15S
GTTR16H25	LR-S-4*10PW	CLR-15S
GTTR16K00	LR-S-4*10PW	CLR-15S
GTTR16K15	LR-S-4*10PW	CLR-15S
GTTR16K25	LR-S-4*10PW	CLR-15S
GTTR20K00	LR-S-4*10PW	CLR-15S
GTTR25M00	LR-S-4*10PW	CLR-15S
GTTL08F00	LR-S-4*5.8	CLR-15S
GTTL08K00	LR-S-4*5.8	CLR-15S
GTTL10F00	LR-S-4*10PW	CLR-15S
GTTL10F15	LR-S-4*10PW	CLR-15S
GTTL10F25	LR-S-4*10PW	CLR-15S
GTTL10K00	LR-S-4*10PW	CLR-15S
GTTL10K15	LR-S-4*10PW	CLR-15S
GTTL10K25	LR-S-4*10PW	CLR-15S
GTTL12F00	LR-S-4*10PW	CLR-15S
GTTL12F15	LR-S-4*10PW	CLR-15S
GTTL12F25	LR-S-4*10PW	CLR-15S
GTTL12K00	LR-S-4*10PW	CLR-15S
GTTL12K15	LR-S-4*10PW	CLR-15S
GTTL12K25	LR-S-4*10PW	CLR-15S
GTTL16H00	LR-S-4*10PW	CLR-15S
GTTL16H15	LR-S-4*10PW	CLR-15S
GTTL16H25	LR-S-4*10PW	CLR-15S
GTTL16K00	LR-S-4*10PW	CLR-15S
GTTL16K15	LR-S-4*10PW	CLR-15S
GTTL16K25	LR-S-4*10PW	CLR-15S
GTTL20K00	LR-S-4*10PW	CLR-15S
GTTL25M00	LR-S-4*10PW	CLR-15S

Y-GTT-OH Y-axis coolant through holders





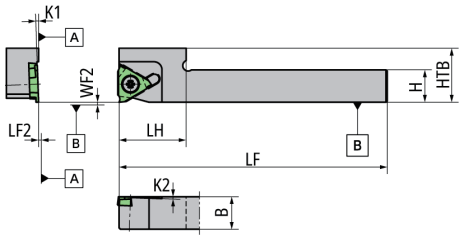
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

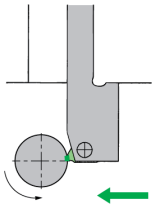
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5911466	**Y-GTTR12H00S-OH**	●	R	12	Rc1/8	12	20	2	2	100	0	20	75	0	GT..32..	TBMH32..
5911474	**Y-GTTR16H00-OH**	●	R	16	Rc1/8	16	20	2	2	100	0	25	75	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-GTTR12H00S-OH	LR-S-4*10PW	SPR1/8	CLR-15S
Y-GTTR16H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S

Y-GTT Y-axis





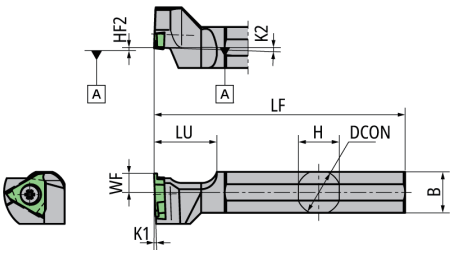
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

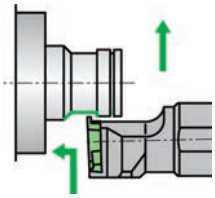
EDP	Item Number	Stock	Hand	B mm	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	WF2 mm	Insert Gage	
5950415	**Y-GTTR10MS**	●	R	10	10	20	2	2	120	0	22	0	GT..32..	TBMH32..
5371604	**Y-GTTR10S**	●	R	10	10	20	2	2	120	0	20	0	GT..32..	TBMH32..
5950472	**Y-GTTR12MS**	●	R	12	12	20	2	2	120	0	22	0	GT..32..	TBMH32..
5371620	**Y-GTTR12S**	●	R	12	12	20	2	2	120	0	20	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-GTTR10MS	LR-S-4*10PW	CLR-15S
Y-GTTR10S	LR-S-4*10PW	CLR-15S
Y-GTTR12MS	LR-S-4*10PW	CLR-15S
Y-GTTR12S	LR-S-4*10PW	CLR-15S

DS-GTT DS Toolholders





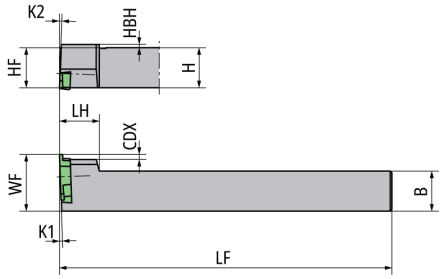
・Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

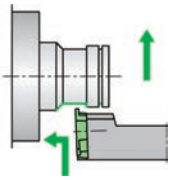
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	K1 °	K2 °	LF mm	LU mm	WF mm	Insert Gage	
5348560	**DS-GTTL14F**	●	L	13	14	13	0	2	2	80	19	6	GT..32..	TBMH32..
5348081	**DS-GTTL15H**	●	L	15	15.875	15	0	2	2	100	19	6	GT..32..	TBMH32..
5341532	**DS-GTTL16X**	●	L	15	16	15	0	2	2	95	19	6	GT..32..	TBMH32..
5278288	**DS-GTTL19**	●	L	18	19.05	18	0	2	2	120	19	6	GT..32..	TBMH32..
5278304	**DS-GTTL20**	●	L	19	20	19	0	2	2	120	19	6	GT..32..	TBMH32..
5324041	**DS-GTTL22**	●	L	21	22	21	0	2	2	120	19	6	GT..32..	TBMH32..
5317144	**DS-GTTL25**	●	L	24	25.4	24	0	2	2	120	19	10	GT..32..	TBMH32..
5483433	**DS-GTTL25-MET**	●	L	24	25	24	0	2	2	150	19	10	GT..32..	TBMH32..
5937693	**DS-GTTL32**	●	L	30	32	30	0	2	2	150	19	10	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-GTTL14F	LR-S-4*9	RLR-20S
DS-GTTL15H	LR-S-4*9	RLR-20S
DS-GTTL16X	LR-S-4*9	RLR-20S
DS-GTTL19	LR-S-4*9	RLR-20S
DS-GTTL20	LR-S-4*9	RLR-20S
DS-GTTL22	LR-S-4*9	RLR-20S
DS-GTTL25	LR-S-4*9	RLR-20S
DS-GTTL25-MET	LR-S-4*9	RLR-20S
DS-GTTL32	LR-S-4*9	RLR-20S

CH-GTT for horizontal gang style tool post





・Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

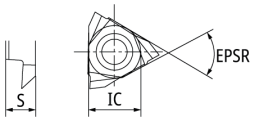
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HBH mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage	
5659248	**CH-GTTL10H00**	●	L	10	1.5	10	3	10	2	2	100	12	15	GT..32..	TBMH32..
5659255	**CH-GTTL12H00**	●	L	12	1.5	12	1	12	2	2	100	12	17	GT..32..	TBMH32..
5960836	**CH-GTTL16H00**	●	L	16	1.5	16	–	16	2	2	100	12	21	GT..32..	TBMH32..

Spare Parts

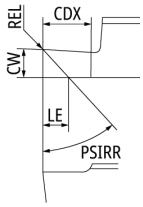
Item Number	Clamp screw	Wrench (for Clamp screw)
CH-GTTL10H00	LR-S-4*9	RLR-20S
CH-GTTL12H00	LR-S-4*9	RLR-20S
CH-GTTL16H00	LR-S-4*9	RLR-20S

TBMH.. series/Inserts Carbide

TBMH



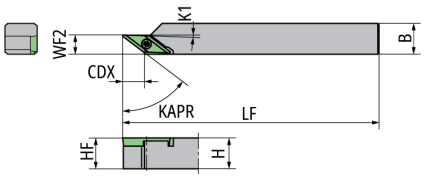
● Diagram shows right-hand tool

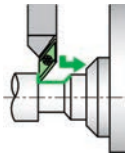


Item Number	Hand	Chip-breaker	LE	CDX	CW	EPSR	IC	PSIRR	REL	S	Carbide PVD
			mm	mm	°	mm	mm	°	mm	mm	ZM3
TBMH32100R05-22	R	Yes	0.3	1.8	1	60	9.525	22	0.05	3.18	●
TBMH32100R05-45	R	Yes	0.9	1.8	1	60	9.525	45	0.05	3.18	●
TBMH32150R05-22	R	Yes	0.5	2.7	1.5	60	9.525	22	0.05	3.18	●
TBMH32150R05-45	R	Yes	1.3	2.6	1.5	60	9.525	45	0.05	3.18	●

TBVC.. series/Toolholder

TBVC For non-metallic





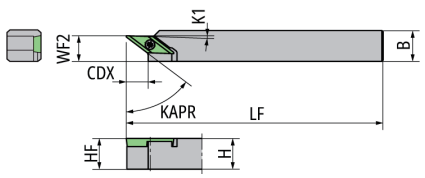
● Diagram shows right-hand tool

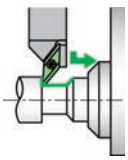
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	KAPR °	K1 °	LF mm	WF2 mm	Insert Gage	
5204953	**TBVCR10**	●	R	10	8.5	10	10	53	2	120	7.5	TBVC11FR..	VC..1103..
5204946	**TBVCR12**	●	R	12	8.5	12	12	53	2	120	7.5	TBVC11FR..	VC..1103..
5204920	**TBVCR16**	●	R	16	8.5	16	16	53	2	120	7.5	TBVC11FR..	VC..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TBVCR10	LRIS-2.5*7	CLR-15S
TBVCR12	LRIS-2.5*7	CLR-15S
TBVCR16	LRIS-2.5*7	CLR-15S

TBVC-F For Steel





● Diagram shows right-hand tool

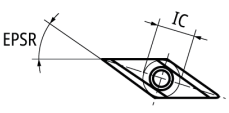
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	KAPR °	K1 °	LF mm	WF2 mm	Insert Gage	
5344254	**TBVCR10-F10**	●	R	10	8.5	10	10	53	2	120	10	TBVC11FR..	VC..1103..
5344262	**TBVCR12-F10**	●	R	12	8.5	12	12	53	2	120	10	TBVC11FR..	VC..1103..
5459797	**TBVCR12GX-F10**	●	R	12	8.5	12	12	53	2	85	10	TBVC11FR..	VC..1103..
5344270	**TBVCR16-F10**	●	R	16	8.5	16	16	53	2	120	10	TBVC11FR..	VC..1103..
5459805	**TBVCR16H-F10**	●	R	16	8.5	16	16	53	2	100	10	TBVC11FR..	VC..1103..
5459565	**TBVCR20F-F10**	●	R	20	8.5	20	20	53	2	80	10	TBVC11FR..	VC..1103..

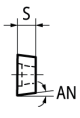
Spare Parts

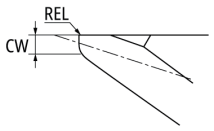
Item Number	Clamp screw	Wrench (for Clamp screw)
TBVCR10-F10	LRIS-2.5*7	CLR-15S
TBVCR12-F10	LRIS-2.5*7	CLR-15S
TBVCR12GX-F10	LRIS-2.5*7	CLR-15S
TBVCR16-F10	LRIS-2.5*7	CLR-15S
TBVCR16H-F10	LRIS-2.5*7	CLR-15S
TBVCR20F-F10	LRIS-2.5*7	CLR-15S

TBVC.. series/Inserts Carbide

TBVC..





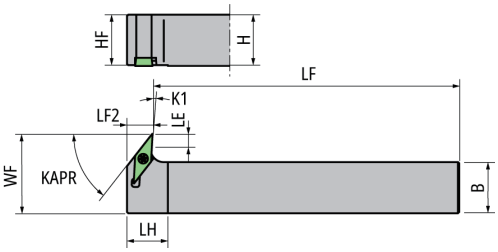


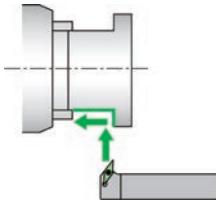
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	AN °	CW mm	EPSR °	IC mm	REL mm	S mm	Carbide PVD VM1	Carbide PVD ZM3
TBVC11FR05U	R	Yes	7	0.5	35	6.35	0.05	3.18		●
TBVC11FR10S	R	Yes	7	0.5	35	6.35	0.1	3.18		●
TBVC11FR10U	R	Yes	7	0.5	35	6.35	0.1	3.18	●	●

VC.. series/Toolholder

CH-SVXC for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) or non-handed insert.

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	KAPR °	K1 °	LE mm	LF mm	LF2 mm	LH mm	WF mm	Insert Gage
5890637	**CH-SVXCL1616X11**	●	L	16	16	16	52	3	7	120	10	16	27	VC..1103..
5890645	**CH-SVXCL2020X11**	●	L	20	20	20	52	3	7	120	10	16	31	VC..1103..

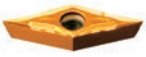
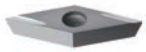
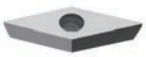
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-SVXCL1616X11	LRIS-2.5*7	CLR-15S
CH-SVXCL2020X11	LRIS-2.5*7	CLR-15S

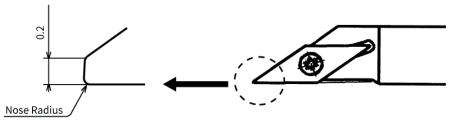
VC.. series/Inserts Carbide

VC..

Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number		CECC	EPSR	IC	S	AN	RE	BS	Carbide									
										PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)			°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	VCGT110301MYL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MYL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110304MYL		Up-sharp edge	35	6.35	3.18	7	0.38	–	●	●	●	●	●					
	VCGT110202MCL		Up-sharp edge	35	6.35	2.38	7	0.18	–		●	●	●	●					
	VCGT110301MCL		Up-sharp edge	35	6.35	3.18	7	0.08	–	●	●	●	●	●					
	VCGT110302MCL		Up-sharp edge	35	6.35	3.18	7	0.18	–	●	●	●	●	●					
	VCGT110300FNAM3		Up-sharp edge	35	6.35	3.18	7	0.03	–			●		●	●				
	VCGT110301MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.08	–	●		●	●	●	●				
	VCGT110301FNAM3		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.18	–	●		●	●	●	●				
	VCGT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCGT110304MFNAM3		Up-sharp edge	35	6.35	3.18	7	0.38	–	●		●	●	●	●				
	VCMT110302FNAM3		Up-sharp edge	35	6.35	3.18	7	0.2	–		●								
	VCMT110304FNAM3		Up-sharp edge	35	6.35	3.18	7	0.4	–		●								
	VCGT110300AZ7		Up-sharp edge	35	6.35	3.18	7	0.03	–				●			●			
	VCGT110301MAZ7		Up-sharp edge	35	6.35	3.18	7	0.08	–				●			●			
	VCGT110302MAZ7		Up-sharp edge	35	6.35	3.18	7	0.18	–				●			●			
	VCGT110304MAZ7		Up-sharp edge	35	6.35	3.18	7	0.38	–				●			●			
	VCGT110300RU		Up-sharp edge	35	6.35	3.18	7	0.03	–						●	●			
	VCGT110301MRU		Up-sharp edge	35	6.35	3.18	7	0.08	–			●							
	VCGT110301RU		Up-sharp edge	35	6.35	3.18	7	0.1	–						●	●			
	VCGT110302MRU		Up-sharp edge	35	6.35	3.18	7	0.18	–			●							
	VCGT110302RU		Up-sharp edge	35	6.35	3.18	7	0.2	–						●	●			
	VCET1103008RUHG		Up-sharp edge	35	6.35	3.18	7	0.08	–						●				
	VCGT1103005RU-WP		Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RU-WP		Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGT1103005RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.05	(0.2)						●	●			
	VCGT110301RSX-WP	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	(0.2)						●	●			
	VCGW110300H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.03	–										●
	VCGW110301H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.1	–										●
	VCGW110302H	Ⓜ	Up-sharp edge	35	6.35	3.18	7	0.2	–										●

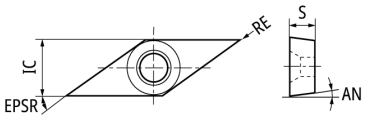
Features of VCGT-WP insert



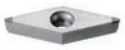
NTK WP style inserts have a wiper facet design.
The insert has a 0.2mm flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SVAC

VC.. series/Inserts CBN

VCGW

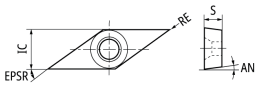


	CBN																			
	PVD					PVD			PVD											
	B16	B22	B23	B30	B36	B6K	B40	B52	B5K											
Steel																				
Stainless Steel																				
Cast Iron	●	●	●	●				○	○											
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material					●	●	●	●	●											
Others (non-metallic)																				

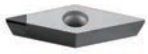
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge mm	No. of edge	S1 mm	CBN PVD B16	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	**VCGW110302PDS01015**	S01015	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110302PDS01535	S01535	35	6.35	3.18	7	0.2	–	2.6	2	–							●	●	
	VCGW110304PDS01015	S01015	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110304PDS01535	S01535	35	6.35	3.18	7	0.4	–	2.5	2	–							●	●	
	VCGW110308PDS01015	S01015	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110308PDS01535	S01535	35	6.35	3.18	7	0.8	–	1.6	2	–							●	●	
	VCGW110312PDS01015	S01015	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	
	VCGW110312PDS01535	S01535	35	6.35	3.18	7	1.2	–	2.7	2	–							●	●	

VC.. series/Inserts PCD

VCMW

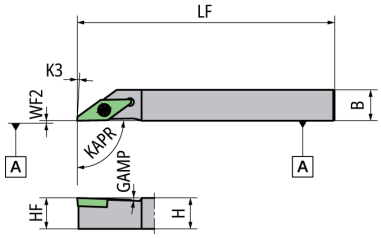


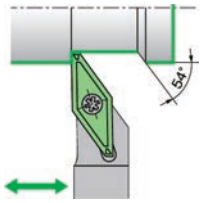
	PCD		Diamond Coating
	PD1	PD2	UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**VCMW110301**	Up-sharp edge	35	6.35	3.18	7	0.1	1	●		
	VCMW110302	Up-sharp edge	35	6.35	3.18	7	0.2	1	●		
	VCMW110304	Up-sharp edge	35	6.35	3.18	7	0.4	1	●		

VC..2M series/Toolholder

SVAC-NW for Front and Back Turning





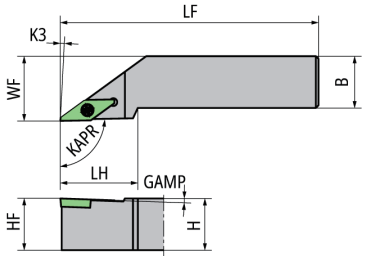
● Diagram shows right-hand tool

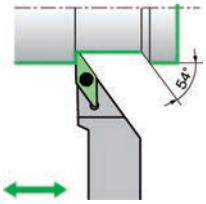
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	K3 °	LF mm	WF2 mm	Insert Gage
5401724	**SVACR1010L13NW**	●	R	10	1	10	10	91	3	140	0	VC..1303..2M
5401732	**SVACR1212L13NW**	●	R	12	1	12	12	91	3	140	0	VC..1303..2M
5401740	**SVACR1616M13NW**	●	R	16	1	16	16	91	3	140	0	VC..1303..2M
5401708	**SVACL1010L13NW**	●	L	10	1	10	10	91	3	140	0	VC..1303..2M
5401716	**SVACL1212L13NW**	●	L	12	1	12	12	91	3	140	0	VC..1303..2M
5431077	**SVACL1616M13NW**	●	L	16	1	16	16	91	3	140	0	VC..1303..2M

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR1010L13NW	LRIS-3*8	RLR-20S
SVACR1212L13NW	LRIS-3*8	RLR-20S
SVACR1616M13NW	LRIS-3*8	RLR-20S
SVACL1010L13NW	LRIS-3*8	RLR-20S
SVACL1212L13NW	LRIS-3*8	RLR-20S
SVACL1616M13NW	LRIS-3*8	RLR-20S

SVAC-W for Front and Back Turning





● Diagram shows right-hand tool

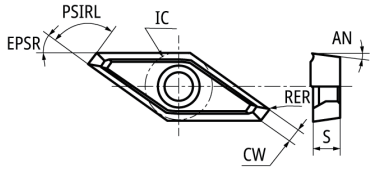
EDP	Item Number	Stock	Hand	B mm	GMAP °	H mm	HF mm	KAPR °	K3 °	LF mm	LH mm	WF mm	Insert Gage
5474549	**SVACR2020M13W**	●	R	20	1	20	20	91	3	150	30	25	VC..1303..2M

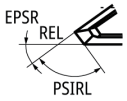
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
SVACR2020M13W	LRIS-3*8	RLR-20S

VC..2M series/Inserts Carbide

VC..2M





Left-hand

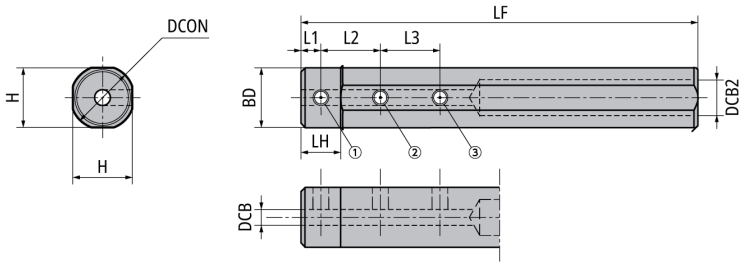
● Diagram shows right-hand tool

Item Number (ISO)	AN °	CW mm	EPSR °	IC mm	PSIRL °	REL mm	RER mm	Carbide PVD DM4
VCGT130300FL2M	7	1.5	35	7.94	94	0	–	●
VCGT130300FR2M	7	1.5	35	7.94	–	–	0	●
VCGT130301FL2M	7	1.5	35	7.94	94	0.1	–	●
VCGT130301FR2M	7	1.5	35	7.94	–	–	0.1	●

ID Back Turning
STICK DUO

SBB.. series/Sleeve

NBH Shank diameter Φ15.875 - Φ19.05



EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631411	**NBH03015H**	●	N	15	3	9	15.875	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586128	**NBH04015H**	●	N	15	4	9	15.875	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631437	**NBH03016H**	●	N	15	3	9	16	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586094	**NBH04016H**	●	N	15	4	9	16	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631452	**NBH03019K**	●	N	18	3	11	19.05	18	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586037	**NBH04019K**	●	N	18	4	11	19.05	18	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..

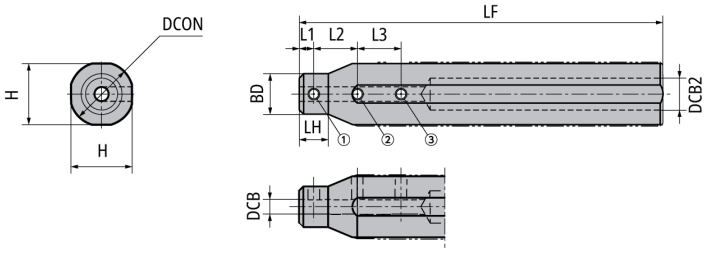
Spare Parts

Item Number	Clamp screw ①	②	③	Wrench (for Clamp screw) ①②
NBH03015H	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	SS0404F	SS0404F	SS0404F	LW-2
NBH03016H	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	SS0404F	SS0404F	SS0404F	LW-2
NBH03019K	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	SS0406F	SS0406F	SS0406F	LW-2

ID Back Turning
STICK DUO

SBB.. series/Sleeve

NBH Shank diameter Φ20 - Φ32



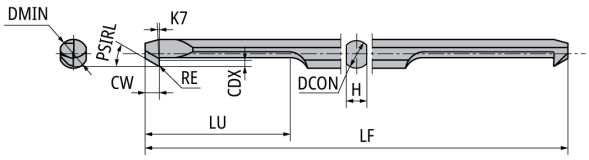
EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631478	**NBH03020K**	●	N	12	3	11	20	19	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586185	**NBH04020K**	●	N	13	4	11	20	19	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631494	**NBH03022K**	●	N	12	3	11	22	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586318	**NBH04022K**	●	N	13	4	11	22	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631528	**NBH03023K**	●	N	12	3	11	23	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5651336	**NBH04023K**	●	N	13	4	11	23	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631593	**NBH03025K-MET**	●	N	12	3	11	25	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5651328	**NBH04025K-MET**	●	N	13	4	11	25	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631684	**NBH03025K**	●	N	12	3	11	25.4	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586383	**NBH04025K**	●	N	13	4	11	25.4	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..

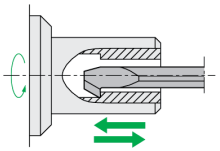
Spare Parts

Item Number	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench (for Clamp screw) ①②
NBH03020K	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	SS0404F	SS0406F	SS0406F	LW-2
NBH03022K	SS0404F	SS0406F	SS0408F	LW-2
NBH04022K	SS0404F	SS0406F	SS0406F	LW-2
NBH03023K	SS0404F	SS0406F	SS0408F	LW-2
NBH04023K	SS0404F	SS0406F	SS0406F	LW-2
NBH03025K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH03025K	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	SS0404F	SS0408F	SS0408F	LW-2

SBB.. series/Insert bar Carbide for ID Back Turning

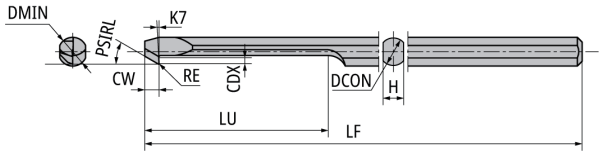
SBB-S Short type / Two-sided

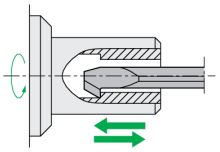




Item Number	Hand	Chip-breaker	DMIN	CDX	CW	DCON	H	K7	LF	LU	PSIRL	RE	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	°	mm	mm	ZM3
SBB030RB005-S	R	Yes	3	0.5	1.5	3	2.7	3	50	15	30	0.05	1.3	●
SBB030RB010-S	R	Yes	3	0.5	1.5	3	2.7	3	50	15	30	0.1	1.3	●
SBB040RB005-S	R	Yes	4	0.8	1.5	4	3.6	3	60	18	30	0.05	1.8	●
SBB040RB015-S	R	Yes	4	0.8	1.5	4	3.6	3	60	18	30	0.15	1.8	●

SBB Long type / Single-sided



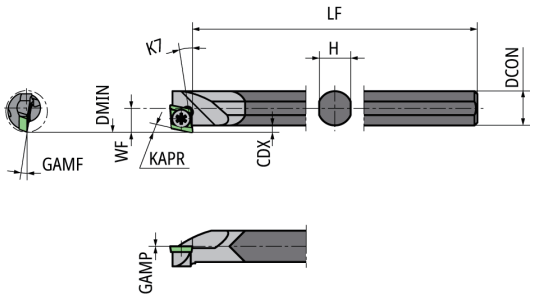


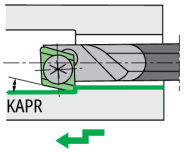
Item Number	Hand	Chip-breaker	DMIN	CDX	CW	DCON	H	K7	LF	LU	PSIRL	RE	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	°	mm	mm	ZM3
SBB030RB005	R	Yes	3	0.5	1.5	3	2.7	3	50	19	30	0.05	1.3	●
SBB030RB010	R	Yes	3	0.5	1.5	3	2.7	3	50	19	30	0.1	1.3	●
SBB040RB005	R	Yes	4	0.8	1.5	4	3.6	3	60	24	30	0.05	1.8	●
SBB040RB015	R	Yes	4	0.8	1.5	4	3.6	3	60	24	30	0.15	1.8	●

ID Back Turning

MBL.. series/Toolholder

C-MSBR Carbide shank





●Diagram shows right-hand tool
●For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
●F1 chipbreaker evacuates chips BACKWARD

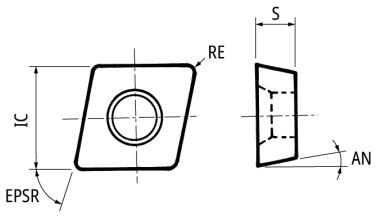
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5161054	**C04J-MSBR**	●	R	5.7	1	4	10	0	3.5	13	110	0.15	3.2	MBL..
5161047	**C06J-MSBR**	●	R	7.7	1	6	4	0	5.5	13	110	0.15	4.2	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C04J-MSBR	LR-S-2*3.5	CLR-13S
C06J-MSBR	LR-S-2*3.5	CLR-13S

MBL.. series/Inserts Carbide

MBL



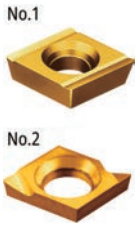
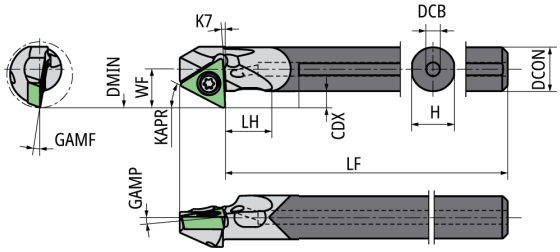


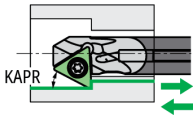
Figure	Item Number	Hand	Chip-breaker	AN °	EPSR °	IC mm	RE mm	S mm	Carbide PVD QM3	ST4	TM4	ZM3
1	**MBL005FL**	L	Yes	9	75	3.6	0.05	1	●		●	●
1	**MBL015FL**	L	Yes	9	75	3.6	0.15	1	●		●	●
2	**MBL005FRF1**	R	Yes	9	75	3.6	0.05	1	●	●	●	
2	**MBL015FRF1**	R	Yes	9	75	3.6	0.15	1	●	●	●	

ID Back Turning

TP.. series/Toolholder

C-STZP-OH Mogul Bar Coolant through Carbide shank





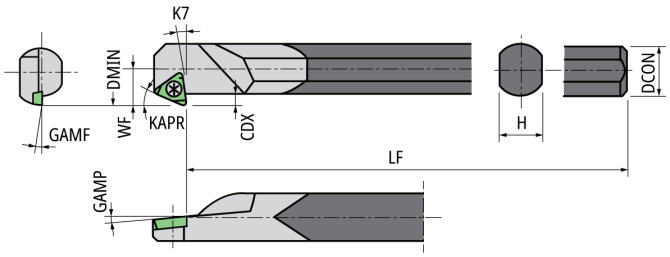
- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

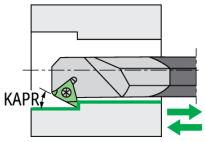
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5842869	**C08K-STZPR09D12-OH**	●	R	12	3	2.5	8	10	5	7.7	27	125	8.5	0.4	7	TP..0902..
5842877	**C10M-STZPR09D14-OH**	●	R	14	3	2.5	10	7	5	9.6	27	150	12	0.4	8	TP..0902..
5842885	**C12M-STZPR11D175-OH**	●	R	17.5	4.5	3	12	5	5	11.5	27	150	14.5	0.4	10.5	TP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C08K-STZPR09D12-OH	LR-S-2.5*4.8	CLR-15S
C10M-STZPR09D14-OH	LR-S-2.5*4.8	CLR-15S
C12M-STZPR11D175-OH	LR-S-3*5.8	RLR-20S

B-STZP-N Carbide shank





- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

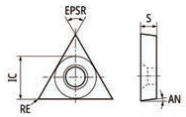
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5852801	**B12Q-STZPR-09-N**	●	R	16	3	–	12	5	5	11	27	180	–	0.2	9	TP..0902..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
B12Q-STZPR-09-N	LR-S-2.5*6.8	CLR-15S

TP.. series/Inserts Carbide

TPGH

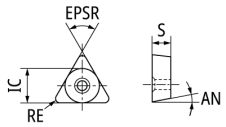


Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

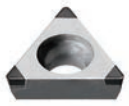
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TPGH090202RFG	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●					
	TPGH090204RFG	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●					
	TPGH110302RFG	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●					
	TPGH110304RFG	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●					
	TPGH080202FRF1	Up-sharp edge	60	4.76	2.38	11	0.2	–					●	●	●			
	TPGH080204FRF1	Up-sharp edge	60	4.76	2.38	11	0.4	–					●	●	●			
	TPGH090201FRF1	Up-sharp edge	60	5.56	2.38	11	0.1	–	●			●	●					
	TPGH090202FRF1	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●	●	●			
	TPGH090204FRF1	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●	●	●			
	TPGH090208FRF1	Up-sharp edge	60	5.56	2.38	11	0.8	–	●			●	●		●			
	TPGH110302FRF1	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●	●	●			
	TPGH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●	●	●			
	TPGH110308FRF1	Up-sharp edge	60	6.35	3.18	11	0.8	–	●			●	●		●			
	TPGH090202FLK	Up-sharp edge	60	5.56	2.38	11	0.2	–					●					
	TPGH090204FLK	Up-sharp edge	60	5.56	2.38	11	0.4	–					●					
	TPGH090208FLK	Up-sharp edge	60	5.56	2.38	11	0.8	–					●					
	TPGH090202FLB2	Up-sharp edge	60	5.56	2.38	11	0.2	–					●		●			
	TPGH090204FLB2	Up-sharp edge	60	5.56	2.38	11	0.4	–					●		●			
	TPGH090208FLB2	Up-sharp edge	60	5.56	2.38	11	0.8	–					●		●			
	TPGH080202FLB3	Up-sharp edge	60	4.76	2.38	11	0.2	–					●		●			
	TPGH080204FLB3	Up-sharp edge	60	4.76	2.38	11	0.4	–					●		●			

TP.. series/Inserts CBN

TPGW

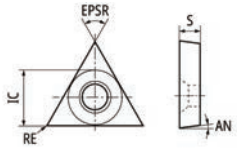


Steel																				
Stainless Steel																				
Cast Iron												●	●	●	●			○	○	
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material															●	●	●	●	●	
Others (non-metallic)																				

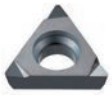
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD	B22	B23	B30	B36	PVD	B6K	B40	B52	PVD	B5K
	TPGW090202PTS01015	S01015	60	5.56	2.38	11	0.2	–	2.2	3	–						●				●		
	TPGW090202PTS01325	S01325	60	5.56	2.38	11	0.2	–	2.2	3	–						●				●		
	TPGW090202PTS01535	S01535	60	5.56	2.38	11	0.2	–	2.2	3	–						●				●		
	TPGW090204PTS01015	S01015	60	5.56	2.38	11	0.4	–	2	3	–						●				●		
	TPGW090204PTS01325	S01325	60	5.56	2.38	11	0.4	–	2	3	–						●				●		
	TPGW090204PTS01535	S01535	60	5.56	2.38	11	0.4	–	2	3	–						●				●		
	TPGW090208PTS01015	S01015	60	5.56	2.38	11	0.8	–	1.7	3	–						●				●		
	TPGW090208PTS01325	S01325	60	5.56	2.38	11	0.8	–	1.7	3	–						●				●		
	TPGW090208PTS01535	S01535	60	5.56	2.38	11	0.8	–	1.7	3	–						●				●		
	TPGW110302PTS01015	S01015	60	6.35	3.18	11	0.2	–	2.2	3	–						●			●	●		
	TPGW110302PTS01325	S01325	60	6.35	3.18	11	0.2	–	2.2	3	–						●				●		
	TPGW110302PTS01535	S01535	60	6.35	3.18	11	0.2	–	2.2	3	–						●			●	●		
	**TPGW110302PTT01020**	T01020	60	6.35	3.18	11	0.2	–	2.2	3	–					●							
	TPGW110304PTS01015	S01015	60	6.35	3.18	11	0.4	–	2	3	–						●			●	●		
	TPGW110304PTS01325	S01325	60	6.35	3.18	11	0.4	–	2	3	–						●			●	●		
	TPGW110304PTS01535	S01535	60	6.35	3.18	11	0.4	–	2	3	–						●			●	●		
	TPGW110304PTT01020	T01020	60	6.35	3.18	11	0.4	–	2	3	–					●							
	TPGW110304PTT01515	T01515	60	6.35	3.18	11	0.4	–	2	3	–				●	●							
	TPGW110308PTS01015	S01015	60	6.35	3.18	11	0.8	–	1.7	3	–						●			●	●		
	TPGW110308PTS01325	S01325	60	6.35	3.18	11	0.8	–	1.7	3	–						●			●	●		
	TPGW110308PTS01535	S01535	60	6.35	3.18	11	0.8	–	1.7	3	–						●			●	●		
	TPGW110308PTT01020	T01020	60	6.35	3.18	11	0.8	–	1.7	3	–					●							
	TPGW110308PTT01515	T01515	60	6.35	3.18	11	0.8	–	1.7	3	–				●								
	TPGW110312PTS01015	S01015	60	6.35	3.18	11	1.2	–	2.3	3	–									●	●		
	TPGW110312PTS01325	S01325	60	6.35	3.18	11	1.2	–	2.3	3	–									●	●		
	TPGW110312PTS01535	S01535	60	6.35	3.18	11	1.2	–	2.3	3	–									●	●		
	TPGW110312PTT01020	T01020	60	6.35	3.18	11	1.2	–	2.3	3	–					●							
	TPGW110312PTT01515	T01515	60	6.35	3.18	11	1.2	–	2.3	3	–				●								

TP.. series/Inserts PCD / Diamond Coating

TPM.

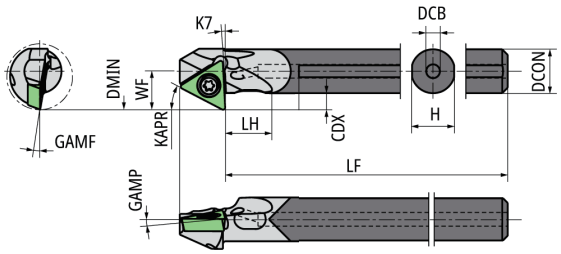


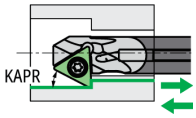
	PD1	PD2	UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**TPMH110302FRF1**	Up-sharp edge	60	6.35	3.18	11	0.2	3			●
	TPMH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	3			●
	TPMT090201PBF	Up-sharp edge	60	5.56	2.38	11	0.1	1		●	
	TPMT090202PBF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PBF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110301PBF	Up-sharp edge	60	6.35	3.18	11	0.1	1		●	
	TPMT110302PBF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PBF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	
	TPMT090202PF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110302PF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	

ID Back Turning
TC.. series/Toolholder

C-STZC-OH Mogul Bar Coolant through Carbide shank





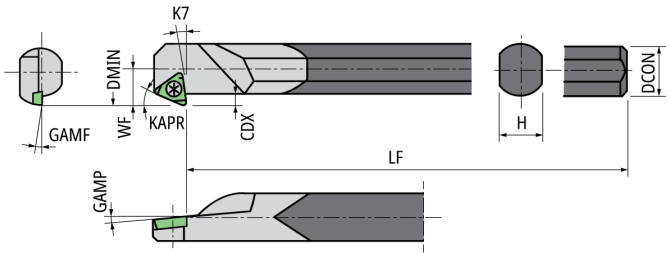
- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

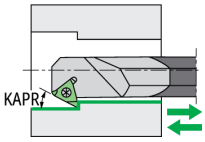
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5842851	**C06H-STZCR06D10-OH**	●	R	10	2.5	2	6	10	0	5.8	27	100	6	0.2	5.5	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06H-STZCR06D10-OH	LR-S-2*4.4	CLR-13S

B-STZC-N Carbide shank





- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

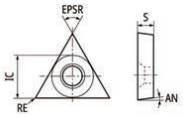
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5852819	**B06J-STZCR-06-N**	●	R	10	2.5	6	10	0	5.2	27	110	0.2	5.5	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
B06J-STZCR-06-N	LR-S-2*4.4	CLR-13S

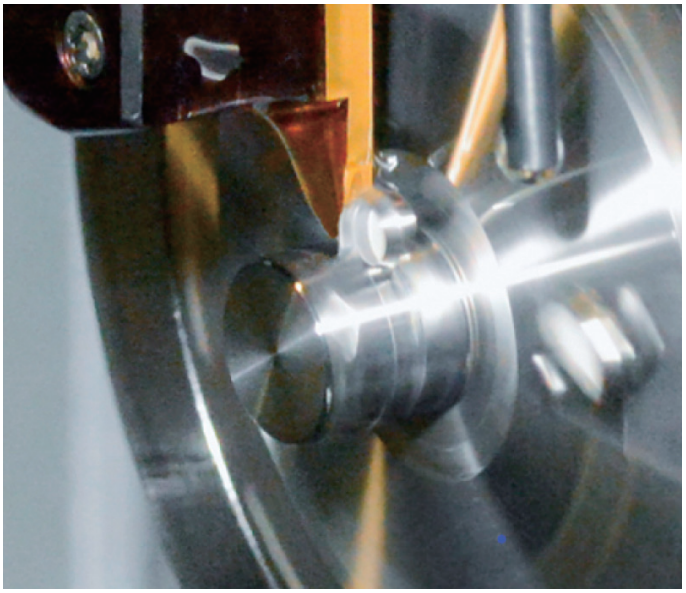
TC.. series/Inserts Carbide

TCG.



Steel	○	●	●	●	●	●	●		●										
Stainless Steel	●	○	○	○	●	○	●		●										
Cast Iron								●											
Non-Ferrous Material					○		○												
Heat Resistant Alloy		●	○	○															
Hardened Material		○	○	○															
Others (non-metallic)																			

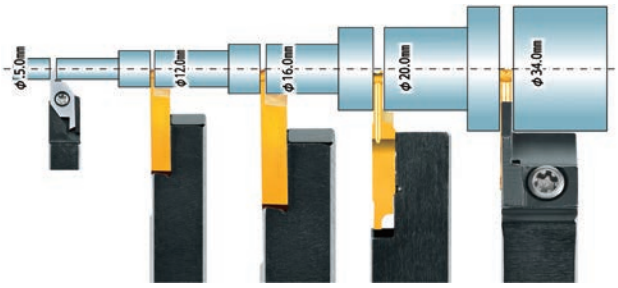
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	TCGH060101FRF05	Up-sharp edge	60	3.97	1.59	7	0.1	–	●			●	●					
	TCGH060102FLF05	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060102FRF05	Up-sharp edge	60	3.97	1.59	7	0.2	–	●			●	●		●			
	TCGH060104FRF05	Up-sharp edge	60	3.97	1.59	7	0.4	–	●			●	●		●			
	TCGH060102FLK	Up-sharp edge	60	3.97	1.59	7	0.2	–					●					
	TCGH060104FLK	Up-sharp edge	60	3.97	1.59	7	0.4	–					●					
	TCGH060102FLB1	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060104FLB1	Up-sharp edge	60	3.97	1.59	7	0.4	–					●		●			

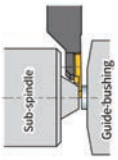
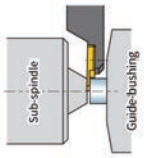


Cut-off

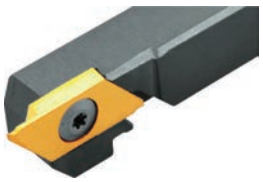
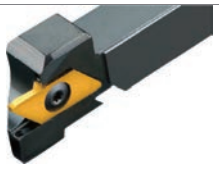
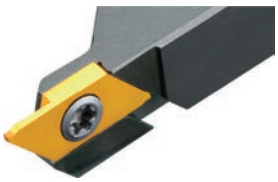
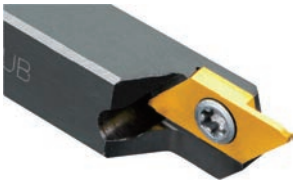
Product Lines S02
Recommended Cutting Conditions S03
General Information S04
CSV.. series S06
CTPS.. series S09
CTP.. series S11
CTPA.. series S19
CTPW.. series S24
CTV-S.. series S26
CTDP.. series S28
CTWP.. series S32
CTV.. series S34

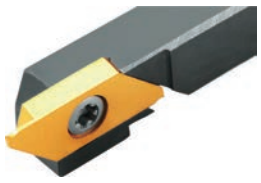
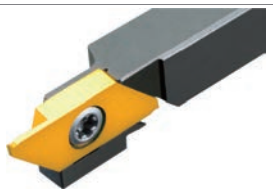
Product Lines



CTP.R-SUB	CTP.L-SUB
	

Insert	CSVC →S8	CTPS →S9	CTPS-001 →S10
Holder	CSV-NC →S6	CTPS →S9	CTPSR-SUB →S10
Max. Cut-off Dia.	-φ5.0mm	-φ10.0mm	-φ4.0mm
Blade width	0.6 - 1.5mm	1.2 - 2.0mm	0.7mm

Insert	CTP →S14			
Holder	CTP  →S12	CTP-OH2/OH  →S11 Coolant through	CTPR-SUB-OH3/CTPR-SUB  →S13	CTPL-SUB-OH3/CTPL-SUB  →S13
Max. Cut-off Dia.	-φ12.0mm			
Blade width	0.5 - 2.0mm			

Insert	CTPA →S22			
Holder	CTPA  →S20	CTPA-OH2/OH →S19 Coolant through	CTPAR-SUB  →S20	CTPAL-SUB →S21
Max. Cut-off Dia.	**-φ16.0mm**			
Blade width	0.7 - 3.0mm			

Insert	CTPW →S25	CTDP →S31		GWPFM →S33
Holder	CTPW →S24	CTDP →S30	CTDP-OH3/OH2/OH →S28	CTWP CUT DUO EXTRA →S32
Max. Cut-off Dia.	-φ20.0mm	-φ34.0mm	-25.4mm	-φ42.0mm
Blade width	2.5mm	2.0,2.5mm	2.0,2.5mm	3.0mm

Insert	CTV-S →S27		CTV →S36		
Holder	CTV-K2 →S26	CTVN-K2 →S26	CTV-S →S33	CTV-M(B) →S34	CTV-X →S35
Max. Cut-off Dia.	-φ20.0mm		-φ35.0mm	-φ45.0mm	-35.0mm
Blade width	2.2 - 2.5mm		2.5,3.0mm	2.5,3.0mm	3.0mm

Recommended Cutting Conditions

CSVT

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (m/min)		30 50 70				30 60 90		
Feed Rate (mm/rev)		0.01 0.02 0.03				0.01 0.03 0.05		

CTP / CTPA / CTPS / CTPW

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		30 50 70					30 60 90		
Feed Rate (mm/rev)		0.02 0.03 0.05					0.02 0.04 0.06		

CTDP / CTWP / CTV

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3					QM3	TM4 / DM4	
Cutting Speed (m/min)		30 50 70					30 60 90		
Feed Rate (mm/rev)		0.03 0.05 0.08					0.04 0.08 0.12		

Recommendation for cut-off item

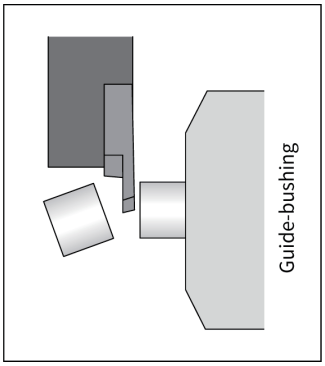
Max. Cut-off Dia.			
-φ5mm	CSV	→S6	
φ5 - φ12mm	CTP	→S11	
φ12 - φ16mm	CTPA	→S19	
	CTDP	→S28	
φ16 - φ34mm	CTDP	→S28	
φ34mm-	CTWP	→S32	

General Information

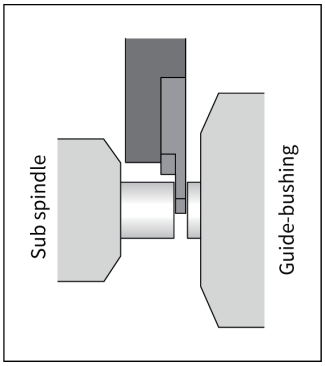
Cut-off Tool Selection Guide

Right-hand combination

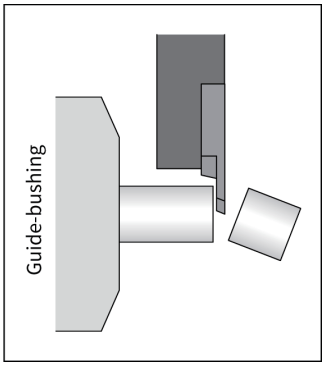
●FR/FRV/FRX



●FRN/FRS/FRNV/FRNX

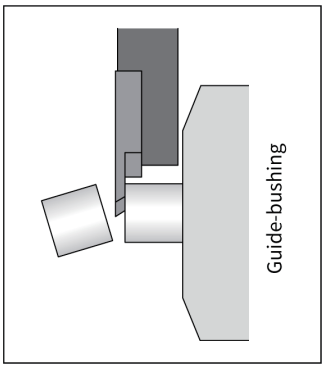


●FRK

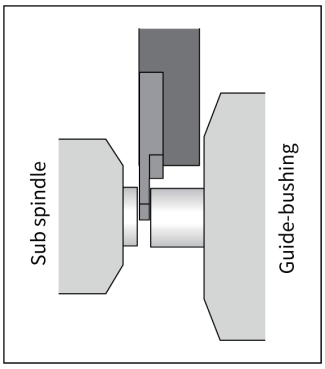


Left-hand combination

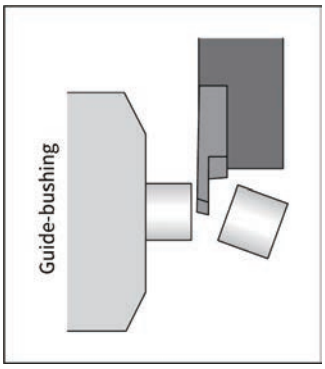
●FLK/FLKV



●FLN/FLNV

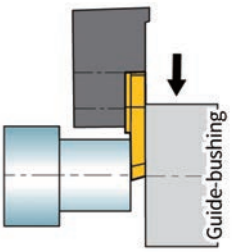


●FL/FLV



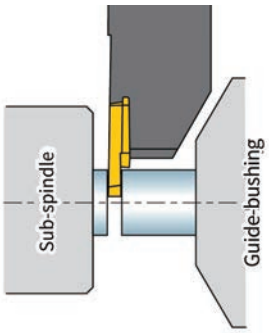
CTP/CTPA/CTPS/CTPW selection guide : Right hand? or Left hand?

Right-hand recommended



R-hand Toolholder using a R-hand insert with lead angle

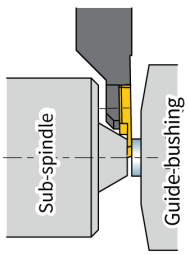
Left-hand recommended



L-hand Toolholder with a non-lead angle insert when the bar stock is held by sub-spindle

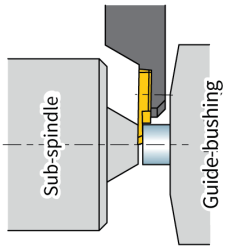
CTP/CTPA-SUB selection guide Right hand? or Left hand?

Right-hand recommended



R-hand Toolholder with R-hand insert with lead angle for longer parts or small diameter part.
When part length is too short for sub-spindle to hold, use L-hand with slower speed.

Left-hand recommended



L-hand with L-hand insert with lead angle for short part

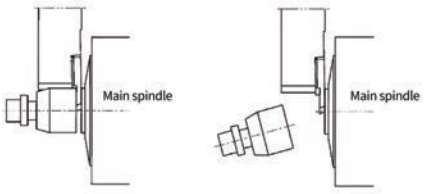
Notification about max cut-off diameter

※Max cut-off diameter in the catalog shows when the X end point location is 0.0.

①When cut-off

When X end point is past X0.0, the work material will fall away and no interference will occur. (Fig 1)

Fig 1



②When cut-off while sub-spindle holds the part (Using a neutral insert)

Max cut-off diameter will change depending on the X end point, so please confirm the max cut-off diameter based on X end point.
※Please refer to the formula below.

[Calculation formula]
Possible machining diameter = Max cut-off diameter - X end point
(Note value in the catalog) (Optional)

[Example]
When machining until X - 1.0 using CTP15FRN
12.0 - 1.0 = 11.0 (Max machinable diameter)

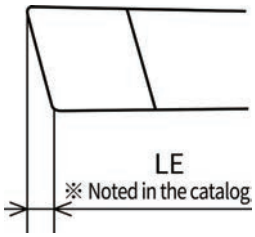
③When cut-off while sub-spindle holds the part (Using insert with lead angle)

Max cut-off diameter will change depending on X end point, so please confirm the max cut-off diameter based on "dimension LE" below (Fig.2) and X end point.
※Please refer to the formula below.

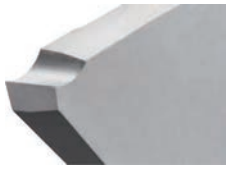
[Calculation formula]
Possible machining diameter = Max cut-off diameter - X end point
(Note value in the catalog)

[How to decide X end point]
X end point ≧ dimension LE (Fig.2) × 2
[Example]
When using CTP15FR
X end point : 0.460 × 2 = 0.920
(dimension LE)
12.0 - 0.920 = 11.08 (Max machinable diameter)

Fig 2

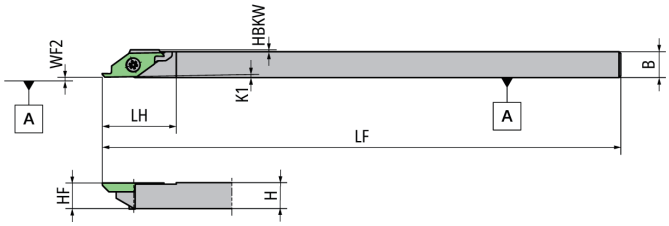


CTP type insert

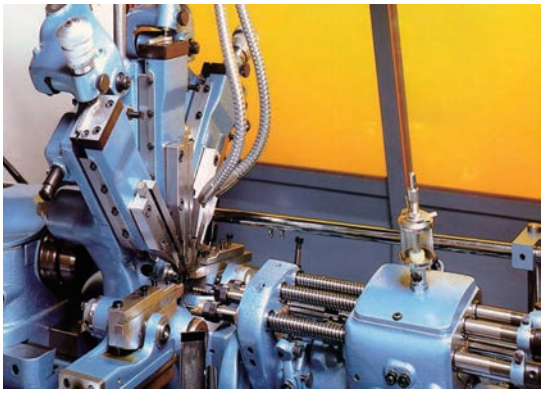
	CTP	CTP-CX	CTP-TH	CTPX	CTP-SH
					
Features	Extensive lineup	Excellent chip control and straight-line stability	Strong edge with land style	Cost advantage style	For small diameter
Max. Cut-off Diameter	-φ12	-φ12	-φ12	-φ12	-φ5/-φ7
Blade width (mm)	0.5 / 0.7 / 1.0 / 1.5 / 2.0	1.0 / 1.3 / 1.5	1.5 / 2.0	1.5 / 2.0	0.5 / 1.0
Corner radius	0 / 0.03 / 0.05	0.05 / 0.2	0.05	0.05	0.03 / 0.05
Hand	Right / Left	Right / Left	Right / Left	Right / Left	Right / Left
Chip-breaker	Yes / No (Mirror finish)	Yes (3D Molded)	Yes	Yes	Yes

CSVC.. series/Toolholder

CSV [91°] For Cam-style machine



● Diagram shows right-hand tool

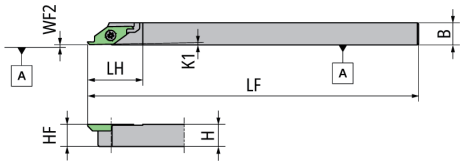


EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5303169	**CSVR07**	●	R	5	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492962	**CSVR07GX**	●	R	5	7	7	0.5	7	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303151	**CSVR08**	●	R	5	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492954	**CSVR08GX**	●	R	5	8	8	0	8	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303136	**CSVR095**	●	R	5	9.5	9.5	0	9.5	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303144	**CSVR10**	●	R	5	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5327929	**CSVR12**	●	R	5	12	12	0	12	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5474770	**CSVR12GX**	●	R	5	12	12	0	12	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303193	**CSVL07**	●	L	5	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303201	**CSVL08**	●	L	5	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303177	**CSVL10**	●	L	5	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR07	LRIS-2.5*7	CLR-15S
CSVR07GX	LRIS-2.5*7	CLR-15S
CSVR08	LRIS-2.5*7	CLR-15S
CSVR08GX	LRIS-2.5*7	CLR-15S
CSVR095	LRIS-2.5*7	CLR-15S
CSVR10	LRIS-2.5*7	CLR-15S
CSVR12	LRIS-2.5*7	CLR-15S
CSVR12GX	LRIS-2.5*7	CLR-15S
CSVL07	LRIS-2.5*7	CLR-15S
CSVL08	LRIS-2.5*7	CLR-15S
CSVL10	LRIS-2.5*7	CLR-15S

CSV-NC [91°] For Gang-style machine



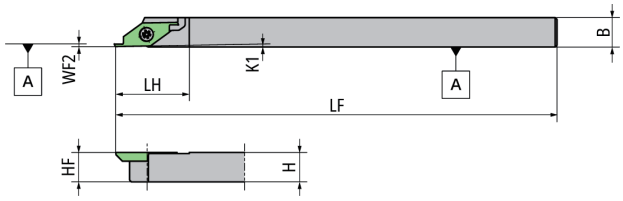
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5514062	**CSVR08NC**	●	R	5	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5563010	**CSVR10GXNC**	●	R	5	10	10	10	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477492	**CSVR10NC**	●	R	5	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477534	**CSVR12NC**	●	R	5	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5514070	**CSVL08NC**	●	L	5	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477542	**CSVL10NC**	●	L	5	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477500	**CSVL12NC**	●	L	5	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC	LRIS-2.5*7	CLR-15S
CSVR10GXNC	LRIS-2.5*7	CLR-15S
CSVR10NC	LRIS-2.5*7	CLR-15S
CSVR12NC	LRIS-2.5*7	CLR-15S
CSVL08NC	LRIS-2.5*7	CLR-15S
CSVL10NC	LRIS-2.5*7	CLR-15S
CSVL12NC	LRIS-2.5*7	CLR-15S

CSV-NC-F [91°] For Gang-style machine



● Diagram shows right-hand tool

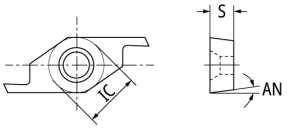
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5789615	**CSVR08NC-F**	●	R	5	8	8	8	1	120	20	0-0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

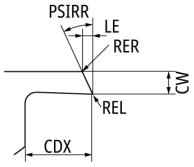
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC-F	LRIS-2.5*7	CLR-15S

CSVC.. series/Inserts Carbide

CSVC-V

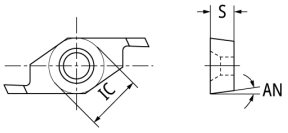


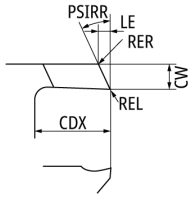


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand	Chip-breaker	CUTDIA	AN	CDX	CW	EPSR	IC	LE	PSIRR	REL	RER	S	Carbide PVD
				mm	°	mm	mm	°	mm	mm	°	mm	mm	mm	VM1
CSVC11FRV06	Ⓜ	R	No	3	7	2	0.6	35	6.35	0.31	25	0	0	2.38	●
CSVC11FRV07	Ⓜ	R	No	4	7	2.5	0.7	35	6.35	0.36	25	0	0	2.38	●
CSVC11FRV08	Ⓜ	R	No	4	7	2.5	0.8	35	6.35	0.41	25	0	0	2.38	●
CSVC11FRV09	Ⓜ	R	No	4	7	2.5	0.9	35	6.35	0.46	25	0	0	2.38	●
CSVC11FRV10	Ⓜ	R	No	5	7	3	1	35	6.35	0.51	25	0	0	2.38	●
CSVC11FRV13	Ⓜ	R	No	5	7	3	1.3	35	6.35	0.65	25	0	0	2.38	●
CSVC11FRV15	Ⓜ	R	No	5	7	3	1.5	35	6.35	0.74	25	0	0	2.38	●
CSVC11FLV07	Ⓜ	L	No	4	7	2.5	0.7	35	6.35	0.36	25	0	0	2.38	●
CSVC11FLV08	Ⓜ	L	No	4	7	2.5	0.8	35	6.35	0.41	25	0	0	2.38	●
CSVC11FLV10	Ⓜ	L	No	5	7	3	1	35	6.35	0.51	25	0	0	2.38	●
CSVC11FLV13	Ⓜ	L	No	5	7	3	1.3	35	6.35	0.65	25	0	0	2.38	●
CSVC11FLV15	Ⓜ	L	No	5	7	3	1.5	35	6.35	0.74	25	0	0	2.38	●

CSVC-VB



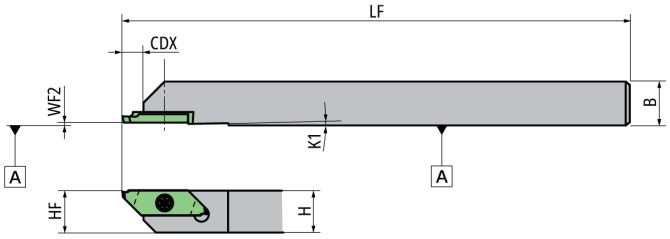


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

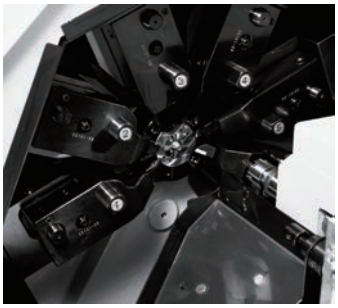
Item Number		Hand	Chip-breaker	CUTDIA	AN	CDX	CW	EPSR	IC	LE	PSIRR	REL	RER	S	Carbide PVD
				mm	°	mm	mm	°	mm	mm	°	mm	mm	mm	VM1
CSVC11FRVB06	Ⓜ	R	Yes	3	7	2	0.6	35	6.35	0.31	25	0	0	2.38	●
CSVC11FRVB07	Ⓜ	R	Yes	4	7	2.5	0.7	35	6.35	0.36	25	0	0	2.38	●
CSVC11FRVB08	Ⓜ	R	Yes	4	7	2.5	0.8	35	6.35	0.41	25	0	0	2.38	●
CSVC11FRVB09	Ⓜ	R	Yes	4	7	2.5	0.9	35	6.35	0.46	25	0	0	2.38	●
CSVC11FRVB10	Ⓜ	R	Yes	5	7	3	1	35	6.35	0.51	25	0	0	2.38	●
CSVC11FRVB13	Ⓜ	R	Yes	5	7	3	1.3	35	6.35	0.65	25	0	0	2.38	●
CSVC11FRVB15	Ⓜ	R	Yes	5	7	3	1.5	35	6.35	0.74	25	0	0	2.38	●

CTPS.. series/Toolholder

CTPS



● Diagram shows right-hand tool



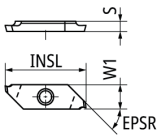
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HF mm	K1 °	LF mm	WF2 mm	Insert Gage	
5346572	**CTPSR10**	●	R	10	10	5	10	10	1	120	0	TBPS../CTPS..	GTPS../TTPS..
5397187	**CTPSR12**	●	R	10	12	5	12	12	1	120	0	TBPS../CTPS..	GTPS../TTPS..

Spare Parts

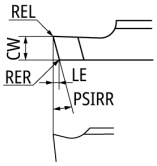
Item Number	Clamp screw	Wrench (for Clamp screw)
CTPSR10	LRIS-2.5*7	CLR-15S
CTPSR12	LRIS-2.5*7	CLR-15S

CTPS.. series/Inserts Carbide

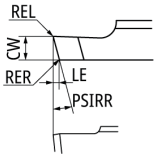
CTPS-FR



No.1



No.2

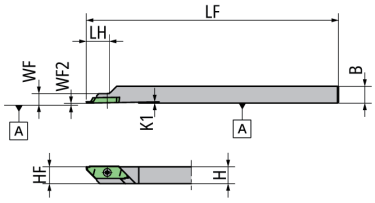


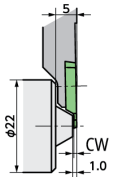
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

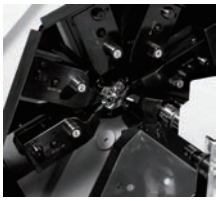
Figure	Item Number		Hand	Chip-breaker	CUTDIA mm	CW mm	EPSR °	INSL mm	LE mm	PSIRR °	REL mm	RER mm	S mm	W1 mm	Carbide PVD VM1	Carbide PVD ZM3
1	**CTPS12FR**		R	Yes	4	1.2	45	20	0.37	16	0.05	0.05	2.5	6	●	●
1	**CTPS15FR**		R	Yes	5	1.5	45	20	0.46	16	0.05	0.05	2.5	6	●	●
1	**CTPS18FR**		R	Yes	8.5	1.8	45	20	0.55	16	0.05	0.05	2.5	6	●	●
1	**CTPS20FR**		R	Yes	10	2	45	20	0.61	16	0.05	0.05	2.5	6	●	●
2	**CTPS12FRV**	Ⓜ	R	No	4	1.2	45	20	0.47	20	0	0	2.5	6	●	●
2	**CTPS15FRV**	Ⓜ	R	No	5	1.5	45	20	0.58	20	0	0	2.5	6	●	●
2	**CTPS18FRV**	Ⓜ	R	No	8.5	1.8	45	20	0.7	20	0	0	2.5	6	●	●
2	**CTPS20FRV**	Ⓜ	R	No	10	2	45	20	0.77	20	0	0	2.5	6	●	●

CTPS..001 series/Toolholder

CTPS-SUB for Sub-spindle







● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HF mm	K1 °	LF mm	LH mm	WF mm	WF2 mm	Insert Gage
5486717	**CTPSR08-SUB04**	●	R	4	8	5	8	8	1	120	11	4.5	0	CTPS..-001

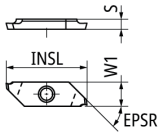
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPSR08-SUB04	LRIS-2.5*4.5	CLR-15S

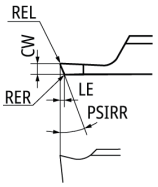
S Cut-off

CTPS..001 series/Inserts Carbide

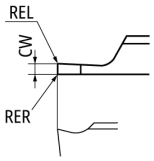
CTPS-001



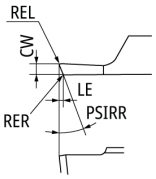
No.1



No.2



No.3

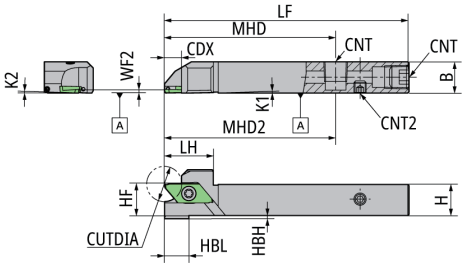


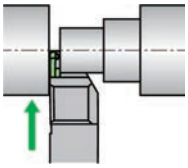
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Figure	Item Number		Hand	Chip-breaker	CUTDIA mm	CW mm	EPSR °	INSL mm	LE mm	PSIR °	PSIRR °	REL mm	RER mm	S mm	W1 mm	Carbide PVD ZM3
1	**CTPS07FR-001**		R	Yes	4	0.7	45	20	0.23	–	16	0.05	0.05	2.5	6	●
2	**CTPS07FRN-001**		R	Yes	4	0.7	45	20	–	0	–	0.05	0.05	2.5	6	●
3	**CTPS07FRV-001**	Ⓜ	R	No	4	0.7	45	20	0.28	–	20	0	0	2.5	6	●

CTP.. series/Toolholder

CTP-OH2 Coolant through (direct connect compatible)





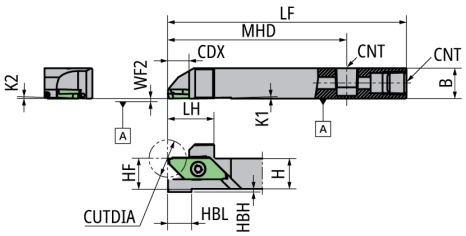
● Diagram shows right-hand tool

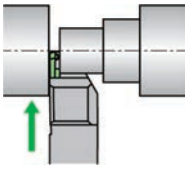
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage
5037874	**CTPR12H-OH2**	💧 ●	R	12	12	7	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	1.5	CTP..
5037866	**CTPL12H-OH2**	💧 ●	L	12	12	7	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	1.5	CTP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
CTPR12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPL12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

CTP-OH Coolant through





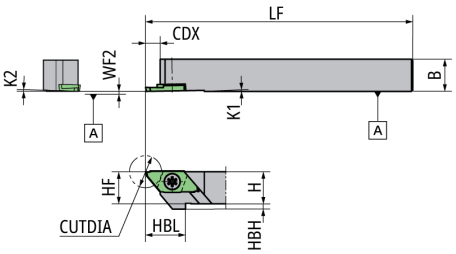
● Diagram shows right-hand tool

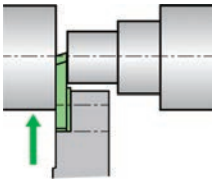
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage
5921853	**CTPR1012H-OH**	💧 ●	R	12	12	7	M6*1	10	4	19	10	1	2	100	19.5	75	0	CTP..
5918651	**CTPR12H-OH**	💧 ●	R	12	12	7	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTP..
5921879	**CTPR16H-OH**	💧 ●	R	12	16	7	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTP..
5921861	**CTPL1012H-OH**	💧 ●	L	12	12	7	M6*1	10	4	19	10	1	2	100	19.5	75	0	CTP..
5918040	**CTPL12H-OH**	💧 ●	L	12	12	7	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTP..
5921887	**CTPL16H-OH**	💧 ●	L	12	16	7	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)	Wrench (for CNT)
CTPR1012H-OH	LRIS-4*12PW	SS0605SC	CLR-15S	LW-3
CTPR12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S	–
CTPR16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S	–
CTPL1012H-OH	LRIS-4*12PW	SS0605SC	CLR-15S	LW-3
CTPL12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S	–
CTPL16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S	–

CTP





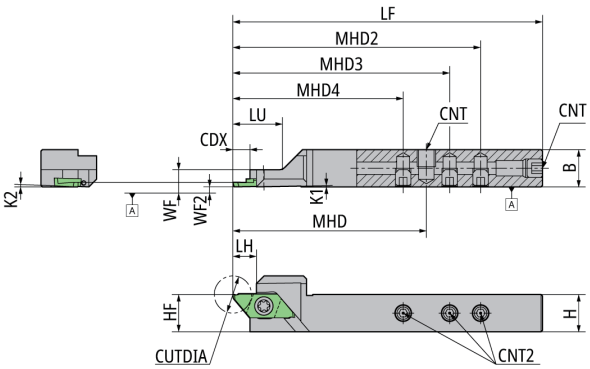
● Diagram shows right-hand tool

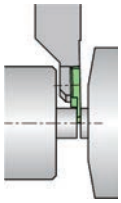
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF2 mm	Insert Gage
5131362	**CTPR08**	●	R	12	10	5.5	8	4	15	8	1	2	120	0	CTP..
5089644	**CTPR10**	●	R	12	10	5.5	10	2	15	10	1	2	120	0	CTP..
5873849	**CTPR10H**	●	R	12	10	5.5	10	2	15	10	1	2	100	0	CTP..
5089651	**CTPR12**	●	R	12	12	5.5	12	–	–	12	1	2	120	0	CTP..
5459730	**CTPR12GX**	●	R	12	12	5.5	12	–	–	12	1	2	85	0	CTP..
5089677	**CTPR13**	●	R	12	13	5.5	13	–	–	13	1	2	120	0	CTP..
5183496	**CTPR16**	●	R	12	16	5.5	16	–	–	16	1	2	120	0	CTP..
5459755	**CTPR16H**	●	R	12	16	5.5	16	–	–	16	1	2	100	0	CTP..
5131354	**CTPL08**	●	L	12	10	5.5	8	4	15	8	1	2	120	0	CTP..
5089636	**CTPL10**	●	L	12	10	5.5	10	2	15	10	1	2	120	0	CTP..
5893458	**CTPL10H**	●	L	12	10	5.5	10	2	15	10	1	2	100	0	CTP..
5089669	**CTPL12**	●	L	12	12	5.5	12	–	–	12	1	2	120	0	CTP..
5459748	**CTPL12GX**	●	L	12	12	5.5	12	–	–	12	1	2	85	0	CTP..
5089685	**CTPL13**	●	L	12	13	5.5	13	–	–	13	1	2	120	0	CTP..
5183504	**CTPL16**	●	L	12	16	5.5	16	–	–	16	1	2	120	0	CTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPR08	LRIS-4*10PW	CLR-15S
CTPR10	LRIS-4*10PW	CLR-15S
CTPR10H	LRIS-4*10PW	CLR-15S
CTPR12	LRIS-4*12PW	CLR-15S
CTPR12GX	LRIS-4*12PW	CLR-15S
CTPR13	LRIS-4*12PW	CLR-15S
CTPR16	LRIS-4*12PW	CLR-15S
CTPR16H	LRIS-4*12PW	CLR-15S
CTPL08	LRIS-4*10PW	CLR-15S
CTPL10	LRIS-4*10PW	CLR-15S
CTPL10H	LRIS-4*10PW	CLR-15S
CTPL12	LRIS-4*12PW	CLR-15S
CTPL12GX	LRIS-4*12PW	CLR-15S
CTPL13	LRIS-4*12PW	CLR-15S
CTPL16	LRIS-4*12PW	CLR-15S

CTPR-SUB-OH3 Coolant through (direct connect compatible) for Sub-Spindle





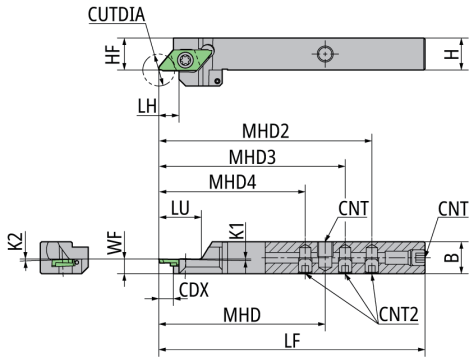
● Diagram shows right-hand tool

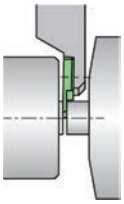
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	CNT	CNT2	H mm	HF mm	K1 °	K2 °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF mm	WF2 mm	Insert Gage
5117809	**CTPR12H-SUB-OH3**		R	12	12	5.5	M6*1	M5	12	12	1	2	100	7.6	16	62.5	80	70	55	5.5	0	CTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPR12H-SUB-OH3	LRIS-4*5	LLR-25S

CTPL-SUB-OH3 Coolant through (direct connect compatible) for Sub-spindle





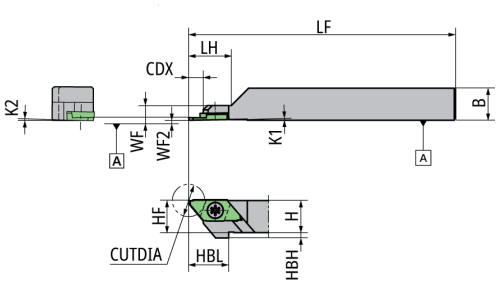
● Diagram shows left-hand tool

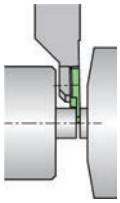
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	CNT	CNT2	H mm	HF mm	K1 °	K2 °	LF mm	LH mm	LU mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF mm	WF2 mm	Insert Gage
5117783	**CTPL12H-SUB-OH3**		L	12	12	5.5	M6*1	M5	12	12	1	2	100	7.6	16	62.5	80	70	55	5.5	0	CTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPL12H-SUB-OH3	LRIS-4*5	LLR-25S

CTPR-SUB for Sub-Spindle





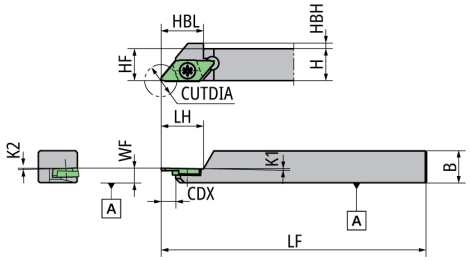
● Diagram shows right-hand tool

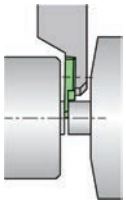
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	WF2 mm	Insert Gage
5607999	**CTPR08J-SUB**	●	R	12	8	5.5	8	4	15	8	1	2	110	16	5.5	0	CTP..
5571831	**CTPR08-SUB**	●	R	12	8	5.5	8	4	15	8	1	2	120	16	5.5	0	CTP..
5391610	**CTPR10F-SUB**	●	R	12	10	5.5	10	2	15	10	1	2	80	16	5.5	0	CTP..
5605282	**CTPR10KX-SUB**	●	R	12	10	5.5	10	2	15	10	1	2	120	16	5.5	0	CTP..
5474580	**CTPR12GX-SUB**	●	R	12	12	5.5	12	–	–	12	1	2	85	16	5.5	0	CTP..
5391628	**CTPR12-SUB**	●	R	12	12	5.5	12	–	–	12	1	2	120	16	5.5	0	CTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPR08J-SUB	LRIS-4*5	LLR-25S
CTPR08-SUB	LRIS-4*5	LLR-25S
CTPR10F-SUB	LRIS-4*5	LLR-25S
CTPR10KX-SUB	LRIS-4*5	LLR-25S
CTPR12GX-SUB	LRIS-4*5	LLR-25S
CTPR12-SUB	LRIS-4*5	LLR-25S

CTPL-SUB for Sub-Spindle





● Diagram shows left-hand tool

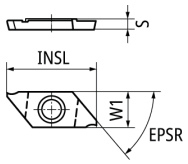
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage
5608005	**CTPL08J-SUB**	●	L	12	8	5.5	8	4	15	8	1	2	110	16	5.5	CTP..
5570791	**CTPL08-SUB**	●	L	12	8	5.5	8	4	15	8	1	2	120	16	5.5	CTP..
5499389	**CTPL10GX-SUB**	●	L	12	10	5.5	10	2	15	10	1	2	85	16	5.5	CTP..
5482534	**CTPL12GX-SUB**	●	L	12	12	5.5	12	–	–	12	1	2	85	16	5.5	CTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPL08J-SUB	LRIS-4*5	LLR-25S
CTPL08-SUB	LRIS-4*5	LLR-25S
CTPL10GX-SUB	LRIS-4*5	LLR-25S
CTPL12GX-SUB	LRIS-4*5	LLR-25S

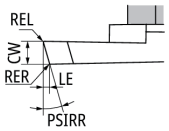
CTP.. series/Inserts Carbide Right-Hand

CTP-FR

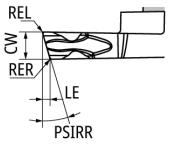


●All angles shown are obtained when insert is set in the holder.

No.1



No.2



No.3

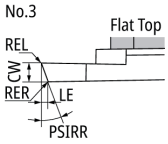
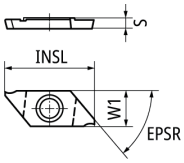
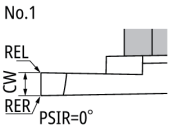
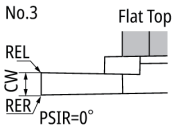


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTP05FR-SH**		R	Yes	5	0.5	50	20	0.17	16	0.05	0.05	2.5	8							●		
1	**CTP07FR**		R	Yes	–	0.7	50	20	–	–	–	–	2.5	8							●		
1	**CTP10FR**		R	Yes	–	1	50	20	–	–	–	–	2.5	8		●					●		
2	**CTP10FR-CX**		R	Yes	12	1	50	20	0.32	16	0.05	0.05	2.5	8	●			●					
1	**CTP10FR-SH**		R	Yes	7	1	50	20	0.32	16	0.05	0.05	2.5	8		●					●		
1	**CTP10FR-TH**		R	Yes	12	1	50	20	0.32	16	0.05	0.05	2.5	8				●					
3	**CTP10FRV**	Ⓜ	R	No	12	1	50	20	0.4	20	0	–	2.5	8		●				●	●	●	
1	**CTP13FR**		R	Yes	12	1.3	50	20	0.4	16	0.05	0.05	2.5	8		●					●		
2	**CTP13FR-CX**		R	Yes	12	1.3	50	20	0.4	16	0.05	0.05	2.5	8	●			●					
1	**CTP15FR**		R	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8						●	●		
2	**CTP15FR-CX**		R	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8	●			●					
1	**CTP15FR-TH**		R	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8				●					
3	**CTP15FRV**	Ⓜ	R	No	12	1.5	50	20	0.58	20	0	–	2.5	8						●	●	●	
1	**CTP15FRX**		R	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8							●		
1	**CTP20FR**		R	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8						●	●		
1	**CTP20FR-TH**		R	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8				●					
3	**CTP20FRV**	Ⓜ	R	No	12	2	50	20	0.77	20	0	–	2.5	8						●	●	●	
1	**CTP20FRX**		R	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8							●		
1	**CTPX15FR**		R	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8		●	●				●		
1	**CTPX20FR**		R	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8		●	●				●		

CTP-FRN







●All angles shown are obtained when insert is set in the holder.

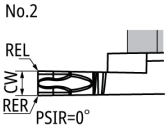
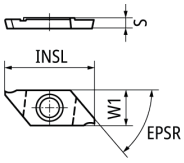
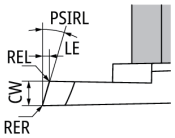


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	PSIR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTP05FRN-SH**		R	Yes	5	0.5	50	20	0	0.05	0.05	2.5	8							●		
1	**CTP10FRN**		R	Yes	12	1	50	20	0	0.05	0.05	2.5	8		●					●		
2	**CTP10FRN-CX**		R	Yes	12	1	50	20	0	0.05	0.05	2.5	8	●			●					
1	**CTP10FRN-SH**		R	Yes	7	1	50	20	0	0.05	0.05	2.5	8		●					●		
1	**CTP10FRN-TH**		R	Yes	12	1	50	20	0	0.05	0.05	2.5	8				●					
1	**CTP13FRN**		R	Yes	12	1.3	50	20	0	0.05	0.05	2.5	8		●					●		
2	**CTP13FRN02-CX**		R	Yes	12	1.3	50	20	0	0.2	0.2	2.5	8	●			●					
2	**CTP13FRN-CX**		R	Yes	12	1.3	50	20	0	0.05	0.05	2.5	8	●			●					
1	**CTP15FRN**		R	Yes	12	1.5	50	20	0	0.05	0.05	2.5	8						●	●		
2	**CTP15FRN02-CX**		R	Yes	12	1.5	50	20	0	0.2	0.2	2.5	8	●			●					
2	**CTP15FRN-CX**		R	Yes	12	1.5	50	20	0	0.05	0.05	2.5	8	●			●					
1	**CTP15FRN-TH**		R	Yes	12	1.5	50	20	0	0.05	0.05	2.5	8				●					
3	**CTP15FRNV**	Ⓜ	R	No	12	1.5	50	20	0	0	0	2.5	8								●	
1	**CTP15FRNX**		R	Yes	12	1.5	50	20	0	0.05	0.05	2.5	8							●		
1	**CTP20FRN**		R	Yes	12	2	50	20	0	0.05	0.05	2.5	8						●	●		
1	**CTP20FRN-TH**		R	Yes	12	2	50	20	0	0.05	0.05	2.5	8				●					
3	**CTP20FRNV**	Ⓜ	R	No	12	2	50	20	0	0	0	2.5	8								●	
1	**CTP20FRNX**		R	Yes	12	2	50	20	0	0.05	0.05	2.5	8							●		
1	**CTPX15FRN**		R	Yes	12	1.5	50	20	0	0.05	0.05	2.5	8		●	●						
1	**CTPX20FRN**		R	Yes	12	2	50	20	0	0.05	0.05	2.5	8		●	●						

CTP-FRK



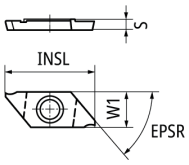


●All angles shown are obtained when insert is set in the holder.

Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRL	REL	RER	S	W1	Carbide PVD								PCD
			mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
CTP10FRK	R	Yes	11	1	50	20	0.32	16	0.05	0.05	2.5	8							●		
CTP13FRK	R	Yes	12	1.3	50	20	0.4	16	0.05	0.05	2.5	8		●					●		
CTP15FRK	R	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8							●		
CTP20FRK	R	Yes	11	2	50	20	0.61	16	0.05	0.05	2.5	8							●		

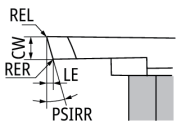
CTP.. series/Inserts Carbide Left-Hand

CTP-FLK

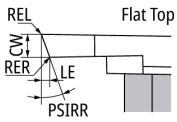


●All angles shown are obtained when insert is set in the holder.

No.1



No.3



No.2

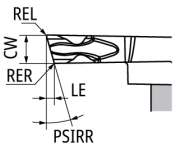
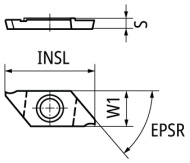
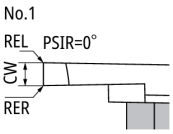


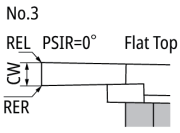
Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTP05FLK-SH**	L	Yes	5	0.5	50	20	0.17	16	0.05	0.05	2.5	8							●		
1	**CTP10FLK**	L	Yes	11	1	50	20	0.32	16	0.05	0.05	2.5	8		●					●		
2	**CTP10FLK-CX**	L	Yes	11	1	50	20	0.32	16	0.05	0.05	2.5	8	●			●					
1	**CTP10FLK-SH**	L	Yes	7	1	50	20	0.32	16	0.05	0.05	2.5	8		●					●		
1	**CTP10FLK-TH**	L	Yes	11	1	50	20	0.32	16	0.05	0.05	2.5	8				●					
1	**CTP13FLK**	L	Yes	11	1.3	50	20	0.4	16	0.05	0.05	2.5	8		●					●		
2	**CTP13FLK-CX**	L	Yes	11	1.3	50	20	0.4	16	0.05	0.05	2.5	8	●			●					
1	**CTP15FLK**	L	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8						●	●		
1	**CTP15FLKB**	L	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8							●		
2	**CTP15FLK-CX**	L	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8	●			●					
1	**CTP15FLK-TH**	L	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8				●					
3	**CTP15FLKV** Ⓜ	L	No	11	1.5	50	20	0.58	20	0	0	2.5	8						●		●	
1	**CTP20FLK**	L	Yes	11	2	50	20	0.61	16	0.05	0.05	2.5	8						●	●		
1	**CTP20FLK-TH**	L	Yes	11	2	50	20	0.61	16	0.05	0.05	2.5	8				●					
3	**CTP20FLKV** Ⓜ	L	No	11	2	50	20	0.77	20	0	0	2.5	8						●			
1	**CTPX15FLK**	L	Yes	11	1.5	50	20	0.46	16	0.05	0.05	2.5	8		●	●						
1	**CTPX20FLK**	L	Yes	11	2	50	20	0.61	16	0.05	0.05	2.5	8		●	●						

CTP-FLN



●All angles shown are obtained when insert is set in the holder.





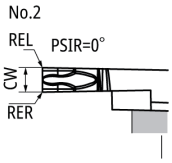
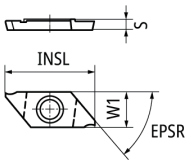
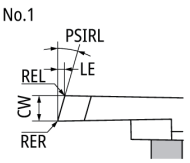


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	° mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTP05FLN-SH**		L	Yes	5	0.5	50	20	0.05	0.05	2.5	8							●		
1	**CTP10FLN**		L	Yes	12	1	50	20	0.05	0.05	2.5	8		●					●		
2	**CTP10FLN-CX**		L	Yes	12	1	50	20	0.05	0.05	2.5	8	●			●					
1	**CTP10FLN-SH**		L	Yes	7	1	50	20	0.05	0.05	2.5	8		●					●		
1	**CTP10FLN-TH**		L	Yes	12	1	50	20	0.05	0.05	2.5	8				●					
1	**CTP13FLN**		L	Yes	12	1.3	50	20	0.05	0.05	2.5	8		●					●		
2	**CTP13FLN02-CX**		L	Yes	12	1.3	50	20	0.2	0.2	2.5	8	●			●					
2	**CTP13FLN-CX**		L	Yes	12	1.3	50	20	0.05	0.05	2.5	8	●			●					
1	**CTP15FLN**		L	Yes	12	1.5	50	20	0.05	0.05	2.5	8						●	●		
2	**CTP15FLN02-CX**		L	Yes	12	1.5	50	20	0.2	0.2	2.5	8	●			●					
2	**CTP15FLN-CX**		L	Yes	12	1.5	50	20	0.05	0.05	2.5	8	●			●					
1	**CTP15FLN-TH**		L	Yes	12	1.5	50	20	0.05	0.05	2.5	8				●					
3	**CTP15FLNV**	Ⓜ	L	No	12	1.5	50	20	0	0	2.5	8								●	
1	**CTP20FLN**		L	Yes	12	2	50	20	0.05	0.05	2.5	8						●	●		
1	**CTP20FLN-TH**		L	Yes	12	2	50	20	0.05	0.05	2.5	8				●					
3	**CTP20FLNV**	Ⓜ	L	No	12	2	50	20	0	0	2.5	8								●	
1	**CTPX15FLN**		L	Yes	12	1.5	50	20	0.05	0.05	2.5	8		●	●						
1	**CTPX20FLN**		L	Yes	12	2	50	20	0.05	0.05	2.5	8		●	●						

CTP-FL



●All angles shown are obtained when insert is set in the holder.



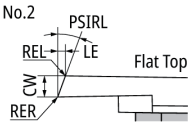
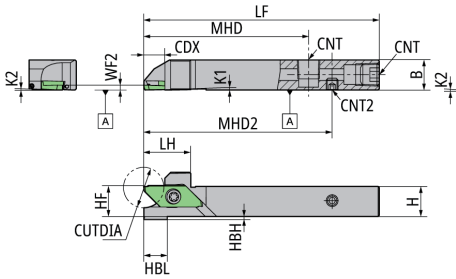


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRL	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTP07FL**		L	Yes	8	0.7	50	20	0.23	16	0.05	0.05	2.5	8							●		
1	**CTP10FL**		L	Yes	12	1	50	20	0.32	16	0.05	0.05	2.5	8							●		
2	**CTP10FLV**	Ⓜ	L	No	12	1	50	20	0.4	20	0	0	2.5	8						●	●		
1	**CTP13FL**		L	Yes	12	1.3	50	20	0.4	16	0.05	0.05	2.5	8		●					●		
1	**CTP15FL**		L	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8							●		
2	**CTP15FLV**	Ⓜ	L	No	12	1.5	50	20	0.58	20	0	0	2.5	8						●	●		
1	**CTP20FL**		L	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8							●		
2	**CTP20FLV**	Ⓜ	L	No	12	2	50	20	0.77	20	0	0	2.5	8						●	●		
1	**CTPX15FL**		L	Yes	12	1.5	50	20	0.46	16	0.05	0.05	2.5	8		●							
1	**CTPX20FL**		L	Yes	12	2	50	20	0.61	16	0.05	0.05	2.5	8		●							

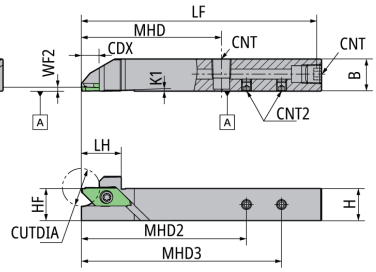
CTPA.. series/Toolholder

CTPA-OH2 Coolant through (direct connect compatible)

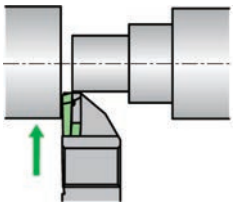
No.1



No.2



CTPAR/L16X-OH2



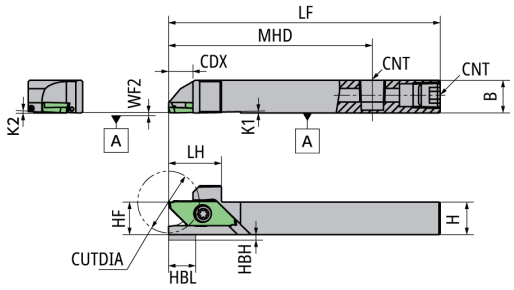
● Diagram shows right-hand tool

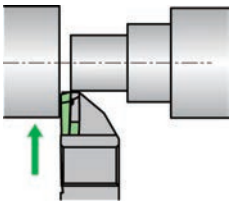
Figure	EDP	Item Number	Stock	Hand	CUTDIA mm	DMAX mm	B mm	CDX mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	WF2 mm	Insert Gage	
1	5037932	**CTPAR12H-OH2**	●	R	16	16	12	9	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	–	2	CTPA..	TBPA..
2	5043872	**CTPAR16X-OH2**	●	R	16	16	16	9	Rc1/8	M5	16	–	–	16	1	2	120	19.5	70	82.5	100	2	CTPA..	TBPA..
1	5037924	**CTPAL12H-OH2**	●	L	16	16	12	9	Rc1/8	M5	12	2	10	12	1	2	100	19.5	70	80	–	2	CTPA..	TBPA..
2	5043864	**CTPAL16X-OH2**	●	L	16	16	16	9	Rc1/8	M5	16	–	–	16	1	2	120	19.5	70	82.5	100	2	CTPA..	TBPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
CTPAR12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAR16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAL12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
CTPAL16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

CTPA-OH Coolant through





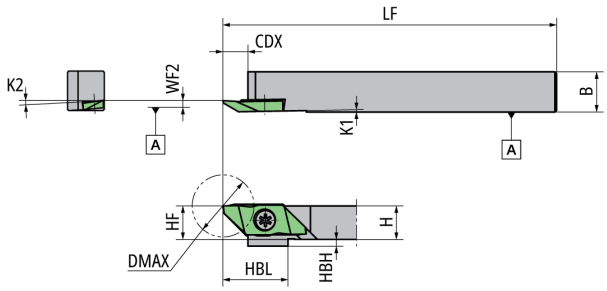
● Diagram shows right-hand tool

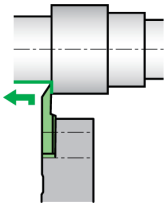
EDP	Item Number	Stock	Hand	CUTDIA mm	DMAX mm	B mm	CDX mm	CNT	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5931522	**CTPAR12H-OH**	●	R	16	16	12	9	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTPA..	TBPA..
5931548	**CTPAR16H-OH**	●	R	16	16	16	9	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTPA..	TBPA..
5931530	**CTPAL12H-OH**	●	L	16	16	12	9	Rc1/8	12	2	10	12	1	2	100	19.5	75	0	CTPA..	TBPA..
5931563	**CTPAL16H-OH**	●	L	16	16	16	9	Rc1/8	16	–	–	16	1	2	100	19.5	75	0	CTPA..	TBPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
CTPAR12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
CTPAR16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
CTPAL12H-OH	LRIS-4*12PW	SPR1/8	CLR-15S
CTPAL16H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

CTPA





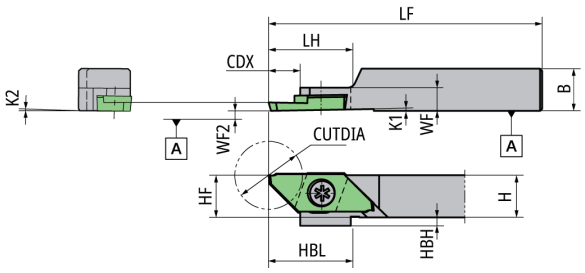
● Diagram shows right-hand tool

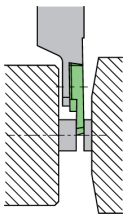
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF2 mm	Insert Gage	
5199187	**CTPAR10**	●	R	16	10	7.5	10	2	19.5	10	1	2	120	0	CTPA..	TBPA..
5199195	**CTPAR12**	●	R	16	12	7.5	12	–	–	12	1	2	120	0	CTPA..	TBPA..
5016209	**CTPAR12GX**	●	R	16	12	7.5	12	–	–	12	1	2	85	0	CTPA..	TBPA..
5199203	**CTPAR16**	●	R	16	16	7.5	16	–	–	16	1	2	120	0	CTPA..	TBPA..
5459540	**CTPAR20F**	●	R	16	20	7.5	20	–	–	20	1	2	80	0	CTPA..	TBPA..
5199153	**CTPAL10**	●	L	16	10	7.5	10	2	19.5	10	1	2	120	0	CTPA..	TBPA..
5199161	**CTPAL12**	●	L	16	12	7.5	12	–	–	12	1	2	120	0	CTPA..	TBPA..
5016217	**CTPAL12GX**	●	L	16	12	7.5	12	–	–	12	1	2	85	0	CTPA..	TBPA..
5199179	**CTPAL16**	●	L	16	16	7.5	16	–	–	16	1	2	120	0	CTPA..	TBPA..
5459557	**CTPAL20F**	●	L	16	20	7.5	20	–	–	20	1	2	80	0	CTPA..	TBPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPAR10	LRIS-4*10PW	CLR-15S
CTPAR12	LRIS-4*12PW	CLR-15S
CTPAR12GX	LRIS-4*12PW	CLR-15S
CTPAR16	LRIS-4*12PW	CLR-15S
CTPAR20F	LRIS-4*10	LLR-25S
CTPAL10	LRIS-4*10PW	CLR-15S
CTPAL12	LRIS-4*12PW	CLR-15S
CTPAL12GX	LRIS-4*12PW	CLR-15S
CTPAL16	LRIS-4*12PW	CLR-15S
CTPAL20F	LRIS-4*10	LLR-25S

CTPAR-SUB for Sub-Spindle





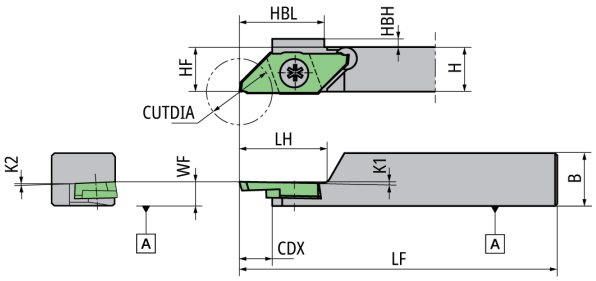
● Diagram shows right-hand tool

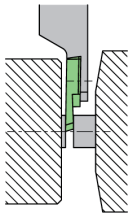
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	WF2 mm	Insert Gage
5600770	**CTPAR10GX-SUB**	●	R	16	10	7.5	10	2	19.5	10	1	2	85	20	5.5	0	CTPA..
5454681	**CTPAR12GX-SUB**	●	R	16	12	7.5	12	–	–	12	1	2	85	20	5.5	0	CTPA..
5570676	**CTPAR12KX-SUB**	●	R	16	12	7.5	12	–	–	12	1	2	120	20	5.5	0	CTPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPAR10GX-SUB	LRIS-4*5	LLR-25S
CTPAR12GX-SUB	LRIS-4*5	LLR-25S
CTPAR12KX-SUB	LRIS-4*5	LLR-25S

CTPAL-SUB for Sub-Spindle





● Diagram shows left-hand tool

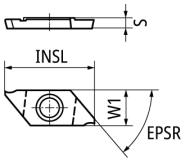
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage
5505904	**CTPAL10GX-SUB**	●	L	16	10	7.5	10	2	19.5	10	1	2	85	20	5.5	CTPA..
5454699	**CTPAL12GX-SUB**	●	L	16	12	7.5	12	–	–	12	1	2	85	20	5.5	CTPA..
5570684	**CTPAL12KX-SUB**	●	L	16	12	7.5	12	–	–	12	1	2	120	20	5.5	CTPA..
5604871	**CTPAL16GX-SUB**	●	L	16	16	7.5	16	–	–	16	1	2	85	28	5.5	CTPA..
5981659	**CTPAL16KX-SUB**	●	L	16	16	7.5	16	–	–	16	1	2	120	28	5.5	CTPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPAL10GX-SUB	LRIS-4*5	LLR-25S
CTPAL12GX-SUB	LRIS-4*5	LLR-25S
CTPAL12KX-SUB	LRIS-4*5	LLR-25S
CTPAL16GX-SUB	LRIS-4*5	LLR-25S
CTPAL16KX-SUB	LRIS-4*5	LLR-25S

CTPA.. series/Inserts Carbide Right-Hand

CTPA-FR



●All angles shown are obtained when insert is set in the holder.

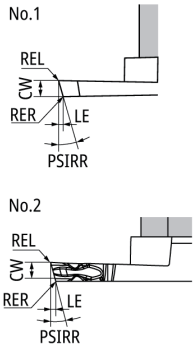
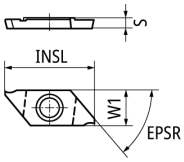


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTPA07FR**	R	Yes	8	0.7	45	25	0.23	16	0.05	0.05	3.5	9.4							●		
1	**CTPA10FR**	R	Yes	–	1	45	25	–	–	–	–	3.5	9.4							●		
1	**CTPA15FR**	R	Yes	16	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4		●	●			●	●		
2	**CTPA15FR-CX**	R	Yes	16	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4	●			●					
1	**CTPA15FR-TH**	R	Yes	16	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4				●					
1	**CTPA20FR**	R	Yes	16	2	45	25	0.61	16	0.05	0.05	3.5	9.4		●	●			●	●		
1	**CTPA20FR-TH**	R	Yes	16	2	45	25	0.61	16	0.05	0.05	3.5	9.4				●					
3	**CTPA20FRV** Ⓜ	R	No	16	2	45	25	0.77	20	0	0	3.5	9.4						●		●	

CTPA-FRN



●All angles shown are obtained when insert is set in the holder.

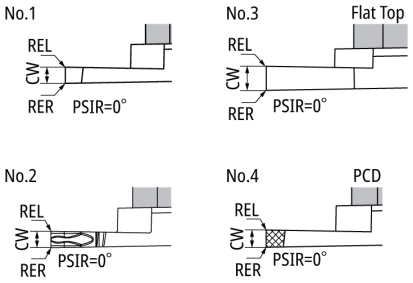
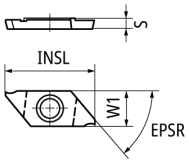


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	PSIR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTPA07FRN**	R	Yes	8	0.7	45	25	0	0.05	0.05	3.5	9.4							●		
1	**CTPA10FRN**	R	Yes	–	1	45	25	0	–	–	3.5	9.4							●		
1	**CTPA15FRN**	R	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4		●	●			●	●		
2	**CTPA15FRN-CX**	R	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4	●			●					
1	**CTPA15FRN-TH**	R	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4				●					
1	**CTPA20FRN**	R	Yes	16	2	45	25	0	0.05	0.05	3.5	9.4		●	●			●	●		
4	**CTPA20FRN-P**	R	Yes	16	2	45	25	0	0.1	0.1	3.5	9.4									●
1	**CTPA20FRN-TH**	R	Yes	16	2	45	25	0	0.05	0.05	3.5	9.4				●					
3	**CTPA20FRNV** Ⓜ	R	No	16	2	45	25	0	0	0	3.5	9.4								●	
3	**CTPA20FRS**	R	No	16	2	45	25	0	0.05	0.05	3.5	9.4							●		
1	**CTPA30FRN**	R	Yes	16	3	45	25	0	0.05	0.05	3.5	9.4			●						

CTPA.. series/Inserts Carbide Left-Hand

CTPA-FLK



●All angles shown are obtained when insert is set in the holder.

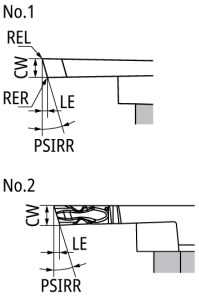
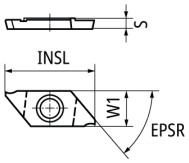


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTPA07FLK**	L	Yes	6.5	0.7	45	25	0.23	16	0.05	0.05	3.5	9.4							●		
1	**CTPA10FLK**	L	Yes	–	1	45	25	–	–	–	–	3.5	9.4							●		
1	**CTPA10FLKD**	L	Yes	16	1	45	25	0.32	16	0.05	0.05	3.5	9.4							●		
1	**CTPA15FLK**	L	Yes	14.5	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4		●	●			●	●		
2	**CTPA15FLK-CX**	L	Yes	14.5	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4	●			●					
1	**CTPA15FLK-TH**	L	Yes	14.5	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4				●					
1	**CTPA20FLK**	L	Yes	14.5	2	45	25	0.61	16	0.05	0.05	3.5	9.4		●	●			●	●		
1	**CTPA20FLK-TH**	L	Yes	14.5	2	45	25	0.61	16	0.05	0.05	3.5	9.4				●					
3	**CTPA20FLKV** Ⓜ	L	No	14.5	2	45	25	0.77	20	0	0	3.5	9.4						●		●	

CTPA-FLN



●All angles shown are obtained when insert is set in the holder.

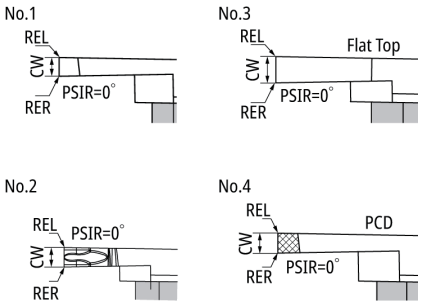
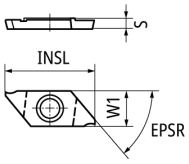


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	PSIR	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTPA10FLN**	L	Yes	–	1	45	25	0	–	–	3.5	9.4							●		
1	**CTPA10FLND**	L	Yes	16	1	45	25	0	0.05	0.05	3.5	9.4							●		
1	**CTPA15FLN**	L	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4		●	●			●	●		
2	**CTPA15FLN-CX**	L	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4	●			●					
1	**CTPA15FLN-TH**	L	Yes	16	1.5	45	25	0	0.05	0.05	3.5	9.4				●					
1	**CTPA20FLN**	L	Yes	16	2	45	25	0	0.05	0.05	3.5	9.4		●	●			●	●		
4	**CTPA20FLN-P**	L	Yes	16	2	45	25	0	0.1	0.1	3.5	9.4									●
1	**CTPA20FLN-TH**	L	Yes	16	2	45	25	0	0.05	0.05	3.5	9.4				●					
3	**CTPA20FLNV** Ⓜ	L	No	16	2	45	25	0	0	0	3.5	9.4								●	
3	**CTPA20FLS**	L	No	16	2	45	25	0	0.05	0.05	3.5	9.4							●		
1	**CTPA30FLN**	L	Yes	16	3	45	25	0	0.05	0.05	3.5	9.4			●						

CTPA-FL



●All angles shown are obtained when insert is set in the holder.

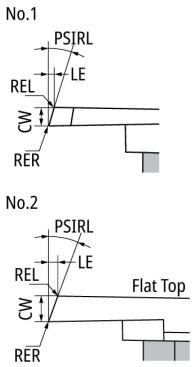
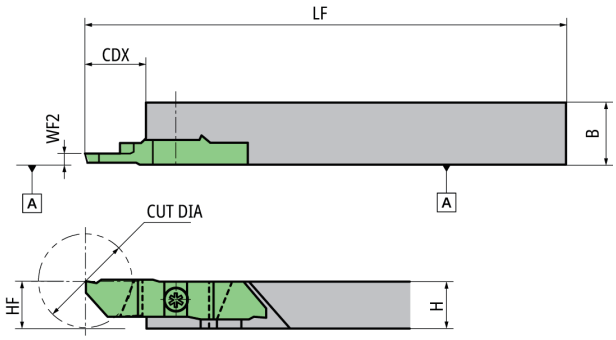
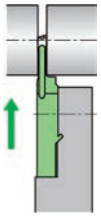


Figure	Item Number	Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIRL	REL	RER	S	W1	Carbide PVD								PCD
				mm	mm	°	mm	mm	°	mm	mm	mm	mm	DM4	DT4	QM3	ST4	TM4	VM1	ZM3	KM1	PD1
1	**CTPA07FL**	L	Yes	8	0.7	45	25	0.23	16	0.05	0.05	3.5	9.4							●		
1	**CTPA10FL**	L	Yes	12	1	45	25	0.32	16	0.05	0.05	3.5	9.4							●		
1	**CTPA15FL**	L	Yes	16	1.5	45	25	0.46	16	0.05	0.05	3.5	9.4		●					●		
1	**CTPA20FL**	L	Yes	16	2	45	25	0.61	16	0.05	0.05	3.5	9.4		●					●		
2	**CTPA20FLV** Ⓜ	L	No	16	2	45	25	0.77	20	0	0	3.5	9.4						●			

CTPW.. series/Toolholder

CTPW





● Diagram shows right-hand tool

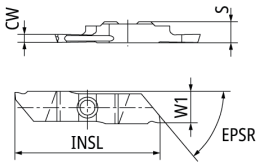
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HF mm	LF mm	WF2 mm	Insert Gage
5443593	**CTPWR10**	●	R	20	16	15	10	9.95	120	0.6	CTPW..
5443601	**CTPWR12**	●	R	20	16	15	12	11.95	120	0.6	CTPW..
5443627	**CTPWR16**	●	R	20	16	15	16	15.95	120	0.6	CTPW..
5443635	**CTPWR20**	●	R	20	20	15	20	19.95	120	0.6	CTPW..
5487004	**CTPWL10A**	●	L	20	12	15	10	9.95	120	0.6	CTPW..
5488150	**CTPWL12A**	●	L	20	12	15	12	11.95	120	0.6	CTPW..
5486980	**CTPWL16**	●	L	20	16	15	16	15.95	120	0.6	CTPW..
5486998	**CTPWL20**	●	L	20	20	15	20	19.95	120	0.6	CTPW..

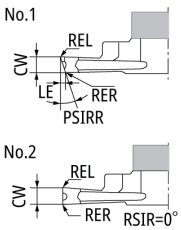
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPWR10	LRIS-4*10	LLR-25S
CTPWR12	LRIS-4*10	LLR-25S
CTPWR16	LRIS-4*10	LLR-25S
CTPWR20	LRIS-4*10	LLR-25S
CTPWL10A	LRIS-4*10	LLR-25S
CTPWL12A	LRIS-4*10	LLR-25S
CTPWL16	LRIS-4*10	LLR-25S
CTPWL20	LRIS-4*10	LLR-25S

CTPW.. series/Inserts Carbide Right-Hand

CTPW25-R



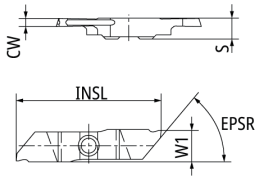


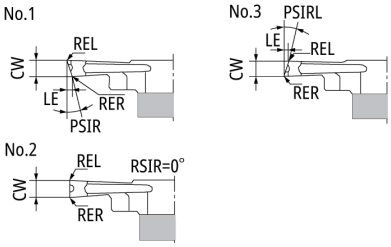
●All angles shown are obtained when insert is set in the holder.

Figure	Item Number		Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIR	PSIRL	PSIRR	REL	RER	S	W1	Carbide PVD
					mm	mm	°	mm	mm	°	°	°	mm	mm	mm	mm	ZM3
1	**CTPW25FR**		R	Yes	20	2.5	50	45	0.81	–	–	17	0.2	0.05	6.5	9.7	●
1	**CTPW25FRP**	Ⓜ	R	No	20	2.5	50	45	0.81	–	17	–	0.2	0.05	6.5	9.7	●
2	**CTPW25FRN**		R	Yes	20	2.5	50	45	–	0	–	–	0.05	0.05	6.5	9.7	●
2	**CTPW25FRNV**	Ⓜ	R	No	20	2.5	50	45	–	0	–	–	0	0	6.5	9.7	●

CTPW.. series/Inserts Carbide Left-Hand

CTPW25-L

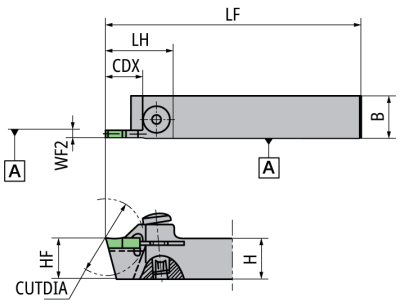


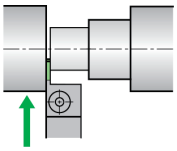


●All angles shown are obtained when insert is set in the holder.

Figure	Item Number		Hand	Chip-breaker	CUTDIA	CW	EPSR	INSL	LE	PSIR	PSIRL	PSIRR	REL	RER	S	W1	Carbide PVD
					mm	mm	°	mm	mm	°	°	°	mm	mm	mm	mm	ZM3
1	**CTPW25FLK**		L	Yes	20	2.5	50	45	0.81	–	–	17	0.2	0.05	6.5	9.7	●
2	**CTPW25FLN**		L	Yes	20	2.5	50	45	–	0	–	–	0.05	0.05	6.5	9.7	●
2	**CTPW25FLNV**	Ⓜ	L	No	20	2.5	50	45	–	0	–	–	0	0	6.5	9.7	●
3	**CTPW25FL**		L	Yes	20	2.5	50	45	0.81	–	17	–	0.2	0.05	6.5	9.7	●
3	**CTPW25FLP**	Ⓜ	L	No	20	2.5	50	45	0.81	–	–	17	0.2	0.05	6.5	9.7	●

CTV-K2





● Diagram shows right-hand tool

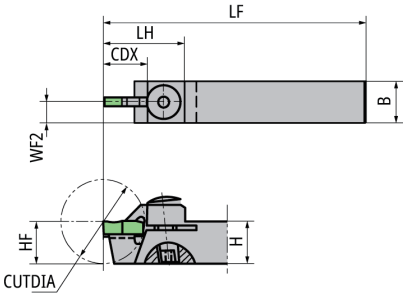
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage
5111919	**CTVR10K2**	●	R	20	10	11	10	10	120	20	0	CTV..S
5111950	**CTVR12K2**	●	R	20	12	11	12	12	120	20	0	CTV..S
5111927	**CTVL10K2**	●	L	20	10	11	10	10	120	20	0	CTV..S
5459763	**CTVL12GX2**	●	L	20	12	11	12	12	85	20	0	CTV..S
5111935	**CTVL12K2**	●	L	20	12	11	12	12	120	20	0	CTV..S

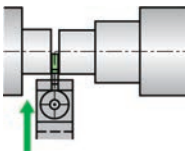
S Cut-off

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTVR10K2	AOS-5*16	LW-2.5S
CTVR12K2	AOS-5*16	LW-2.5S
CTVL10K2	AOS-5*16	LW-2.5S
CTVL12GX2	AOS-5*16	LW-2.5S
CTVL12K2	AOS-5*16	LW-2.5S

CTVN-K2





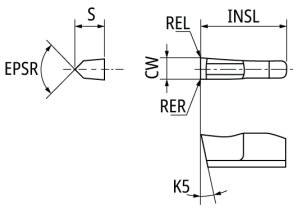
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage
5208236	**CTVN10K2**	●	N	20	10	11	10	10	120	19.5	5	CTV..S
5208244	**CTVN12K2**	●	N	20	12	11	12	12	120	19.5	6	CTV..S

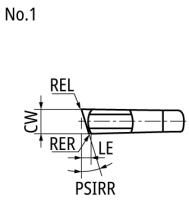
Spare Parts

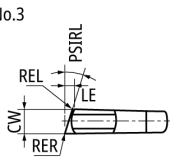
Item Number	Clamp screw	Wrench (for Clamp screw)
CTVN10K2	AOS-5*16	LW-2.5S
CTVN12K2	AOS-5*16	LW-2.5S

CTV-S.. series/Inserts Carbide

CTV-S







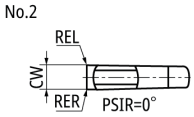
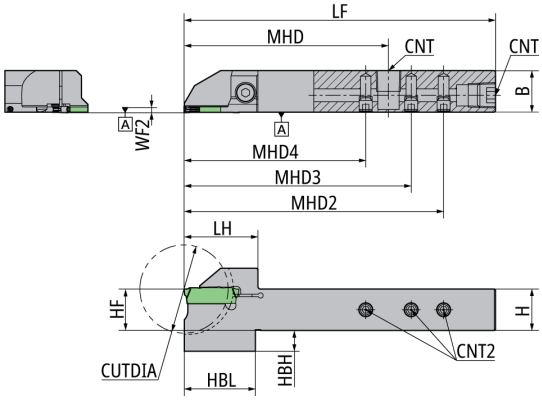
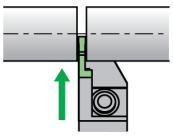


Figure	Item Number	Hand	Chip-breaker	CW	EPSR	INSL	K5	LE	PSIR	PSIRL	PSIRR	REL	RER	S	Carbide PVD
				mm	°	mm	°	mm	°	°	°	mm	mm	mm	ZM3
1	**CTV22R05S**	R	Yes	2.2	90	10	12	0.74	–	–	17	0.05	0.05	4	●
1	**CTV22R10S**	R	Yes	2.2	90	10	12	0.74	–	–	17	0.1	0.1	4	●
1	**CTV25R05S**	R	Yes	2.5	90	10	12	0.83	–	–	17	0.05	0.05	4	●
1	**CTV25R10S**	R	Yes	2.5	90	10	12	0.83	–	–	17	0.1	0.1	4	●
2	**CTV22N05S**	N	Yes	2.2	90	10	12	–	0	–	–	0.05	0.05	4	●
2	**CTV22N10S**	N	Yes	2.2	90	10	12	–	0	–	–	0.1	0.1	4	●
2	**CTV25N05S**	N	Yes	2.5	90	10	12	–	0	–	–	0.05	0.05	4	●
2	**CTV25N10S**	N	Yes	2.5	90	10	12	–	0	–	–	0.1	0.1	4	●
3	**CTV22L05S**	L	Yes	2.2	90	10	12	0.74	–	17	–	0.05	0.05	4	●
3	**CTV22L10S**	L	Yes	2.2	90	10	12	0.74	–	17	–	0.1	0.1	4	●
3	**CTV25L05S**	L	Yes	2.5	90	10	12	0.83	–	17	–	0.05	0.05	4	●
3	**CTV25L10S**	L	Yes	2.5	90	10	12	0.83	–	17	–	0.1	0.1	4	●

CTDP.. series/Toolholder

CTDP-OH3 Coolant through (direct connect compatible) CUT DUO SPLASH





・Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage
5121835	**CTDPR16-20D25-OH3**	●	R	25.4	16	Rc1/8	M5	16	4.5	21	15.5	120	22	78.75	100	87.5	70	0.2	CTDP20..
5122551	**CTDPR16-25D34A-OH3**	●	R	34	16	Rc1/8	M5	16	8	27.5	15.5	120	28.5	78.8	100	87.5	70	0.2	CTDP25..
5121827	**CTDPL16-20D25-OH3**	●	L	25.4	16	Rc1/8	M5	16	4.5	21	16	120	22	78.75	100	87.5	70	0.2	CTDP20..
5122379	**CTDPL16-25D34A-OH3**	●	L	34	16	Rc1/8	M5	16	8	27.5	16	120	28.5	78.8	100	87.5	70	0.2	CTDP25..

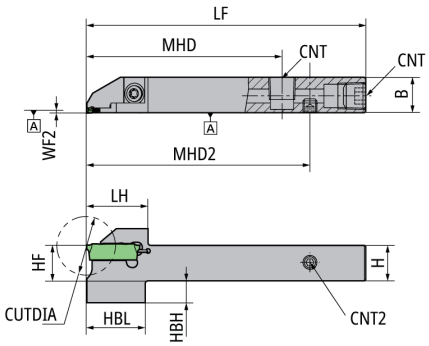
S Cut-off

Spare Parts

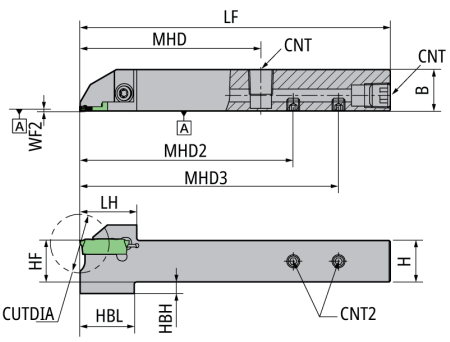
Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
CTDPR16-20D25-OH3	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5
CTDPR16-25D34A-OH3	CS0516LSH	SPR1/8L	SS0505SC	LW-3	LW-2.5
CTDPL16-20D25-OH3	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5
CTDPL16-25D34A-OH3	CS0516LSH	SPR1/8L	SS0505SC	LW-3	LW-2.5

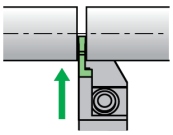
CTDP-OH2 Coolant through (direct connect compatible) CUT DUO SPLASH

No.1



No.2





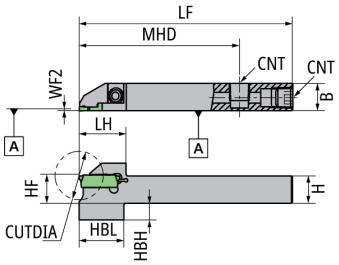
・Diagram shows right-hand tool

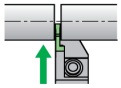
Figure	EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CNT	CNT2	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	WF2 mm	Insert Gage
1	5037916	**CTDPR12-20D25-OH2**	●	R	25.4	12	Rc1/8	M5	12	8.5	21	12	100	22	70	80	–	0.2	CTDP20..
2	5043856	**CTDPR16-20D25-OH2**	●	R	25.4	16	Rc1/8	M5	16	4.5	21	16	120	22	70	82.5	100	0.2	CTDP20..
1	5043930	**CTDPR20-25D34A-OH2**	●	R	34	20	Rc1/8	M5	20	4	27.5	20	120	28.5	75	100	–	0.2	CTDP25..
1	5037908	**CTDPL12-20D25-OH2**	●	L	25.4	12	Rc1/8	M5	12	8.5	21	12	100	22	70	80	–	0.2	CTDP20..
2	5043849	**CTDPL16-20D25-OH2**	●	L	25.4	16	Rc1/8	M5	16	4.5	21	16	120	22	70	82.5	100	0.2	CTDP20..
1	5043948	**CTDPL20-25D34A-OH2**	●	L	34	20	Rc1/8	M5	20	4	27.5	20	120	28.5	75	100	–	0.2	CTDP25..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
CTDPR12-20D25-OH2	LRIS-4*12	SPR1/8	SS0505SC	LLR-25S	LW-2.5
CTDPR16-20D25-OH2	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5
CTDPR20-25D34A-OH2	CS0516LSH	SPR1/8	SS0505SC	LW-3	LW-2.5
CTDPL12-20D25-OH2	LRIS-4*12	SPR1/8	SS0505SC	LLR-25S	LW-2.5
CTDPL16-20D25-OH2	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5
CTDPL20-25D34A-OH2	CS0516LSH	SPR1/8	SS0505SC	LW-3	LW-2.5

CTDP-OH Coolant through CUT DUO SPLASH





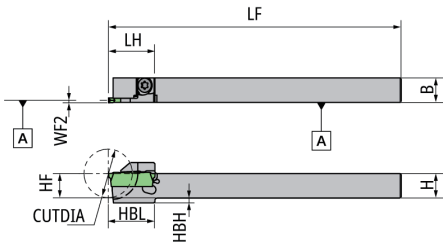
・Diagram shows right-hand tool

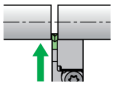
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CNT	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage
5972567	**CTDPR12-20D25-OH**	●	R	25.4	12	Rc1/8	12	8.5	21	12	100	22	75	0.2	CTDP20..
5972575	**CTDPR16-20D25-OH**	●	R	25.4	16	Rc1/8	16	4.5	21	16	100	22	75	0.2	CTDP20..
5972989	**CTDPL12-20D25-OH**	●	L	25.4	12	Rc1/8	12	8.5	21	12	100	22	75	0.2	CTDP20..
5973003	**CTDPL16-20D25-OH**	●	L	25.4	16	Rc1/8	16	4.5	21	16	100	22	75	0.2	CTDP20..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
CTDPR12-20D25-OH	LRIS-4*12	SPR1/8	LLR-25S
CTDPR16-20D25-OH	LRIS-4*12	SPR1/8	LLR-25S
CTDPL12-20D25-OH	LRIS-4*12	SPR1/8	LLR-25S
CTDPL16-20D25-OH	LRIS-4*12	SPR1/8	LLR-25S

CTDP CUT DUO





· Diagram shows right-hand tool

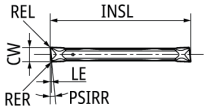
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage
5750534	**CTDPR10-20D20**	●	R	20	10	10	2	19	10	120	19	0.2	CTDP20..
5717087	**CTDPR12-20D20**	●	R	20	12	12	–	–	12	120	19	0.2	CTDP20..
5717103	**CTDPR12-20D25**	●	R	25.4	12	12	–	–	12	120	22	0.2	CTDP20..
5750567	**CTDPR16-20D25**	●	R	25.4	16	16	–	–	16	120	22	0.2	CTDP20..
5842299	**CTDPR16-20D32A**	●	R	32	16	16	–	–	16	120	27.5	0.2	CTDP20..
5842356	**CTDPR16-25D34A**	●	R	34	16	16	–	–	16	120	28.5	0.2	CTDP25..
5842331	**CTDPR2012-20D32A**	●	R	32	12	20	–	–	20	120	29.5	0.2	CTDP20..
5842398	**CTDPR2012-25D34A**	●	R	34	12	20	–	–	20	120	29.5	0.2	CTDP25..
5842315	**CTDPR20-20D32A**	●	R	32	20	20	–	–	20	120	29.5	0.2	CTDP20..
5842372	**CTDPR20-25D34A**	●	R	34	20	20	–	–	20	120	29.5	0.2	CTDP25..
5750559	**CTDPL10-20D20**	●	L	20	10	10	2	19	10	120	19	0.2	CTDP20..
5717079	**CTDPL12-20D20**	●	L	20	12	12	–	–	12	120	19	0.2	CTDP20..
5717095	**CTDPL12-20D25**	●	L	25.4	12	12	–	–	12	120	22	0.2	CTDP20..
5750575	**CTDPL16-20D25**	●	L	25.4	16	16	–	–	16	120	22	0.2	CTDP20..
5842307	**CTDPL16-20D32A**	●	L	32	16	16	–	–	16	120	27.5	0.2	CTDP20..
5842364	**CTDPL16-25D34A**	●	L	34	16	16	–	–	16	120	28.5	0.2	CTDP25..
5842349	**CTDPL2012-20D32A**	●	L	32	12	20	–	–	20	120	29.5	0.2	CTDP20..
5842406	**CTDPL2012-25D34A**	●	L	34	12	20	–	–	20	120	29.5	0.2	CTDP25..
5842323	**CTDPL20-20D32A**	●	L	32	20	20	–	–	20	120	29.5	0.2	CTDP20..
5842380	**CTDPL20-25D34A**	●	L	34	20	20	–	–	20	120	29.5	0.2	CTDP25..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTDPR10-20D20	LRIS-4*12	LLR-25S
CTDPR12-20D20	LRIS-4*12	LLR-25S
CTDPR12-20D25	LRIS-4*12	LLR-25S
CTDPR16-20D25	LRIS-4*12	LLR-25S
CTDPR16-20D32A	LRIS-5*10	LLR-28S
CTDPR16-25D34A	CS0516LSH	LW-3
CTDPR2012-20D32A	LRIS-5*10	LLR-28S
CTDPR2012-25D34A	CS0516LSH	LW-3
CTDPR20-20D32A	LRIS-5*10	LLR-28S
CTDPR20-25D34A	CS0516LSH	LW-3
CTDPL10-20D20	LRIS-4*12	LLR-25S
CTDPL12-20D20	LRIS-4*12	LLR-25S
CTDPL12-20D25	LRIS-4*12	LLR-25S
CTDPL16-20D25	LRIS-4*12	LLR-25S
CTDPL16-20D32A	LRIS-5*10	LLR-28S
CTDPL16-25D34A	CS0516LSH	LW-3
CTDPL2012-20D32A	LRIS-5*10	LLR-28S
CTDPL2012-25D34A	CS0516LSH	LW-3
CTDPL20-20D32A	LRIS-5*10	LLR-28S
CTDPL20-25D34A	CS0516LSH	LW-3

CTDP.. series/Inserts Carbide

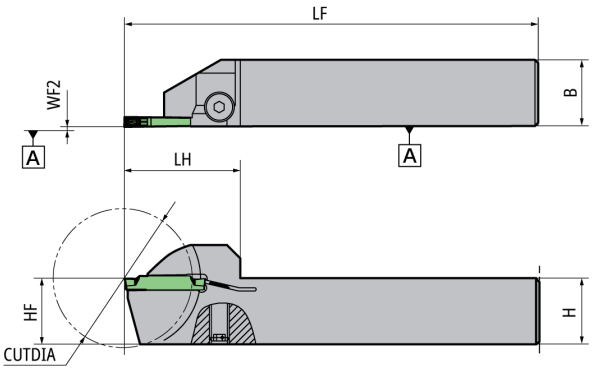
CTDP20/25 CUT DUO

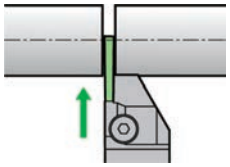


Item Number	Hand	Chip-breaker	CW	INSL	PSIRR	REL	RER	Carbide PVD		
			mm	mm	°	mm	mm	DM4	QM3	TM4
CTDP20N	N	Yes	2	19.1	–	0.05	0.05	●	●	●
CTDP20N02	N	Yes	2	19.1	–	0.2	0.2	●	●	●
CTDP25N	N	Yes	2.5	21.2	–	0.05	0.05	●	●	●
CTDP25N02	N	Yes	2.5	21.2	–	0.2	0.2	●	●	●
CTDP20R6	R	Yes	2	19.1	6	0.05	0.05	●	●	●
CTDP25R6	R	Yes	2.5	21.2	6	0.05	0.05	●	●	●
CTDP20R15	R	Yes	2	19.1	15	0.05	0.05	●	●	●
CTDP25R15	R	Yes	2.5	21.2	15	0.05	0.05	●	●	●

CTWP.. series/Toolholder

CTWP CUT DUO EXTRA





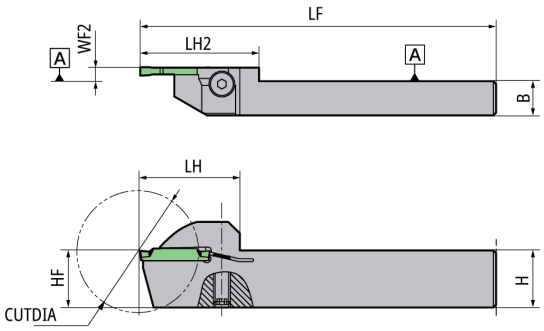
● Diagram shows right-hand tool

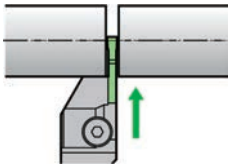
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage
5973912	**CTWPR2012K-3D42**	●	R	42	12	20	20	125	35	0.25	GWPFM300..
5973870	**CTWPR2020K-3D42**	●	R	42	20	20	20	125	35	0.25	GWPFM300..
5973854	**CTWPR2525M-3D42**	●	R	42	25	25	25	150	35	0.25	GWPFM300..
5973920	**CTWPL2012K-3D42**	●	L	42	12	20	20	125	35	0.25	GWPFM300..
5973904	**CTWPL2020K-3D42**	●	L	42	20	20	20	125	35	0.25	GWPFM300..
5973862	**CTWPL2525M-3D42**	●	L	42	25	25	25	150	35	0.25	GWPFM300..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTWPR2012K-3D42	CS0623LSHW	LW-3
CTWPR2020K-3D42	CS0623LSHW	LW-3
CTWPR2525M-3D42	CS0623LSHW	LW-3
CTWPL2012K-3D42	CS0623LSHW	LW-3
CTWPL2020K-3D42	CS0623LSHW	LW-3
CTWPL2525M-3D42	CS0623LSHW	LW-3

CTWP-003 CUT DUO EXTRA





● Diagram shows left-hand tool

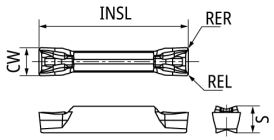
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	H mm	HF mm	LF mm	LH mm	LH2 mm	WF2 mm	Insert Gage
5012976	**CTWPL2012K-3D42-003**	★	L	42	12	20	20	125	44	49	5	GWPFM300..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTWPL2012K-3D42-003	CS0623LSHW	LW-3

CTWP.. series/Inserts Carbide

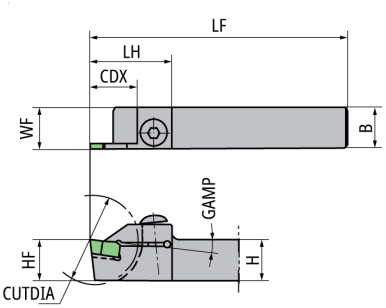
GWPFM

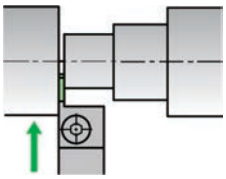


Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	S	Carbide PVD
			mm	mm	mm	mm	mm	DM4
GWPFM300N02-GT	N	Yes	3	24.5	0.2	0.2	4.2	●
GWPFM300N04-GT	N	Yes	3	24.5	0.4	0.4	4.2	●

CTV.. series/Toolholder

CTV (-S)





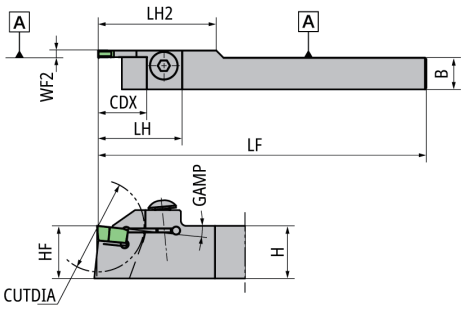
● Diagram shows right-hand tool

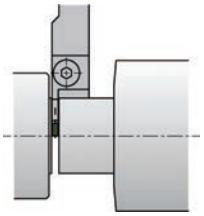
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	GMAP °	H mm	LF mm	LH mm	WF mm	Insert Gage
5904131	**CTVR16K25S**	●	R	23	16	12.2	6	16	125	24	16.5	CTV25..
5904149	**CTVR16K30S**	●	R	23	16	12.2	6	16	125	24	16.5	CTV30..
5904180	**CTVR20K25S**	●	R	23	20	12.2	6	20	125	24	20.5	CTV25..
5904172	**CTVR20K30S**	●	R	23	20	12.2	6	20	125	24	20.5	CTV30..
5853619	**CTVR16K25**	●	R	35	16	18.5	6	16	125	32	16.5	CTV25..
5853593	**CTVR16K30**	●	R	35	16	18.5	6	16	125	32	16.5	CTV30..
5120423	**CTVR1913L25**	●	R	35	13	18.5	6	19	140	32	13	CTV25..
5120431	**CTVR1913L30**	●	R	35	13	18.5	6	19	140	32	13	CTV30..
5853643	**CTVR20K25**	●	R	35	20	18.5	6	20	125	32	20.5	CTV25..
5853577	**CTVR20K30**	●	R	35	20	18.5	6	20	125	32	20.5	CTV30..
5853627	**CTVL16K25**	●	L	35	16	18.5	6	16	125	32	16.5	CTV25..
5853601	**CTVL16K30**	●	L	35	16	18.5	6	16	125	32	16.5	CTV30..
5122197	**CTVL1913L25**	●	L	35	13	18.5	6	19	140	32	13	CTV25..
5122189	**CTVL1913L30**	●	L	35	13	18.5	6	19	140	32	13	CTV30..
5853635	**CTVL20K25**	●	L	35	20	18.5	6	20	125	32	20.5	CTV25..
5853585	**CTVL20K30**	●	L	35	20	18.5	6	20	125	32	20.5	CTV30..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTVR16K25S	BS0620	LW-4
CTVR16K30S	BS0620	LW-4
CTVR20K25S	BS0620	LW-4
CTVR20K30S	BS0620	LW-4
CTVR16K25	BS0620	LW-4
CTVR16K30	BS0620	LW-4
CTVR1913L25	BS0620	LW-4
CTVR1913L30	BS0620	LW-4
CTVR20K25	BS0620	LW-4
CTVR20K30	BS0620	LW-4
CTVL16K25	BS0620	LW-4
CTVL16K30	BS0620	LW-4
CTVL1913L25	BS0620	LW-4
CTVL1913L30	BS0620	LW-4
CTVL20K25	BS0620	LW-4
CTVL20K30	BS0620	LW-4

CTV-X





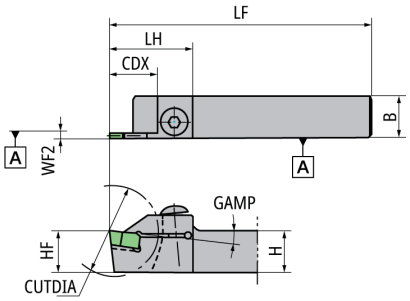
● Diagram shows right-hand tool

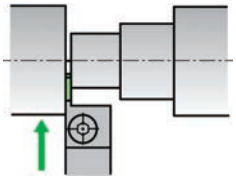
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	GMAP °	H mm	LF mm	LH mm	WF2 mm	Insert Gage
5595384	**CTVL2012K30X-1**	●	L	35	12	18.5	6	20	125	32	3	CTV30..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTVL2012K30X-1	BS0620	LW-4

CTV-M (B)





● Diagram shows left-hand tool

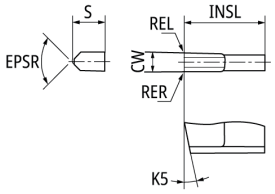
EDP	Item Number	Stock	Hand	CUTDIA mm	B mm	CDX mm	GMAP °	H mm	LF mm	LH mm	WF2 mm	Insert Gage
5177100	**CTVR16-25M**	●	R	28	16	15	6	16	120	25.5	0.5	CTV25..
5185566	**CTVR16-30M**	●	R	28	16	15	6	16	120	25.5	0.5	CTV30..
5185541	**CTVR20-25M**	●	R	28	20	15	6	20	120	25.5	0.5	CTV25..
5183314	**CTVR20-30M**	●	R	28	20	15	6	20	120	25.5	0.5	CTV30..
5162219	**CTVR25-30B**	●	R	45	25	23.5	6	25	150	34.5	0.5	CTV30..
5184528	**CTVL25-30B**	●	L	45	25	23.5	6	25	150	34.5	0.5	CTV30..

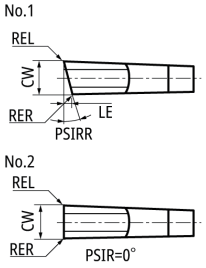
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTVR16-25M	BS0520	LW-3
CTVR16-30M	BS0520	LW-3
CTVR20-25M	BS0520	LW-3
CTVR20-30M	BS0520	LW-3
CTVR25-30B	BS0625	LW-4
CTVL25-30B	BS0625	LW-4

CTV.. series/Inserts Carbide

CTV-R/N/L





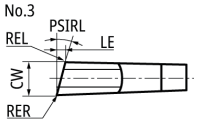
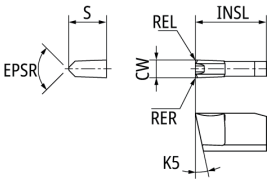


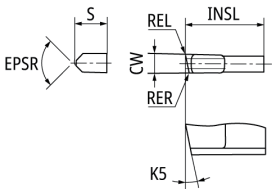
Figure	Item Number	Hand	Chip-breaker	CW	EPSR	INSL	K5	LE	PSIR	PSIRL	PSIRR	REL	RER	S	Carbide PVD	
				mm	°	mm	°	mm	°	°	°	mm	mm	mm	QM3	ZM3
1	**CTV25R**	R	Yes	2.5	90	12	12	0.41	–	–	8	0.2	0.2	6.39		●
1	**CTV30R**	R	Yes	3	90	12	12	0.49	–	–	8	0.2	0.2	6.39		●
2	**CTV25N**	N	Yes	2.5	90	12	12	–	0	–	–	0.2	0.2	6.39		●
2	**CTV30N**	N	Yes	3	90	12	12	–	0	–	–	0.2	0.2	6.39	●	●
3	**CTV30L**	L	Yes	3	90	12	12	0.49	–	8	–	0.2	0.2	6.39		●

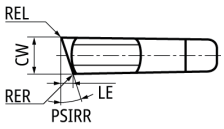
CTV-038



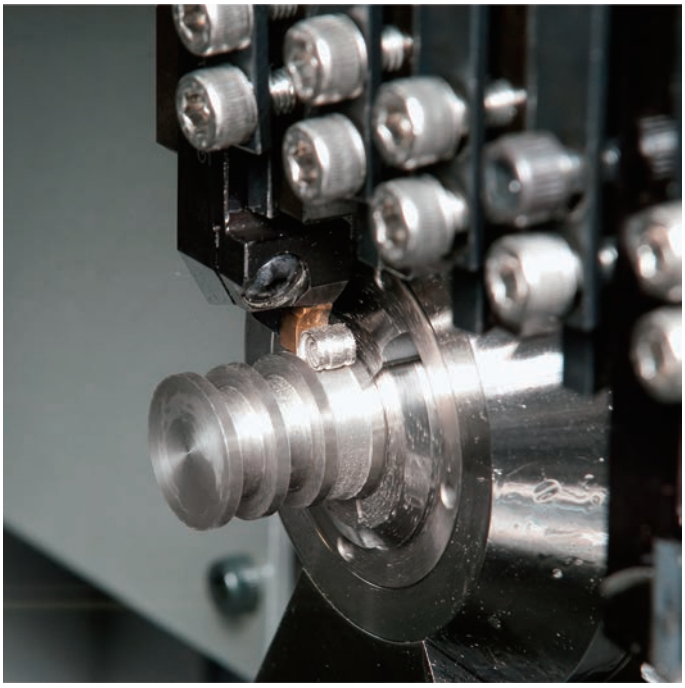
Item Number	Hand	Chip-breaker	CW	EPSR	INSL	K5	PSIR	REL	RER	S	Carbide PVD	
			mm	°	mm	°	°	mm	mm	mm	QM3	ZM3
CTV30N038	N	Yes	3	90	12	12	0	0.2	0.2	6.39		●

CTV-A/B





Item Number	Hand	Chip-breaker	CW	EPSR	INSL	K5	LE	PSIRR	REL	RER	S	Carbide PVD	
			mm	°	mm	°	mm	°	mm	mm	mm	QM3	ZM3
CTV25R00A	R	Yes	2.5	90	12	12	0.41	8	0.05MAX	0.05MAX	6.39		●
CTV25R00B	R	Yes	2.5	90	12	12	0.83	17	0.05MAX	0.05MAX	6.39		●
CTV30R00A	R	Yes	3	90	12	12	0.49	8	0.05MAX	0.05MAX	6.39		●
CTV30R00B	R	Yes	3	90	12	12	1	17	0.05MAX	0.05MAX	6.39		●



Grooving/Side-Turning

Product Lines T02

Recommended Cutting Conditions T04

General Information T05

OD Grooving .....

- CSVG.. series T06
- GTPS.. series T09
- GTPA.. series T10
- GTMH(X)32.. series T12
- GTMT(A)43.. series T23
- GWPG(M).. series T26
- TWG.. series T28

ID Grooving .....

- SBG.. series T29
- GTG.. series T32

Face Grooving .....

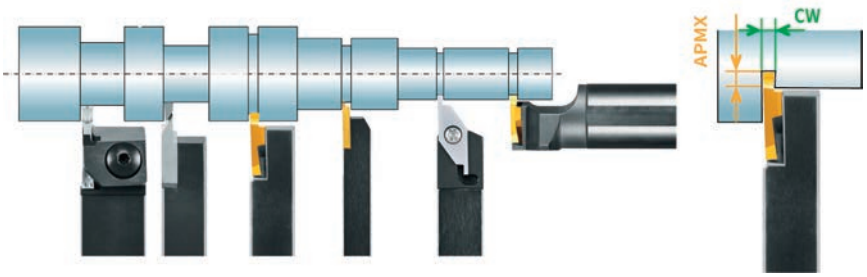
- FGV_FBV.. series T34

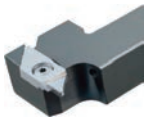
ID Face Grooving .....

- SFG.. series T37

Product Lines

OD Grooving

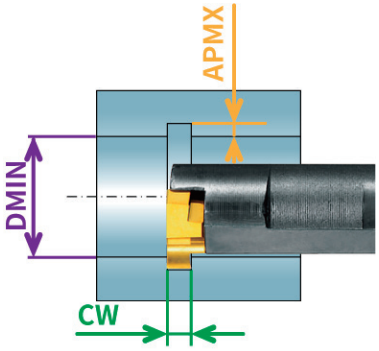


Insert	CSVG →T8	GTPS →T9	GTPA →T11			
Holder	CSV	CTPS	GTPA	GTPA-OH	Y-GTPA	Y-GTPA-OH
	→T6	→T9	→T10	→T10	→T11	 →T10
				Coolant through	Y-axis	Y-axis Coolant through
CW : Blade width	0.25 - 1.50mm	0.75 - 2.0mm	2.0 - 2.50mm			
APMX : Depth of cut	- 2.60mm	-2.50mm	-6.0mm			

Insert	GTMH32 / GTMX32 →T19					
Holder	GTT	GTT-OH3/OH2/OH	Y-GTT	Y-GTT-OH	DS-GTT	CH-GTT
	→T13	→T12	→T15	→T15	→T16	→T16
		Coolant through	Y-axis	Y-axis Coolant through	DS	
CW: Blade width	0.3 - 3.0mm					
APMX : Depth of cut	-2.7mm					

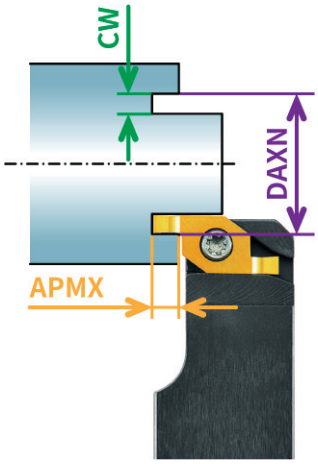
Insert	GWPG(M) →T27	GTMA43 / GTMT43 →T23		TWG →T28
Holder	GTWP	NGTN(B)	NGTA	TWG
	→T26	→T23	→T24	→T28
CW : Blade width	0.3 - 5.9mm	1.45 - 5.5mm		2.0 - 3.0mm
APMX : Depth of cut	-9.0mm	4.50mm		-3.0mm

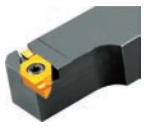
ID Grooving



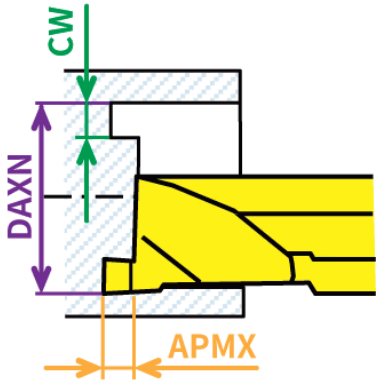
Insert	SBG →T31	GTG →T33
Holder	NBH	S-BG / BG
	→T29	→T32
CW : Blade width	0.5 - 2.0mm	0.5 - 2.0mm
APMX : Depth of cut	-2.0mm	-3.0mm
DMIN : Min. Bore Dia.	3/4/5/6/8mm	10/12/14/16/20/25mm

Face Grooving



Insert	FGV →T36		
		FBV →T36	
Holder	FGV	DS-FGV	CH-FGV
	 →T34	→T35	→T34
		DS	
CW : Blade width	1.0 - 2.0mm		
APMX : Depth of cut	3.0mm	FGV: -3.0mm	
		FBV: -4.0mm	
DAXN : Min. Bore Dia.	FGV: 6.0mm FBV: 8.0mm		

ID Face Grooving



Insert	SFG →T38
Holder	NBH
	→T37
CW : Blade width	1.0 - 3.0mm
APMX : Depth of cut	-3.0mm
DAXN : Min. Bore Dia.	6/8 mm

Recommended Cutting Conditions

CSV / GTPS / GTMH / GTMX / SBG / GTG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 / SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4 / DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1	QM3	TM4 / DM4 / DT4	
Cutting Speed (m/min)		20 - 40 - 65	30 - 55 - 80		40 - 70 - 100	45 - 90 - 180	45 - 90 - 150	
Feed Rate (mm/rev) A. Grooving B. Side turning ※	Width 0.25~0.5	A. 0.005 - 0.03						
		B. 0.002 - 0.005						
	0.5~1.0	A. 0.05 - 0.06					A. 0.02 - 0.07	
		B. 0.005 - 0.01					B. 0.005 - 0.01	
	1.0~2.0	A. 0.03 - 0.07					A. 0.03 - 0.08	
		B. 0.02 - 0.05					B. 0.03 - 0.06	
	> 2.0	A. 0.03 - 0.2						
		B. 0.03 - 0.06						

※When side turning, Max. DOC (Under 0.4mm width side turning impossible)

- MAX0.2mm CSV/GTPS
- MAX2.0mm GTMH/GTMX/GTMT/GTMA
- MAX0.1mm SBG/GTG

GWPG / GWPM / TWG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	QM3						
	2nd choice							
Cutting Speed (m/min)		20 - 40 - 65	30 - 55 - 80		40 - 70 - 100	45 - 90 - 180	45 - 90 - 150	
Feed Rate (mm/rev) A. Grooving B. Side turning *	Width 3.0~4.0	A. 0.05 - 0.15						
	4.0~5.0	A. .0.1 - 0.2					A. 0.1 - 0.25	
							B. 0.15 - 0.3	
	> 5.0	A. 0.15 - 0.35						

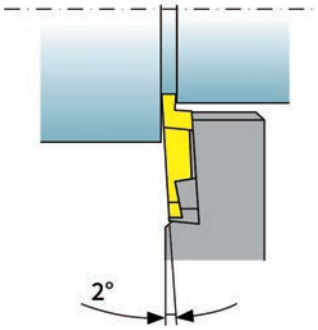
*Max DOC when side turning
Groove width x 0.5mm

GTPA

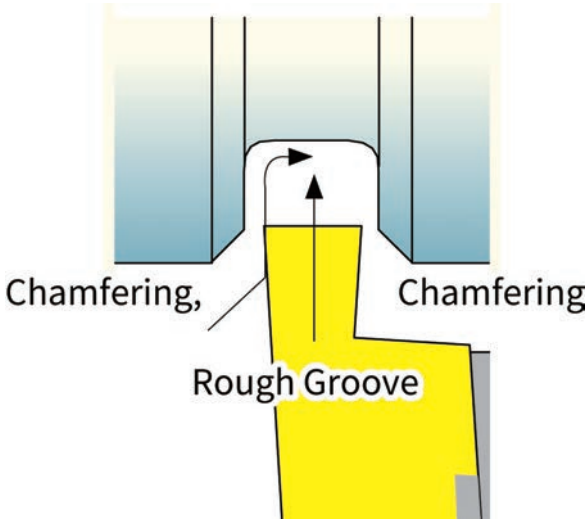
Work Material		Aluminum Alloy
Common Name		A5056 A6061
Grade	1st choice	PD1
	2nd choice	KM1
Cutting Speed (m/min)		PD1 100 - 200 - 300 KM1 50 - 100 - 200
Feed Rate (mm/rev) A. Grooving B. Side turning *	A.	0.05 - 0.2
	B.	0.1 - 0.2

※Max DOC is 80% of width

General Information

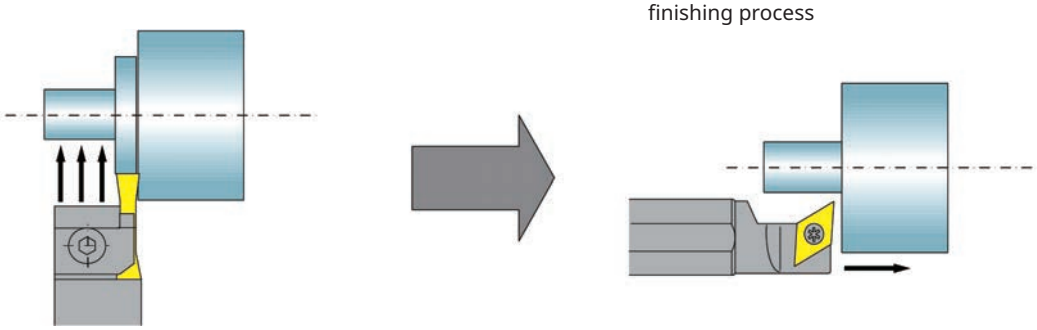


NTK GTMT / GTMH series can be used for uneven diameter grooving thanks to the 2 degree mounting angle designed on the toolholder



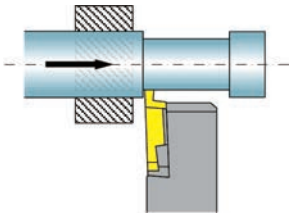
Chamfering and radius machining can be done after the rough grooving operation at the center of the groove

Rough Plunging for OD Turning



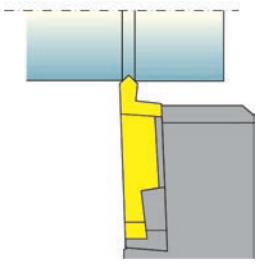
ISO insert on a DS Toolholder for finishing process

Side Turning



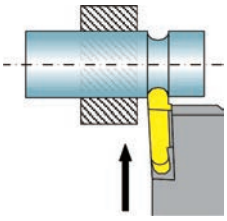
GTMX32□□□RT
GTMH32□□□RVT

90 Degree V-style



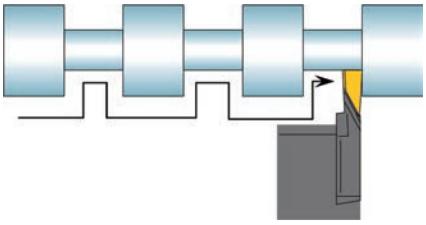
GTMX32V90R□□□

Full Radius

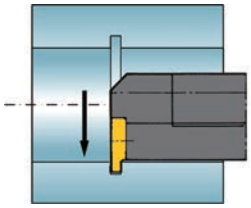


GTMH32□□□RE□□
GTMA43□□□R□□

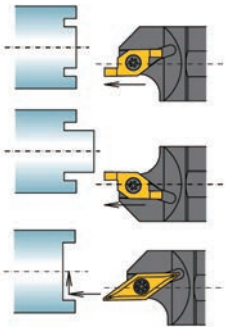
Spool Grooving



ID Grooving

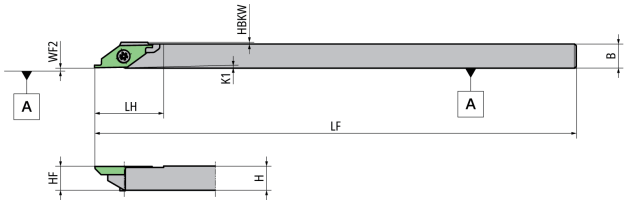


Face Grooving

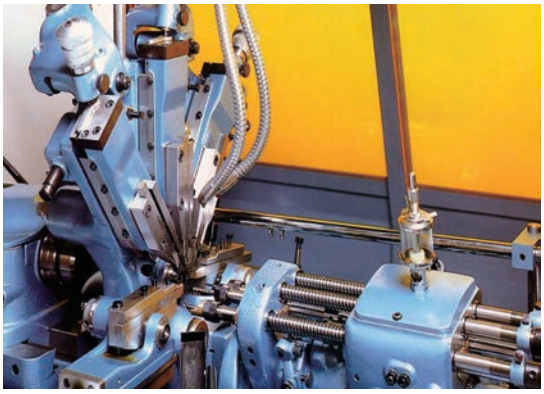


OD Grooving
CSVG.. series/Toolholder

CSV [91°] For Cam-style machine



● Diagram shows right-hand tool

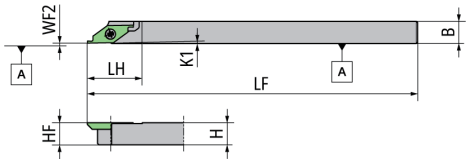


EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5303169	**CSVR07**	●	R	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492962	**CSVR07GX**	●	R	7	7	0.5	7	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303151	**CSVR08**	●	R	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492954	**CSVR08GX**	●	R	8	8	0	8	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303136	**CSVR095**	●	R	9.5	9.5	0	9.5	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303144	**CSVR10**	●	R	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5327929	**CSVR12**	●	R	12	12	0	12	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5474770	**CSVR12GX**	●	R	12	12	0	12	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303193	**CSVL07**	●	L	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303201	**CSVL08**	●	L	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303177	**CSVL10**	●	L	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR07	LRIS-2.5*7	CLR-15S
CSVR07GX	LRIS-2.5*7	CLR-15S
CSVR08	LRIS-2.5*7	CLR-15S
CSVR08GX	LRIS-2.5*7	CLR-15S
CSVR095	LRIS-2.5*7	CLR-15S
CSVR10	LRIS-2.5*7	CLR-15S
CSVR12	LRIS-2.5*7	CLR-15S
CSVR12GX	LRIS-2.5*7	CLR-15S
CSVL07	LRIS-2.5*7	CLR-15S
CSVL08	LRIS-2.5*7	CLR-15S
CSVL10	LRIS-2.5*7	CLR-15S

CSV-NC [91°] For Gang-style machine



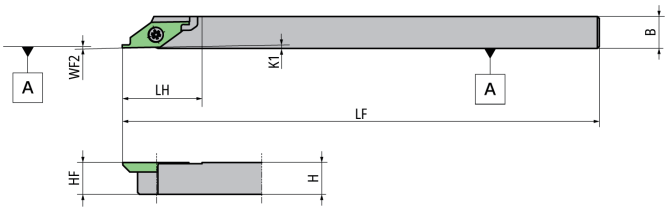
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5514062	**CSVR08NC**	●	R	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5563010	**CSVR10GXNC**	●	R	10	10	10	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477492	**CSVR10NC**	●	R	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477534	**CSVR12NC**	●	R	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5514070	**CSVL08NC**	●	L	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477542	**CSVL10NC**	●	L	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477500	**CSVL12NC**	●	L	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC	LRIS-2.5*7	CLR-15S
CSVR10GXNC	LRIS-2.5*7	CLR-15S
CSVR10NC	LRIS-2.5*7	CLR-15S
CSVR12NC	LRIS-2.5*7	CLR-15S
CSVL08NC	LRIS-2.5*7	CLR-15S
CSVL10NC	LRIS-2.5*7	CLR-15S
CSVL12NC	LRIS-2.5*7	CLR-15S

CSV-NC-F [91°] For Gang-style machine



● Diagram shows right-hand tool

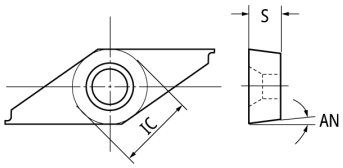
EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5789615	**CSVR08NC-F**	●	R	8	8	0	8	1	120	20	0-0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

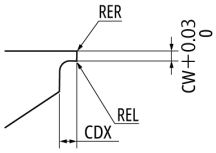
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC-F	LRIS-2.5*7	CLR-15S

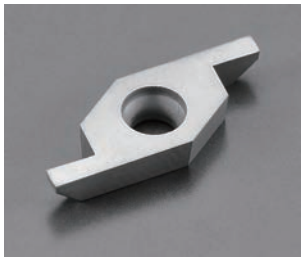
CSVG.. series/Inserts Carbide

CSVG





● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

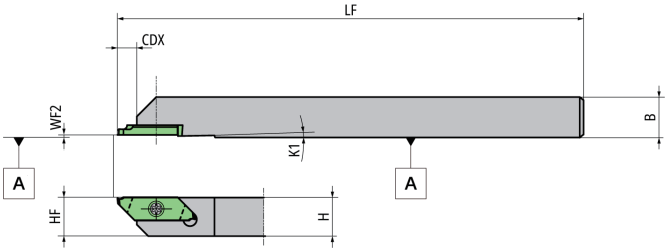


Item Number	Hand	Chip-breaker	APMX	CDX	AN	CW	EPSR	IC	REL	RER	S	Carbide PVD VM1
			mm	mm	°	mm	°	mm	mm	mm	mm	
CSVG11FRV025	R	No	0.15	0.5	7	0.25	35	6.35	0	0	2.38	●
CSVG11FRV030	R	No	0.15	0.5	7	0.3	35	6.35	0	0	2.38	●
CSVG11FRV035	R	No	0.15	0.5	7	0.35	35	6.35	0	0	2.38	●
CSVG11FRV040	R	No	0.15	0.5	7	0.4	35	6.35	0	0	2.38	●
CSVG11FRV045	R	No	0.45	1	7	0.45	35	6.35	0	0	2.38	●
CSVG11FRV050	R	No	0.45	1	7	0.5	35	6.35	0	0	2.38	●
CSVG11FRV055	R	No	0.45	1	7	0.55	35	6.35	0	0	2.38	●
CSVG11FRV060	R	No	0.45	1	7	0.6	35	6.35	0	0	2.38	●
CSVG11FRV065	R	No	0.45	1	7	0.65	35	6.35	0	0	2.38	●
CSVG11FRV070	R	No	0.45	1	7	0.7	35	6.35	0	0	2.38	●
CSVG11FRV075	R	No	1.4	2	7	0.75	35	6.35	0	0	2.38	●
CSVG11FRV080	R	No	1.4	2	7	0.8	35	6.35	0	0	2.38	●
CSVG11FRV085	R	No	1.4	2	7	0.85	35	6.35	0	0	2.38	●
CSVG11FRV090	R	No	1.4	2	7	0.9	35	6.35	0	0	2.38	●
CSVG11FRV095	R	No	1.4	2	7	0.95	35	6.35	0	0	2.38	●
CSVG11FRV100	R	No	1.4	2	7	1	35	6.35	0	0	2.38	●
CSVG11FRV110	R	No	2.6	3	7	1.1	35	6.35	0	0	2.38	●
CSVG11FRV120	R	No	2.6	3	7	1.2	35	6.35	0	0	2.38	●
CSVG11FRV130	R	No	2.6	3	7	1.3	35	6.35	0	0	2.38	●
CSVG11FRV140	R	No	2.6	3	7	1.4	35	6.35	0	0	2.38	●
CSVG11FRV150	R	No	2.6	3	7	1.5	35	6.35	0	0	2.38	●
CSVG11FLV075	L	No	1.4	2	7	0.75	35	6.35	0	0	2.38	●
CSVG11FLV095	L	No	1.4	2	7	0.95	35	6.35	0	0	2.38	●
CSVG11FLV120	L	No	2.6	3	7	1.2	35	6.35	0	0	2.38	●

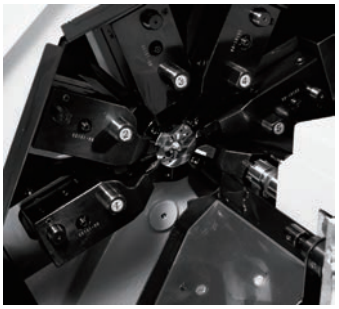
OD Grooving

GTPS.. series/Toolholder

CTPS



● Diagram shows right-hand tool



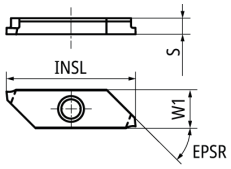
EDP	Item Number	Stock	Hand	B	CDX	H	HF	K1	LF	WF2	Insert Gage	
				mm	mm	mm	mm	°	mm	mm		
5346572	**CTPSR10**	●	R	10	5	10	10	1	120	0	TBPS../CTPS..	GTPS../TTPS..
5397187	**CTPSR12**	●	R	12	5	12	12	1	120	0	TBPS../CTPS..	GTPS../TTPS..

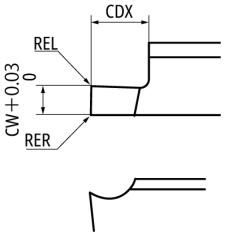
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPSR10	LRIS-2.5*7	CLR-15S
CTPSR12	LRIS-2.5*7	CLR-15S

GTPS.. series/Inserts Carbide

GTPS



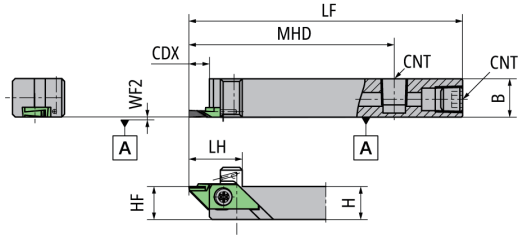


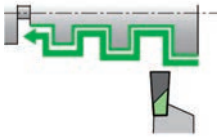
● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	INSL	REL	RER	S	W1	Carbide PVD	
			mm	mm	mm	°	mm	mm	mm	mm	mm	VM1	ZM3
GTPS075FR	R	Yes	1	1.5	0.75	45	20	0	0	2.5	6	●	●
GTPS095FR	R	Yes	1.5	2	0.95	45	20	0	0	2.5	6	●	●
GTPS100FR	R	Yes	1.5	2	1	45	20	0	0	2.5	6	●	●
GTPS120FR	R	Yes	2.5	3	1.2	45	20	0	0	2.5	6	●	●
GTPS150FR	R	Yes	2.5	3	1.5	45	20	0	0	2.5	6	●	●
GTPS200FR	R	Yes	2.5	3	2	45	20	0	0	2.5	6	●	●

OD Grooving Side-Turning | GTPA.. series/Toolholder

GTPA-OH Coolant through





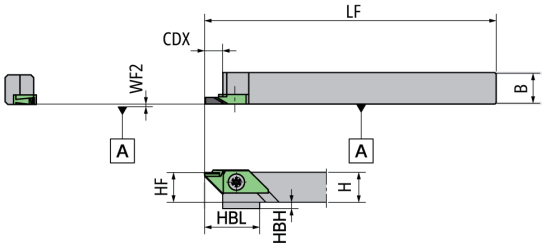
・Diagram shows right-hand tool

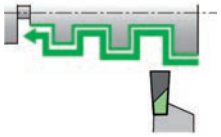
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	H mm	HF mm	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage
5912845	**GTPAR1214H-OH**	●	R	14	7.5	Rc1/8	12	12	100	19.5	75	0.1	GTPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
GTPAR1214H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

GTPA





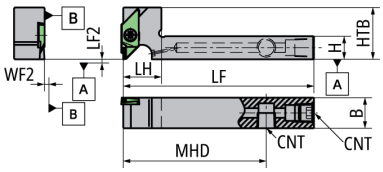
・Diagram shows right-hand tool

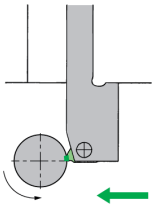
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	LF mm	WF2 mm	Insert Gage
5552401	**GTPAR1010**	●	R	10	7.5	10	2	19.5	10	120	0.1	GTPA..
5552419	**GTPAR1212**	●	R	12	7.5	12	–	–	12	120	0.1	GTPA..
5577291	**GTPAR1616**	●	R	16	7.5	16	–	–	16	120	0.1	GTPA..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
GTPAR1010	LRIS-4*10PW	CLR-15S
GTPAR1212	LRIS-4*12PW	CLR-15S
GTPAR1616	LRIS-4*12PW	CLR-15S

Y-GTPA-OH Y-axis coolant through





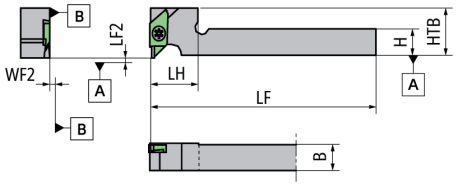
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

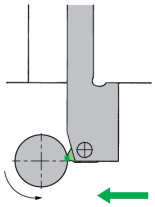
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HTB mm	LF mm	LF2 mm	LH mm	MHD mm	WF2 mm	Insert Gage
5930185	**Y-GTPAR1014FSS-OH**	●	R	14	M6*1	10	27	80	0	15	55	0.1	GTPA..
5911482	**Y-GTPAR1216HS-OH**	●	R	16	Rc1/8	12	27	100	0	20	75	0.1	GTPA..
5911490	**Y-GTPAR1616H-OH**	●	R	16	Rc1/8	16	27	100	0	25	75	0.1	GTPA..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-GTPAR1014FSS-OH	LRIS-4*12PW	SS0605SC	CLR-15S
Y-GTPAR1216HS-OH	LRIS-4*12PW	SPR1/8	CLR-15S
Y-GTPAR1616H-OH	LRIS-4*12PW	SPR1/8	CLR-15S

Y-GTPA Y-axis





・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

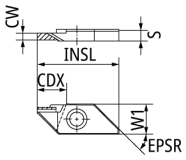
EDP	Item Number	Stock	Hand	B mm	H mm	HTB mm	LF mm	LF2 mm	LH mm	WF2 mm	Insert Gage
5563820	**Y-GTPAR1216**	●	R	16	12	27	120	0	20	0.1	GTPA..

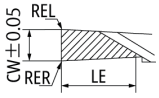
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-GTPAR1216	LRIS-4*12PW	CLR-15S

GTPA.. series/Inserts PCD_Carbide

GTPA.. PCD

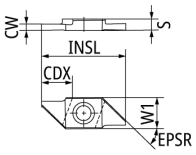


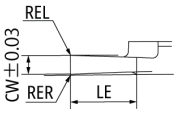


・Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX mm	CDX mm	CW mm	EPSR °	INSL mm	LE mm	REL mm	RER mm	S mm	W1 mm	PCD PD1
GTPA20FRN01	R	Yes	6	9.2	2	45	(25)	7	0.1MAX	0.1MAX	3.5	9.4	●
GTPA20FRN01-SH	R	No	3	9.2	2	45	25.7	4	0.1MAX	0.1MAX	3.5	9.4	●
GTPA25FRN01	R	Yes	6	9.2	2.5	45	(25)	7	0.1MAX	0.1MAX	3.5	9.4	●
GTPA25FRN01-081	R	No	3	9.2	2.5	45	25.7	4	0.1MAX	0.1MAX	3.5	9.4	●

GTPA.. Carbide



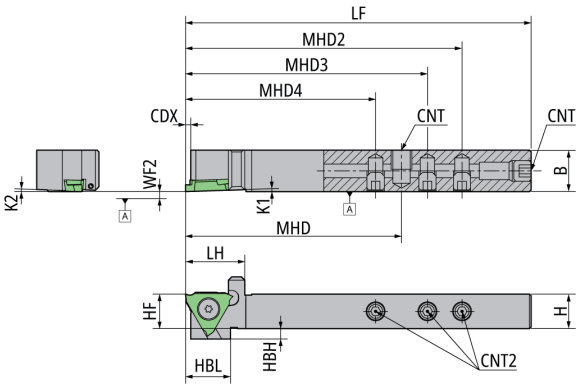


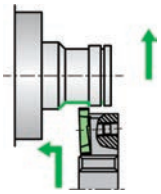
・Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX mm	CDX mm	CW mm	EPSR °	INSL mm	LE mm	REL mm	RER mm	S mm	W1 mm	Carbide KM1
GTPA20FRN01	R	Yes	6	9.2	2	45	(25)	7	0.1MAX	0.1MAX	3.5	9.4	●
GTPA25FRN01	R	Yes	6	9.2	2.5	45	(25)	7	0.1MAX	0.1MAX	3.5	9.4	●

OD Grooving
GTMH(X)32.. series/Toolholder

GTT-OH3 Coolant through (direct connect compatible)





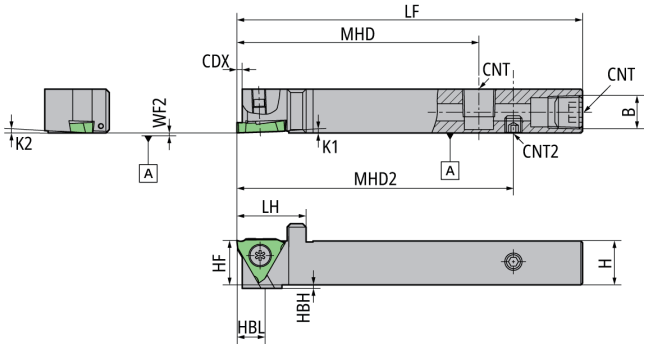
・Diagram shows right-hand tool

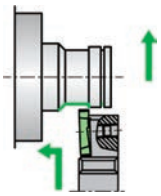
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage	
5117734	**GTTR1012H00-OH3**		R	12	3	Rc1/8	M5	0.3-3	10	3	13	10	2	2	100	17.15	62.5	80	70	55	0	GT..32..	TBMH32..
5121330	**GTTR16X00-OH3**		R	16	3.65	Rc1/8	M5	0.3-3	16	–	–	16	2	2	120	20	78.75	100	87.5	70	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
GTTR1012H00-OH3	LR-S-4*10PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5
GTTR16X00-OH3	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

GTT-OH2 Coolant through (direct connect compatible)





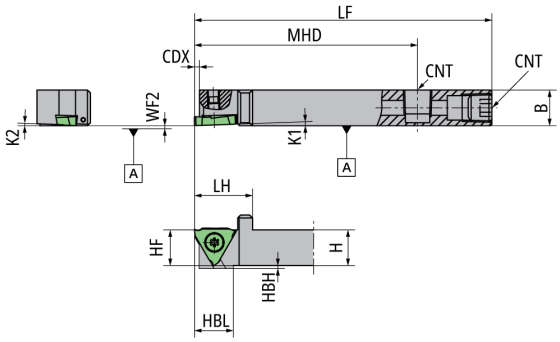
・Diagram shows right-hand tool

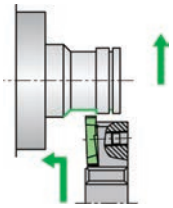
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CNT2	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage	
5035381	**GTTR12H00-OH2**		R	12	1.6	Rc1/8	M5	0.3-3	12	1	13	12	2	2	100	19.5	70	80	0	GT..32..	TBMH32..
5043997	**GTTR16X00-OH2**		R	16	1.6	Rc1/8	M5	0.3-3	16	–	–	16	2	2	120	19.5	70	100	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
GTTR12H00-OH2	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
GTTR16X00-OH2	LR-S-4*10PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

GTT-OH Coolant through





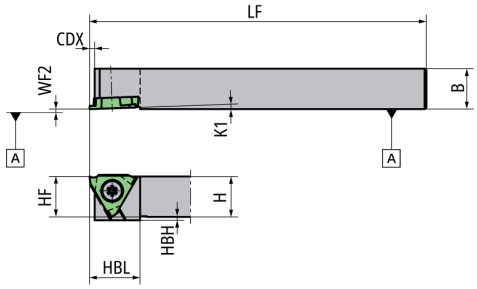
· Diagram shows right-hand tool

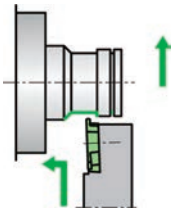
EDP	Item Number	Stock	Hand	B mm	CDX mm	CNT	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5921705	**GTTR1012H00-OH**	●	R	12	1.6	M6*1	0.3-3	10	1	13	10	2	2	100	19.5	70	0	GT..32..	TBMH32..
5890157	**GTTR12H00-OH**	●	R	12	1.6	Rc1/8	0.3-3	12	1	13	12	2	2	100	19.5	70	0	GT..32..	TBMH32..
5921713	**GTTR16H00-OH**	●	R	16	1.6	Rc1/8	0.3-3	16	–	–	16	2	2	100	19.5	70	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
GTTR1012H00-OH	LR-S-4*10PW	SS0605SC	CLR-15S
GTTR12H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S
GTTR16H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S

GTT





· Diagram shows right-hand tool

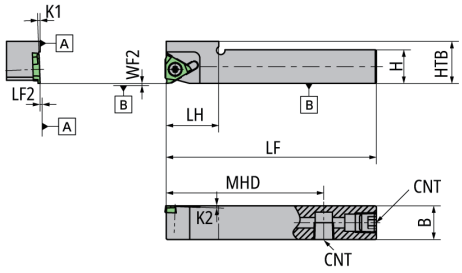
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF2 mm	Insert Gage	
5608682	**GTTR0810F00**	●	R	10	1.6	0.3-3	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5608690	**GTTR0810K00**	●	R	10	1.6	0.3-3	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107305	**GTTR08F00**	●	R	8	1.6	0.3-3	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5107206	**GTTR08K00**	●	R	8	1.6	0.3-3	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107321	**GTTR10F00**	●	R	10	1.6	0.3-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107362	**GTTR10F15**	●	R	10	2.7	1.45-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107388	**GTTR10F25**	●	R	10	2.7	2.5-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107222	**GTTR10K00**	●	R	10	1.6	0.3-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107263	**GTTR10K15**	●	R	10	2.7	1.45-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107289	**GTTR10K25**	●	R	10	2.7	2.5-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107347	**GTTR12F00**	●	R	12	1.6	0.3-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537220	**GTTR12F15**	●	R	12	2.7	1.45-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537238	**GTTR12F25**	●	R	12	2.7	2.5-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5107248	**GTTR12K00**	●	R	12	1.6	0.3-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537246	**GTTR12K15**	●	R	12	2.7	1.45-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537253	**GTTR12K25**	●	R	12	2.7	2.5-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5459896	**GTTR16H00**	●	R	16	1.6	0.3-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537261	**GTTR16H15**	●	R	16	2.7	1.45-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537279	**GTTR16H25**	●	R	16	2.7	2.5-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5173687	**GTTR16K00**	●	R	16	1.6	0.3-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537287	**GTTR16K15**	●	R	16	2.7	1.45-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537295	**GTTR16K25**	●	R	16	2.7	2.5-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5530852	**GTTR20K00**	●	R	20	2.7	0.3-3	20	–	–	20	2	2	125	0	GT..32..	TBMH32..
5780309	**GTTR25M00**	●	R	25	2.7	0.3-3	25	–	–	25	2	2	150	0	GT..32..	TBMH32..
5107313	**GTTL08F00**	●	L	8	1.6	0.3-3	8	5	15	8	2	2	80	0	GT..32..	TBMH32..
5107214	**GTTL08K00**	●	L	8	1.6	0.3-3	8	5	15	8	2	2	120	0	GT..32..	TBMH32..
5107339	**GTTL10F00**	●	L	10	1.6	0.3-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107370	**GTTL10F15**	●	L	10	2.7	1.45-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107396	**GTTL10F25**	●	L	10	2.7	2.5-3	10	3	15	10	2	2	80	0	GT..32..	TBMH32..
5107230	**GTTL10K00**	●	L	10	1.6	0.3-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..

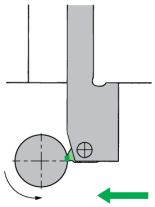
EDP	Item Number	Stock	Hand	B	CDX	CW	H	HBH	HBL	HF	K1	K2	LF	WF2	Insert Gage	
				mm	mm	mm	mm	mm	mm	mm	°	°	mm	mm		
5107271	**GTTL10K15**	●	L	10	2.7	1.45-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107297	**GTTL10K25**	●	L	10	2.7	2.5-3	10	3	15	10	2	2	120	0	GT..32..	TBMH32..
5107354	**GTTL12F00**	●	L	12	1.6	0.3-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537147	**GTTL12F15**	●	L	12	2.7	1.45-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5537154	**GTTL12F25**	●	L	12	2.7	2.5-3	12	1	15	12	2	2	80	0	GT..32..	TBMH32..
5107255	**GTTL12K00**	●	L	12	1.6	0.3-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537162	**GTTL12K15**	●	L	12	2.7	1.45-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5537170	**GTTL12K25**	●	L	12	2.7	2.5-3	12	1	15	12	2	2	120	0	GT..32..	TBMH32..
5551387	**GTTL16H00**	●	L	16	1.6	0.3-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537188	**GTTL16H15**	●	L	16	2.7	1.45-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5537196	**GTTL16H25**	●	L	16	2.7	2.5-3	16	–	–	16	2	2	100	0	GT..32..	TBMH32..
5173679	**GTTL16K00**	●	L	16	1.6	0.3-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537204	**GTTL16K15**	●	L	16	2.7	1.45-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5537212	**GTTL16K25**	●	L	16	2.7	2.5-3	16	–	–	16	2	2	120	0	GT..32..	TBMH32..
5780317	**GTTL20K00**	●	L	20	1.6	0.3-3	20	–	–	20	2	2	125	0	GT..32..	TBMH32..
5780291	**GTTL25M00**	●	L	25	1.6	0.3-3	25	–	–	25	2	2	150	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
GTTR0810F00	LR-S-4*10PW	CLR-15S
GTTR0810K00	LR-S-4*10PW	CLR-15S
GTTR08F00	LR-S-4*10PW	CLR-15S
GTTR08K00	LR-S-4*10PW	CLR-15S
GTTR10F00	LR-S-4*10PW	CLR-15S
GTTR10F15	LR-S-4*10PW	CLR-15S
GTTR10F25	LR-S-4*10PW	CLR-15S
GTTR10K00	LR-S-4*10PW	CLR-15S
GTTR10K15	LR-S-4*10PW	CLR-15S
GTTR10K25	LR-S-4*10PW	CLR-15S
GTTR12F00	LR-S-4*10PW	CLR-15S
GTTR12F15	LR-S-4*10PW	CLR-15S
GTTR12F25	LR-S-4*10PW	CLR-15S
GTTR12K00	LR-S-4*10PW	CLR-15S
GTTR12K15	LR-S-4*10PW	CLR-15S
GTTR12K25	LR-S-4*10PW	CLR-15S
GTTR16H00	LR-S-4*10PW	CLR-15S
GTTR16H15	LR-S-4*10PW	CLR-15S
GTTR16H25	LR-S-4*10PW	CLR-15S
GTTR16K00	LR-S-4*10PW	CLR-15S
GTTR16K15	LR-S-4*10PW	CLR-15S
GTTR16K25	LR-S-4*10PW	CLR-15S
GTTR20K00	LR-S-4*10PW	CLR-15S
GTTR25M00	LR-S-4*10PW	CLR-15S
GTTL08F00	LR-S-4*5.8	CLR-15S
GTTL08K00	LR-S-4*5.8	CLR-15S
GTTL10F00	LR-S-4*10PW	CLR-15S
GTTL10F15	LR-S-4*10PW	CLR-15S
GTTL10F25	LR-S-4*10PW	CLR-15S
GTTL10K00	LR-S-4*10PW	CLR-15S
GTTL10K15	LR-S-4*10PW	CLR-15S
GTTL10K25	LR-S-4*10PW	CLR-15S
GTTL12F00	LR-S-4*10PW	CLR-15S
GTTL12F15	LR-S-4*10PW	CLR-15S
GTTL12F25	LR-S-4*10PW	CLR-15S
GTTL12K00	LR-S-4*10PW	CLR-15S
GTTL12K15	LR-S-4*10PW	CLR-15S
GTTL12K25	LR-S-4*10PW	CLR-15S
GTTL16H00	LR-S-4*10PW	CLR-15S
GTTL16H15	LR-S-4*10PW	CLR-15S
GTTL16H25	LR-S-4*10PW	CLR-15S
GTTL16K00	LR-S-4*10PW	CLR-15S
GTTL16K15	LR-S-4*10PW	CLR-15S
GTTL16K25	LR-S-4*10PW	CLR-15S
GTTL20K00	LR-S-4*10PW	CLR-15S
GTTL25M00	LR-S-4*10PW	CLR-15S

Y-GTT-OH Y-axis coolant through holders





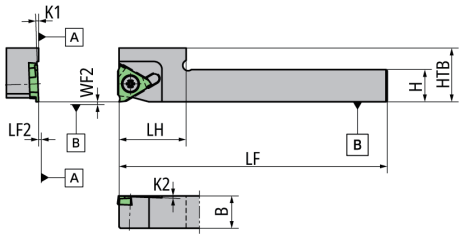
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

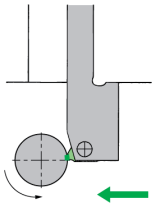
EDP	Item Number	Stock	Hand	B mm	CNT	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	MHD mm	WF2 mm	Insert Gage	
5911466	**Y-GTTR12H00S-OH**	●	R	12	Rc1/8	12	20	2	2	100	0	20	75	0	GT..32..	TBMH32..
5911474	**Y-GTTR16H00-OH**	●	R	16	Rc1/8	16	20	2	2	100	0	25	75	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Wrench (for Clamp screw)
Y-GTTR12H00S-OH	LR-S-4*10PW	SPR1/8	CLR-15S
Y-GTTR16H00-OH	LR-S-4*10PW	SPR1/8	CLR-15S

Y-GTT Y-axis





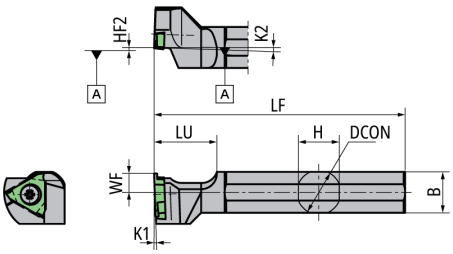
・Diagram shows right-hand tool
NOTE: Use a right-handed (R) insert.
NOTE: There is a risk of interference with the Y-axis holder depending on the combination of the maximum workpiece diameter and machining diameter.
→O26

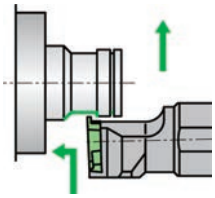
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HTB mm	K1 °	K2 °	LF mm	LF2 mm	LH mm	WF2 mm	Insert Gage	
5950415	**Y-GTTR10MS**	●	R	10	1.6	0.3-3	10	20	2	2	120	0	22	0	GT..32..	TBMH32..
5371604	**Y-GTTR10S**	●	R	10	1.6	0.3-3	10	20	2	2	120	0	20	0	GT..32..	TBMH32..
5950472	**Y-GTTR12MS**	●	R	12	1.6	0.3-3	12	20	2	2	120	0	22	0	GT..32..	TBMH32..
5371620	**Y-GTTR12S**	●	R	12	1.6	0.3-3	12	20	2	2	120	0	20	0	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
Y-GTTR10MS	LR-S-4*10PW	CLR-15S
Y-GTTR10S	LR-S-4*10PW	CLR-15S
Y-GTTR12MS	LR-S-4*10PW	CLR-15S
Y-GTTR12S	LR-S-4*10PW	CLR-15S

DS-GTT DS Toolholders





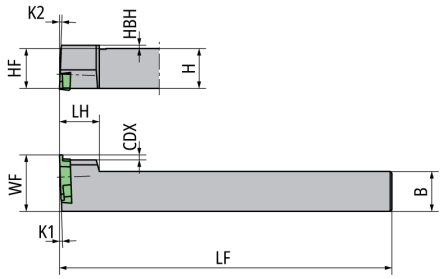
・Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

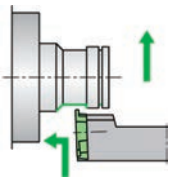
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	DCON mm	H mm	HF2 mm	K1 °	K2 °	LF mm	LU mm	WF mm	Insert Gage	
5348560	**DS-GTTL14F**	●	L	13	1.6	0.3-3	14	13	0	2	2	80	19	6	GT..32..	TBMH32..
5348081	**DS-GTTL15H**	●	L	15	1.6	0.3-3	15.875	15	0	2	2	100	19	6	GT..32..	TBMH32..
5341532	**DS-GTTL16X**	●	L	15	1.6	0.3-3	16	15	0	2	2	95	19	6	GT..32..	TBMH32..
5278288	**DS-GTTL19**	●	L	18	1.6	0.3-3	19.05	18	0	2	2	120	19	6	GT..32..	TBMH32..
5278304	**DS-GTTL20**	●	L	19	1.6	0.3-3	20	19	0	2	2	120	19	6	GT..32..	TBMH32..
5324041	**DS-GTTL22**	●	L	21	1.6	0.3-3	22	21	0	2	2	120	19	6	GT..32..	TBMH32..
5317144	**DS-GTTL25**	●	L	24	1.6	0.3-3	25.4	24	0	2	2	120	19	10	GT..32..	TBMH32..
5483433	**DS-GTTL25-MET**	●	L	24	1.6	0.3-3	25	24	0	2	2	150	19	10	GT..32..	TBMH32..
5937693	**DS-GTTL32**	●	L	30	1.6	0.3-3	32	30	0	2	2	150	19	10	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-GTTL14F	LR-S-4*9	RLR-20S
DS-GTTL15H	LR-S-4*9	RLR-20S
DS-GTTL16X	LR-S-4*9	RLR-20S
DS-GTTL19	LR-S-4*9	RLR-20S
DS-GTTL20	LR-S-4*9	RLR-20S
DS-GTTL22	LR-S-4*9	RLR-20S
DS-GTTL25	LR-S-4*9	RLR-20S
DS-GTTL25-MET	LR-S-4*9	RLR-20S
DS-GTTL32	LR-S-4*9	RLR-20S

CH-GTT for horizontal gang style tool post





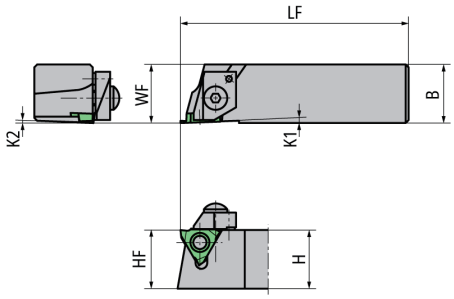
・Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

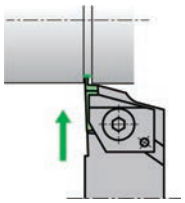
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HBH mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage	
5659248	**CH-GTTL10H00**	●	L	10	1.5	0.3-3	10	3	10	2	2	100	12	15	GT..32..	TBMH32..
5659255	**CH-GTTL12H00**	●	L	12	1.5	0.3-3	12	1	12	2	2	100	12	17	GT..32..	TBMH32..
5960836	**CH-GTTL16H00**	●	L	16	1.5	0.3-3	16	–	16	2	2	100	12	21	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-GTTL10H00	LR-S-4*9	RLR-20S
CH-GTTL12H00	LR-S-4*9	RLR-20S
CH-GTTL16H00	LR-S-4*9	RLR-20S

NGTN





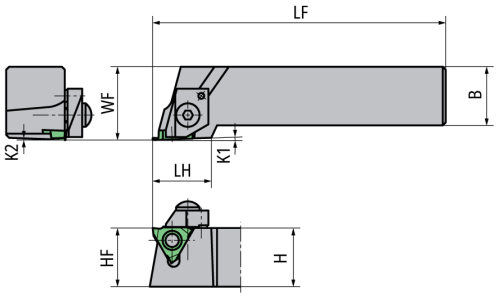
· Diagram shows right-hand tool

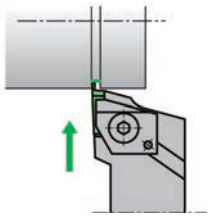
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage	
5525928	**NGTNR161632-00**	●	R	16	1.6	0.3-3	16	16	2	2	78	16	GT..32..	TBMH32..
5534110	**NGTNR161632-15**	●	R	16	2.7	1.45-3	16	16	2	2	78	16	GT..32..	TBMH32..
5534128	**NGTNR161632-25**	●	R	16	2.7	2.5-3	16	16	2	2	78	16	GT..32..	TBMH32..
5525738	**NGTNL161632-00**	●	L	16	1.6	0.3-3	16	16	2	2	78	16	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTNR161632-00	CPR5S	AOS-5*20	ASG-5	LW-2.5
NGTNR161632-15	CPR5S	AOS-5*20	ASG-5	LW-2.5
NGTNR161632-25	CPR5S	AOS-5*20	ASG-5	LW-2.5
NGTNL161632-00	CPL5S	AOS-5*20	ASG-5	LW-2.5

NGTB





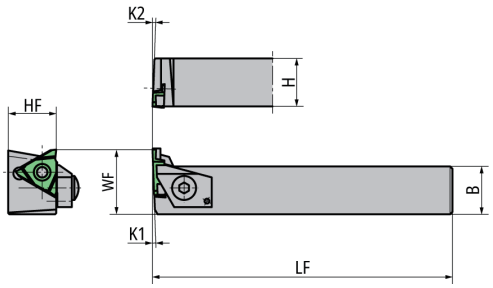
· Diagram shows right-hand tool

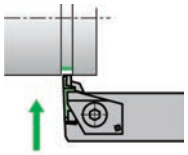
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage	
5542295	**NGTBR202032-00S**	●	R	20	1.6	0.3-3	20	20	2	2	125	25	25	GT..32..	TBMH32..
5537717	**NGTBR202032-15S**	●	R	20	2.7	1.45-3	20	20	2	2	125	25	25	GT..32..	TBMH32..
5553243	**NGTBR202032-25S**	●	R	20	2.7	2.5-3	20	20	2	2	125	25	25	GT..32..	TBMH32..
5549563	**NGTBR252532-00S**	●	R	25	1.6	0.3-3	25	25	2	2	150	25	30	GT..32..	TBMH32..
5545801	**NGTBR252532-15S**	●	R	25	2.7	1.45-3	25	25	2	2	150	25	30	GT..32..	TBMH32..
5553417	**NGTBR252532-25S**	●	R	25	2.7	2.5-3	25	25	2	2	150	25	30	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTBR202032-00S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR202032-15S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR202032-25S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR252532-00S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR252532-15S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR252532-25S	CPR5	AOS-5*25	ASG-5	LW-2.5

NGTA for horizontal gang style tool post





・Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

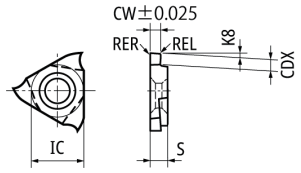
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage	
5536370	**NGTAL202032-00S**	●	L	20	1.6	0.3-3	20	20	2	2	125	25	GT..32..	TBMH32..
5536388	**NGTAL202032-15S**	●	L	20	2.7	1.45-3	20	20	2	2	125	25	GT..32..	TBMH32..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTAL202032-00S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTAL202032-15S	CPR5	AOS-5*25	ASG-5	LW-2.5

OD Grooving | GTMH(X)32.. series/Inserts Carbide

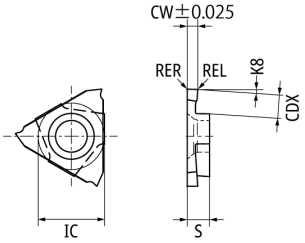
GTMH32-GX Side Turning / 3D mold chipbreaker

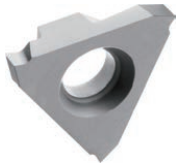


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	REL	RER	S	Carbide PVD		
			mm	mm	mm	°	°	mm	°	mm	mm	mm	DM4	ST4	TM4
GTMH32033RGX	R	Yes	0.25	0.6	0.33	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32043RGX	R	Yes	0.9	1.2	0.43	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32050RGX	R	Yes	0.9	1.2	0.5	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32053RGX	R	Yes	0.9	1.2	0.53	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32075RGX	R	Yes	1.6	2	0.75	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32095RGX	R	Yes	1.6	2	0.95	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32100RGX	R	Yes	1.6	2	1	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32100RGX01	R	Yes	1.6	2	1	60	17	9.525	2	0.1	0.1	3.18	●	●	●
GTMH32150RGX	R	Yes	2.7	3	1.5	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32150RGX01	R	Yes	2.7	3	1.5	60	17	9.525	2	0.1	0.1	3.18	●	●	●
GTMH32150RGX02	R	Yes	2.7	3	1.5	60	17	9.525	2	0.2	0.2	3.18	●	●	●
GTMH32200RGX	R	Yes	2.7	3	2	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32200RGX01	R	Yes	2.7	3	2	60	17	9.525	2	0.1	0.1	3.18	●	●	●
GTMH32200RGX02	R	Yes	2.7	3	2	60	17	9.525	2	0.2	0.2	3.18	●	●	●
GTMH32300RGX	R	Yes	2.7	3	3	60	17	9.525	2	0.05	0.05	3.18	●	●	●
GTMH32300RGX02	R	Yes	2.7	3	3	60	17	9.525	2	0.2	0.2	3.18	●	●	●

GTMX32-T Side Turning

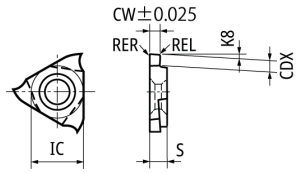




● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	REL	RER	S	Carbide PVD	
			mm	mm	mm	°	°	mm	°	mm	mm	mm	QM3	DT4
GTMX32030RT	R	Yes	0.25	0.6	0.3	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32033RT	R	Yes	0.25	0.6	0.33	60	14	9.525	2	0.05	0.05	3.18	●	
GTMX32043RT	R	Yes	0.9	1.2	0.43	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32050RT	R	Yes	0.9	1.2	0.5	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32053RT	R	Yes	0.9	1.2	0.53	60	14	9.525	2	0.05	0.05	3.18	●	
GTMX32065RT	R	Yes	0.9	1.2	0.65	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32075RT	R	Yes	1.6	2	0.75	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32080RT	R	Yes	1.6	2	0.8	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32095RT	R	Yes	1.6	2	0.95	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32100RT	R	Yes	1.6	2	1	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32110RT	R	Yes	1.6	2	1.1	60	14	9.525	2	0.05	0.05	3.18	●	
GTMX32120RT	R	Yes	1.6	2	1.2	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32125RT	R	Yes	1.6	2	1.25	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32130RT	R	Yes	1.6	2	1.3	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32140RT	R	Yes	1.6	2	1.4	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32145RT	R	Yes	2.7	3	1.45	60	14	9.525	2	0.05	0.05	3.18	●	
GTMX32150RT	R	Yes	2.7	3	1.5	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32160RT	R	Yes	2.7	3	1.6	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32175RT	R	Yes	2.7	3	1.75	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32180RT	R	Yes	2.7	3	1.8	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32200RT	R	Yes	2.7	3	2	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32250RT	R	Yes	2.7	3	2.5	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32300RT	R	Yes	2.7	3	3	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32100RT01	R	Yes	1.6	2	1	60	14	9.525	2	0.1	0.1	3.18	●	●
GTMX32120RT01	R	Yes	1.6	2	1.2	60	14	9.525	2	0.1	0.1	3.18	●	●
GTMX32150RT01	R	Yes	2.7	3	1.5	60	14	9.525	2	0.1	0.1	3.18	●	●
GTMX32200RT01	R	Yes	2.7	3	2	60	14	9.525	2	0.1	0.1	3.18	●	●
GTMX32250RT01	R	Yes	2.7	3	2.5	60	14	9.525	2	0.1	0.1	3.18	●	●
GTMX32150RT02	R	Yes	2.7	3	1.5	60	14	9.525	2	0.2	0.2	3.18	●	●
GTMX32200RT02	R	Yes	2.7	3	2	60	14	9.525	2	0.2	0.2	3.18	●	●
GTMX32250RT02	R	Yes	2.7	3	2.5	60	14	9.525	2	0.2	0.2	3.18	●	●
GTMX32300RT02	R	Yes	2.7	3	3	60	14	9.525	2	0.2	0.2	3.18	●	●
GTMX32050LT	L	Yes	0.9	1.2	0.5	60	14	9.525	2	0.05	0.05	3.18		
GTMX32075LT	L	Yes	1.6	2	0.75	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32095LT	L	Yes	1.6	2	0.95	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32150LT	L	Yes	2.7	3	1.5	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32200LT	L	Yes	2.7	3	2	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32250LT	L	Yes	2.7	3	2.5	60	14	9.525	2	0.05	0.05	3.18	●	●
GTMX32200LT01	L	Yes	2.7	3	2	60	14	9.525	2	0.1	0.1	3.18	●	●

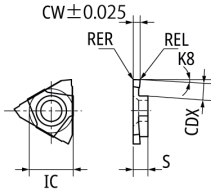
GTMH32-E

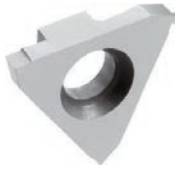


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	REL	RER	S	Carbide PVD
			mm	mm	mm	°	°	mm	°	mm	mm	mm	ZM3
GTMH32033RE	R	Yes	0.3	0.6	0.33	60	20	9.525	2	0.03	0.03	3.18	●
GTMH32043RE	R	Yes	0.9	1.2	0.43	60	20	9.525	2	0.03	0.03	3.18	●
GTMH32053RE	R	Yes	0.9	1.2	0.53	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32075RE	R	Yes	1.6	2	0.75	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32077RE	R	Yes	1.6	2	0.77	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32095RE	R	Yes	1.6	2	0.95	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32097RE	R	Yes	1.6	2	0.97	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32100RE	R	Yes	1.6	2	1	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32103RE	R	Yes	1.6	2	1.03	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32120RE	R	Yes	1.6	2	1.2	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32125RE	R	Yes	1.6	2	1.25	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32140RE	R	Yes	1.6	2	1.4	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32145RE	R	Yes	2.7	3	1.45	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32150RE	R	Yes	2.7	3	1.5	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32175RE	R	Yes	2.7	3	1.75	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32180RE	R	Yes	2.7	3	1.8	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32200RE	R	Yes	2.7	3	2	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32225RE	R	Yes	2.7	3	2.25	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32250RE	R	Yes	2.7	3	2.5	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32275RE	R	Yes	2.7	3	2.75	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32300RE	R	Yes	2.7	3	3	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32100RE01	R	Yes	1.6	2	1	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32120RE01	R	Yes	1.6	2	1.2	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32150RE01	R	Yes	2.7	3	1.5	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32200RE01	R	Yes	2.7	3	2	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32033LE	L	Yes	0.3	0.6	0.33	60	20	9.525	2	0.03	0.03	3.18	●
GTMH32043LE	L	Yes	0.9	1.2	0.43	60	20	9.525	2	0.03	0.03	3.18	●
GTMH32053LE	L	Yes	0.9	1.2	0.53	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32075LE	L	Yes	1.6	2	0.75	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32077LE	L	Yes	1.6	2	0.77	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32095LE	L	Yes	1.6	2	0.95	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32097LE	L	Yes	1.6	2	0.97	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32100LE	L	Yes	1.6	2	1	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32103LE	L	Yes	1.6	2	1.03	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32120LE	L	Yes	1.6	2	1.2	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32140LE	L	Yes	1.6	2	1.4	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32150LE	L	Yes	2.7	3	1.5	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32180LE	L	Yes	2.7	3	1.8	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32200LE	L	Yes	2.7	3	2	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32225LE	L	Yes	2.7	3	2.25	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32250LE	L	Yes	2.7	3	2.5	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32275LE	L	Yes	2.7	3	2.75	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32300LE	L	Yes	2.7	3	3	60	20	9.525	2	0.05	0.05	3.18	●
GTMH32100LE01	L	Yes	1.6	2	1	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32120LE01	L	Yes	1.6	2	1.2	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32150LE01	L	Yes	2.7	3	1.5	60	20	9.525	2	0.1	0.1	3.18	●
GTMH32200LE01	L	Yes	2.7	3	2	60	20	9.525	2	0.1	0.1	3.18	●

GTMH32-SSH Short type / Flat top chipbreaker

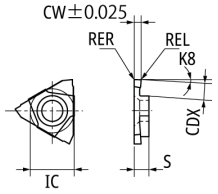


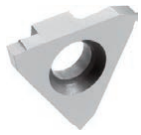


● Diagram shows right-hand tool

Item Number		Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	LBB	REL	RER	S	Carbide KM1
				mm	mm	mm	°	°	mm	°	mm	mm	mm	mm	
GTMH32100RSSH	Ⓜ	R	Yes	1.6	2	1	60	0	9.525	2	1.5	0.05	0.05	3.18	●
GTMH32150RSSH	Ⓜ	R	Yes	2.7	3	1.5	60	0	9.525	2	1.5	0.05	0.05	3.18	●
GTMH32200RSSH	Ⓜ	R	Yes	2.7	3	2	60	0	9.525	2	1.5	0.05	0.05	3.18	●

GTMX32-SS Short type / Flat top chipbreaker

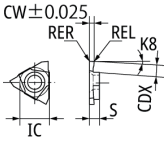


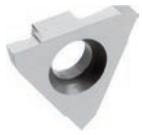


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	LBB	REL	RER	S	Carbide PVD
			mm	mm	mm	°	°	mm	°	mm	mm	mm	mm	ZM3
GTMX32100RSS	R	Yes	1.6	2	1	60	0	9.525	2	1.5	0.05	0.05	3.18	●
GTMX32150RSS	R	Yes	2.7	3	1.5	60	0	9.525	2	1.5	0.05	0.05	3.18	●
GTMX32200RSS	R	Yes	2.7	3	2	60	0	9.525	2	1.5	0.05	0.05	3.18	●

GTMX32-LS Long type / Flat top chipbreaker

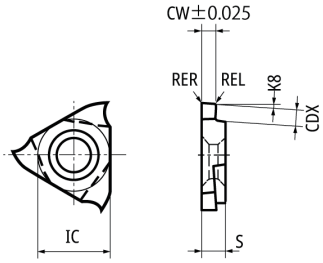


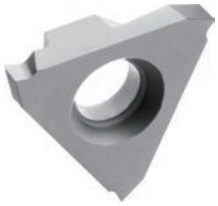


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	LBB	REL	RER	S	Carbide PVD
			mm	mm	mm	°	°	mm	°	mm	mm	mm	mm	ZM3
GTMX32100RLS	R	Yes	1.6	2	1	60	0	9.525	2	3	0.05	0.05	3.18	●
GTMX32150RLS	R	Yes	2.7	3	1.5	60	0	9.525	2	3	0.05	0.05	3.18	●
GTMX32200RLS	R	Yes	2.7	3	2	60	0	9.525	2	3	0.05	0.05	3.18	●

GTMH32-VT Side Turning

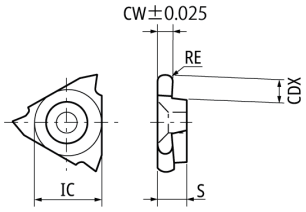




● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	REL	RER	S	Carbide PVD
			mm	mm	mm	°	°	mm	°	mm	mm	mm	VM1
GTMH32033RVT	R	Yes	0.25	0.6	0.33	60	14	9.525	2	0	0	3.18	●
GTMH32043RVT	R	Yes	0.9	1.2	0.43	60	14	9.525	2	0	0	3.18	●
GTMH32053RVT	R	Yes	1.6	2	0.53	60	14	9.525	2	0	0	3.18	●
GTMH32065RVT	R	Yes	1.6	2	0.65	60	14	9.525	2	0	0	3.18	●
GTMH32075RVT	R	Yes	1.6	2	0.75	60	14	9.525	2	0	0	3.18	●
GTMH32080RVT	R	Yes	1.6	2	0.8	60	14	9.525	2	0	0	3.18	●
GTMH32085RVT	R	Yes	1.6	2	0.85	60	14	9.525	2	0	0	3.18	●
GTMH32095RVT	R	Yes	1.6	2	0.95	60	14	9.525	2	0	0	3.18	●
GTMH32100RVT	R	Yes	1.6	2	1	60	14	9.525	2	0	0	3.18	●
GTMH32110RVT	R	Yes	1.6	2	1.1	60	14	9.525	2	0	0	3.18	●
GTMH32120RVT	R	Yes	1.6	2	1.2	60	14	9.525	2	0	0	3.18	●
GTMH32130RVT	R	Yes	1.6	2	1.3	60	14	9.525	2	0	0	3.18	●
GTMH32140RVT	R	Yes	1.6	2	1.4	60	14	9.525	2	0	0	3.18	●
GTMH32150RVT	R	Yes	2.7	3	1.5	60	14	9.525	2	0	0	3.18	●
GTMH32200RVT	R	Yes	2.7	3	2	60	14	9.525	2	0	0	3.18	●

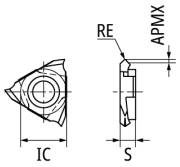
GTMH32 Full radius style

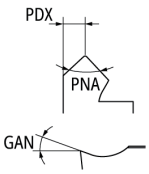


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	RE	S	Carbide PVD
			mm	mm	mm	°	°	mm	mm	mm	ZM3
GTMH32050RE025	R	Yes	0.9	1.2	0.5	60	20	9.525	0.25	3.18	●
GTMH32070RE035	R	Yes	1.6	2	0.7	60	20	9.525	0.35	3.18	●
GTMH32100RE05	R	Yes	1.6	2	1	60	20	9.525	0.5	3.18	●
GTMH32150RE075	R	Yes	2.7	3	1.5	60	20	9.525	0.75	3.18	●
GTMH32200RE10	R	Yes	2.7	3	2	60	20	9.525	1	3.18	●
GTMH32250RE125	R	Yes	2.7	3	2.5	60	20	9.525	1.25	3.18	●
GTMH32300RE15	R	Yes	2.7	3	3	60	20	9.525	1.5	3.18	●

GTMX32-V90 90 Degree V-style



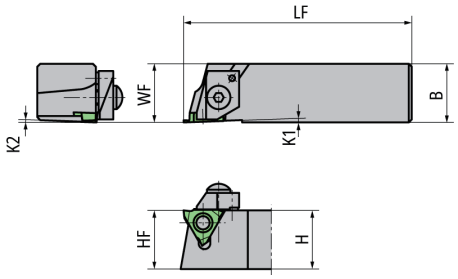


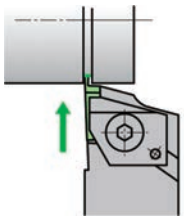
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	EPSR	GAN	IC	PDX	PNA	RE	S	Carbide PVD
			mm	°	°	mm	mm	°	mm	mm	TM4
GTMX32V90R005	R	Yes	0.35	60	20	9.525	0.5	90	0.05	3.18	●
GTMX32V90R010	R	Yes	0.7	60	20	9.525	1	90	0.1	3.18	●

OD Grooving
GTMT(A)43.. series/Toolholder

NGTN





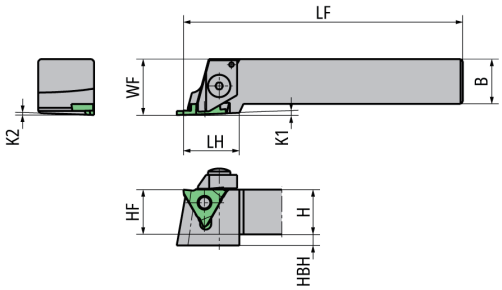
● Diagram shows right-hand tool

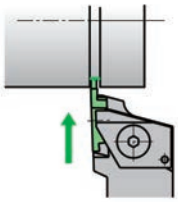
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage
5501994	**NGTNR161643-20**	●	R	16	4.5	2-5.5	16	16	2	2	78	16	GT..43..
5534136	**NGTNR161643-35**	●	R	16	4.5	3.5-5.5	16	16	2	2	78	16	GT..43..
5554241	**NGTNL161643-20**	●	L	16	4.5	2-5.5	16	16	2	2	78	16	GT..43..
5222112	**NGTNL161643-35**	●	L	16	4.5	3.5-5.5	16	16	2	2	78	16	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTNR161643-20	CPR5S	AOS-5*25	ASG-5	LW-2.5
NGTNR161643-35	CPR5S	AOS-5*25	ASG-5	LW-2.5
NGTNL161643-20	CPL5S	AOS-5*25	ASG-5	LW-2.5
NGTNL161643-35	CPL5S	AOS-5*25	ASG-5	LW-2.5

NGTB





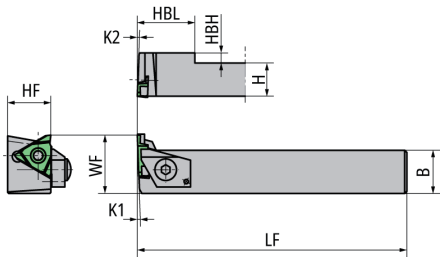
● Diagram shows right-hand tool

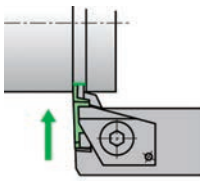
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HBH mm	HF mm	K1 °	K2 °	LF mm	LH mm	WF mm	Insert Gage
5239900	**NGTBR161643-00S**	●	R	16	3	1-5.5	16	9	16	2	2	100	25	20	GT..43..
5949615	**NGTBR161643-20S**	●	R	16	4.5	2-5.5	16	9	16	2	2	100	25	20	GT..43..
5806096	**NGTBR161643-35S**	●	R	16	4.5	3.5-5.5	16	9	16	2	2	100	25	20	GT..43..
5239850	**NGTBR202043-00S**	●	R	20	3	1-5.5	20	5	20	2	2	125	25	25	GT..43..
5550041	**NGTBR202043-20S**	●	R	20	4.5	2-5.5	20	5	20	2	2	125	25	25	GT..43..
5553375	**NGTBR202043-35S**	●	R	20	4.5	3.5-5.5	20	5	20	2	2	125	25	25	GT..43..
5239876	**NGTBR252543-00S**	●	R	25	3.5	1-5.5	25	–	25	2	2	150	25	30	GT..43..
5550058	**NGTBR252543-20S**	●	R	25	5.5	2-5.5	25	–	25	2	2	150	25	30	GT..43..
5550074	**NGTBR252543-35S**	●	R	25	5.5	3.5-5.5	25	–	25	2	2	150	25	30	GT..43..
5553433	**NGTBR322543-20S**	●	R	25	5.5	2-5.5	32	–	32	2	2	170	25	30	GT..43..
5222013	**NGTBR322543-35S**	●	R	25	5.5	3.5-5.5	32	–	32	2	2	170	25	30	GT..43..
5239843	**NGTBL161643-00S**	●	L	16	3	1-5.5	16	9	16	2	2	100	25	20	GT..43..
5210901	**NGTBL161643-20S**	●	L	16	4.5	2-5.5	16	9	16	2	2	100	25	20	GT..43..
5222021	**NGTBL161643-35S**	●	L	16	4.5	3.5-5.5	16	9	16	2	2	100	25	20	GT..43..
5239868	**NGTBL202043-00S**	●	L	20	3	1-5.5	20	5	20	2	2	125	25	25	GT..43..
5553367	**NGTBL202043-20S**	●	L	20	4.5	2-5.5	20	5	20	2	2	125	25	25	GT..43..
5222039	**NGTBL202043-35S**	●	L	20	4.5	3.5-5.5	20	5	20	2	2	125	25	25	GT..43..
5239892	**NGTBL252543-00S**	●	L	25	3.5	1-5.5	25	–	25	2	2	150	25	30	GT..43..
5550066	**NGTBL252543-20S**	●	L	25	5.5	2-5.5	25	–	25	2	2	150	25	30	GT..43..
5550082	**NGTBL252543-35S**	●	L	25	5.5	3.5-5.5	25	–	25	2	2	150	25	30	GT..43..
5553441	**NGTBL322543-20S**	●	L	25	5.5	2-5.5	32	–	32	2	2	170	25	30	GT..43..
5222047	**NGTBL322543-35S**	●	L	25	5.5	3.5-5.5	32	–	32	2	2	170	25	30	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTBR161643-00S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR161643-20S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR161643-35S	CPR5	AOS-5*25	ASG-5	LW-2.5
NGTBR202043-00S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR202043-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR202043-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-00S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR252543-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR322543-20S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBR322543-35S	CPR6	AOS-6*30	ASG-6	LW-3
NGTBL161643-00S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL161643-20S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL161643-35S	CPL5	AOS-5*25	ASG-5	LW-2.5
NGTBL202043-00S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL202043-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL202043-35S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-00S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL252543-35S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL322543-20S	CPL6	AOS-6*30	ASG-6	LW-3
NGTBL322543-35S	CPL6	AOS-6*30	ASG-6	LW-3

NGTA for horizontal gang style tool post





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

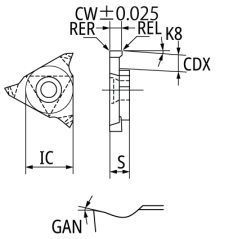
EDP	Item Number	Stock	Hand	B mm	CDX mm	CW mm	H mm	HBH mm	HBL mm	HF mm	K1 °	K2 °	LF mm	WF mm	Insert Gage
5004155	**NGTAL161643-00S**	●	L	16	3	1-5.5	16	4	20	16	2	2	100	23	GT..43..
5884903	**NGTAL202043-00S**	●	L	20	3	1-5.5	20	–	–	20	2	2	125	27	GT..43..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NGTAL161643-00S	CPL5S	AOS-5*20	ASG-5	LW-2.5
NGTAL202043-00S	CPL6	AOS-6*30	ASG-6	LW-3

OD Grooving
GTMT(A)43.. series/Inserts Carbide

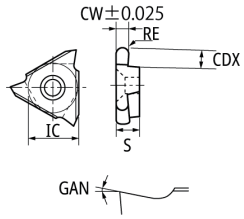
GTMT43



● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	GAN	IC	K8	REL	RER	S	Carbide PVD	
			mm	mm	mm	°	°	mm	°	mm	mm	mm	DM4	QM3
GTMT43145R	R	Yes	3	3.5	1.45	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43150R	R	Yes	3	3.5	1.5	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43175R	R	Yes	3	3.5	1.75	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43185R	R	Yes	3	3.5	1.85	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43200R	R	Yes	3	3.5	2	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43230R	R	Yes	3	3.5	2.3	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43250R	R	Yes	4.3	5.5	2.5	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43265R	R	Yes	4.3	5.5	2.65	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43280R	R	Yes	4.3	5.5	2.8	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43300R	R	Yes	4.3	5.5	3	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43330R	R	Yes	4.3	5.5	3.3	60	11	12.7	2	0.3	0.3	4.76		●
GTMT43350R	R	Yes	4.3	5.5	3.5	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43400R	R	Yes	4.3	5.5	4	60	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43450R	R	Yes	4.3	5.5	4.5	60	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43500R	R	Yes	4.3	5.5	5	60	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43550R	R	Yes	4.3	5.5	5.5	60	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43145L	L	Yes	3	3.5	1.45	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43150L	L	Yes	3	3.5	1.5	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43175L	L	Yes	3	3.5	1.75	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43185L	L	Yes	3	3.5	1.85	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43200L	L	Yes	3	3.5	2	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43230L	L	Yes	3	3.5	2.3	60	11	12.7	2	0.2	0.2	4.76	●	●
GTMT43280L	L	Yes	4.3	5.5	2.8	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43300L	L	Yes	4.3	5.5	3	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43330L	L	Yes	4.3	5.5	3.3	60	11	12.7	2	0.3	0.3	4.76		●
GTMT43350L	L	Yes	4.3	5.5	3.5	60	11	12.7	2	0.3	0.3	4.76	●	●
GTMT43400L	L	Yes	4.3	5.5	4	60	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43450L	L	Yes	4.3	5.5	4.5	60	11	12.7	2	0.4	0.4	4.76	●	●
GTMT43500L	L	Yes	4.3	5.5	5	60	11	12.7	2	0.4	0.4	5.76	●	●
GTMT43550L	L	Yes	4.3	5.5	5.5	60	11	12.7	2	0.4	0.4	5.76	●	●

GTMA43 Full radius style



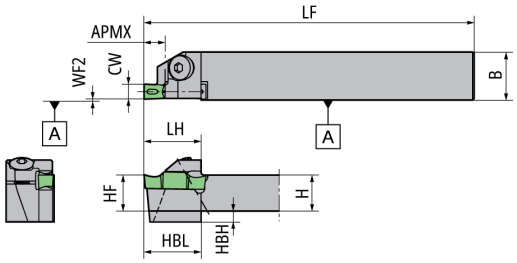
● Diagram shows right-hand tool

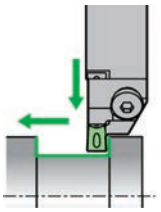
Item Number			APMX	CDX	CW	EPSR	GAN	IC	RE	S	Carbide PVD
			mm	mm	mm	°	°	mm	mm	mm	QM3
GTMA43200R10R	R	Yes	3	3.5	2	60	11	12.7	1	4.76	●
GTMA43300R15R	R	Yes	4.5	5.5	3	60	11	12.7	1.5	4.76	●
GTMA43400R20R	R	Yes	4.5	5.5	4	60	11	12.7	2	4.76	●

OD Grooving
SCRUM DUO

GWPG(M).. series/Toolholder

GTWP





● Diagram shows right-hand tool
Note: Max. Bar Dia. φ42

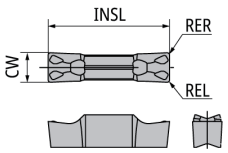
EDP	Item Number	Stock	Hand	APMX mm	B mm	CW mm	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	WF2 mm	Insert Gage	
5875125	**GTWPR1016-3D07**	●	R	7	16	3	10	2	18	10	120	19	0.3	GWPG300..	GWPM300..
5849054	**GTWPR1216-3D07**	●	R	7	16	3	12	–	–	12	120	19.5	0.3	GWPG300..	GWPM300..
5849070	**GTWPR1616-3D09**	●	R	9	16	3	16	–	–	16	120	22	0.3	GWPG300..	GWPM300..
5875133	**GTWPR1016-4E07**	●	R	7	16	4	10	2	18	10	120	19	0.3	GWPG400..	GWPM400..
5849088	**GTWPR1216-4E07**	●	R	7	16	4	12	–	–	12	120	19.5	0.3	GWPG400..	GWPM400..
5849096	**GTWPR1616-4E09**	●	R	9	16	4	16	–	–	16	120	22	0.3	GWPG400..	GWPM400..
5875141	**GTWPR1016-5F07**	●	R	7	16	5	10	2	18	10	120	19	0.3	GWPG500..	GWPM500..
5849104	**GTWPR1216-5F07**	●	R	7	16	5	12	–	–	12	120	19.5	0.3	GWPG500..	GWPM500..
5849112	**GTWPR1616-5F09**	●	R	9	16	5	16	–	–	16	120	22	0.3	GWPG500..	GWPM500..
5893565	**GTWPR1020-6G07**	●	R	7	20	6	10	2	21	10	120	22	0.3	GWPG600..	GWPM600..
5893573	**GTWPR1220-6G07**	●	R	7	20	6	12	–	–	12	120	22.5	0.3	GWPG600..	GWPM600..
5893581	**GTWPR1620-6G09**	●	R	9	20	6	16	–	–	16	120	25	0.3	GWPG600..	GWPM600..
5852280	**GTWPL1216-3D07**	●	L	7	16	3	12	–	–	12	120	19.5	0.3	GWPG300..	GWPM300..
5852306	**GTWPL1616-3D09**	●	L	9	16	3	16	–	–	16	120	22	0.3	GWPG300..	GWPM300..
5852314	**GTWPL1216-4E07**	●	L	7	16	4	12	–	–	12	120	19.5	0.3	GWPG400..	GWPM400..
5852322	**GTWPL1616-4E09**	●	L	9	16	4	16	–	–	16	120	22	0.3	GWPG400..	GWPM400..
5852355	**GTWPL1216-5F07**	●	L	7	16	5	12	–	–	12	120	19.5	0.3	GWPG500..	GWPM500..
5852371	**GTWPL1616-5F09**	●	L	9	16	5	16	–	–	16	120	22	0.3	GWPG500..	GWPM500..
5893599	**GTWPL1620-6G09**	●	L	9	20	6	16	–	–	16	120	25	0.3	GWPG600..	GWPM600..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
GTWPR1016-3D07	AOB-5*14	LW-3S
GTWPR1216-3D07	AOB-5*16	LW-3S
GTWPR1616-3D09	AOB-5*16	LW-3S
GTWPR1016-4E07	AOB-5*14	LW-3S
GTWPR1216-4E07	AOB-5*16	LW-3S
GTWPR1616-4E09	AOB-5*16	LW-3S
GTWPR1016-5F07	AOB-5*14	LW-3S
GTWPR1216-5F07	AOB-5*16	LW-3S
GTWPR1616-5F09	AOB-5*16	LW-3S
GTWPR1020-6G07	AOB-5*14	LW-3S
GTWPR1220-6G07	AOB-5*16	LW-3S
GTWPR1620-6G09	AOB-5*16	LW-3S
GTWPL1216-3D07	AOB-5*16	LW-3S
GTWPL1616-3D09	AOB-5*16	LW-3S
GTWPL1216-4E07	AOB-5*16	LW-3S
GTWPL1616-4E09	AOB-5*16	LW-3S
GTWPL1216-5F07	AOB-5*16	LW-3S
GTWPL1616-5F09	AOB-5*16	LW-3S
GTWPL1620-6G09	AOB-5*16	LW-3S

GWPG(M).. series/Insert Carbide

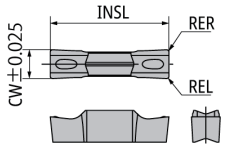
GWPG(M)-GW Best for side turning



Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	Carbide PVD
			mm	mm	mm	mm	DM4
GWPG300N02D-GW	N	Yes	3	20.6	0.2	0.2	●
GWPG300N04D-GW	N	Yes	3	20.6	0.4	0.4	●
GWPG400N02E-GW	N	Yes	4	20.6	0.2	0.2	●
GWPG400N04E-GW	N	Yes	4	20.6	0.4	0.4	●
GWPG400N08E-GW	N	Yes	4	20.6	0.8	0.8	●
GWPG500N02F-GW	N	Yes	5	20.6	0.2	0.2	●
GWPG500N04F-GW	N	Yes	5	20.6	0.4	0.4	●
GWPG500N08F-GW	N	Yes	5	20.6	0.8	0.8	●
GWPG600N02G-GW	N	Yes	6	25.6	0.2	0.2	●
GWPG600N04G-GW	N	Yes	6	25.6	0.4	0.4	●
GWPG600N08G-GW	N	Yes	6	25.6	0.8	0.8	●
GWPM300N04D-GW	N	Yes	3	20.6	0.4	0.4	●
GWPM400N04E-GW	N	Yes	4	20.6	0.4	0.4	●
GWPM500N04F-GW	N	Yes	5	20.6	0.4	0.4	●
GWPM600N04G-GW	N	Yes	6	25.6	0.4	0.4	●

GWPG.. : Outside ground
Width tolerance ±0.025
GWPM.. : Full-molded
Width tolerance ±0.05

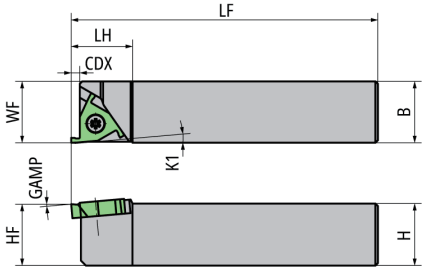
GWPG-GV Less tool pressure design

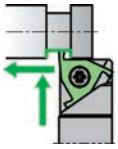


Item Number	Hand	Chip-breaker	CW	INSL	REL	RER	Carbide PVD
			mm	mm	mm	mm	DM4
GWPG300N02D-GV	N	Yes	3	20.6	0.2	0.2	●
GWPG300N04D-GV	N	Yes	3	20.6	0.4	0.4	●
GWPG400N02E-GV	N	Yes	4	20.6	0.2	0.2	●
GWPG400N04E-GV	N	Yes	4	20.6	0.4	0.4	●
GWPG500N02F-GV	N	Yes	5	20.6	0.2	0.2	●
GWPG500N04F-GV	N	Yes	5	20.6	0.4	0.4	●
GWPG600N02G-GV	N	Yes	6	25.6	0.2	0.2	●
GWPG600N04G-GV	N	Yes	6	25.6	0.4	0.4	●

OD Grooving
TWG.. series/Toolholders

TWG-X





● Diagram shows right-hand tool

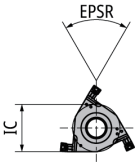
EDP	Item Number	Stock	Hand	B mm	CDX mm	GMAP °	H mm	HF mm	K1 °	LF mm	LH mm	WF mm	Insert Gage	
5794649	**TWGR2012X**	■	R	20	3.5	5	12	12	5	120	25	20	TWG..	–
5859350	**TWGR2016X**	■	R	20	3.5	5	16	16	5	120	25	20	TWG..	–

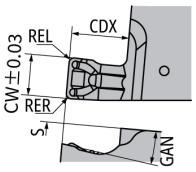
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TWGR2012X	FSS25-5.0*10	LLR-20S
TWGR2016X	FSS10-5.0*14	LLR-20S

TWG.. series/Insert Carbide

TWG





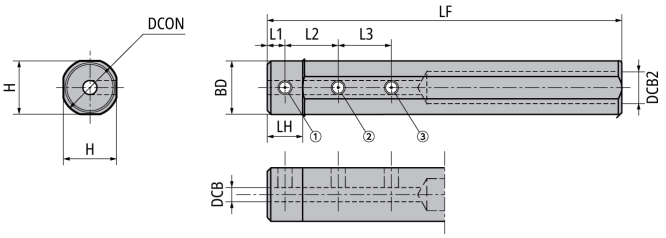
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	APMX mm	CDX mm	CW mm	EPSR °	GAN °	IC mm	REL mm	RER mm	S mm	Carbide PVD TM1
TWG20R005	R	Yes	3	(3.5)	2	60	8	14	0.05	0.05	7	■
TWG20R020	R	Yes	3	(3.5)	2	60	8	14	0.2	0.2	7	■
TWG25R010	R	Yes	3	(3.5)	2.5	60	8	14	0.1	0.1	7	■
TWG25R030	R	Yes	3	(3.5)	2.5	60	8	14	0.3	0.3	7	■
TWG30R010	R	Yes	3	(3.5)	3	60	8	14	0.1	0.1	7	■
TWG30R030	R	Yes	3	(3.5)	3	60	8	14	0.3	0.3	7	■
TWG20L005	L	Yes	3	(3.5)	2	60	8	14	0.05	0.05	7	■
TWG20L020	L	Yes	3	(3.5)	2	60	8	14	0.2	0.2	7	■
TWG25L010	L	Yes	3	(3.5)	2.5	60	8	14	0.1	0.1	7	■
TWG25L030	L	Yes	3	(3.5)	2.5	60	8	14	0.3	0.3	7	■
TWG30L010	L	Yes	3	(3.5)	3	60	8	14	0.1	0.1	7	■
TWG30L030	L	Yes	3	(3.5)	3	60	8	14	0.3	0.3	7	■

ID Grooving
STICK DUO

SBG.. series/Sleeve

NBH Shank diameter φ16 - φ19.05

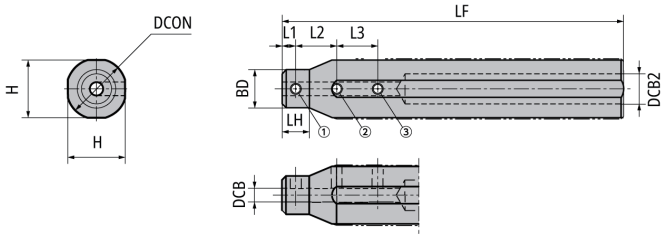


EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631411	**NBH03015H**	●	N	15	3	9	15.875	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586128	**NBH04015H**	●	N	15	4	9	15.875	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5585989	**NBH05015H**	●	N	15	5	9	15.875	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5585971	**NBH06015H**	●	N	15	6	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5585963	**NBH08015H**	●	N	15	8	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631437	**NBH03016H**	●	N	15	3	9	16	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586094	**NBH04016H**	●	N	15	4	9	16	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586078	**NBH05016H**	●	N	15	5	9	16	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586060	**NBH06016H**	●	N	15	6	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586052	**NBH08016H**	●	N	15	8	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631452	**NBH03019K**	●	N	18	3	11	19.05	18	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586037	**NBH04019K**	●	N	18	4	11	19.05	18	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586011	**NBH05019K**	●	N	18	5	11	19.05	18	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586003	**NBH06019K**	●	N	18	6	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586227	**NBH08019K**	●	N	18	8	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..

Spare Parts

Item Number	Clamp screw ①	②	③	Wrench (for Clamp screw)
NBH03015H	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	SS0403F	SS0403F	SS0403F	LW-2
NBH03016H	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	SS0404F	SS0404F	SS0404F	LW-2
NBH08016H	SS0403F	SS0403F	SS0403F	LW-2
NBH03019K	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	SS0406F	SS0406F	SS0406F	LW-2
NBH08019K	SS0404F	SS0404F	SS0404F	LW-2

NBH Shank diameter φ20 - φ32



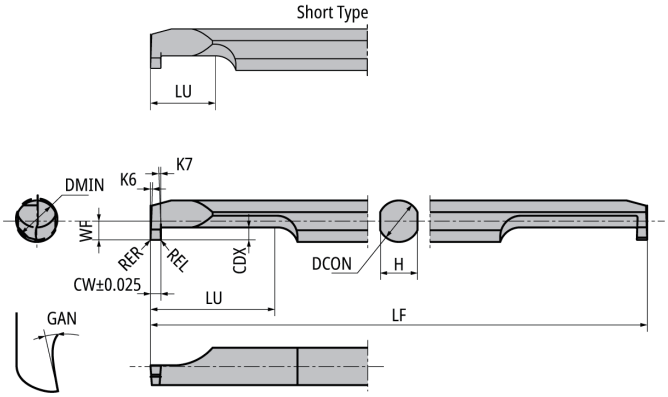
EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631478	**NBH03020K**	●	N	12	3	11	20	19	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586185	**NBH04020K**	●	N	13	4	11	20	19	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586169	**NBH05020K**	●	N	14	5	11	20	19	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586151	**NBH06020K**	●	N	15	6	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586144	**NBH08020K**	●	N	17	8	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631494	**NBH03022K**	●	N	12	3	11	22	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586318	**NBH04022K**	●	N	13	4	11	22	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586292	**NBH05022K**	●	N	14	5	11	22	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586284	**NBH06022K**	●	N	15	6	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586276	**NBH08022K**	●	N	17	8	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631528	**NBH03023K**	●	N	12	3	11	23	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5651336	**NBH04023K**	●	N	13	4	11	23	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631536	**NBH05023K**	●	N	14	5	11	23	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631544	**NBH06023K**	●	N	15	6	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631551	**NBH08023K**	●	N	17	8	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631593	**NBH03025K-MET**	●	N	12	3	11	25	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5651328	**NBH04025K-MET**	●	N	13	4	11	25	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631627	**NBH05025K-MET**	●	N	14	5	11	25	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631635	**NBH06025K-MET**	●	N	15	6	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631643	**NBH08025K-MET**	●	N	17	8	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631684	**NBH03025K**	●	N	12	3	11	25.4	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586383	**NBH04025K**	●	N	13	4	11	25.4	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586367	**NBH05025K**	●	N	14	5	11	25.4	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586359	**NBH06025K**	●	N	15	6	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586342	**NBH08025K**	●	N	17	8	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5939483	**NBH05032K**	●	N	14	5	11	32	30	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5939491	**NBH06032K**	●	N	15	6	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5939525	**NBH08032K**	●	N	17	8	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..

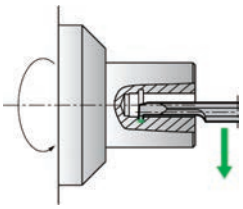
Spare Parts

Item Number	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench (for Clamp screw)
NBH03020K	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	SS0404F	SS0404F	SS0404F	LW-2
NBH03022K	SS0404F	SS0406F	SS0408F	LW-2
NBH04022K	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	SS0404F	SS0406F	SS0406F	LW-2
NBH03023K	SS0404F	SS0406F	SS0408F	LW-2
NBH04023K	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	SS0404F	SS0406F	SS0406F	LW-2
NBH03025K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH03025K	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	SS0404F	SS0406F	SS0406F	LW-2
NBH05032K	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	SS0404F	SS0408F	SS0408F	LW-2

ID Grooving | STICK DUO
SBG.. series/Insert bar Carbide

SBG-S Short type / Two-sided

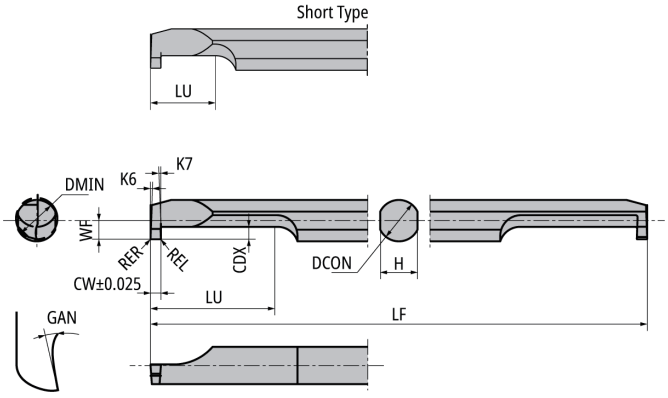


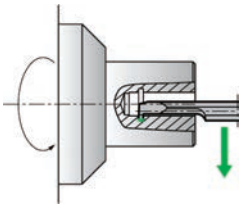


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DMIN	APMX	CDX	CW	DCON	GAN	H	K6	K7	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	°	°	mm	mm	mm	mm	mm	ZM3
SBG030050RB-S	R	Yes	3	0.8	1	0.5	3	8	2.7	2	2	50	4.5	0.05	0.05	1.3	●
SBG030075RB-S	R	Yes	3	0.8	1	0.75	3	8	2.7	2	2	50	4.5	0.05	0.05	1.3	●
SBG030100RB-S	R	Yes	3	0.8	1	1	3	8	2.7	2	2	50	4.5	0.05	0.05	1.3	●
SBG030150RB-S	R	Yes	3	0.8	1	1.5	3	8	2.7	2	2	50	4.5	0.05	0.05	1.3	●
SBG040050RB-S	R	Yes	4	1	1.2	0.5	4	8	3.6	2	2	60	6	0.05	0.05	1.8	●
SBG040075RB-S	R	Yes	4	1	1.2	0.75	4	8	3.6	2	2	60	6	0.05	0.05	1.8	●
SBG040100RB-S	R	Yes	4	1	1.2	1	4	8	3.6	2	2	60	6	0.05	0.05	1.8	●
SBG040150RB-S	R	Yes	4	1	1.2	1.5	4	8	3.6	2	2	60	6	0.05	0.05	1.8	●
SBG050050RB-S	R	Yes	5	1.2	1.4	0.5	5	8	4.5	2	2	70	7.5	0.05	0.05	2.3	●
SBG050100RB-S	R	Yes	5	1.2	1.4	1	5	8	4.5	2	2	70	7.5	0.05	0.05	2.3	●
SBG050150RB-S	R	Yes	5	1.2	1.4	1.5	5	8	4.5	2	2	70	7.5	0.05	0.05	2.3	●
SBG050200RB-S	R	Yes	5	1.2	1.4	2	5	8	4.5	2	2	70	7.5	0.05	0.05	2.3	●
SBG060100RB-S	R	Yes	6	1.8	2	1	6	8	5.4	2	2	80	7.5	0.05	0.05	2.8	●
SBG060150RB-S	R	Yes	6	1.8	2	1.5	6	8	5.4	2	2	80	7.5	0.05	0.05	2.8	●
SBG060200RB-S	R	Yes	6	1.8	2	2	6	8	5.4	2	2	80	7.5	0.05	0.05	2.8	●
SBG080100RB-S	R	Yes	8	2.2	2.4	1	8	8	7.3	2	2	80	8.5	0.05	0.05	3.8	●
SBG080150RB-S	R	Yes	8	2.2	2.4	1.5	8	8	7.3	2	2	80	8.5	0.05	0.05	3.8	●
SBG080200RB-S	R	Yes	8	2.2	2.4	2	8	8	7.3	2	2	80	8.5	0.05	0.05	3.8	●

SBG Long type / Two-sided



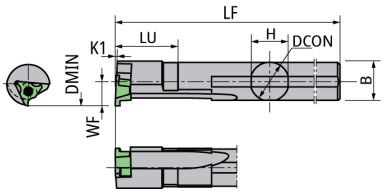


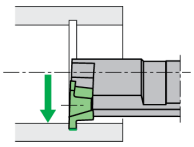
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DMIN	APMX	CDX	CW	DCON	GAN	H	K6	K7	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	°	°	mm	mm	mm	mm	mm	ZM3
SBG030050RB	R	Yes	3	0.8	1	0.5	3	8	2.7	2	2	50	9	0.05	0.05	1.3	●
SBG030075RB	R	Yes	3	0.8	1	0.75	3	8	2.7	2	2	50	9	0.05	0.05	1.3	●
SBG030100RB	R	Yes	3	0.8	1	1	3	8	2.7	2	2	50	9	0.05	0.05	1.3	●
SBG040050RB	R	Yes	4	1	1.2	0.5	4	8	3.6	2	2	60	12	0.05	0.05	1.8	●
SBG040075RB	R	Yes	4	1	1.2	0.75	4	8	3.6	2	2	60	12	0.05	0.05	1.8	●
SBG040100RB	R	Yes	4	1	1.2	1	4	8	3.6	2	2	60	12	0.05	0.05	1.8	●
SBG050050RB	R	Yes	5	1.2	1.4	0.5	5	8	4.5	2	2	70	20	0.05	0.05	2.3	●
SBG050100RB	R	Yes	5	1.2	1.4	1	5	8	4.5	2	2	70	20	0.05	0.05	2.3	●
SBG050150RB	R	Yes	5	1.2	1.4	1.5	5	8	4.5	2	2	70	20	0.05	0.05	2.3	●
SBG060100RB	R	Yes	6	1.8	2	1	6	8	5.4	2	2	80	20	0.05	0.05	2.8	●
SBG060150RB	R	Yes	6	1.8	2	1.5	6	8	5.4	2	2	80	20	0.05	0.05	2.8	●
SBG060200RB	R	Yes	6	1.8	2	2	6	8	5.4	2	2	80	20	0.05	0.05	2.8	●
SBG080100RB	R	Yes	8	2.2	2.4	1	8	8	7.3	2	2	80	20	0.05	0.05	3.8	●
SBG080150RB	R	Yes	8	2.2	2.4	1.5	8	8	7.3	2	2	80	20	0.05	0.05	3.8	●
SBG080200RB	R	Yes	8	2.2	2.4	2	8	8	7.3	2	2	80	20	0.05	0.05	3.8	●

ID Grooving
GTG.. series/Toolholders

S-BG Mogul Bar / Steel shank





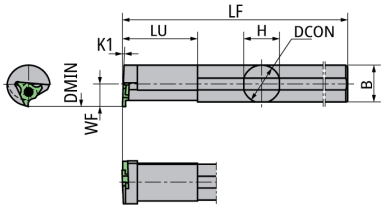
●Diagram shows right-hand tool
NOTE: Use a left-handed insert.

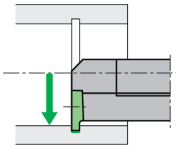
EDP	Item Number	Stock	Hand	DMIN mm	APMX mm	B mm	CW mm	DCON mm	H mm	K1 °	LF mm	LU mm	WF mm	Insert Gage
5854500	**S08H-BGR10D10**	●	R	10	1	7.85	0.5-2	8	7.7	2	120	20	5	GTG10..
5854518	**S10K-BGR10D12**	●	R	12	1	9.8	0.5-2	10	9.6	2	120	25	6	GTG10..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S08H-BGR10D10	LR-S-2.5*6.8	CLR-15S
S10K-BGR10D12	LR-S-2.5*6.8	CLR-15S

BG Steel shank





●Diagram shows right-hand tool
NOTE: Use a left-handed insert.

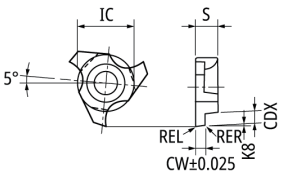
EDP	Item Number	Stock	Hand	DMIN mm	APMX mm	B mm	CW mm	DCON mm	H mm	K1 °	LF mm	LU mm	WF mm	Insert Gage
5711585	**BGR08-00S**	●	R	10	1	7.5	0.5-2	8	7	2	125	20	5	GTG10..
5711593	**BGR08-10S**	●	R	10	1	7.5	1.5-2	8	7	2	125	20	5	GTG10..
5711601	**BGR10-00S**	●	R	12	1	9.5	0.5-2	10	9	2	150	25	6	GTG10..
5711619	**BGR10-10S**	●	R	12	1	9.5	1.5-2	10	9	2	150	25	6	GTG10..
5711627	**BGR12-00S**	●	R	14	2	11.5	1-2	12	11	2	180	30	7	GTG14..
5711635	**BGR12-12S**	●	R	14	2	11.5	1.75-2	12	11	2	180	30	7	GTG14..
5711643	**BGR14-00S**	●	R	16	2	13.5	1-2	14	13	2	180	35	8	GTG14..
5711650	**BGR14-12S**	●	R	16	2	13.5	1.75-2	14	13	2	180	35	8	GTG14..
5536362	**BGR16**	●	R	20	3	15.5	1.5-2	16	15	2	200	40	10	GTG20..
5435433	**BGR20**	●	R	25	3	19.5	1.5-2	20	19	2	200	40	12	GTG20..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
BGR08-00S	LR-S-2.5*6.8	CLR-15S
BGR08-10S	LR-S-2.5*6.8	CLR-15S
BGR10-00S	LR-S-2.5*6.8	CLR-15S
BGR10-10S	LR-S-2.5*6.8	CLR-15S
BGR12-00S	LR-S-3*7.8	RLR-20S
BGR12-12S	LR-S-3*7.8	RLR-20S
BGR14-00S	LR-S-3*7.8	RLR-20S
BGR14-12S	LR-S-3*7.8	RLR-20S
BGR16	LR-S-3*7.8	RLR-20S
BGR20	LR-S-3*7.8	RLR-20S

GTG.. series/Inserts Carbide

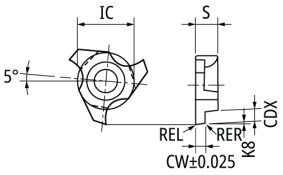
GTG..005



● Diagram shows left-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	IC	K8	REL	RER	S	Carbide PVD
			mm	mm	mm	°	mm	°	mm	mm	mm	TM4
GTG10050FL005	L	Yes	1	1.2	0.5	60	5.56	2	0.05	0.05	3.18	●
GTG10075FL005	L	Yes	1	1.2	0.75	60	5.56	2	0.05	0.05	3.18	●
GTG10100FL005	L	Yes	1	1.2	1	60	5.56	2	0.05	0.05	3.18	●
GTG10150FL005	L	Yes	1	1.2	1.5	60	5.56	2	0.05	0.05	3.18	●
GTG10200FL005	L	Yes	1	1.2	2	60	5.56	2	0.05	0.05	3.18	●

GTG..



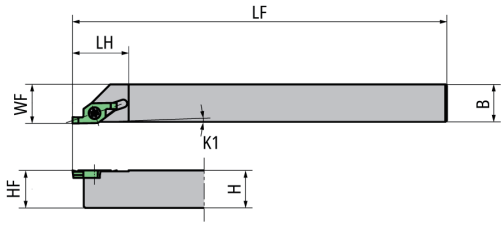
● Diagram shows left-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	IC	K8	REL	RER	S	Carbide PVD	
			mm	mm	mm	°	mm	°	mm	mm	mm	QM3	ZM3
GTG10050FL00	L	Yes	1	1.2	0.5	60	5.56	2	0.05	0.05	3.18		●
GTG10065FL00	L	Yes	1	1.2	0.65	60	5.56	2	0.05	0.05	3.18		●
GTG10075FL00	L	Yes	1	1.2	0.75	60	5.56	2	0.05	0.05	3.18		●
GTG10100FL00	L	Yes	1	1.2	1	60	5.56	2	0.05	0.05	3.18		●
GTG10150FL00	L	Yes	1	1.2	1.5	60	5.56	2	0.05	0.05	3.18		●
GTG10200FL01	L	Yes	1	1.2	2	60	5.56	2	0.1	0.1	3.18		●
GTG14100FL00	L	Yes	2	2.2	1	60	7.94	2	0.05	0.05	3.18		●
GTG14150FL00	L	Yes	2	2.2	1.5	60	7.94	2	0.05	0.05	3.18		●
GTG14200FL01	L	Yes	2	2.2	2	60	7.94	2	0.1	0.1	3.18		●
GTG20150FL	L	Yes	3	3.2	1.5	60	9.525	2	0.2	0.2	3.18	●	
GTG20200FL	L	Yes	3	3.2	2	60	9.525	2	0.2	0.2	3.18	●	

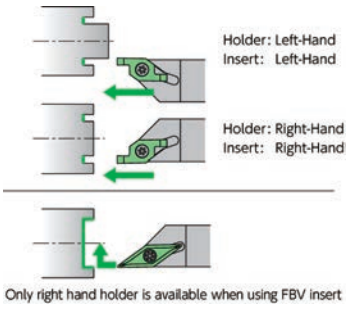
Face Grooving
SATURN DUO

FGV/FBV.. series/Toolholders

CH-FGV for horizontal gang style tool post



●Diagram shows right-hand tool

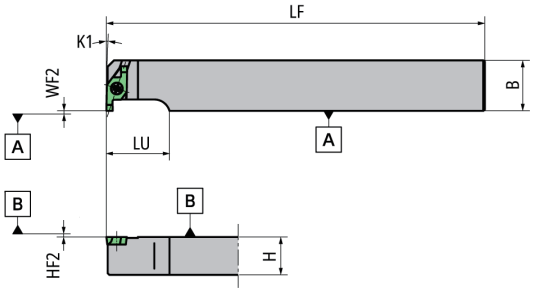


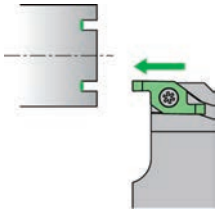
EDP	Item Number	Stock	Hand	B mm	H mm	K1 °	LF mm	LH mm	WF mm	Insert Gage	
5691068	**CH-FGVR1010**	●	R	10	10	1	120	18	10.5	FGV..	FBV..
5691084	**CH-FGVR1212**	●	R	12	12	1	120	18	12.5	FGV..	FBV..
5691118	**CH-FGVR1616**	●	R	16	16	1	120	18	16.5	FGV..	FBV..
5691076	**CH-FGVL1010**	●	L	10	10	1	120	18	10.5	FGV..	–
5691100	**CH-FGVL1212**	●	L	12	12	1	120	18	12.5	FGV..	–
5691134	**CH-FGVL1616**	●	L	16	16	1	120	18	16.5	FGV..	–

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-FGVR1010	LRIS-2.5*7	CLR-15S
CH-FGVR1212	LRIS-2.5*7	CLR-15S
CH-FGVR1616	LRIS-2.5*7	CLR-15S
CH-FGVL1010	LRIS-2.5*7	CLR-15S
CH-FGVL1212	LRIS-2.5*7	CLR-15S
CH-FGVL1616	LRIS-2.5*7	CLR-15S

FGV for Gang-style machine





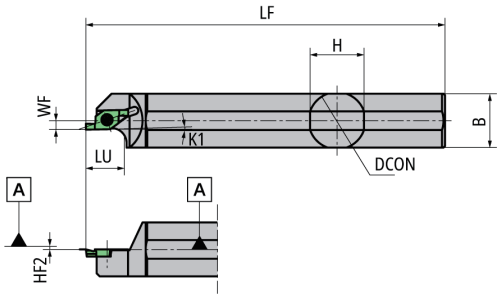
●Diagram shows right-hand tool
NOTE: Use a left-handed insert.

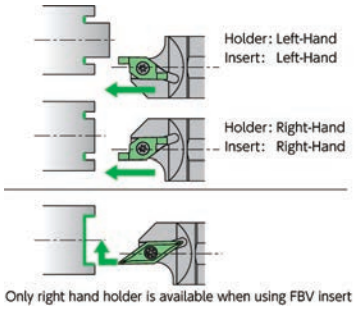
EDP	Item Number	Stock	Hand	B mm	H mm	HF2 mm	K1 °	LF mm	LU mm	WF2 mm	Insert Gage	
5691035	**FGVR1016**	●	R	16	10	0	1	120	20	0	FGV..	
5691043	**FGVR1216**	●	R	16	12	0	1	120	20	0	FGV..	
5691050	**FGVR1616**	●	R	16	16	0	1	120	20	0	FGV..	

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
FGVR1016	LRIS-2.5*7	CLR-15S
FGVR1216	LRIS-2.5*7	CLR-15S
FGVR1616	LRIS-2.5*7	CLR-15S

DS-FGV DS Toolholders





●Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	K1 °	LF mm	LU mm	WF mm	Insert Gage	
5841861	**DS-FGVR16-012**	●	R	15	16	15	0	1	80	11	3	FGV..	FBV..
5690938	**DS-FGVR19**	●	R	18	19.05	18	0	1	120	11	3	FGV..	FBV..
5690953	**DS-FGVR20**	●	R	19	20	19	0	1	120	11	3	FGV..	FBV..
5690979	**DS-FGVR22**	●	R	21	22	21	0	1	120	11	3	FGV..	FBV..
5950381	**DS-FGVR22M**	●	R	21	22	21	0	1	150	11	3	FGV..	FBV..
5690995	**DS-FGVR25**	●	R	24.5	25.4	24.5	0	1	120	11	3	FGV..	FBV..
5918958	**DS-FGVR25-MET**	●	R	24	25	24	0	1	150	11	3	FGV..	FBV..
5772439	**DS-FGVL16-012**	●	L	15	16	15	0	1	80	11	3	FGV..	–
5690946	**DS-FGVL19**	●	L	18	19.05	18	0	1	120	11	3	FGV..	–
5690961	**DS-FGVL20**	●	L	19	20	19	0	1	120	11	3	FGV..	–
5690987	**DS-FGVL22**	●	L	21	22	21	0	1	120	11	3	FGV..	–
5950373	**DS-FGVL22M**	●	L	21	22	21	0	1	150	11	3	FGV..	–
5691001	**DS-FGVL25**	●	L	24.5	25.4	24.5	0	1	120	11	3	FGV..	–
5952593	**DS-FGVL25-MET**	●	L	24	25	24	0	1	150	11	3	FGV..	–

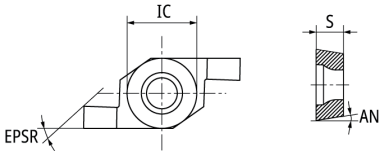
Spare Parts

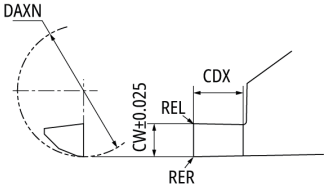
Item Number	Clamp screw	Wrench (for Clamp screw)
DS-FGVR16-012	LRIS-2.5*7	CLR-15S
DS-FGVR19	LRIS-2.5*7	CLR-15S
DS-FGVR20	LRIS-2.5*7	CLR-15S
DS-FGVR22	LRIS-2.5*7	CLR-15S
DS-FGVR22M	LRIS-2.5*7	CLR-15S
DS-FGVR25	LRIS-2.5*7	CLR-15S
DS-FGVR25-MET	LRIS-2.5*7	CLR-15S
DS-FGVL16-012	LRIS-2.5*7	CLR-15S
DS-FGVL19	LRIS-2.5*7	CLR-15S
DS-FGVL20	LRIS-2.5*7	CLR-15S
DS-FGVL22	LRIS-2.5*7	CLR-15S
DS-FGVL22M	LRIS-2.5*7	CLR-15S
DS-FGVL25	LRIS-2.5*7	CLR-15S
DS-FGVL25-MET	LRIS-2.5*7	CLR-15S

Face Grooving
SATURN DUO

FGV_FBV.. series/Inserts Carbide

FGV

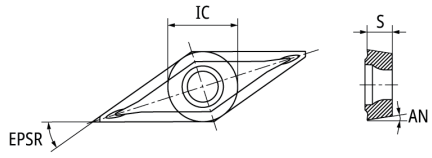


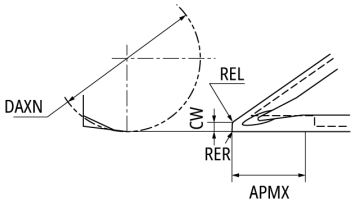


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DAXN	APMX	CDX	AN	CW	EPSR	IC	REL	RER	S	Carbide PVD
			°	mm	mm	mm	mm	°	mm	mm	mm	mm	TM4
FGV100RB00D6	R	Yes	6	1.5	1.75	7	1	35	6.35	0	0	2.38	●
FGV100RB05D6	R	Yes	6	1.5	1.8	7	1	35	6.35	0.05	0.05	2.38	●
FGV150RB00D6	R	Yes	6	2	2.2	7	1.5	35	6.35	0	0	2.38	●
FGV150RB05D6	R	Yes	6	2	2.3	7	1.5	35	6.35	0.05	0.05	2.38	●
FGV200RB00D6	R	Yes	6	3	3.2	7	2	35	6.35	0	0	2.38	●
FGV200RB05D6	R	Yes	6	3	3.3	7	2	35	6.35	0.05	0.05	2.38	●
FGV100LB00D6	L	Yes	6	1.5	1.75	7	1	35	6.35	0	0	2.38	●
FGV100LB05D6	L	Yes	6	1.5	1.8	7	1	35	6.35	0.05	0.05	2.38	●
FGV150LB00D6	L	Yes	6	2	2.2	7	1.5	35	6.35	0	0	2.38	●
FGV150LB05D6	L	Yes	6	2	2.3	7	1.5	35	6.35	0.05	0.05	2.38	●
FGV200LB00D6	L	Yes	6	3	3.2	7	2	35	6.35	0	0	2.38	●
FGV200LB05D6	L	Yes	6	3	3.3	7	2	35	6.35	0.05	0.05	2.38	●

FBV





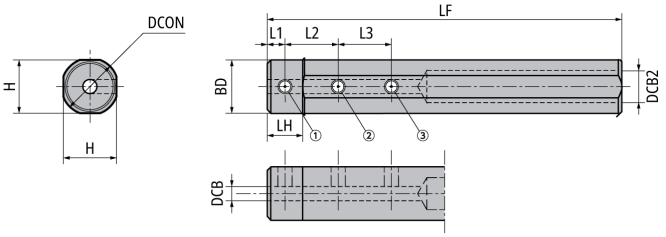
● Diagram shows right-hand tool
Note: Only CH-FGVR and DS-FGVR can take FBV Right hand insert.

Item Number	Hand	Chip-breaker	DAXN	APMX	AN	CW	EPSR	IC	REL	RER	S	Carbide PVD
			mm	mm	°	mm	°	mm	mm	mm	mm	TM4
FBV40R05D8AM3	R	Yes	8	4	7	(0.5)	35	6.35	0.2	0.05	2.38	●
FBV40R15D8AM3	R	Yes	8	4	7	(0.5)	35	6.35	0.2	0.15	2.38	●

ID Face Grooving
STICK DUO

SFG.. series/Sleeve

NBH Shank diameter φ16 - φ19.05

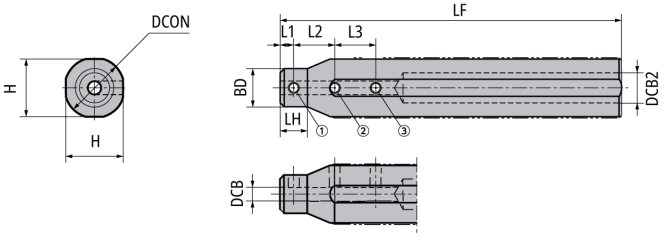


EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5585971	**NBH06015H**	●	N	15	6	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5585963	**NBH08015H**	●	N	15	8	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586060	**NBH06016H**	●	N	15	6	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586052	**NBH08016H**	●	N	15	8	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586003	**NBH06019K**	●	N	18	6	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586227	**NBH08019K**	●	N	18	8	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..

Spare Parts

Item Number	Clamp screw ①	②	③	Wrench (for Clamp screw)
NBH06015H	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	SS0403F	SS0403F	SS0403F	LW-2
NBH06016H	SS0404F	SS0404F	SS0404F	LW-2
NBH08016H	SS0403F	SS0403F	SS0403F	LW-2
NBH06019K	SS0406F	SS0406F	SS0406F	LW-2
NBH08019K	SS0404F	SS0404F	SS0404F	LW-2

NBH Shank diameter φ20 - φ32



EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5586151	**NBH06020K**	●	N	15	6	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586144	**NBH08020K**	●	N	17	8	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586284	**NBH06022K**	●	N	15	6	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586276	**NBH08022K**	●	N	17	8	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631544	**NBH06023K**	●	N	15	6	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631551	**NBH08023K**	●	N	17	8	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631635	**NBH06025K-MET**	●	N	15	6	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631643	**NBH08025K-MET**	●	N	17	8	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586359	**NBH06025K**	●	N	15	6	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5586342	**NBH08025K**	●	N	17	8	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5939491	**NBH06032K**	●	N	15	6	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5939525	**NBH08032K**	●	N	17	8	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..

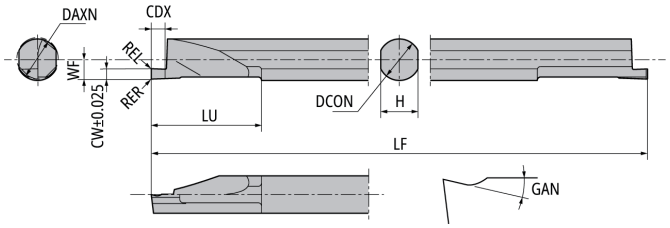
Spare Parts

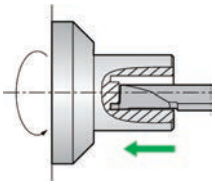
Item Number	Clamp screw ①	②	③	Wrench (IDfor Clamp screw)
NBH06020K	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	SS0404F	SS0404F	SS0404F	LW-2
NBH06022K	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	SS0404F	SS0406F	SS0406F	LW-2
NBH06025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH06025K	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	SS0404F	SS0406F	SS0406F	LW-2
NBH06032K	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	SS0404F	SS0408F	SS0408F	LW-2

ID Face Grooving
STICK DUO

SFG.. series/Insert bar Carbide

SFG





● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DAXN	APMX	CDX	CW	DCON	GAN	H	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	mm	mm	mm	mm	TM4
SFG060R100B	R	Yes	6	1.5	1.7	1	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG060R150B	R	Yes	6	2	2.2	1.5	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG060R200B	R	Yes	6	3	3.2	2	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG080R100B	R	Yes	8	1.5	1.7	1	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R150B	R	Yes	8	2	2.2	1.5	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R200B	R	Yes	8	3	3.2	2	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R300B	R	Yes	8	3	3.2	3	8	14	7.3	80	16	0.05	0.05	3.8	●

Threading

Product Lines U02

Recommended Cutting Conditions U03

General Information U04

Tools and Thread Standards U06

External Thread .....

- CSVT.. series U12
- TTPS.. series U15
- TTP.. series U16
- TTMH.. series U21

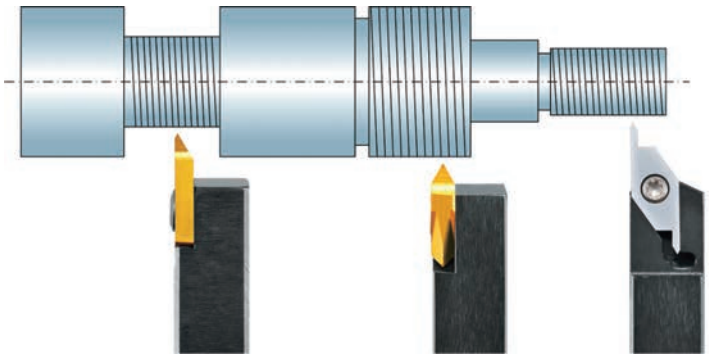
Internal Thread .....

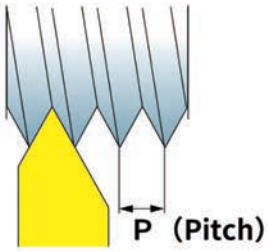
- SBT.. series U24
- TMN.. series U27

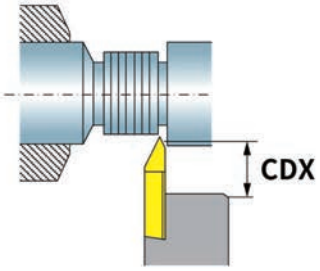
Thread Whirling U29

Product Lines

External Thread

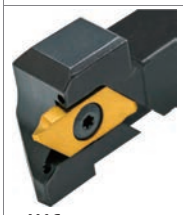
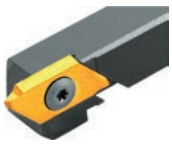
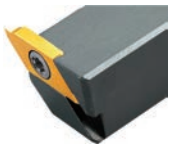




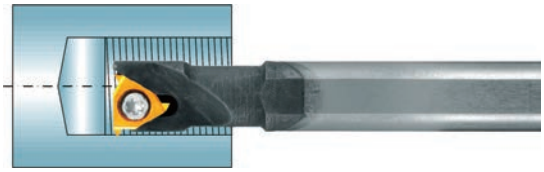


Insert	CSVT →U14	TTPS →U15
Holder	CSV	CTPS
	→U12	→U15
Thread Angle	60°	60°
Pitch	0.2 - 0.5mm	0.2 - 1.5mm
CDX	3.0mm	5.0mm

Thread Whirling
→U28
Insert : Shapes are special
Highly efficient single pass machining

Insert	TTP →U19				TTMH32 →U23		
Holder	TTP-OH3/OH2	TTP	DS-TTP	CH-TTP	STTN	DS-STT	NTTB
	 →U16	 →U16,U17	→U18	 →U18	→U21	→U22	→U21
	Coolant through		DS			DS	
Thread Angle	60°/55°				60°		
Pitch	0.2 - 2.0mm				0.8 - 3.0mm		
CDX	5.5mm				4.0mm	3.0mm	4.0mm

Internal Thread



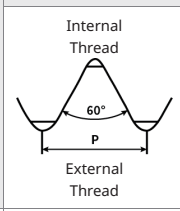
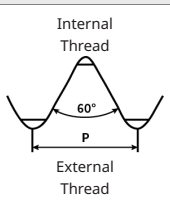
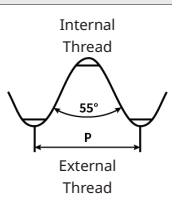
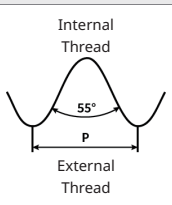
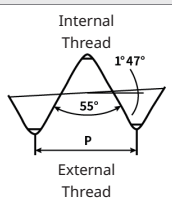
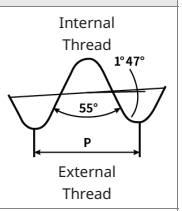
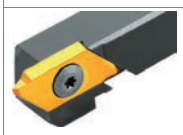
Insert	SBT →U26	TMN →U28
Holder	NBH	TGC / HN
	→U24	→U27
Thread Angle	60°	60°
Pitch	0.5 - 1.75mm	0.4 - 0.75mm
CDX	0.6 - 1.8mm	0.7 - 1.0mm

Recommended Cutting Conditions

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	VM1			VM1 / ZM3		QM3	
	2nd choice	ZM3			QM3		VM1 / ZM3	
Cutting Speed (m/min)		20 40 65	30 55 80		40 70 100	45 90 180	45 90 150	

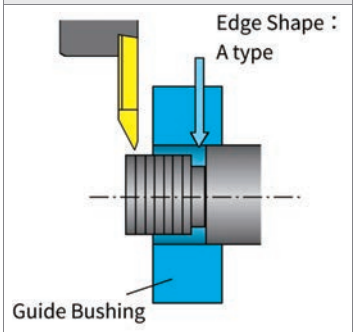
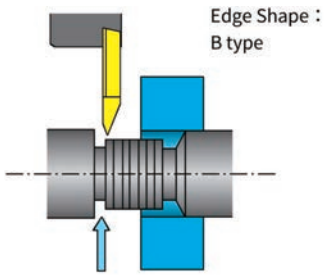
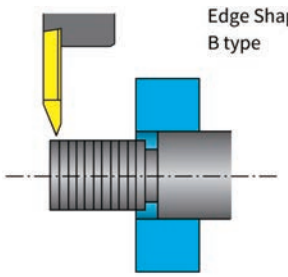
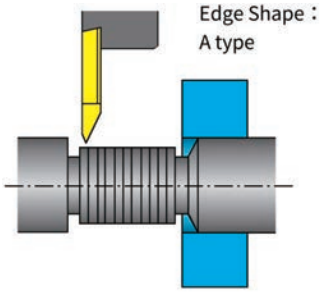
※Unless your machine is equipped with high speed threading program, please set the feed rate to 2000mm/min or lower to prevent making incomplete threads

Tools and Thread Standards

Thread Type		ISO Metric	American Unified	Whitworth	Parallel Pipe	American Tapered Pipe	Tapered Pipe
		M	UNC UNE	W	G (PF)	NPT	R (PT)
							
Thread Angle		60°	60°	55°	55°	60°	55°
Pitch		mm	TPI	TPI	TPI	TPI	TPI
External Thread	CSVT	0.2 - 0.5	80 - 56	-	-	-	-
	TTPS	0.2 - 1.5	80 - 18	-	-	(18)	-
	 TTP	0.2 - 2.0	80 - 13	40/24/20/18/16	(28/19)	(18/14)	(28/19)
	TTMH	0.8 - 3.0	24 - 9	-	-	18/14/11.5	-
Internal Thread	SBT	0.5 - 1.75	36 - 16	-	-	(18)	-
	TGC/HN	0.4 - 0.75	56 - 36	-	-	-	-

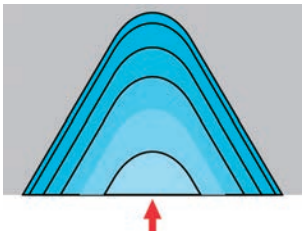
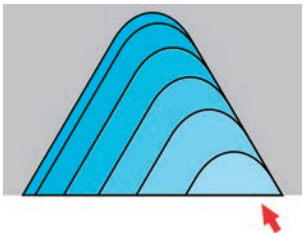
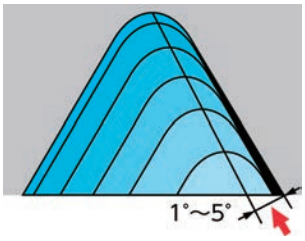
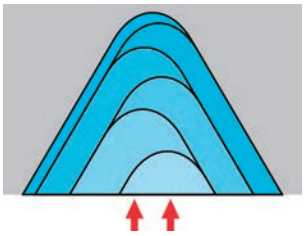
General Information

TTP.. series/Insert

Right Hand Toolholders				Left Hand Toolholders			
Guide bushing side		**Sub spindle side / Part shoulder**		**Guide bushing side**		**Sub spindle side / Part shoulder**	
							
Toolholder	TTPR	Toolholder	TTPR	Toolholder	TTPL	Toolholder	TTPL
Insert	TTP..FR..A	Insert	TTP..FR..B	Insert	TTP..FL..B	Insert	TTP..FL..A
Common tooling often used when the thread goes to the end of the part. The right hand A type insert can machine a thread close to the guide bushing. The space indicated by the arrow can be narrow.		The right hand B type insert is often used when the thread is located in the middle or towards the end of the part; up to a shoulder. Using the right-hand B type, the tip of the treading insert is closer to the sub-spindle side. The space indicated by the arrow can be narrow. Such as working up to a shoulder.		By using a left hand holder and insert, the insert edge position provides sufficient cutting distance from the guide bushing. The left-hand operation of A and B type inserts is reversed from right-hand version.			

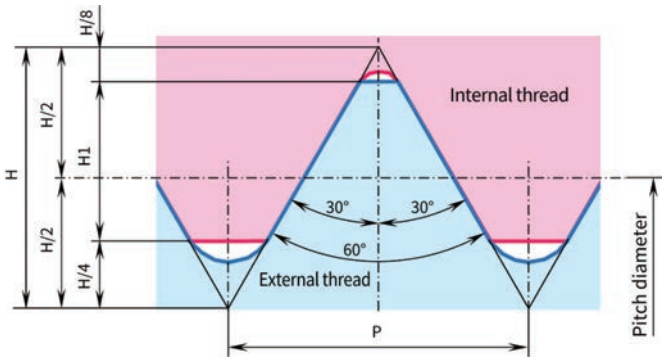
- For left-hand operation, the selection of A and B type inserts is reversed.(Guide bush side is B, and sub-spindle side is A.)
- In addition, if you do not want to retract the machined workpiece to the guide bushing, you may select the left hand holder. (Burrs protrude on the outside diameter, scratching the guide bush.)
- For A and B inserts, the cutting edge length is designed to be 0.4mm or 0.8mm and the pitch is 0.2 to 0.75 or 0.5 to 1.25.
- A and B type inserts are best applied when either entering or exiting near a shoulder.

Infeed Threading Method

	Radial Infeed	**Flank Infeed**	**Modified Flank Infeed**	**Incremental Infeed**
Features				
Advantage	• Most popular and easiest method • Easy to change parameter • Uniform wear on both sides of insert	• 2nd most popular and easy method • Effective for larger pitch and gummy material thanks to lower cutting force • Excellent chip evacuation	• Reduce flank wear on right side • Effective for larger pitch and gummy material thanks to lower cutting force • Excellent chip evacuation	• Uniform flank wear • Effective for larger pitch and gummy material thanks to lower cutting force
Disadvantage	• Chip evacuation • Vibration due to higher cutting force • Ineffective for large pitch threading	• Larger flank wear on right side of the insert • Difficult to change cutting depth per cut •	• Difficult to program • Difficult to change cutting depth per cut	• Difficult to program • Difficult to change cutting depth per cut • Chip evacuation

Tools and Thread Standards

ISO Metric (M)



External thread

Coarse	Fine	Applicable inserts			
		CSVT	TTPS	TTP	TTMH
	M1×0.2	**CSVT11F$^{R}/_{L}$P60-035$^{A}/_{B}$**	**TTPS60F $^{R}/_{L}$4 $^{A}/_{B}$**	**TTP60F$^{R}/_{L}$4$^{A}/_{B}$(S)**	–
M1×0.25	M2×0.25	**CSVT11F$^{R}/_{L}$P60-035$^{A}/_{B}$**	**TTPS60F$^{R}/_{L}$4$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$4$^{A}/_{B}$(S)**	–
	M3×0.35	**CSVT11F$^{R}/_{L}$P60-035$^{A}/_{B}$**	**TTPS60F$^{R}/_{L}$4$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$4$^{A}/_{B}$(S)**	–
M2×0.4		**CSVT11F$^{R}/_{L}$P60-035$^{A}/_{B}$**	**TTPS60F$^{R}/_{L}$8$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$8$^{A}/_{B}$(S)**	–
M3×0.5	M4×0.5	**CSVT11F$^{R}/_{L}$P60-035$^{A}/_{B}$**	**TTPS60F$^{R}/_{L}$8$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$8$^{A}/_{B}$(S)**	–
M4×0.7		–	**TTPS60F$^{R}/_{L}$8$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$8$^{A}/_{B}$(S)**	–
	M6×0.75	–	**TTPS60F$^{R}/_{L}$8$^{A}/_{B}$**	**TTP60F$^{R}/_{L}$8$^{A}/_{B}$(S)**	–
M5×0.8		–	**TTPS60F$^{R}/_{L}$-N**	**TTP60F$^{R}/_{L}$-N**	**TTMH3260R010**
M6×1.0		–	**TTPS60F$^{R}/_{L}$-N**	**TTP60F$^{R}/_{L}$-N**	**TTMH3260R010**
M8×1.25		–	**TTPS60F$^{R}/_{L}$-N**	**TTP60F$^{R}/_{L}$-N**	**TTMH3260R015**
M10×1.5	M12×1.5	–	–	–	**TTMH3260R020**
M12×1.75		–	–	–	**TTMH3260R020**
M16×2.0	M20×2.0	–	–	–	**TTMH3260R025**
M20×2.5		–	–	–	**TTMH3260R025**
M24×3.0	M30×3.0	–	–	–	**TTMH3260R025**

Internal thread

Coarse	Fine	Applicable inserts
	M3×0.35	**SBT025M3R**
M2×0.4		–
M3×0.5		**SBT025M3R**
	M4×0.5	**SBT030M4R(B)**
M4×0.7		**SBT030M4R(B)**
	M6×0.75	**SBT040M6RB**
M5×0.8		**SBT035M5RB**
M6×1.0		**SBT040M6RB**
M8×1.25		**SBT050M8RB**
M10×1.5	M12×1.5	**SBT060M10RB**
M12×1.75		**SBT060M10RB**

Recommended Depth of Cut (mm) and number of passes

ISO Metric (M)

External thread

CSVT

Item Number	Edge radius	Pitch	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CSVT11FR/LP60-035A(B)	0.03 MAX	0.20	0.25	4	0.08	0.07	0.06	0.04																
		0.25	0.32	5	0.09	0.07	0.07	0.05	0.04															
		0.35	0.48	6	0.12	0.10	0.09	0.07	0.06	0.04														
		0.40	0.55	6	0.15	0.12	0.10	0.08	0.06	0.04														
		0.50	0.70	7	0.16	0.14	0.12	0.10	0.08	0.06	0.04													

TTP/TTPS

Item Number	Edge radius	Pitch	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TTP60FR/L2A/B TTP(S)60FR/L4A/B	0.05 Max Fiat	0.20	0.22	4	0.07	0.06	0.05	0.04																
		0.25	0.29	5	0.08	0.07	0.06	0.04	0.04															
		0.35	0.44	5	0.14	0.11	0.09	0.06	0.04															
TTP(S)60FR/L8A/B	R0.05	0.40	0.50	6	0.13	0.10	0.09	0.08	0.06	0.04														
		0.50	0.66	6	0.20	0.16	0.12	0.08	0.06	0.04														
		0.70	0.96	7	0.22	0.20	0.18	0.14	0.10	0.08	0.04													
		0.75	1.04	8	0.22	0.20	0.20	0.14	0.10	0.08	0.06	0.04												
TTP(S)60FR/L-N	R0.1	0.80	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04												
		1.00	1.32	8	0.30	0.24	0.20	0.18	0.16	0.12	0.08	0.04												
		1.25	1.69	9	0.31	0.30	0.30	0.24	0.18	0.14	0.10	0.08	0.04											
TTPFR/L-N02	R0.20	1.50	1.87	10	0.33	0.32	0.28	0.24	0.20	0.16	0.12	0.10	0.08	0.04										
		1.75	2.25	11	0.36	0.35	0.32	0.28	0.24	0.20	0.16	0.12	0.10	0.08	0.04									
		2.00	2.63	12	0.36	0.34	0.32	0.30	0.28	0.26	0.22	0.18	0.14	0.12	0.07	0.04								

TTMH

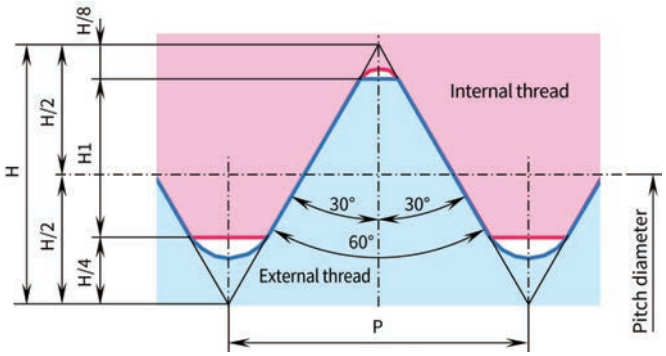
Item Number	Edge radius	Pitch	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TTMH3260R010	R0.1	0.8	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04												
		1.0	1.32	8	0.30	0.24	0.20	0.18	0.16	0.12	0.08	0.04												
TTMH3260R015	R0.15	1.3	1.59	9	0.33	0.30	0.26	0.20	0.16	0.12	0.10	0.08	0.04											
TTMH3260R020	R0.20	1.5	1.90	10	0.36	0.32	0.28	0.24	0.20	0.16	0.12	0.10	0.08	0.04										
		1.8	2.25	11	0.36	0.35	0.32	0.28	0.24	0.20	0.16	0.12	0.10	0.08	0.04									
TTMH3260R025	R0.25	2.0	2.53	12	0.36	0.36	0.32	0.30	0.28	0.24	0.20	0.16	0.12	0.09	0.06	0.04								
		2.5	3.29	14	0.45	0.40	0.40	0.36	0.32	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.04						
		3.0	4.07	15	0.50	0.50	0.45	0.40	0.36	0.32	0.30	0.28	0.24	0.20	0.18	0.12	0.10	0.08	0.04					

Internal thread

SBT

Item Number	Edge radius	Pitch	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SBT025M3R	0.05 MAX Flat	0.35	0.37	6	0.11	0.09	0.07	0.05	0.03	0.02														
		0.50	0.56	7	0.12	0.12	0.1	0.08	0.07	0.05	0.02													
SBT030M4R(B)		0.70	0.82	9	0.14	0.14	0.12	0.12	0.1	0.08	0.06	0.04	0.02											
SBT035M5RB		0.80	0.95	10	0.14	0.14	0.14	0.12	0.12	0.1	0.08	0.06	0.03	0.02										
SBT040M6RB	R0.05	1.00	1.20	12	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.1	0.08	0.06	0.04	0.02								
SBT050M8RB		1.25	1.52	15	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.12	0.1	0.1	0.1	0.08	0.06	0.04	0.02					
SBT060M10RB		1.50	1.85	18	0.15	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.12	0.1	0.1	0.1	0.1	0.08	0.08	0.06	0.04	0.02		
		1.75	2.17	20	0.15	0.14	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.12	0.12	0.1	0.1	0.1	0.1	0.08	0.08	0.08	0.06	0.04

Tools and Thread Standards | American Unified UNC/UNF



External thread

Coarse (UNC)		Fine (UNF)		Pitch (mm) (Reference)	Applicable inserts		
Thread type	(Reference)	Thread type	(Reference)		CSVT	TTP/TTPS	TTMH
		No.0-80 UNF	0.0600-80 UNF	0.3175	**CSVT11FR/LP60-035A/B**	**TTP(S)6FR/L4A/B**	–
		No.1-72 UNF	0.0730-72 UNF	0.3528	**CSVT11FR/LP60-035A/B**	**TTP(S)6FR/L4A/B**	–
No.1-64 UNC	0.0730-64 UNC	No.2-64 UNF	0.0860-64 UNF	0.3969	**CSVT11FR/LP60-035A/B**	**TTP(S)6FR/L4A/B**	–
No.2-56 UNC	0.0860-56 UNC	No.3-56 UNF	0.0990-56 UNF	0.4536	**CSVT11FR/LP60-035A/B**	**TTP(S)60FR/L8A/B**	–
No.3-48 UNC	0.0990-48 UNC	No 4-48 UNF	0.1120-48 UNF	0.5292	**CSVT11FR/LP60-035A/B**	**TTP(S)60FR/L8A/B**	–
		No.5-44 UNF	0.1250-44 UNF	0.5773	–	**TTP(S)60FR/L8A/B**	–
No.440 UNC	0.1120-40 UNC	No.6-40 UNF	0.1380-40 UNF	0.6350	–	**TTP(S)60FR/L8A/B**	–
No.5-40 UNC	0.1250-40 UNC			0.6350	–	**TTP(S)60FR/L8A/B**	–
		No.8-36 UNF	0.1640-36 UNF	0.7056	–	**TTP(S)60FR/L8A/B**	–
No.6-32 UNC	0.1380-32 UNC	No.10-32 UNF	0.1900-32 UNF	0.7938	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
No.8-32 UNC	0.1640-32 UNC			0.7938	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
		No.12-28 UNF	0.2160-28 UNF	0.9071	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
		1/4-28 UNF	0.2500-28 UNF	0.9071	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
No.10-24 UNC	0.1900-24 UNC	5/16-24 UNF	0.3125-24 UNF	1.0583	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
No.12-24 UNC	0.2160-24 UNC	3/8-24 UNF	0.3750-24 UNF	1.0583	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R010**
1/4-20 UNC	0.2500-20 UNC	7/16-20 UNF	0.4375-20 UNF	1.2700	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R015**
		1/2-20 UNF	0.5000-20 UNF	1.2700	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R015**
5/16-18 UNC	0.3125-18 UNC	9/16-18 UNF	0.5625-18 UNF	1.4111	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R015**
		5/8-18 UNF	0.6250-18 UNF	1.4111	–	**TTP(S)60FR/L-N(S)**	**TTMH3260R015**
3/8-16 UNC	0.3750-16 UNC	3/4-16 UNF	0.7500-16 UNF	1.5875	–	**TTP60FR/L -N02**	**TTMH3260R020**
7/16-14 UNC	0.4375-14 UNC	7/8-14 UNF	0.8750-14 UNF	1.8143	–	**TTP60FR/L -N02**	**TTMH3260R020**
1/2-13 UNC	0.5000-13 UNC			1.9538	–	**TTP60FR/L -N02**	**TTMH3260R020**
9/16-12 UNC	0.5625-12 UNC	1-12 UNF	1.0000-12 UNF	2.1167	–	**TTP60FR/L -N02**	**TTMH3260R025**
		11/8-12 UNF	1.1250-12 UNF	2.1167	–	**TTP60FR/L -N02**	**TTMH3260R025**
		11/4-12 UNF	1.2500-12 UNF	2.1167	–	**TTP60FR/L -N02**	**TTMH3260R025**
		13/8-12 UNF	1.3750-12 UNF	2.1167	–	**TTP60FR/L -N02**	**TTMH3260R025**
		11/2-12 UNF	1.5000-12 UNF	2.1167	–	**TTP60FR/L -N02**	**TTMH3260R025**
5/8-11 UNC	0.6250-11 UNC			2.3091	–	–	**TTMH3260R025**
3/4-10 UNC	0.7500-10 UNC			2.5400	–	–	**TTMH3260R025**
7/8-9 UNC	0.8750- 9 UNC			2.8222	–	–	**TTMH3260R025**

Internal thread

Coarse (UNC)		Fine (UNF)		Pitch (mm) (Reference)	Pilot Bore Dia.	Applicable inserts
Thread type	(Reference)	Thread type	(Reference)			
		No.8-36 UNF	0.1640-36 UNF	0.7056	3.51	**SBT030M4R(B)**
No.8-32 UNC	0.1640-32 UNC			0.7938	3.42	**SBT030M4R(B)**
		No.10-32 UNF	0.1900-32 UNF	0.7938	4.07	**SBT035M5RB**
		No.12-28 UNF	0.2160-28 UNF	0.9071	4.61	**SBT040M6RB**
		1/4-28 UNF	0.2500-28 UNF	0.9071	5.47	**SBT040M6RB**
No.10-24 UNC	0.1900-24 UNC			1.0583	3.83	**SBT035M5RB**
No.12-24 UNC	0.2160-24 UNC			1.0583	4.47	**SBT035M5RB**
		5/16-24 UNF	0.3125-24 UNF	1.0583	6.91	**SBT050M8RB**
		3/8-24 UNF	0.3750-24 UNF	1.0583	8.51	**SBT060M10RB**
1/4-20 UNC	0.2500-20 UNC			1.2700	5.12	**SBT040M6RB**
		7/16-20 UNF	0.4375-20 UNF	1.2700	9.88	**SBT060M10RB**
		1/2-20 UNF	0.5000-20 UNF	1.2700	11.47	**SBT060M10RB**
5/16-18 UNC	0.3125-18 UNC			1.4111	6.57	**SBT050M8RB**
		9/16-18 UNF	0.5625-18 UNF	1.4111	12.9	**SBT060M10RB**
		5/8-18 UNF	0.6250-18 UNF	1.4111	14.5	**SBT060M10RB**
3/8-16 UNC	0.3750-16 UNC			1.5875	7.98	**SBT060M10RB**
		3/4-16 UNF	0.7500-16 UNF	1.5875	17.5	**SBT060M10RB**

Recommended Depth of Cut (mm) and number of passes
American Unified UNC/UNF

External thread

CSVT

Item Number	Edge radius	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CSVT11FRP60-035A(B)	0.03 Max	80	0.43	6	0.10	0.10	0.08	0.06	0.05	0.04														
		72	0.48	6	0.12	0.10	0.09	0.07	0.06	0.04														
		64	0.55	6	0.14	0.13	0.10	0.08	0.06	0.04														
		56	0.63	7	0.14	0.12	0.10	0.09	0.08	0.06	0.04													
		48	0.75	7	0.16	0.16	0.14	0.11	0.08	0.06	0.04													

TTP/TTPS

Item Number	Edge radius	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TTPS60FR/L2A(B) TTP(S)60FR/L4A(B)	0.05 Max Flat	80	0.39	5	0.11	0.10	0.08	0.06	0.04															
		72	0.45	5	0.13	0.13	0.09	0.06	0.04															
		64	0.51	6	0.13	0.11	0.10	0.07	0.06	0.04														
TTP(S)60FR/L8A(B)	R0.05	56	0.59	6	0.16	0.14	0.11	0.08	0.06	0.04														
		48	0.70	6	0.20	0.16	0.14	0.09	0.07	0.04														
		44	0.77	7	0.20	0.16	0.13	0.10	0.08	0.06	0.04													
		40	0.86	7	0.20	0.18	0.16	0.12	0.10	0.06	0.04													
		36	0.97	8	0.20	0.18	0.16	0.14	0.11	0.08	0.06	0.04												
TTP(S)60FR/L -N	R0.1	32	1.00	8	0.24	0.20	0.16	0.12	0.10	0.08	0.06	0.04												
		28	1.17	8	0.26	0.23	0.19	0.15	0.12	0.10	0.08	0.04												
		24	1.40	9	0.28	0.24	0.22	0.18	0.14	0.12	0.10	0.08	0.04											
		20	1.72	9	0.32	0.29	0.27	0.24	0.20	0.16	0.12	0.08	0.04											
		18	1.94	10	0.34	0.30	0.28	0.26	0.22	0.18	0.14	0.10	0.08	0.04										
TTP60FR/L -N02	R0.2	16	2.01	10	0.35	0.34	0.30	0.26	0.22	0.18	0.14	0.10	0.08	0.04										
		14	2.35	11	0.36	0.35	0.32	0.30	0.26	0.22	0.18	0.14	0.10	0.08	0.04									
		13	2.56	12	0.36	0.34	0.32	0.30	0.26	0.22	0.20	0.18	0.16	0.10	0.08	0.04								
		12	2.81	13	0.36	0.35	0.32	0.30	0.28	0.26	0.24	0.20	0.16	0.12	0.10	0.08	0.04							

TTMH

Item Number	Edge radius	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TTMH3260R010	R0.1	32	1.00	8	0.24	0.20	0.12	0.12	0.10	0.08	0.06	0.04												
		28	1.17	8	0.26	0.23	0.15	0.15	0.12	0.10	0.08	0.04												
		24	1.40	9	0.28	0.24	0.18	0.18	0.14	0.12	0.10	0.08	0.04											
TTMH3260R015	R0.15	20	1.62	9	0.32	0.28	0.20	0.20	0.18	0.16	0.12	0.08	0.04											
		18	1.84	10	0.32	0.30	0.24	0.24	0.20	0.16	0.12	0.10	0.08	0.04										
TTMH3260R020	R0.2	16	2.01	10	0.35	0.34	0.26	0.26	0.22	0.18	0.14	0.10	0.08	0.04										
		14	2.35	11	0.36	0.35	0.30	0.30	0.26	0.22	0.18	0.14	0.10	0.08	0.04									
		13	2.56	12	0.36	0.34	0.30	0.30	0.26	0.22	0.20	0.18	0.16	0.10	0.08	0.04								
TTMH3260R025	R0.25	12	2.71	12	0.36	0.35	0.31	0.51	0.29	0.25	0.22	0.20	0.16	0.12	0.08	0.04								
		11	3.00	13	0.40	0.36	0.30	0.30	0.28	0.26	0.24	0.22	0.20	0.16	0.12	0.08	0.04							
		10	3.35	14	0.43	0.40	0.36	0.36	0.32	0.28	0.24	0.20	0.18	0.16	0.14	0.12	0.08	0.04						
		9	3.78	15	0.45	0.43	0.39	0.39	0.36	0.32	0.28	0.24	0.20	0.18	0.16	0.14	0.10	0.08	0.04					

Internal thread

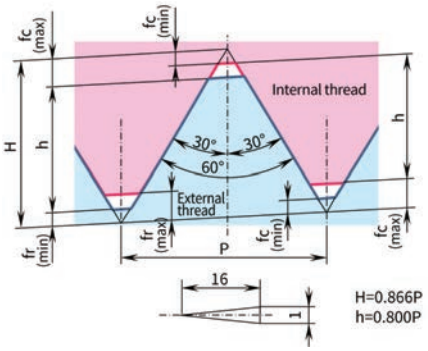
SBT

Item Number	Edge radius	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SBT030M4R(B)	0.05 Max Flat	36	0.83	9	0.14	0.14	0.12	0.11	0.10	0.08	0.06	0.04	0.02											
SBT030M4R(B) SBT035M5RB	0.05 Max Flat	32	0.94	10	0.14	0.14	0.13	0.12	0.11	0.10	0.08	0.06	0.04	0.02										
SBT040M6RB	R0.05	28	1.08	12	0.14	0.14	0.12	0.12	0.11	0.10	0.09	0.08	0.07	0.05	0.04	0.02								
SBT035M5RB	0.05 Max Flat	24	1.29	13	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.10	0.09	0.08	0.06	0.04	0.02	0.02						
SBT0S0M8RB SBT060M10RB	R0.05	24	1.27	13	0.14	0.14	0.14	0.12	0.12	0.12	0.10	0.10	0.09	0.08	0.06	0.04	0.02	0.02						
SBT060M10RB	R0.05	20	1.55	15	0.14	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.09	0.06	0.06	0.02					
SBT0S0M8RB SBT060M10RB	R0.05	18	1.73	17	0.14	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.09	0.09	0.06	0.04	0.02			
SBT060M10RB	R0.05	16	1.96	19	0.14	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.06	0.04	0.02	

Tools and Thread Standards

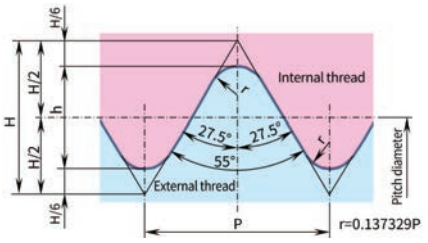
American Tapered Pipe NPT

Coarse	(Reference)	Pitch(mm) (Reference)	Applicable inserts
NTP1/16	27	0.941	TTP(S)60F$^{R}/_{L}8^{A}/_{B}$
NPT1/8	27	0.941	
NPT1/4	18	1.411	
NPT3/8	18	1.411	



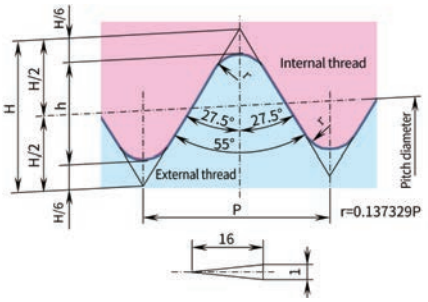
Parallel Pipe G/BSPP

Coarse	(Reference)	Pitch(mm) (Reference)	Applicable inserts
G1/16	28	0.9071	TTP55F$^{R}/_{L}8^{A}/_{B}$
G1/8	28	0.9071	
G1/4	19	1.3368	
G3/8	19	1.3368	



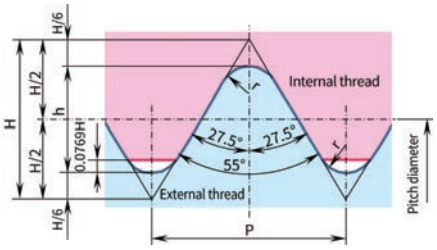
Tapered Pipe R/BSPT

Coarse	(Reference)	Pitch(mm) (Reference)	Applicable inserts
R(PT)1/16	28	0.9071	TTP55F$^{R}/_{L}8^{A}/_{B}$
R(PT)1/8	28	0.9071	
R(PT)1/4	19	1.3368	
R(PT)1/8	19	1.3368	



Whitworth BSW

Coarse	(Reference)	Pitch(mm) (Reference)	Applicable inserts
W1/8	40	0.64	TTP55F$^{R}/_{L}8^{A}/_{B}$
W3/16	24	1.06	
W1/4	20	1.27	
W5/16	18	1.41	
W3/8	16	1.59	



Recommended Depth of Cut (mm) and number of passes

American Tapered Pipe NPT

Item Number	Edge radius	Coarse	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10
TTP(S)60F$^{R}/_{L}$8$^{A}/_{B}$	R0.05	NPT$^{1}/_{16}$	27	0.64	6	0.18	0.16	0.12	0.08	0.06	0.04				
		NPT$^{1}/_{8}$	27	0.64	6	0.18	0.16	0.12	0.08	0.06	0.04				
		NPT$^{1}/_{1}$	18	1.28	8	0.26	0.24	0.20	0.18	0.16	0.12	0.08	0.04		
		NPT$^{3}/_{8}$	18	1.28	8	0.26	0.24	0.20	0.18	0.16	0.12	0.08	0.04		

Parallel Pipe G/BSPP

Item Number	Edge radius	Coarse	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10
TTP55F$^{R}/_{L}$8$^{A}/_{B}$	R0.05	G$^{1}/_{16}$	28	0.67	6	0.2	0.16	0.12	0.09	0.06	0.04				
		G$^{1}/_{8}$	28	0.67	6	0.2	0.16	0.12	0.09	0.06	0.04				
		G$^{1}/_{4}$	19	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04		
		G$^{3}/_{8}$	19	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04		

Tapered Pipe R/BSPT

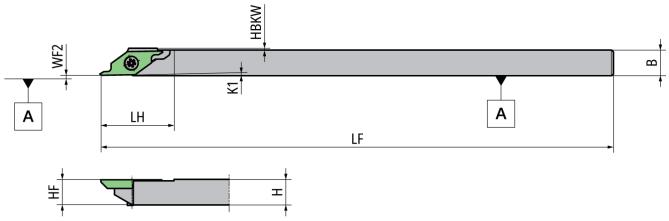
Item Number	Edge radius	Coarse	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10
TTP55F$^{R}/_{L}$8$^{A}/_{B}$	R0.05	R(PT)$^{1}/_{16}$	28	0.67	6	0.20	0.16	0.12	0.09	0.06	0.04				
		R(PT)$^{1}/_{8}$	28	0.67	6	0.20	0.16	0.12	0.09	0.06	0.04				
		R(PT)$^{1}/_{4}$	19	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04		
		R(PT)$^{3}/_{8}$	19	1.01	8	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04		

Whitworth BSW

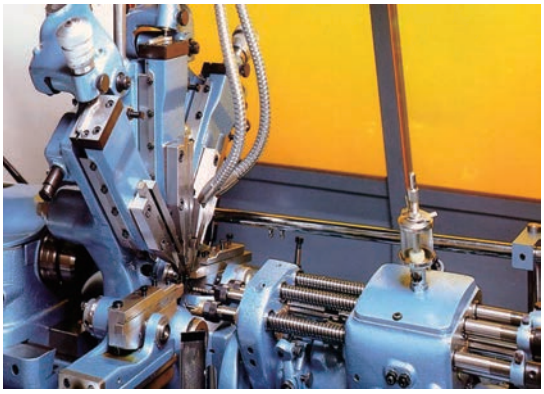
Item Number	Edge radius	Coarse	TPI	Total DOC	No. of pass	1	2	3	4	5	6	7	8	9	10
TTP55F$^{R}/_{L}$8$^{A}/_{B}$	R0.05	W$^{1}/_{8}$	40	0.45	5	0.13	0.13	0.09	0.06	0.04					
		W$^{3}/_{16}$	24	0.79	7	0.2	0.16	0.14	0.11	0.08	0.06	0.04			
		W$^{1}/_{4}$	20	0.96	8	0.2	0.18	0.16	0.14	0.1	0.08	0.06	0.04		
		W$^{5}/_{16}$	18	1.07	8	0.25	0.22	0.18	0.14	0.1	0.08	0.06	0.04		
		W$^{3}/_{8}$	16	1.21	8	0.26	0.23	0.2	0.16	0.13	0.11	0.08	0.04		

External thread
CSVT.. series/Toolholder

CSV [91°] For Cam-style machine



● Diagram shows right-hand tool

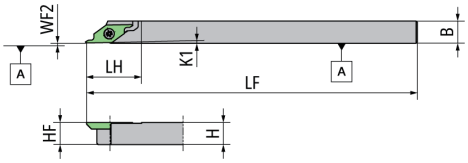


EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5303169	**CSVR07**	●	R	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492962	**CSVR07GX**	●	R	7	7	0.5	7	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303151	**CSVR08**	●	R	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5492954	**CSVR08GX**	●	R	8	8	0	8	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303136	**CSVR095**	●	R	9.5	9.5	0	9.5	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303144	**CSVR10**	●	R	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5327929	**CSVR12**	●	R	12	12	0	12	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5474770	**CSVR12GX**	●	R	12	12	0	12	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303193	**CSVL07**	●	L	7	7	0.5	7	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303201	**CSVL08**	●	L	8	8	0	8	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5303177	**CSVL10**	●	L	10	10	0	10	1	140	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR07	LRIS-2.5*7	CLR-15S
CSVR07GX	LRIS-2.5*7	CLR-15S
CSVR08	LRIS-2.5*7	CLR-15S
CSVR08GX	LRIS-2.5*7	CLR-15S
CSVR095	LRIS-2.5*7	CLR-15S
CSVR10	LRIS-2.5*7	CLR-15S
CSVR12	LRIS-2.5*7	CLR-15S
CSVR12GX	LRIS-2.5*7	CLR-15S
CSVL07	LRIS-2.5*7	CLR-15S
CSVL08	LRIS-2.5*7	CLR-15S
CSVL10	LRIS-2.5*7	CLR-15S

CSV-NC [91°] For Gang-style machine



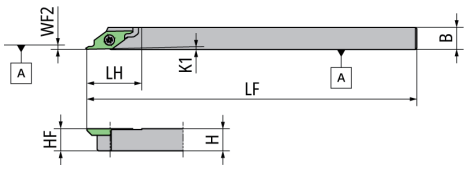
● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5514062	**CSVR08NC**	●	R	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5563010	**CSVR10GXNC**	●	R	10	10	10	1	85	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477492	**CSVR10NC**	●	R	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477534	**CSVR12NC**	●	R	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5514070	**CSVL08NC**	●	L	8	8	8	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477542	**CSVL10NC**	●	L	10	10	10	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..
5477500	**CSVL12NC**	●	L	12	12	12	1	120	20	0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC	LRIS-2.5*7	CLR-15S
CSVR10GXNC	LRIS-2.5*7	CLR-15S
CSVR10NC	LRIS-2.5*7	CLR-15S
CSVR12NC	LRIS-2.5*7	CLR-15S
CSVL08NC	LRIS-2.5*7	CLR-15S
CSVL10NC	LRIS-2.5*7	CLR-15S
CSVL12NC	LRIS-2.5*7	CLR-15S

CSV-NC-F [91°] For Gang-style machine



● Diagram shows right-hand tool

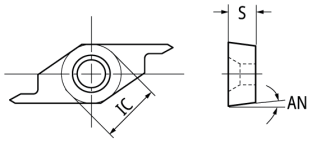
EDP	Item Number	Stock	Hand	B mm	H mm	HBKW mm	HF mm	K1 °	LF mm	LH mm	WF2 mm	Insert Gage	
5789615	**CSVR08NC-F**	●	R	8	8	0	8	1	120	20	0-0.1	CSVF../CSVB../CSVC..	CSVG../CSVT..

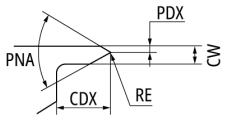
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CSVR08NC-F	LRIS-2.5*7	CLR-15S

CSVT.. series/Inserts Carbide

CSVT-A

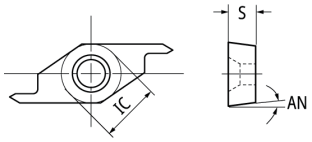


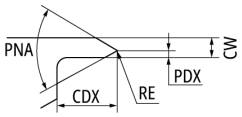


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

Item Number		Hand	Chip-breaker	Pitch	AN	CDX	CW	EPSR	IC	PDX	PNA	RE	S	Carbide			Uncoated
															PVD		
				mm	°	mm	mm	°	mm	mm	°	mm	mm	QM3	VM1	ZM3	KM1
CSVT11FRP60-035A	Ⓜ	R	No	0.2-0.5	7	3	1	35	6.35	0.35	60	0.03MAX	2.38		●		
CSVT11FLP60-035A	Ⓜ	L	No	0.2-0.5	7	3	1	35	6.35	0.35	60	0.03MAX	2.38		●		

CSVT-B



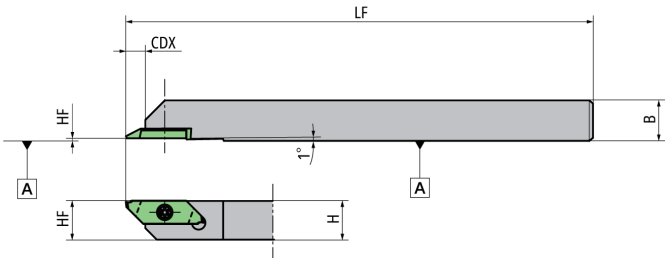


● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

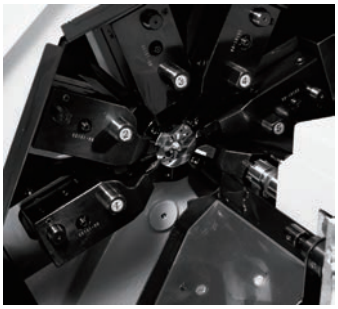
Item Number		Hand	Chip-breaker	Pitch	AN	CDX	CW	EPSR	IC	PDX	PNA	RE	S	Carbide			Uncoated
															PVD		
				mm	°	mm	mm	°	mm	mm	°	mm	mm	QM3	VM1	ZM3	KM1
CSVT11FRP60-035B	Ⓜ	R	No	0.2-0.5	7	3	1	35	6.35	0.35	60	0.03MAX	2.38		●		
CSVT11FLP60-035B	Ⓜ	L	No	0.2-0.5	7	3	1	35	6.35	0.35	60	0.03MAX	2.38		●		

External thread
CTPS.. series/Toolholder

CTPS



● Diagram shows right-hand tool



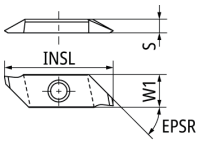
EDP	Item Number	Stock	Hand	B	CDX	H	HF	K1	LF	WF2	Insert Gage	
				mm	mm	mm	mm	°	mm	mm		
5346572	**CTPSR10**	●	R	10	5	10	10	1	120	0	TBPS../CTPS..	GTPS../TTPS..
5397187	**CTPSR12**	●	R	12	5	12	12	1	120	0	TBPS../CTPS..	GTPS../TTPS..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CTPSR10	LRIS-2.5*7	CLR-15S
CTPSR12	LRIS-2.5*7	CLR-15S

TTPS.. series/Inserts Carbide

TTPS



● Diagram shows right-hand tool
All angles shown are obtained when insert is set in the holder.

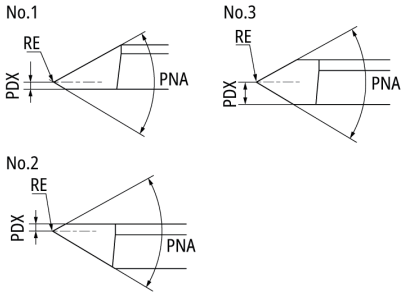
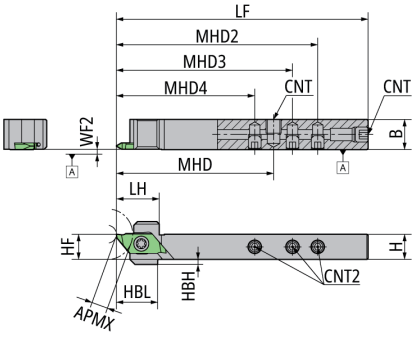
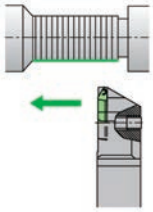


Figure	Item Number	Hand	Chip-breaker	Pitch	EPSR	INSL	PDX	PNA	RE	S	W1	Carbide		Uncoated
												PVD		
				mm	°	mm	mm	°	mm	mm	mm	QM3	VM1	ZM3	KM1
1	**TTPS60FR4A**	R	Yes	0.2-0.75	45	20	0.4	60	0.05MAX Flat	2.5	6		●	●	
1	**TTPS60FR8A**	R	Yes	0.5-1.25	45	20	0.8	60	0.05	2.5	6		●	●	
2	**TTPS60FR4B**	R	Yes	0.2-0.75	45	20	0.4	60	0.05MAX Flat	2.5	6		●	●	
2	**TTPS60FR8B**	R	Yes	0.5-1.25	45	20	0.8	60	0.05	2.5	6		●	●	
3	**TTPS60FR-N**	R	Yes	1-1.5	45	20	1.25	60	0.1	2.5	6		●	●	

External thread
TTP.. series/Toolholder

TTP-OH3 Coolant through (direct connect compatible)





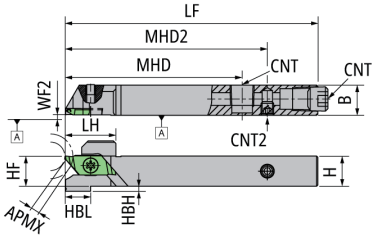
・Diagram shows right-hand tool

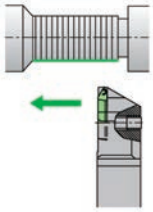
EDP	Item Number	Stock	Hand	APMX mm	B mm	CNT	CNT2	CUTDIA mm	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	WF2 mm	Insert Gage
5117775	**TTPR1012H-OH3**		R	6.5	12	M6*1	M5	16	10	2	16.5	10	100	17.15	62.5	80	70	55	0	TTP..
5117817	**TTPL1012H-OH3**		L	6.5	12	M6*1	M5	16	10	2	16.5	10	100	17.15	62.5	80	70	55	0	TTP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
TTPR1012H-OH3	LRIS-4*12PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5
TTPL1012H-OH3	LRIS-4*12PW	SS0605SC	SS0505SC	CLR-15S	LW-2.5

TTP-OH2 Coolant through (direct connect compatible)





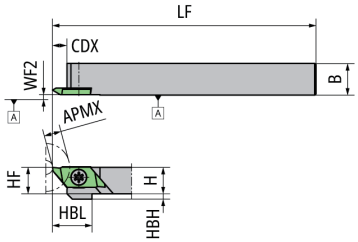
・Diagram shows right-hand tool

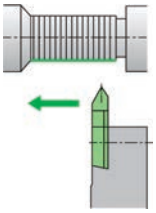
EDP	Item Number	Stock	Hand	APMX mm	B mm	CNT	CNT2	CUTDIA mm	H mm	HBH mm	HBL mm	HF mm	LF mm	LH mm	MHD mm	MHD2 mm	WF2 mm	Insert Gage
5061882	**TTPR12H-OH2**		R	5.5	12	Rc1/8	M5	18	12	2	10	12	100	20	70	80	0.2	TTP..
5062229	**TTPR16X-OH2**		R	5.5	16	Rc1/8	M5	18	16	–	–	16	120	19.5	70	100	0.2	TTP..
5061890	**TTPL12H-OH2**		L	5.5	12	Rc1/8	M5	18	12	2	10	12	100	20	70	80	0.2	TTP..
5062237	**TTPL16X-OH2**		L	5.5	16	Rc1/8	M5	18	16	–	–	16	120	19.5	70	100	0.2	TTP..

Spare Parts

Item Number	Clamp screw	Screw (for CNT)	Screw (for CNT2)	Wrench (for Clamp screw)	Wrench (for CNT2)
TTPR12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
TTPR16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
TTPL12H-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5
TTPL16X-OH2	LRIS-4*12PW	SPR1/8	SS0505SC	CLR-15S	LW-2.5

TTP





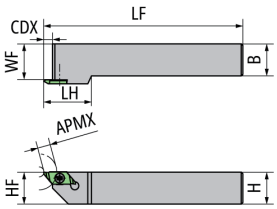
・Diagram shows right-hand tool

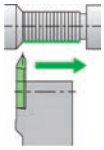
EDP	Item Number	Stock	Hand	APMX mm	B mm	CDX mm	H mm	HBH mm	HBL mm	HF mm	LF mm	WF2 mm	Insert Gage
5146238	**TTPR08**	●	R	6.5	10	7	8	4	15	8	120	0.2	TTP..
5145693	**TTPR10**	●	R	6.5	10	7	10	2	15	10	120	0.2	TTP..
5145701	**TTPR12**	●	R	6.5	12	7	12	–	–	12	120	0.2	TTP..
5459854	**TTPR12GX**	●	R	6.5	12	7	12	–	–	12	85	0.2	TTP..
5191234	**TTPR16**	●	R	6.5	16	7	16	–	–	16	120	0.2	TTP..
5459862	**TTPR16H**	●	R	6.5	16	7	16	–	–	16	100	0.2	TTP..
5459573	**TTPR20F**	●	R	6.5	20	7	20	–	–	20	80	0.2	TTP..
5146220	**TTPL08**	●	L	6.5	10	7	8	4	15	8	120	0.2	TTP..
5145685	**TTPL10**	●	L	6.5	10	7	10	2	15	10	120	0.2	TTP..
5145719	**TTPL12**	●	L	6.5	12	7	12	–	–	12	120	0.2	TTP..
5503024	**TTPL12GX**	●	L	6.5	12	7	12	–	–	12	85	0.2	TTP..
5267190	**TTPL16**	●	L	6.5	16	7	16	–	–	16	120	0.2	TTP..
5459870	**TTPL16H**	●	L	6.5	16	7	16	–	–	16	100	0.2	TTP..
5459581	**TTPL20F**	●	L	6.5	20	7	20	–	–	20	80	0.2	TTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TTPR08	LRIS-4*10PW	CLR-15S
TTPR10	LRIS-4*10PW	CLR-15S
TTPR12	LRIS-4*12PW	CLR-15S
TTPR12GX	LRIS-4*12PW	CLR-15S
TTPR16	LRIS-4*12PW	CLR-15S
TTPR16H	LRIS-4*12PW	CLR-15S
TTPR20F	LRIS-4*10	LLR-25S-20*65
TTPL08	LRIS-4*10PW	CLR-15S
TTPL10	LRIS-4*10PW	CLR-15S
TTPL12	LRIS-4*12PW	CLR-15S
TTPL12GX	LRIS-4*12PW	CLR-15S
TTPL16	LRIS-4*12PW	CLR-15S
TTPL16H	LRIS-4*12PW	CLR-15S
TTPL20F	LRIS-4*10	LLR-25S-20*65

TTP-K (M)





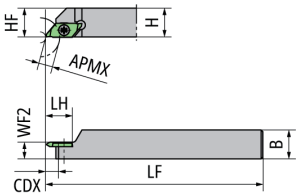
・Diagram shows right-hand tool

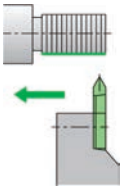
EDP	Item Number	Stock	Hand	APMX mm	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
5989959	**TTPR20K-25**	●	R	6.5	20	5.5	20	20	125	30	25	TTP..
5989975	**TTPR25M-30**	●	R	6.5	25	5.5	25	25	150	30	30	TTP..
5989942	**TTPL20K-25**	●	L	6.5	20	5.5	20	20	125	30	25	TTP..
5989967	**TTPL25M-30**	●	L	6.5	25	5.5	25	25	150	30	30	TTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TTPR20K-25	LRIS-4*10	LLR-25S
TTPR25M-30	LRIS-4*10	LLR-25S
TTPL20K-25	LRIS-4*10	LLR-25S
TTPL25M-30	LRIS-4*10	LLR-25S

TTP-F Shifted





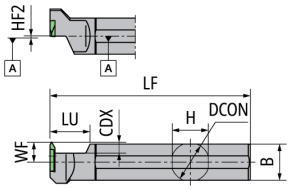
・Diagram shows left-hand tool

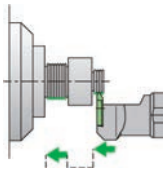
EDP	Item Number	Stock	Hand	APMX mm	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF mm	WF2 mm	Insert Gage
5978150	**TTPL12-F06**	●	L	6.5	12	5.5	12	12	120	16	7.25	–	TTP..
5978168	**TTPL16-F08**	●	L	6.5	16	5.5	16	16	120	16	9.25	–	TTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TTPL12-F06	LRIS-4*6	LLR-25S
TTPL16-F08	LRIS-4*6	LLR-25S

DS-TTP DS Toolholders





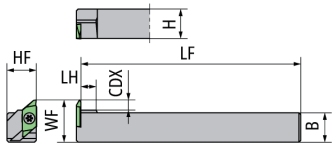
• Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

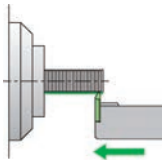
EDP	Item Number	Stock	Hand	B mm	CDX mm	DCON mm	H mm	HF2 mm	LF mm	LU mm	WF mm	Insert Gage
5782149	**DS-TTPL16F**	●	L	15	5.5	16	15	0	80	20	10	TTP..
5278270	**DS-TTPL19**	●	L	18	5.5	19.05	18	0	120	20	10	TTP..
5278296	**DS-TTPL20**	●	L	19	5.5	20	19	0	120	20	10	TTP..
5324033	**DS-TTPL22**	●	L	21	5.5	22	21	0	120	20	10	TTP..
5317151	**DS-TTPL25**	●	L	24	5.5	25.4	24	0	150	20	10	TTP..
5830641	**DS-TTPL25-MET**	●	L	24	5.5	25	24	0	150	20	10	TTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-TTPL16F	LRIS-4*10	LLR-25S-20*65
DS-TTPL19	LRIS-4*10	LLR-25S-20*65
DS-TTPL20	LRIS-4*10	LLR-25S-20*65
DS-TTPL22	LRIS-4*10	LLR-25S-20*65
DS-TTPL25	LRIS-4*10	LLR-25S-20*65
DS-TTPL25-MET	LRIS-4*10	LLR-25S-20*65

CH-TTP for horizontal gang style tool post





• Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

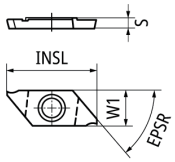
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage
5885090	**CH-TTPL16**	●	L	16	5.5	16	16	120	9	23	TTP..
5885108	**CH-TTPL20**	●	L	20	5.5	20	20	120	9	27	TTP..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-TTPL16	LRIS-4*10	LLR-25S
CH-TTPL20	LRIS-4*10	LLR-25S

TTP.. series/Inserts Carbide

TTP-R



● Diagram shows right-hand tool

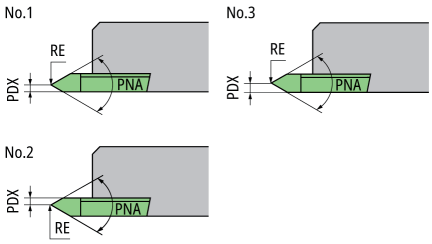
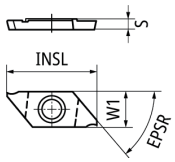


Figure	Item Number		Hand	Chip-breaker	Pitch	TPI	PDX	PNA	RE	Carbide			Uncoated
											PVD		
					mm	inch	mm	°	mm	QM3	VM1	ZM3	KM1
1	**TTP60FR2A**		R	Yes	0.2-0.35	–	0.2	60	0.05MAX Flat			●	
1	**TTP60FR4A**		R	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat	●		●	
1	**TTP60FR4AS**	Ⓜ	R	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat				●
1	**TTP60FR8A**		R	Yes	0.4-1.25	–	0.8	60	(R.002)	●		●	
1	**TTP60FR8AS**	Ⓜ	R	Yes	0.4-1.25	–	0.8	60	(R.002)				●
1	**TTP55FR8A**		R	Yes	–	48	0.8	55	(R.002)			●	
2	**TTP60FR2B**		R	Yes	0.2-0.35	–	0.2	60	0.05MAX Flat			●	
2	**TTP60FR4B**		R	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat	●		●	
2	**TTP60FR4BS**	Ⓜ	R	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat				●
2	**TTP60FR8B**		R	Yes	0.4-1.25	–	0.8	60	(R.002)	●		●	
2	**TTP60FR8BS**	Ⓜ	R	Yes	0.4-1.25	–	0.8	60	(R.002)				●
2	**TTP55FR8B**		R	Yes	–	48	0.8	55	(R.002)			●	
3	**TTP60FR-N**		R	Yes	1-1.5	–	1.25	60	(R.004)	●		●	
3	**TTP60FR-N02**		R	Yes	1.5-2	–	1.25	60	(R.008)	●		●	
3	**TTP60FR-NS**	Ⓜ	R	Yes	1-1.5	–	1.25	60	(R.004)				●

TTP-L



● Diagram shows left-hand tool

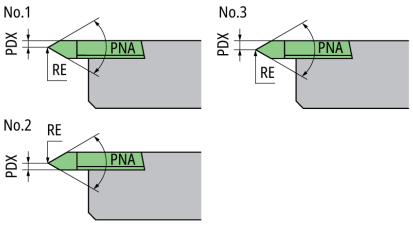
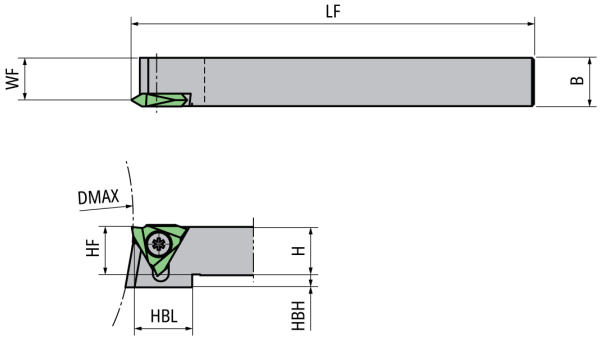
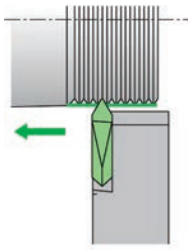


Figure	Item Number		Hand	Chip-breaker	Pitch	TPI	PDX	PNA	RE	Carbide			Uncoated
											PVD		
					mm	inch	mm	°	mm	QM3	VM1	ZM3	KM1
1	**TTP60FL2A**		L	Yes	0.2-0.35	–	0.2	60	0.05MAX Flat			●	
1	**TTP60FL4A**		L	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat	●		●	
1	**TTP60FL4AS**	Ⓜ	L	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat				●
1	**TTP60FL8A**		L	Yes	0.4-1.25	–	0.8	60	(R.002)	●		●	
1	**TTP60FL8AS**	Ⓜ	L	Yes	0.4-1.25	–	0.8	60	(R.002)				●
1	**TTP55FL8A**		L	Yes	–	48	0.8	55	(R.002)			●	
2	**TTP60FL2B**		L	Yes	0.2-0.35	–	0.2	60	0.05MAX Flat			●	
2	**TTP60FL4B**		L	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat	●		●	
2	**TTP60FL4BS**	Ⓜ	L	Yes	0.2-0.75	–	0.4	60	0.05MAX Flat				●
2	**TTP60FL8B**		L	Yes	0.4-1.25	–	0.8	60	(R.002)	●		●	
2	**TTP60FL8BS**	Ⓜ	L	Yes	0.4-1.25	–	0.8	60	(R.002)				●
2	**TTP55FL8B**		L	Yes	–	48	0.8	55	(R.002)			●	
3	**TTP60FL-N**		L	Yes	1-1.5	–	1.25	60	(R.004)	●		●	
3	**TTP60FL-N02**		L	Yes	1.5-2	–	1.25	60	(R.008)	●		●	
3	**TTP60FL-NS**	Ⓜ	L	Yes	1-1.5	–	1.25	60	(R.004)				●

External thread
TTMH.. series/Toolholder

STTN





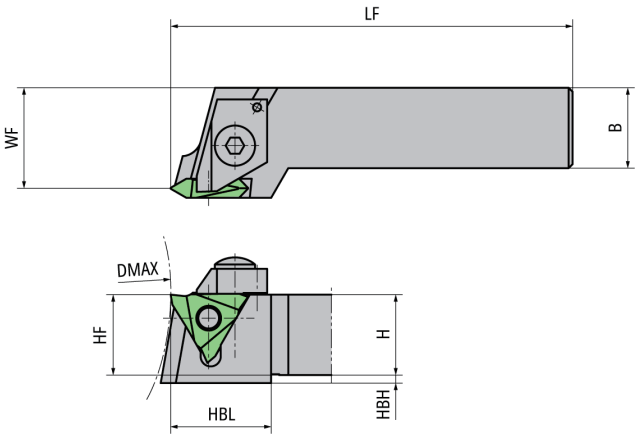
● Diagram shows right-hand tool

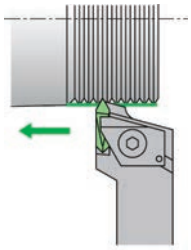
EDP	Item Number	Stock	Hand	B mm	DMAX mm	H mm	HBH mm	HBL mm	HF mm	LF mm	WF mm	Insert Gage
5630405	**STTNR101032**	●	R	10	120	10	5	15	10	80	8.5	TTMH32..
5827662	**STTNR121232**	●	R	12	120	12	5	15	12	80	10.5	TTMH32..
5834817	**STTNR121232-K**	●	R	12	120	12	5	15	12	125	10.5	TTMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
STTNR101032	LR-S-4*9	RLR-20S
STTNR121232	LR-S-4*9	RLR-20S
STTNR121232-K	LR-S-4*9	RLR-20S

NTTB





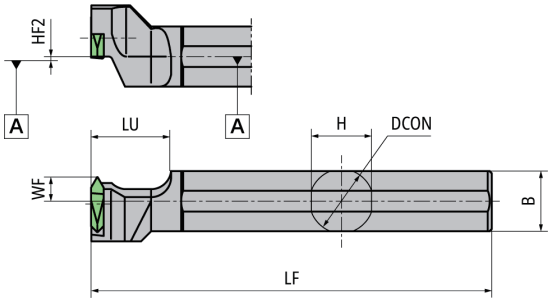
● Diagram shows right-hand tool

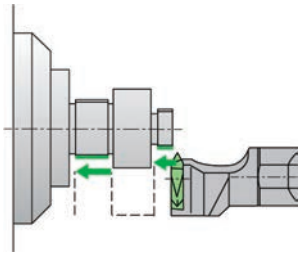
EDP	Item Number	Stock	Hand	B mm	DMAX mm	H mm	HBH mm	HF mm	LF mm	WF mm	Insert Gage
5262530	**NTTBR161632**	●	R	16	120	16	4	16	120	20	TTMH32..
5262548	**NTTBR202032**	●	R	20	120	20	–	20	140	25	TTMH32..

Spare Parts

Item Number	Clamp	Clamp screw	Spring	Wrench (for Clamp screw)
NTTBR161632	CPR5	AOS-5*25	ASG-5	LW-2.5
NTTBR202032	CPR5	AOS-5*25	ASG-5	LW-2.5

DS-STT DS Toolholders





● Diagram shows left-hand tool
NOTE: Use a right-handed (R) insert.

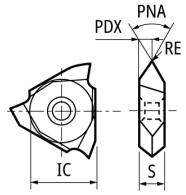
EDP	Item Number	Stock	Hand	B mm	DCON mm	H mm	HF2 mm	LF mm	LU mm	WF mm	Insert Gage
5348552	**DS-STTL14F**	●	L	13	14	13	0	80	20	6	TTMH32..
5348099	**DS-STTL15H**	●	L	15	15.875	15	0	100	20	6	TTMH32..
5341508	**DS-STTL16X**	●	L	15	16	15	0	95	20	6	TTMH32..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-STTL14F	LR-S-4*9	RLR-20S
DS-STTL15H	LR-S-4*9	RLR-20S
DS-STTL16X	LR-S-4*9	RLR-20S

TTMH.. series/Inserts Carbide

TTMH

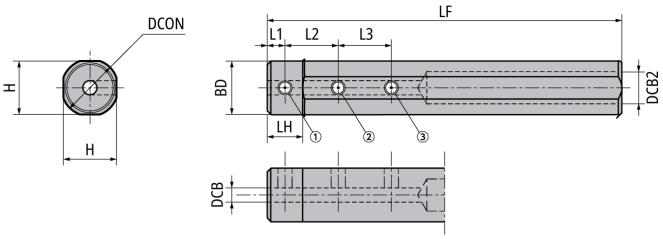


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	Pitch	GAN	IC	PDX	PNA	RE	S	Carbide			Uncoated
											PVD		
			mm	°	mm	mm	°	mm	mm	QM3	VM1	ZM3	KM1
TTMH3260R010	R	Yes	0.8-3	6	9.525	1.59	60	0.1	3.18			●	
TTMH3260R015	R	Yes	1-3	6	9.525	1.59	60	0.15	3.18			●	
TTMH3260R020	R	Yes	1.5-3	6	9.525	1.59	60	0.2	3.18			●	

Internal Thread | STICK DUO
SBT.. series/Sleeve

NBH Shank diameter φ15.875 - φ19.05

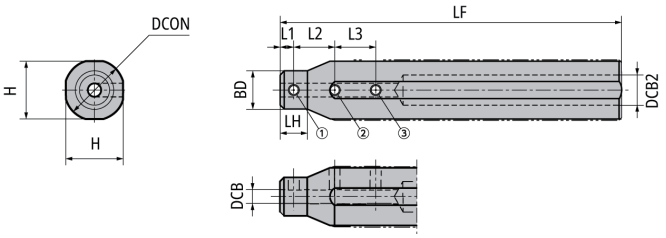


EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	InsertBar Gage	
5702915	**NBH02515H**	●	N	15	2.5	9	15.875	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631411	**NBH03015H**	●	N	15	3	9	15.875	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586110	**NBH03515H**	●	N	15	3.5	9	15.875	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586128	**NBH04015H**	●	N	15	4	9	15.875	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5585989	**NBH05015H**	●	N	15	5	9	15.875	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5585971	**NBH06015H**	●	N	15	6	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5702899	**NBH02516H**	●	N	15	2.5	9	16	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631437	**NBH03016H**	●	N	15	3	9	16	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586102	**NBH03516H**	●	N	15	3.5	9	16	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586094	**NBH04016H**	●	N	15	4	9	16	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586078	**NBH05016H**	●	N	15	5	9	16	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586060	**NBH06016H**	●	N	15	6	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5702907	**NBH02519K**	●	N	18	2.5	11	19.05	18	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631452	**NBH03019K**	●	N	18	3	11	19.05	18	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586045	**NBH03519K**	●	N	18	3.5	11	19.05	18	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586037	**NBH04019K**	●	N	18	4	11	19.05	18	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586011	**NBH05019K**	●	N	18	5	11	19.05	18	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586003	**NBH06019K**	●	N	18	6	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..

Spare Parts

Item Number	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench (for Clamp screw)
NBH02515H	SS0406F	SS0406F	–	LW-2
NBH03015H	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	SS0404F	SS0404F	SS0404F	LW-2
NBH02516H	SS0406F	SS0406F	–	LW-2
NBH03016H	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	SS0404F	SS0404F	SS0404F	LW-2
NBH02519K	SS0408F	SS0408F	–	LW-2
NBH03019K	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	SS0406F	SS0406F	SS0406F	LW-2

NBH Shank diameter φ20 - φ32



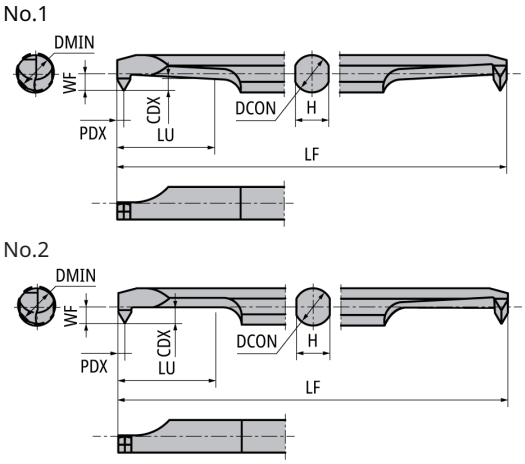
EDP	Item Number	Stock	Hand	BD	DCB	DCB2	DCON	H	LF	LH	L1	L2	L3	InsertBar Gage	
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
5702881	**NBH02520K**	●	N	11	2.5	11	20	19	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631478	**NBH03020K**	●	N	12	3	11	20	19	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586201	**NBH03520K**	●	N	12	3.5	11	20	19	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586185	**NBH04020K**	●	N	13	4	11	20	19	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586169	**NBH05020K**	●	N	14	5	11	20	19	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586151	**NBH06020K**	●	N	15	6	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5702873	**NBH02522K**	●	N	11	2.5	11	22	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631494	**NBH03022K**	●	N	12	3	11	22	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586326	**NBH03522K**	●	N	12	3.5	11	22	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586318	**NBH04022K**	●	N	13	4	11	22	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586292	**NBH05022K**	●	N	14	5	11	22	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586284	**NBH06022K**	●	N	15	6	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5702857	**NBH02523K**	●	N	11	2.5	11	23	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631528	**NBH03023K**	●	N	12	3	11	23	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586250	**NBH03523K**	●	N	12	3.5	11	23	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651336	**NBH04023K**	●	N	13	4	11	23	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631536	**NBH05023K**	●	N	14	5	11	23	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5704283	**NBH02525K-MET**	●	N	11	2.5	11	25	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631593	**NBH03025K-MET**	●	N	12	3	11	25	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5631601	**NBH03525K-MET**	●	N	12	3.5	11	25	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651328	**NBH04025K-MET**	●	N	13	4	11	25	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631627	**NBH05025K-MET**	●	N	14	5	11	25	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631635	**NBH06025K-MET**	●	N	15	6	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5702865	**NBH02525K**	●	N	11	2.5	11	25.4	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631684	**NBH03025K**	●	N	12	3	11	25.4	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586235	**NBH03525K**	●	N	12	3.5	11	25.4	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586383	**NBH04025K**	●	N	13	4	11	25.4	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586367	**NBH05025K**	●	N	14	5	11	25.4	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586359	**NBH06025K**	●	N	15	6	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5939483	**NBH05032K**	●	N	14	5	11	32	30	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5939491	**NBH06032K**	●	N	15	6	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..

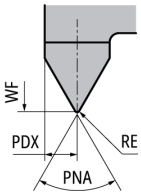
Spare Parts

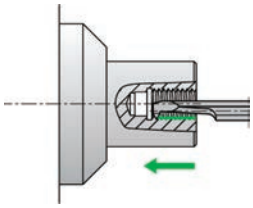
Item Number	Clamp screw			Wrench (for Clamp screw)
	①	②	③	
NBH02520K	SS0404F	SS0404F	–	LW-2
NBH03020K	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	SS0404F	SS0406F	SS0406F	LW-2
NBH02522K	SS0404F	SS0406F	–	LW-2
NBH03022K	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	SS0404F	SS0406F	SS0406F	LW-2
NBH02523K	SS0404F	SS0406F	–	LW-2
NBH03023K	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	SS0404F	SS0406F	SS0406F	LW-2
NBH02525K-MET	SS0404F	SS0406F	–	LW-2
NBH03025K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH02525K	SS0404F	SS0406F	–	LW-2
NBH03025K	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	SS0404F	SS0408F	SS0408F	LW-2

STICK DUO
SBT.. series/Insert bar Carbide

SBT





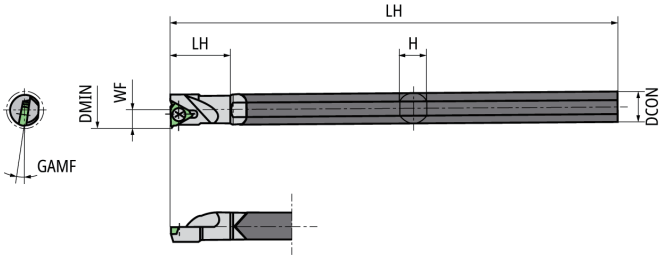


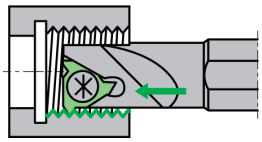
● Diagram shows right-hand tool
● No.1: Eccentric tapered shape

Figure	Item Number	Hand	Chip-breaker	DMIN	Pitch	CDX	DCON	H	LF	LU	PDX	PNA	RE	WF	Carbide		Uncoat
															PVD		
				mm	mm	mm	mm	mm	mm	mm	mm	°	mm	mm	QM3	VM1	ZM3	KM1
1	**SBT025M3R**	R	No	2.5	0.5	0.6	2.5	2.3	50	5.4	0.4	60	0.05MAX Flat	1.1			●	
1	**SBT030M4R**	R	No	3	0.5-0.8	0.8	3	2.7	50	7.5	0.5	60	0.05MAX Flat	1.3			●	
1	**SBT030M4RB**	R	Yes	3	0.5-0.8	0.8	3	2.7	50	7.5	0.5	60	0.05MAX Flat	1.3			●	
1	**SBT035M5RB**	R	Yes	3.5	0.5-1	1	3.5	3.2	60	8.5	0.55	60	0.05MAX Flat	1.55			●	
1	**SBT040M6RB**	R	Yes	4	0.75-1.25	1.2	4	3.6	60	10.5	0.7	60	0.05	1.8			●	
2	**SBT050M8RB**	R	Yes	5	0.75-1.5	1.5	5	4.5	70	15.8	0.8	60	0.05	2.3			●	
2	**SBT060M10RB**	R	Yes	6	0.75-1.75	1.8	6	5.4	80	18.4	0.95	60	0.05	2.8			●	

Internal Thread
TMN.. series/Toolholder

TGC Carbide shank





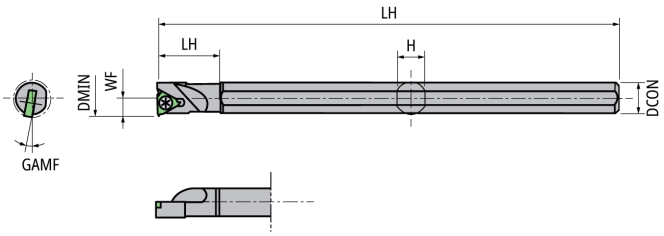
● Diagram shows right-hand tool

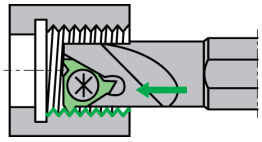
EDP	Item Number	Stock	Hand	DCON mm	DMIN mm	GAMF °	H mm	LF mm	LH mm	WF mm	Insert Gage
5455092	**TGC10T06H161R**	●	R	6	8	10	5.5	100	13	3.8	TMN06..
5455084	**TGC10T08K162R**	●	R	8	10	10	7	125	17	4.7	TMN08..
5455076	**TGC10T10M163R**	●	R	10	12	10	9	150	20	6	TMN09..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TGC10T06H161R	LR-S-2*4.4	CLR-13S
TGC10T08K162R	LR-S-2*5.5	CLR-13S
TGC10T10M163R	LRIS-2.2*6	CLR-13S

HN Steel shank





● Diagram shows right-hand tool

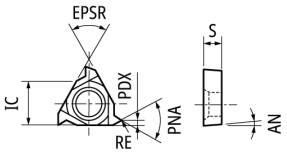
EDP	Item Number	Stock	Hand	DCON mm	DMIN mm	GAMF °	H mm	LF mm	LH mm	WF mm	Insert Gage
5845177	**HN59Z-0028**	●	R	6	8	10	5.5	100	13	3.8	TMN06..
5845193	**HN59Z-0029**	●	R	8	10	10	7	125	17	4.7	TMN08..
5845185	**HN59Z-0030**	●	R	10	12	10	9	150	20	6	TMN09..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
HN59Z-0028	LR-S-2*4.4	CLR-13S
HN59Z-0029	LR-S-2*5.5	CLR-13S
HN59Z-0030	LRIS-2.2*6	CLR-13S

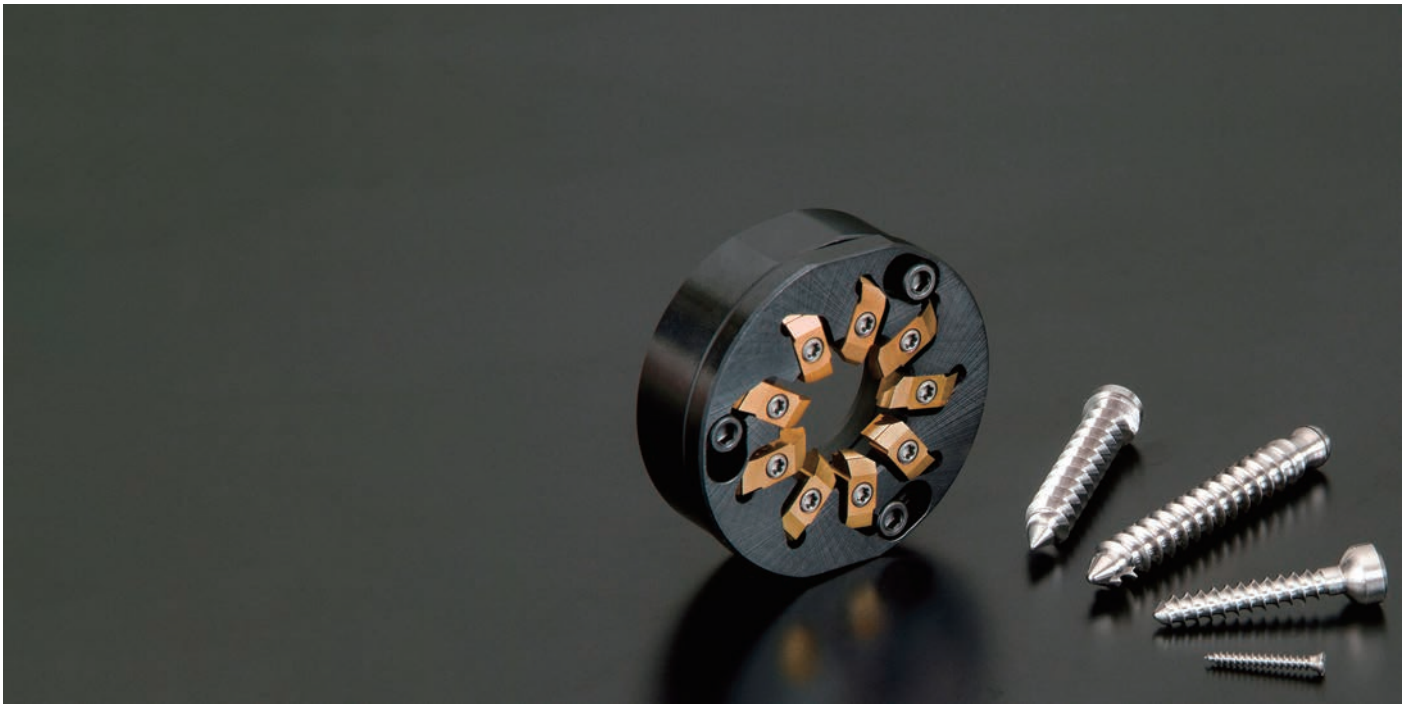
TMN.. series/Inserts Carbide

TMN



● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	Pitch	AN	EPSR	IC	PDX	PNA	RE	S	Carbide		
												PVD	Uncoated
			mm	°	°	mm	mm	°	mm	mm	QM3	VM1	ZM3	KM1
TMN06FR03	R	Yes	0.4-0.75	7	60	3.97	0.5	60	0.03	1.59			●	
TMN08FR03	R	Yes	0.4-0.75	7	60	4.76	0.5	60	0.03	2.38			●	
TMN09FR03	R	Yes	0.4-0.75	7	60	5.56	0.5	60	0.03	2.38			●	



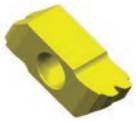
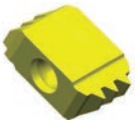
For high-efficiency thread cutting | Swiss CNC lathes

Thread Whirling

High productivity for precision screw manufacturing, like implant screws and bone screws
Ideal for medical screw thread forms that are becoming more complex
Single pass thread forming reduces cycle time

Features

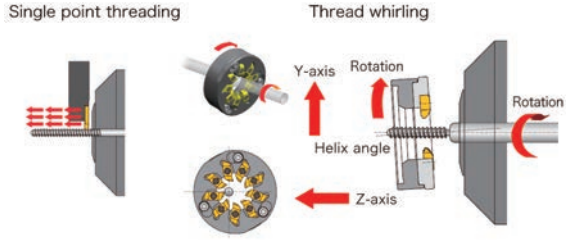
- NTK's insert design technology creates precise inserts matching even the most complex thread forms
- Sharp cutting edges and PVD coated inserts generate superior surface finishes and achieves long tool life

	Double-lead threads	Triple-lead threads
Work	Bone screw	Worm screw
Work material	Ti-6Al-4V ELI	brass
Workpiece		
Insert shape		
Major Dia.	φ4.0	φ7.0
Minor Dia.	φ2.4	φ4.7
Lead [Pitch×No. of Lead]	3.42mm	4.9mm

Machining multi-lead tread forms has many process requirements.
So it is important to contact us to discuss: mechanical specifications, spindle specifications, insert specifications, tooling specifications.

Thread whirling process vs. single point threading

In thread whirling, the whirling head is tilted to a specific helix angle, the cutter is rotated at high speed, the bar stock (c axis) is rotated at a low speed, and the pitch (z axis) is the feed.
The inserts shear the material which enables single pass thread forming.



Special Item Capability

- Even though almost all bone screw shapes are special, NTK thread whirling inserts can make the correct shape of thread the first time, without any redesign or remanufacturing
- The combination of a sharp cutting edge and PVD coating achieves an excellent finish and long tool life.

Instructions

1. Refer to our chart and find your machine and spindle model. Select the suitable whirling cutter.
2. Submit the machine , spindle model information, workpiece drawing, material, and bar stock diameter to NTK. NTK calculates the lead angle and insert geometry from the work drawing and manufactures a dedicated insert.
3. Set the whirling cutter at the specified lead angle and set the cutting conditions.

Recommended Cutting Conditions

Conditions / No. of teeth		9	6	4	
Main spindle	min-1	10-40	10-25	7-15	Faster RPM reduces machining time
Whirling cutter	min-1	1500-4000			
Feed Rate		Same as thread lead = pitch			
Bar stock	mm	-φ10	-φ10	-φ8	
Work Material		Ti-6Al-4V EL / SUS316 / 17-4PH / Titanium / brass			

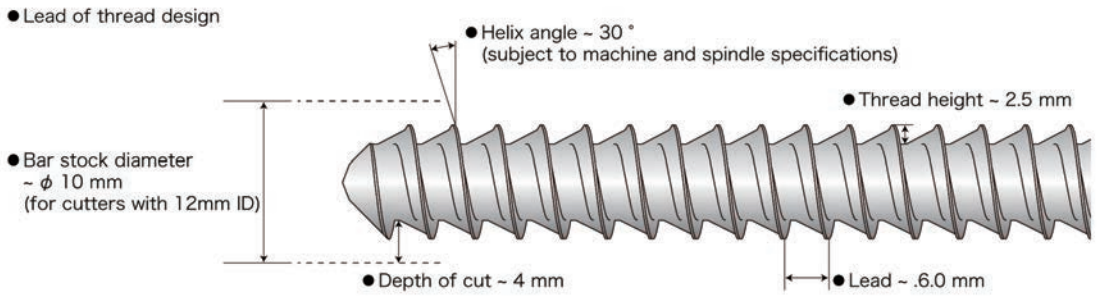
Formula for calculating thread whirling process time

$$T\ (\text{Seconds}) = \frac{60 \times \text{Thread length}}{\text{Main spindle rpm} \times \text{Feed rate (Thread lead)}}$$

Ex.) Double lead / 50㎜ length / 2㎜ lead (2×1㎜ pitch) / 30 rpm

$$T\ (\text{Seconds}) = \frac{60 \times 50\text{㎜}}{30\text{rpm} \times 2\text{㎜}} = 40\ \text{Seconds}$$

Applicable Thread Geometry (Approximated)



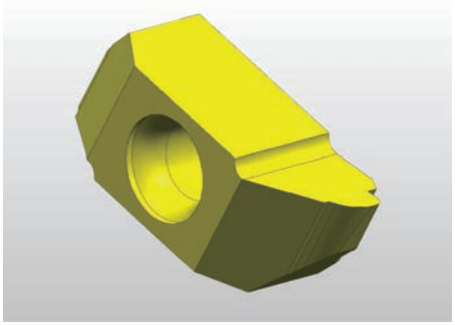
The geometries shown above are approximated and could vary by actual applications

Double-lead Bone Screw Process Example

1. 1st thread whirl at taper area
2. Rotate the bar 180°and whirl the 2nd thread on same area as 1
3. Thread whirl the straight section
4. To obtain two exits on the screw, back up half a lead (one pitch) and rotate 180 degrees. Additional machining is performed at the exit.

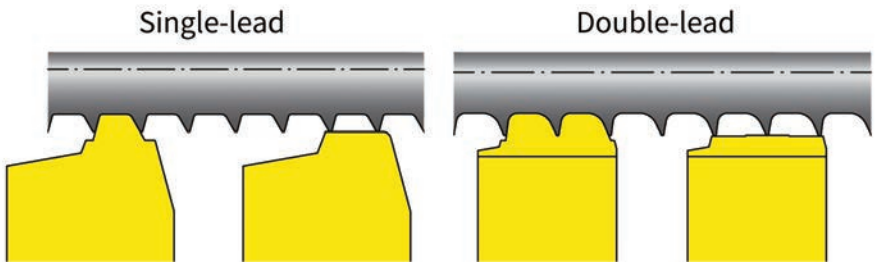
Basic Insert Grade : ZM3

ZM3 is the common grade for NTK thread whirling
ZM3 offers excellent surface finish
NTK can make inserts with other coatings to meet customers demands



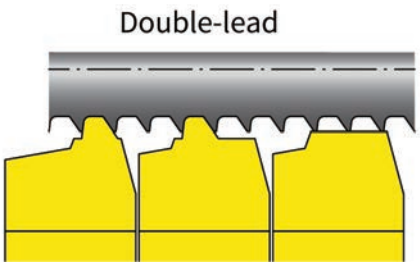
NTK Thread Machining Examples

For absolute flat on OD



Two insert combination brings absolute flat on OD to meet drawing specifications.

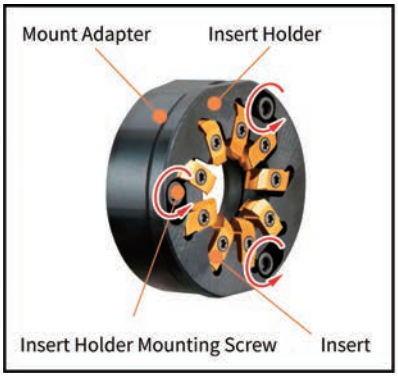
For tiny thread



NTK's Thread Whirling system can machine small diameter multi-lead screws to spec, with lower tool pressure, by using several types of specially designed and accurately ground inserts on the cutter.

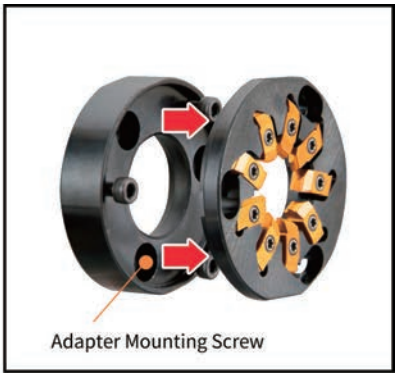
NTK's Unique Attachment System

NTK's whirling insert holder can be attached and detached without removing mounting screws



①Loosen the Mounting Screws

②Rotate the Insert Holder 10 degrees



③Detach the Insert Holder without removing the Mounting Screws

Application Examples

Double-lead Bone Screw

Work Material : Ti -6Al-4v ELI

Bar Stock Dia.	ϕ9.5	Number of start	2
Major Dia.	ϕ4.0	Helix Angle	28.5°
Minor Dia.	ϕ2.5	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	15	Speed of whirling cutter (rpm)	3,500
Lead = Feed (mm/rev)	5.5	Result	OK

NTK Thread Whirling: Dramatically improved productivity

Competitor's Thread Whirling: *Cannot complete with single pass. Requires feeding stock multiple times and two passes for threading each time.*

NTK thread whirling succeeded in double lead screw machining when one of the major thread whirling suppliers has failed many times.

Single-lead Bone Screw

Work Material : 316SS

Bar Stock Dia.	ϕ8.0	Number of start	1
Major Dia.	ϕ3.45	Helix Angle	7.5°
Minor Dia.	ϕ2.67	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	23	Speed of whirling cutter (rpm)	2,000
Pitch = Feed (mm/rev)	1.24	Result	OK

NTK Thread Whirling: 2600 pcs

Competitor's Thread Whirling: 1000 pcs

Some thread whirling manufacturers offer 6-teeth or 12-teeth systems, too many teeth cause chip packing issues and more tool pressure. Fewer **teeth means greater cycle time. NTK concluded that 9-teeth is the best** configuration. Our customers can run 1.5 times faster and get longer tool life.

Triple-lead Worm Gear

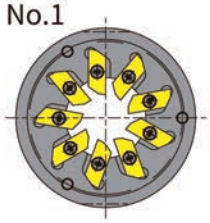
Work Material : Brass

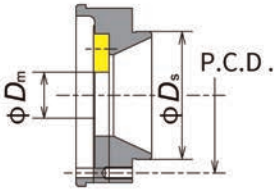
Bar Stock Dia.	ϕ8.0	Number of start	3
Major Dia.	ϕ7.0	Helix Angle	14.6°
Minor Dia.	ϕ4.7	Hand of thread	Left
Cutting condition			
Main Spindle Speed (rpm)	20	Speed of whirling cutter (rpm)	3,500
Lead = Feed (mm/rev)	4.8	Result	OK

Multi-lead threads, common in the Worm Gear industry are made by a forming or cutting process. The large helix angle is difficult to machine with single-point threading.
NTK now makes thread whilring inserts for multi-lead threads. Cycle time is reduced with a one pass process and thread form dimensions are stable with the low tool pressure.

Thread Whirling System

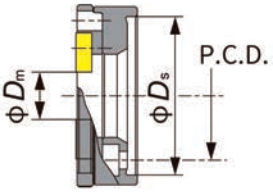
No.1



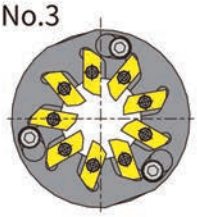


No.2

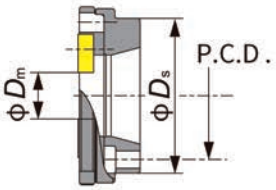
Quick-change



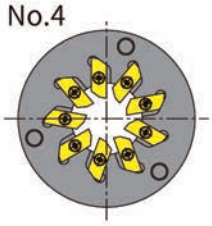
No.3

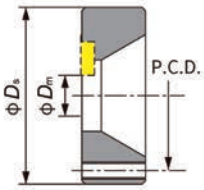


Quick-change

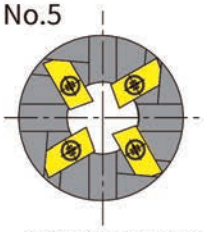


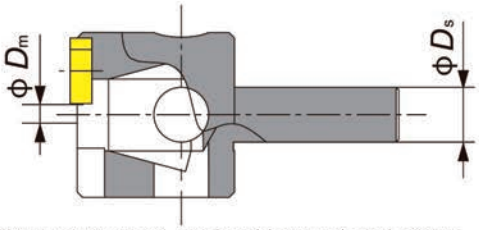
No.4





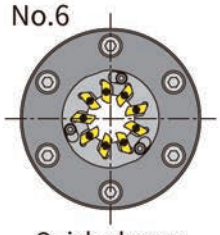
No.5



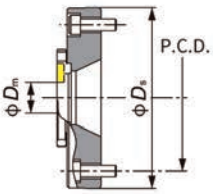


Guideline: Raw material diameter up to ϕ6, machinable up to length 18mm
(Contact CKD for further information)

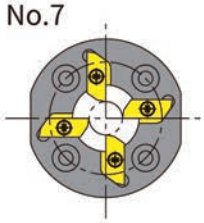
No.6

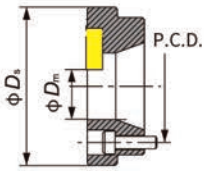


Quick-change

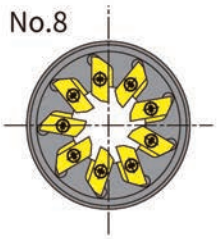


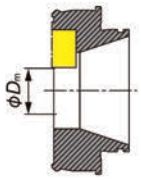
No.7



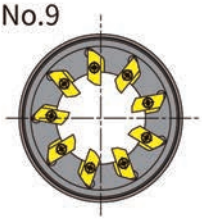


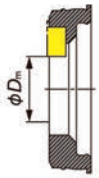
No.8





No.9





Spare Insert Holder (Cartridge)

Item number	No. of tooth	φDm (mm)	Compatible cutters
TWC6HP2	6	12	No,2,No.3※
TWC9HP2	9	12	No,2,No.3※
TWC9HP2-D16	9	12	No,6※

※Cannot be used for TWC9TS20550P2, TWC9TO12050P2-D18 and TWC9HA22594P2

Note(s): Note: Insert holder comes with insert screws and wrench Insert holder mounting screw is not included

Spare Parts

Description		Item number
Insert Screw	for 4mm thick inserts	FSI17-2.2×6.0
	for 6.5mm thick inserts	FSI24-2.2×7.9
Wrench		T-07
Insert Holder Mounting Bolt		CS0309-TW

Machine make	Model	Location	Spindle make	Spindle model	Helix angle	No.	NTK Whirling cutter	Stock	No. of tooth	φDm (mm)	φDs	P.C.D.	Mount adapter bolt
CITIZEN	$M_4$32-VII	Gang	CITIZEN	BTW-4000	0°- 15°	1	TWC9C0746HP1	●	9	φ12	φ46	φ35	M3
	120/L20E/L20X	Gang		BTW-3000	0°- 15°								
	L32/L32X			BTW-3100									
	D25	Gang		BTW-3100	0°- 15°	1	TWC9C1040HP1 TWC6C1040HP1 TWC9C1040HP1-D16	● ● ●	9 6 9	φ12 φ12 φ16	φ33	φ40	M3 (Provided with spindle)
	L32X			BTW-6000	±25°								
	L20X												
	M16			BTW-5000	±25°								
	A20				0°- 15°								
	A32			BTW-2000	±25°								
	L20/L20X												
	L32/L32X												
	M20												
	M32												
	C32			BTW-1000	±25°								
	L20												
	M20				+20°- -25°								
	M?3?32				±25°								
	C12/16	Gang	CITIZEN	LTRO170	±15°	2	TWC9C1037P2	●	9	φ12	φ37	φ30.5	CS0310 (M3)
	M2/16	Turret		LTR0128/LTRO168									
	M2/16III			MSW105									
	M20/32III			KSW110									
	L20	Gang		LTRO183	±15°	2	TWC9J1040P2	●	9	φ12	φ40	φ32.5	H-M4 × 12
	M20/32												
	M20/32	Turret		LTRO169									
	K16	Attachment	PCM	GSW-101	±15°	1	WC6P1620HP1-D9	●	6	φ9	φ32	φ26	M4 (Provided with spindle)
	L20	Gang		LSW-101-L20	±10°	2	TWC9P1340P2	●	9	φ12	φ40	φ32.5	M4 (Provided with spindle)
	M20/16	Turret		NSW-101									
	M20/M32			KSW-101									
STAR	SW-12	Attachment	STAR	10159	±20°	7	TWC4S1433HP1	●	4	φ8	φ38	φ27	CS0310 (M3)
	ECAS-12/20			54178	±10°	3	TWC9S1640P2	●	9	φ12	φ40	φ33	CS04148S (M4)
	SB-20R			0M171	-20°- 0°								
	SR-20J/20RIII 20RIV/32JII			68172	-20°- 0°								
	ECAS-20T	Turret		59172									
	ECAS-32T			58171	±20°								
	SR-38	Attachment		10172	±10°								
	ST-38	Turret		43156	±20°								
	SV-12			45172	±10°								
	SV-20/SV-20R			42173	±10°								
	SV-32			43172	±10°								
	SV-38R			43156	±20°								
TSUGAMI	BH20/BH38	Turret	TSUGAMI	3263-Y481	±10°	3	TWC9TS2252P2	●	9	φ12	φ52	φ42	CS0515 (M5)
	B038T			3263-Y2481	±10°	3	TWC9TS2252P2		9	φ12	φ52	φ42	CS0515 (M5)
	BS20	Attachment		3214-Y1371	±10°	3	TWC9TS20550P2	●	9	φ16	φ50	φ40	CS0515 (M5)
	SS20/SS26/SS32 B0265/B0266-Ⅱ B0325/B0326-Ⅱ B0265/B0266(V)-Ⅲ B0325/B0326(V)-Ⅲ BW269Z/BW329Z			3268-Y451	0°-10° 0°-20° 0°-25°	4 4 4	TWC9TS2244HP1 TWC9TS1944HP1 TWC9TS1644HP1	● ● ●	9 9 9	φ12 φ12 φ12	φ52 φ52 φ52	φ44 φ44 φ44	CS0520 (M5) CS0520 (M5) CS0515 (M5)
	S205/S206			3281-Y451	0°-30°	4	TWC9TS1044HP1	●	9	φ12	φ52	φ44	CS0515 (M5)
	S205/S206-Ⅱ			3281-Y2451									
	B0123/124/126-Ⅱ B0203/204/205/205-Ⅲ/206-Ⅱ			3220-Y6541									
	SS20/SS26/SS32			3268-Y271	0°-15°	4	TWC9TS1952P2BK		9	φ12	φ52	φ38	CS0515 (M5)
					0°-20°	4	TWC9TS1652P2BK		9	φ12	φ52	φ38	CS0515 (M5)
	SS207/SS267/SS327	–		Using B-axis	0°-15°	5	TWC4TS3010HP1	●	4	φ7	φ10	For single-corner inserts only	
	SS267/SS327-Ⅲ	Attachment		3293-Y3031	0°-15°	4	TWC9TS1944HP1	●	9	φ12	φ52	φ44	CS0520 (M5)

Machine make	Model	Location	Spindle make	Spindle model	Helix angle	No.	NTK Whirling cutter	Stock	No. of tooth	φDm (mm)	φDs	P.C.D.	Mount adapter bolt
TORNOS	DECO 10/10a	Attachment	TORNOS	224-1900	±15°	4	TWC6TO11542HP1	●	6	φ12	φ42	φ32	CS0410 (M4)
	Evo DECO 10/10			242-1900									
	DECO 13a/13e			226-1900	±15°	3	TWC9TO10540P2	●	9	φ12	φ40	φ31	CS0410 (M4)
	Evo DECO 16/10			243-1900									
	Swiss ST26			246-1900									
	DECO 20a			223-1900									
	DECO 26a			225-1900									
	Sigma 20			234-2750	±25°	3	TWC9TO12050P2-D18	●	9	φ18	φ50	φ40	CS0410 (M4)
	Sigma 32			236-2750									
HASEGAWA	JS-1W	–	HASEGAWA	–	0° -20°	6	TWC9HA22594P2	●	9	φ16	φ94	φ76	CS0620 (M6)
Various Machines	-	-	WTO	42BJ	-22°	8	TWC9WT42BJ20D12RH	●	9	φ12	-	-	-
	-	-		54BJ	30°	9	TWC9WT54BJ30D12RH	●	9	φ12	-	-	-
	-	-			30°	9	TWC9WT54BJ25D22RH	●	9	φ12	-	-	-

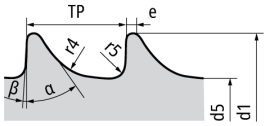
※Screws for insert-thickness 4.0/6.0mm are supplied with the cutter body.
Use screws for the thickness of the insert you are using.

Standard Thread Whirling Inserts (two-sided) for Medical ISO Style Threads

TWC.. series/Inserts Carbide

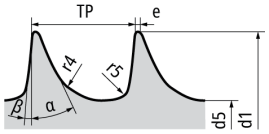
ISO5835

No.1



ISO5835 HA

No.2



ISO5835 HB

● Must use Thread whirling cutters with 12mm φDm dimension

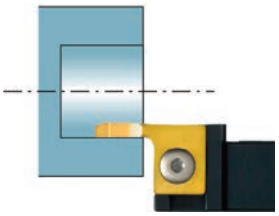
Figure	Item Number	Hand	Chip-breaker	ISO Standard	Pitch	d1	d5	e	r4	r5	α	β	Carbide		Uncoated
													PVD		
					mm	mm	mm	mm	mm	mm	mm	mm	QM3	VM1	ZM3	KM1
1	**TW5835-HA1.5-D12**	R	Yes	HA1.5	0.5	1.5	1.1	0.1	0.3	0.1	35	3			●	
1	**TW5835-HA2.0-D12**	R	Yes	HA2.0	0.6	2	1.3	0.1	0.4	0.1	35	3			●	
1	**TW5835-HA2.7-D12**	R	Yes	HA2.7	1	2.7	1.9	0.1	0.6	0.2	35	3			●	
1	**TW5835-HA3.5-D12**	R	Yes	HA3.5	1.25	3.5	2.4	0.1	0.8	0.2	35	3			●	
1	**TW5835-HA4.0-D12**	R	Yes	HA4.0	1.5	4	2.9	0.1	0.8	0.2	35	3			●	
1	**TW5835-HA4.5-D12**	R	Yes	HA4.5	1.75	4.5	3	0.1	1	0.3	35	3			●	
1	**TW5835-HA5.0-D12**	R	Yes	HA5.0	1.75	5	3.5	0.1	1	0.3	35	3			●	
2	**TW5835-HB4.0-D12**	R	Yes	HB4.0	1.75	4	1.9	0.1	0.8	0.3	25	5			●	
2	**TW5835-HB6.5-D12**	R	Yes	HB6.5	2.75	6.5	3	0.2	1.2	0.8	25	5			●	

ID Tooling

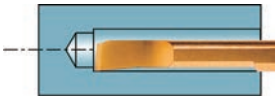
Product Lines V02
Recommended Cutting Conditions V04
General Information V05
LBM.. series V06
STICK DUO series V09
MBL.. series V23
ERGH.. series V26
CP.. series V28
CC.. series V30
TP.. series V34
TC.. series V40
ID Grooving .....
GTG.. series V44
Internal Thread .....
TMN.. series V46
Boring bar adaptors V48

Product Lines

ID Tooling



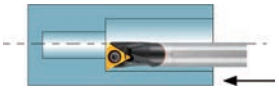
Insert	LBM →V8		
Holder	LBMA	DS-LBMB	CH-LBM
	→V6	→V7	→V7
Min. Bore Dia.	φ1.0		

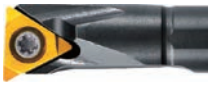


Insert	SHFS, SHFB, SBFS, SBFB →V13,V18		
Holder	HY-NBH-OH	HY-NBH	NBH
	STICK DUO SPLASH with Coolant through →V9	STICK DUO HYPER →V11	→V14
Min. Bore Dia.	φ2.0		

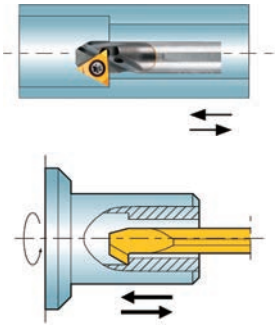
Insert \ Holder	HY-NBH-OH	HY-NBH	NBH
	STICK DUO HYPER	STICK DUO HYPER	STICK DUO
"S" chip breaker Sharp cutting edge — High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFS-S	2nd OPT.	2nd OPT.	Best fit
"F" chip breaker Evacuates chips BACKWARD — SHFB-F High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFB-F	2nd OPT.	2nd OPT.	Best fit
"H" Flat type Mirror finish edge — SHFS-H High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFS-H	2nd OPT.	2nd OPT.	Best fit
Back turning	SBB	2nd OPT.	2nd OPT.	Best fit
Grooving	SBG	2nd OPT.	2nd OPT.	Best fit
Threading	SBT	2nd OPT.	2nd OPT.	Best fit

Insert	MBL →V25		ERGP →V27	
Holder	C-MBR (Carbide shank)	S-MBR (Steel shank)	C-SEXR (Carbide shank)	S-SEXR (Steel shank)
	Coolant through →V23	Coolant through →V23	Coolant through →V26	Coolant through →V26
Min. Bore Dia.	φ5.0		φ6.0	



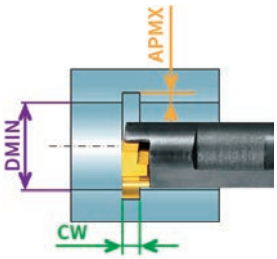
Insert	CC/CP →V29,V31		TC/TP →V37,V43	
Holder	C-SCLC/P (Carbide shank)	S-SCLC/P (Steel shank)	C-STUC/P (Carbide shank)	S-STUC/P (Steel shank)
	Coolant through →V28,V30	Coolant through →V28,V30	Coolant through →V34,V40	 Coolant through →V34,V40
Min. Bore Dia.	φ7.0		φ8.0	

ID Back Turning



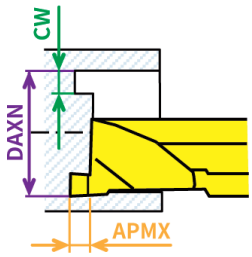
Insert	SBB →V20	TC/TP →V37,V43	MBL →V25
Holder	NBH	C-STZP/C (Carbide shank)	C-MSBR (Carbide shank)
	→V14	→V36,V42	→V25
Min. Bore Dia.	φ3.0	φ10.0	φ5.7 / φ7.7

ID Grooving



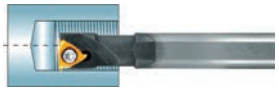
Insert	SBG →V21	GTG →V45
Holder	NBH	S-BG / BG
	→V14	→V44
CW : Blade width	0.5 - 2.0mm	0.5 - 2.0mm
APMX : Depth of cut	-2.0mm	-3.0mm
DMIN : Min. Bore Dia.	3/4/5/6/8mm	10/12/14/16/20/25mm

ID Face Grooving



Insert	SFG →V22
Hoder	NBH
	→V14
CW : Blade width	1.0 - 3.0mm
APMX : Depth of cut	-3.0mm
DAXN : Min. Bore Dia.	6/8 mm

Internal Thread



Insert	SBT →V22	TMN →V47
Holder	NBH	TGC / HN
	→V14	→V46
Thread Angle	60°	60°
Pitch	0.5 - 1.75mm	0.4 - 0.75mm
CDX	0.6 - 1.8mm	0.7 - 1.0mm

Recommended Cutting Conditions

ID Turning

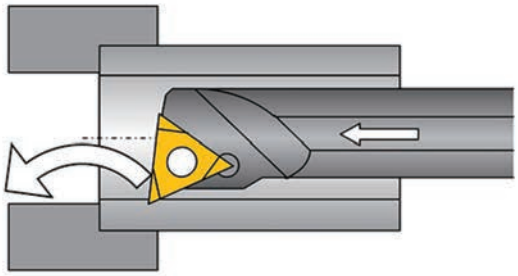
Min.Bore Dia. ≦ φ6 (LBM / STICK DUO)

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name			Ti-6Al-4V	ASTM F-75	SUS304 SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4					VM1 / TM4	
	2nd choice	VM1 / ZM3					ZM3	
Cutting Speed (m/min)		20 50 70				30 60 90		
Feed Rate (mm/rev)		0.01 0.03 0.05						
Depth Of Cut (DOC)		0.05 0.08 0.1						

Min.Bore Dia. > φ6

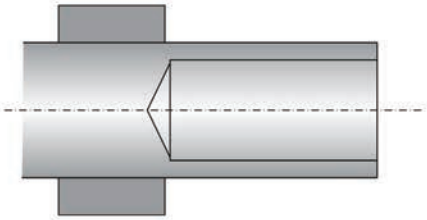
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name			Ti-6Al-4V	ASTM F-75	SUS304	SUS316 17-4PH	SUS303 SUS430F	SCr420 SCM435	S10C S45C
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / TM4		QM3	TM4 / DT4	
Cutting Speed (m/min)		45 70 100			40 70 100		45 90 180	45 90 150	
Feed Rate (mm/rev)		0.02 0.06 0.12							
Depth Of Cut (DOC)		0.1 0.5 2.0							

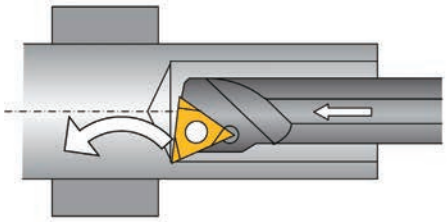
Through hole



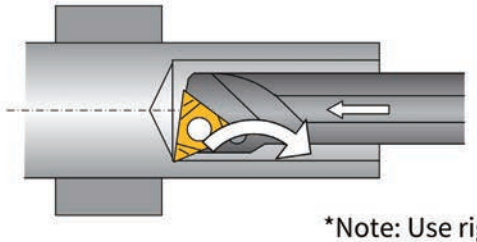
For chip control : chips can be evacuated forward

Blind hole





Typical inserts direct chip flow forward. Then packed chips damage and break cutting edge

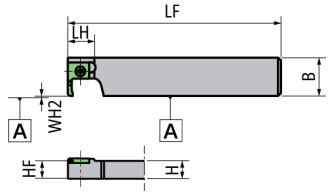


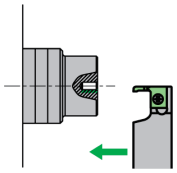
F05, F1, and FG chipbreakers will direct chips backwards and eliminate chipping on inserts

*Note: Use right-hand inserts with F05, F1 and FG chipbreaker for right-hand boring bars

LBM.. series/Toolholders

LBMA





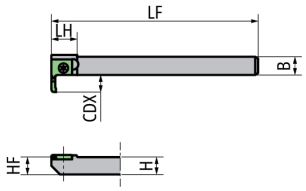
●Diagram shows right-hand tool

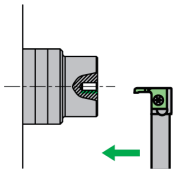
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	WF2 mm	Insert Gage	
5383476	**LBMAR08**	●	R	21.5	8	8	120	15	0	0	LBM..	
5359849	**LBMAR10**	●	R	21.5	10	10	120	15	0	0	LBM..	
5362199	**LBMAR12**	●	R	21.5	12	12	120	15	0	0	LBM..	
5378278	**LBMAR16**	●	R	21.5	16	16	120	15	0	0	LBM..	

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
LBMAR08	LRIS-4*10	LLR-25S
LBMAR10	LRIS-4*10PW	CLR-15S
LBMAR12	LRIS-4*10PW	CLR-15S
LBMAR16	LRIS-4*12PW	CLR-15S

LBMA-F





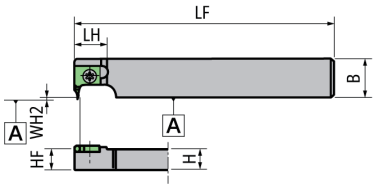
●Diagram shows right-hand tool

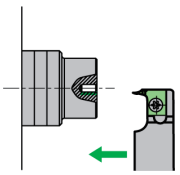
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF mm	WF2 mm	Insert Gage	
5359831	**LBMAR10-F**	●	R	10	10	10	10	120	15	10	10	LBM..	LBM..S

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
LBMAR10-F	LRIS-4*12PW	CLR-15S

LBMA-S





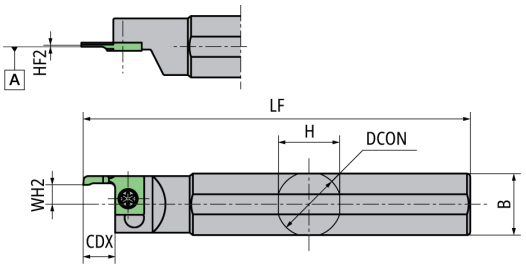
●Diagram shows right-hand tool

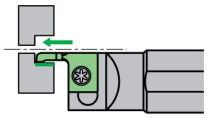
EDP	Item Number	Stock	Hand	B mm	H mm	HF mm	LF mm	LH mm	WF mm	WF2 mm	Insert Gage
5571435	**LBMAR10SGX**	●	R	18	10	10	85	15	0	0	LBMD..S
5486311	**LBMAR10S**	●	R	18	10	10	120	15	0	0	LBMD..S
5486329	**LBMAR12S**	●	R	18	12	12	120	15	0	0	LBMD..S

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
LBMAR10SGX	LRIS-4*10PW	CLR-15S
LBMAR10S	LRIS-4*10PW	CLR-15S
LBMAR12S	LRIS-4*12PW	CLR-15S

DS-LBMB DS Toolholders





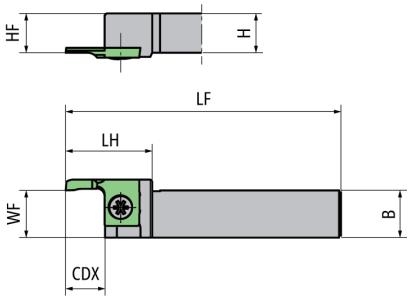
●Diagram shows left-hand tool

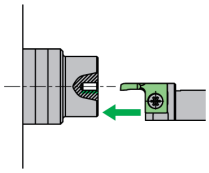
EDP	Item Number	Stock	Hand	B mm	CDX mm	DCON mm	H mm	HF2 mm	LF mm	WF mm	WF2 mm	Insert Gage	
5359856	**DS-LBMBL14F**	●	L	13	10	14	13	0	80	6.35	6.35	LBM..	LBMD..S
5359914	**DS-LBMBL15H**	●	L	15	10	15.875	15	0	100	6.35	6.35	LBM..	LBMD..S
5359906	**DS-LBMBL16X**	●	L	15	10	16	15	0	95	6.35	6.35	LBM..	LBMD..S
5359898	**DS-LBMBL19**	●	L	18	10	19.05	18	0	120	6.35	6.35	LBM..	LBMD..S
5359880	**DS-LBMBL20**	●	L	19	10	20	19	0	120	6.35	6.35	LBM..	LBMD..S
5359872	**DS-LBMBL22**	●	L	21	10	22	21	0	120	6.35	6.35	LBM..	LBMD..S
5393905	**DS-LBMBL25**	●	L	24	10	25.4	24	0	150	6.35	6.35	LBM..	LBMD..S
5483441	**DS-LBMBL25-MET**	●	L	24	10	25	24	0	120	6.35	6.35	LBM..	LBMD..S

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
DS-LBMBL14F	LRIS-4*10PW	CLR-15S
DS-LBMBL15H	LRIS-4*10PW	CLR-15S
DS-LBMBL16X	LRIS-4*10PW	CLR-15S
DS-LBMBL19	LRIS-4*10PW	CLR-15S
DS-LBMBL20	LRIS-4*10PW	CLR-15S
DS-LBMBL22	LRIS-4*10PW	CLR-15S
DS-LBMBL25	LRIS-4*10PW	CLR-15S
DS-LBMBL25-MET	LRIS-4*10PW	CLR-15S

CH-LBM for horizontal gang style tool post





●Diagram shows left-hand tool

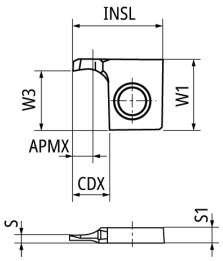
EDP	Item Number	Stock	Hand	B mm	CDX mm	H mm	HF mm	LF mm	LH mm	WF mm	Insert Gage	
5659164	**CH-LBML1012H**	●	L	12	10	10	10	100	22	12.35	LBM..	LBMD..S
5659172	**CH-LBML1212H**	●	L	12	10	12	12	100	22	12.35	LBM..	LBMD..S

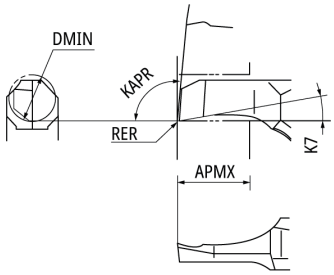
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
CH-LBML1012H	LRIS-4*10PW	CLR-15S
CH-LBML1212H	LRIS-4*10PW	CLR-15S

LBM.. series/Inserts Carbide

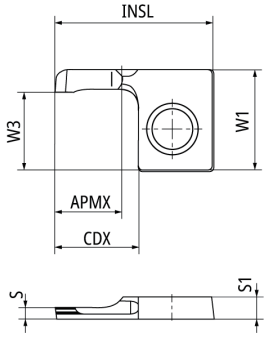
LBMD-S Short type

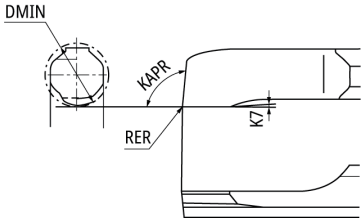




Item Number		Hand	Chip-breaker	DMIN	APMX	CDX	INSL	K7	KAPR	RE	S	S1	W1	W3	Carbide PVD	
				mm	mm	mm	mm	°	°	mm	mm	mm	mm	mm	VM1	ZM3
LBMD1020FLPB05S	Ⓜ	L	Yes	1	2	6	15	10	95	0.05	1.25	2.5	12	10	●	
LBMD1020FLVBS	Ⓜ	L	Yes	1	2	6	15	10	95	0	1.25	2.5	12	10	●	
LBMD1430FLPB05S	Ⓜ	L	Yes	1.4	3	6	15	10	95	0.05	1.25	2.5	12	10	●	
LBMD1430FLVBS	Ⓜ	L	Yes	1.4	3	6	15	10	95	0	1.25	2.5	12	10	●	
LBMD1730FLPB05S	Ⓜ	L	Yes	1.7	3	6	15	10	95	0.05	1.25	2.5	12	10	●	
LBMD1730FLVBS	Ⓜ	L	Yes	1.7	3	6	15	10	95	0	1.25	2.5	12	10	●	
LBMD2035FLPB05S	Ⓜ	L	Yes	2	3.5	6	15	10	95	0.05	1.25	2.5	12	10	●	
LBMD2035FLVBS	Ⓜ	L	Yes	2	3.5	6	15	10	95	0	1.25	2.5	12	10	●	
LBMD2335FLPB05S	Ⓜ	L	Yes	2.3	3.5	6	15	10	95	0.05	1.25	2.5	12	10	●	
LBMD2335FLVBS	Ⓜ	L	Yes	2.3	3.5	6	15	10	95	0	1.25	2.5	12	10	●	

LBM Long type

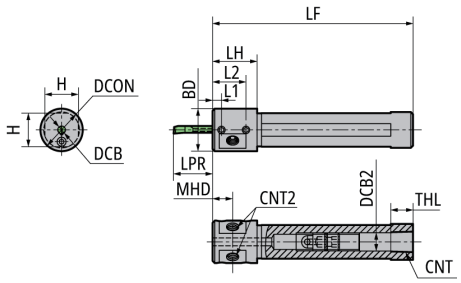




Item Number		Hand	Chip-breaker	DMIN	APMX	CDX	INSL	K7	KAPR	RE	S	S1	W1	W3	Carbide PVD	
				mm	mm	mm	mm	°	°	mm	mm	mm	mm	mm	VM1	ZM3
LBMD1020FLPB05	Ⓜ	L	Yes	1	2	9.9	18.9	10	95	0.05	1.25	2.5	12	10	●	
LBMD1020FLVB	Ⓜ	L	Yes	1	2	9.9	18.9	10	95	0	1.25	2.5	12	10	●	
LBMD2060FLPB05	Ⓜ	L	Yes	2	6	9.9	18.9	10	95	0.05	1.25	2.5	12	10	●	
LBMD2060FLVB	Ⓜ	L	Yes	2	6	9.9	18.9	10	95	0	1.25	2.5	12	10	●	
LBME2060FLP05	Ⓜ	L	No	2	6	9.9	18.9	2	105	0.05	1.25	2.5	12	10	●	
LBME2060FLPB05	Ⓜ	L	Yes	2	6	9.9	18.9	2	105	0.05	1.25	2.5	12	10	●	
LBME2060FLV	Ⓜ	L	No	2	6	9.9	18.9	2	105	0	1.25	2.5	12	10	●	
LBME2060FLVB	Ⓜ	L	Yes	2	6	9.9	18.9	2	105	0	1.25	2.5	12	10	●	
LBM3080FLPB05	Ⓜ	L	Yes	3	8	9.9	18.9	2	90	0.05	1.25	2.5	12	9.6	●	
LBM3080FLVB	Ⓜ	L	Yes	3	8	9.9	18.9	2	90	0	1.25	2.5	12	9.6	●	
LBMC3080FLP05	Ⓜ	L	No	3	8	9.9	18.9	2	95	0.05	1.25	2.5	12	9.6	●	●
LBMC3080FLPB05	Ⓜ	L	Yes	3	8	9.9	18.9	2	95	0.05	1.25	2.5	12	9.6	●	●
LBMC3080FLV	Ⓜ	L	No	3	8	9.9	18.9	2	95	0	1.25	2.5	12	9.6	●	●
LBMC3080FLVB	Ⓜ	L	Yes	3	8	9.9	18.9	2	95	0	1.25	2.5	12	9.6	●	●

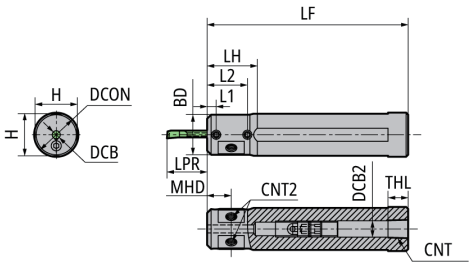
STICK DUO SPLASH
SHF.. series/Sleeve (Adjustable overhang/ Internal coolant system)

HY-NBH-OH Shank diameter Φ16



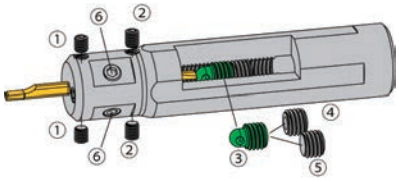
EDP	Item Number	Stock	Hand	BD mm	CNT	CNT2	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	LPR mm	L1 mm	L2 mm	MHD mm	THL mm	Applicable insert bar	
5893011	**HY-NBH02016G-OH**	●	N	19	Rc1/8	M6×P1.0	2	8.2	16	15	90	19	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893029	**HY-NBH02516G-OH**	●	N	19	Rc1/8	M6×P1.0	2.5	8.2	16	15	90	19	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893037	**HY-NBH03016G-OH**	●	N	19	Rc1/8	M6×P1.0	3	8.2	16	15	90	19	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893045	**HY-NBH03516G-OH**	●	N	19	Rc1/8	M6×P1.0	3.5	8.2	16	15	90	19	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893052	**HY-NBH04016G-OH**	●	N	19	Rc1/8	M6×P1.0	4	8.2	16	15	90	24	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893060	**HY-NBH05016G-OH**	●	N	19	Rc1/8	M6×P1.0	5	8.2	16	15	90	24	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..

HY-NBH-OH Shank diameter Φ19.05 - Φ25.4



EDP	Item Number	Stock	Hand	BD mm	CNT	CNT2	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	LPR mm	L1 mm	L2 mm	MHD mm	THL mm	Applicable insert bar	
5893078	**HY-NBH02019J-OH**	●	N	19.05	Rc1/8	M6×P1.0	2	8.2	19.05	18	110	–	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893086	**HY-NBH02519J-OH**	●	N	19.05	Rc1/8	M6×P1.0	2.5	8.2	19.05	18	110	–	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893094	**HY-NBH03019J-OH**	●	N	19.05	Rc1/8	M6×P1.0	3	8.2	19.05	18	110	–	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893102	**HY-NBH03519J-OH**	●	N	19.05	Rc1/8	M6×P1.0	3.5	8.2	19.05	18	110	–	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893136	**HY-NBH04019J-OH**	●	N	19.05	Rc1/8	M6×P1.0	4	8.2	19.05	18	110	–	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893144	**HY-NBH05019J-OH**	●	N	19.05	Rc1/8	M6×P1.0	5	8.2	19.05	18	110	–	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967922	**HY-NBH06019J-OH**	●	N	19.05	Rc1/8	M6×P1.0	6	8.2	19.05	18	110	–	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893151	**HY-NBH02020J-OH**	●	N	20	Rc1/8	M6×P1.0	2	8.2	20	19	110	–	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893169	**HY-NBH02520J-OH**	●	N	20	Rc1/8	M6×P1.0	2.5	8.2	20	19	110	–	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893177	**HY-NBH03020J-OH**	●	N	20	Rc1/8	M6×P1.0	3	8.2	20	19	110	–	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893185	**HY-NBH03520J-OH**	●	N	20	Rc1/8	M6×P1.0	3.5	8.2	20	19	110	–	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893193	**HY-NBH04020J-OH**	●	N	20	Rc1/8	M6×P1.0	4	8.2	20	19	110	–	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893201	**HY-NBH05020J-OH**	●	N	20	Rc1/8	M6×P1.0	5	8.2	20	19	110	–	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967930	**HY-NBH06020J-OH**	●	N	20	Rc1/8	M6×P1.0	6	8.2	20	19	110	–	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893219	**HY-NBH02022X-OH**	●	N	20	Rc1/8	M6×P1.0	2	8.2	22	21	120	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893227	**HY-NBH02522X-OH**	●	N	20	Rc1/8	M6×P1.0	2.5	8.2	22	21	120	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893235	**HY-NBH03022X-OH**	●	N	20	Rc1/8	M6×P1.0	3	8.2	22	21	120	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893243	**HY-NBH03522X-OH**	●	N	20	Rc1/8	M6×P1.0	3.5	8.2	22	21	120	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893250	**HY-NBH04022X-OH**	●	N	20	Rc1/8	M6×P1.0	4	8.2	22	21	120	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893268	**HY-NBH05022X-OH**	●	N	20	Rc1/8	M6×P1.0	5	8.2	22	21	120	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967948	**HY-NBH06022X-OH**	●	N	20	Rc1/8	M6×P1.0	6	8.2	22	21	120	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893276	**HY-NBH02025.0K-OH**	●	N	20	Rc1/8	M6×P1.0	2	8.2	25	24	125	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893284	**HY-NBH02525.0K-OH**	●	N	20	Rc1/8	M6×P1.0	2.5	8.2	25	24	125	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893292	**HY-NBH03025.0K-OH**	●	N	20	Rc1/8	M6×P1.0	3	8.2	25	24	125	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893300	**HY-NBH03525.0K-OH**	●	N	20	Rc1/8	M6×P1.0	3.5	8.2	25	24	125	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893318	**HY-NBH04025.0K-OH**	●	N	20	Rc1/8	M6×P1.0	4	8.2	25	24	125	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893326	**HY-NBH05025.0K-OH**	●	N	20	Rc1/8	M6×P1.0	5	8.2	25	24	125	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967955	**HY-NBH06025.0K-OH**	●	N	20	Rc1/8	M6×P1.0	6	8.2	25	24	125	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893334	**HY-NBH02025.4K-OH**	●	N	20	Rc1/8	M6×P1.0	2	8.2	25.4	24	125	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893367	**HY-NBH02525.4K-OH**	●	N	20	Rc1/8	M6×P1.0	2.5	8.2	25.4	24	125	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893375	**HY-NBH03025.4K-OH**	●	N	20	Rc1/8	M6×P1.0	3	8.2	25.4	24	125	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893383	**HY-NBH03525.4K-OH**	●	N	20	Rc1/8	M6×P1.0	3.5	8.2	25.4	24	125	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893391	**HY-NBH04025.4K-OH**	●	N	20	Rc1/8	M6×P1.0	4	8.2	25.4	24	125	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893409	**HY-NBH05025.4K-OH**	●	N	20	Rc1/8	M6×P1.0	5	8.2	25.4	24	125	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967963	**HY-NBH06025.4K-OH**	●	N	20	Rc1/8	M6×P1.0	6	8.2	25.4	24	125	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..

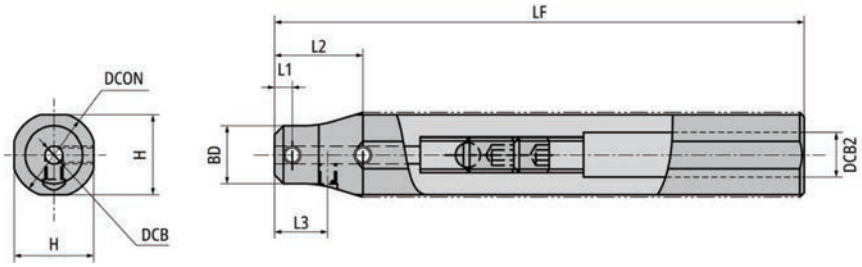
Spare Parts



Item Number	Clamp Screw		Overhang Adjustment			M6 Screw	Wrench		
	①	②	③	④	⑤	⑥	①②	③④⑤	⑥
HY-NBH02016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02516G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03516G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02519J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03519J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02520J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03520J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02522X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03522X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02525.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03525.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02525.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03525.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3

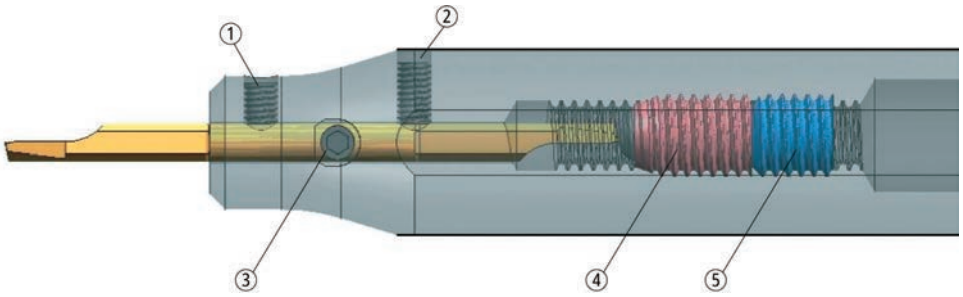
STICK DUO HYPER
SHF.. series/Sleeve (Adjustable overhang)

HY-NBH



EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	L1 mm	L2 mm	L3 mm	Applicable insert bar	
5709894	**HY-NBH02016H**	●	N	11	2	10	16	15	100	4	15	9.5	SBF../SHF..	SSP..
5709902	**HY-NBH02516H**	●	N	11.5	2.5	10	16	15	100	4	15	9.5	SBF../SHF..	SBT../SSP..
5709910	**HY-NBH03016H**	●	N	12	3	10	16	15	100	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5709936	**HY-NBH03516H**	●	N	12.5	3.5	10	16	15	100	4	20	12	SBF../SHF..	SBT../SSP..
5709944	**HY-NBH04016H**	●	N	13	4	10	16	15	100	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5709951	**HY-NBH05016H**	●	N	14	5	10	16	15	100	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5709969	**HY-NBH02019K**	●	N	11	2	10	19.05	18	125	4	15	9.5	SBF../SHF..	SSP..
5709977	**HY-NBH02519K**	●	N	11.5	2.5	10	19.05	18	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5709985	**HY-NBH03019K**	●	N	12	3	10	19.05	18	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5709993	**HY-NBH03519K**	●	N	12.5	3.5	10	19.05	18	125	4	20	12	SBF../SHF..	SBT../SSP..
5710009	**HY-NBH04019K**	●	N	13	4	10	19.05	18	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5710017	**HY-NBH05019K**	●	N	14	5	10	19.05	18	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712708	**HY-NBH02020K**	●	N	11	2	10	20	19	125	4	15	9.5	SBF../SHF..	SSP..
5712716	**HY-NBH02520K**	●	N	11.5	2.5	10	20	19	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712724	**HY-NBH03020K**	●	N	12	3	10	20	19	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712740	**HY-NBH03520K**	●	N	12.5	3.5	10	20	19	125	4	20	12	SBF../SHF..	SBT../SSP..
5712757	**HY-NBH04020K**	●	N	13	4	10	20	19	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712765	**HY-NBH05020K**	●	N	14	5	10	20	19	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712773	**HY-NBH02022K**	●	N	11	2	10	22	21	125	4	15	9.5	SBF../SHF..	SSP..
5712799	**HY-NBH02522K**	●	N	11.5	2.5	10	22	21	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712831	**HY-NBH03022K**	●	N	12	3	10	22	21	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712856	**HY-NBH03522K**	●	N	12.5	3.5	10	22	21	125	4	20	12	SBF../SHF..	SBT../SSP..
5712872	**HY-NBH04022K**	●	N	13	4	10	22	21	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712914	**HY-NBH05022K**	●	N	14	5	10	22	21	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712732	**HY-NBH02025K-MET**	●	N	11	2	10	25	24	125	4	15	9.5	SBF../SHF..	SSP..
5712823	**HY-NBH02525K-MET**	●	N	11.5	2.5	10	25	24	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712849	**HY-NBH03025K-MET**	●	N	12	3	10	25	24	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712864	**HY-NBH03525K-MET**	●	N	12.5	3.5	10	25	24	125	4	20	12	SBF../SHF..	SBT../SSP..
5712898	**HY-NBH04025K-MET**	●	N	13	4	10	25	24	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712922	**HY-NBH05025K-MET**	●	N	14	5	10	25	24	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5713003	**HY-NBH02025K**	●	N	11	2	10	25.4	24	125	4	15	9.5	SBF../SHF..	SSP..
5713029	**HY-NBH02525K**	●	N	11.5	2.5	10	25.4	24	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5713045	**HY-NBH03025K**	●	N	12	3	10	25.4	24	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5713060	**HY-NBH03525K**	●	N	12.5	3.5	10	25.4	24	125	4	20	12	SBF../SHF..	SBT../SSP..
5713086	**HY-NBH04025K**	●	N	13	4	10	25.4	24	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5713102	**HY-NBH05025K**	●	N	14	5	10	25.4	24	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..

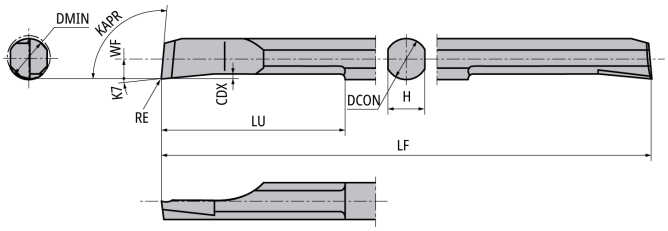
Spare Parts

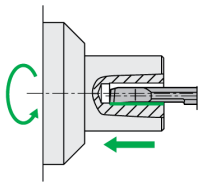


Item Number	Clamp Screw			Overhang Adjustment		Wrench	
	①	②	③	④	⑤	①②③	④⑤
HY-NBH02016H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02516H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03016H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03516H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04016H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05016H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02519K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03519K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02520K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03520K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02522K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03522K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02525K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03525K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02525K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03525K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104

SHF.. series/Insert bar Carbide

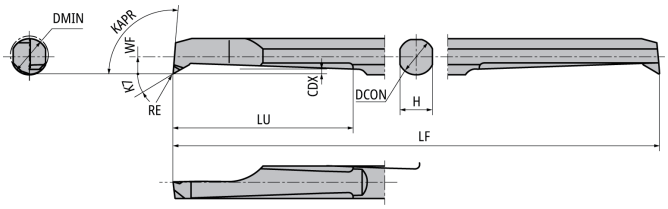
SHFS-S Sharp cutting edge

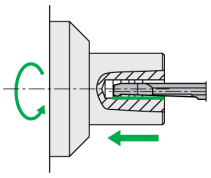




Item Number	Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD
			mm	mm	mm	mm	°	°	mm	mm	mm	mm	TM4
SHFS020R005S	R	Yes	2.2	0.25	2	1.8	5	95	50	10	0.05	0.9	●
SHFS025R005S	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.05	1.15	●
SHFS025R015S	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.15	1.15	●
SHFS030R005S	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.05	1.4	●
SHFS030R015S	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.15	1.4	●
SHFS035R005S	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.05	1.65	●
SHFS035R015S	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.15	1.65	●
SHFS040R005S	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.05	1.9	●
SHFS040R015S	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.15	1.9	●
SHFS050R005S	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.05	2.4	●
SHFS050R015S	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.15	2.4	●

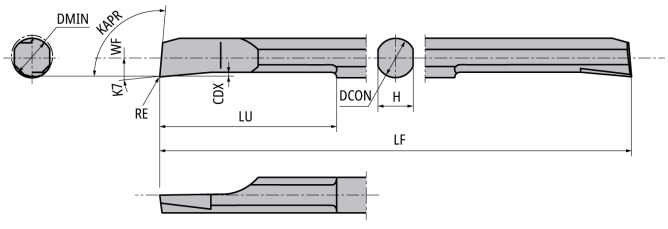
SHFB-F Evacuates chips BACKWARD

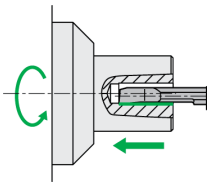




Item Number	Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD
			mm	mm	mm	mm	°	°	mm	mm	mm	mm	TM4
SHFB020R005F	R	Yes	2.2	0.25	2	1.8	30	95	50	8	0.05	0.95	●
SHFB025R005F	R	Yes	2.7	0.3	2.5	2.3	30	95	50	12.5	0.05	1.2	●
SHFB025R015F	R	Yes	2.7	0.3	2.5	2.3	30	95	50	12.5	0.15	1.2	●
SHFB030R005F	R	Yes	3.2	0.45	3	2.7	30	95	50	15	0.05	1.4	●
SHFB030R015F	R	Yes	3.2	0.45	3	2.7	30	95	50	15	0.15	1.4	●
SHFB035R005F	R	Yes	3.7	0.5	3.5	3.2	30	95	60	17.5	0.05	1.65	●
SHFB035R015F	R	Yes	3.7	0.5	3.5	3.2	30	95	60	17.5	0.15	1.65	●
SHFB040R005F	R	Yes	4.2	0.5	4	3.6	30	95	60	20	0.05	1.9	●
SHFB040R015F	R	Yes	4.2	0.5	4	3.6	30	95	60	20	0.15	1.9	●
SHFB050R005F	R	Yes	5.2	0.7	5	4.5	30	95	70	25	0.05	2.4	●
SHFB050R015F	R	Yes	5.2	0.7	5	4.5	30	95	70	25	0.15	2.4	●

SHFS-H Mirror finish edge

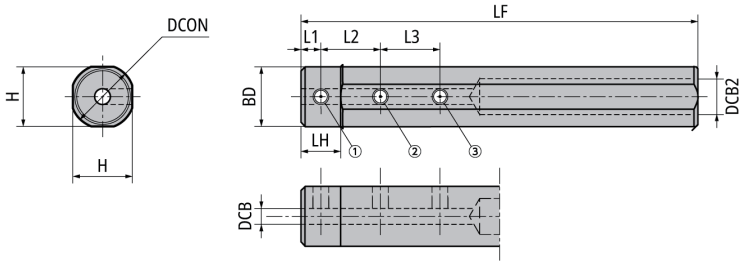




Item Number	Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD
			mm	mm	mm	mm	°	°	mm	mm	mm	mm	TM4
SHFS020R005H	Ⓜ R	Yes	2.2	0.25	2	1.8	5	95	50	10	0.05	0.9	●
SHFS025R005H	Ⓜ R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.05	1.15	●
SHFS025R015H	Ⓜ R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.15	1.15	●
SHFS030R005H	Ⓜ R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.05	1.4	●
SHFS030R015H	Ⓜ R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.15	1.4	●
SHFS035R005H	Ⓜ R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.05	1.65	●
SHFS035R015H	Ⓜ R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.15	1.65	●
SHFS040R005H	Ⓜ R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.05	1.9	●
SHFS040R015H	Ⓜ R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.15	1.9	●
SHFS050R005H	Ⓜ R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.05	2.4	●
SHFS050R015H	Ⓜ R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.15	2.4	●

STICK DUO
SB.. series/Sleeve

NBH Shank diameter Φ15.875 - Φ19.05



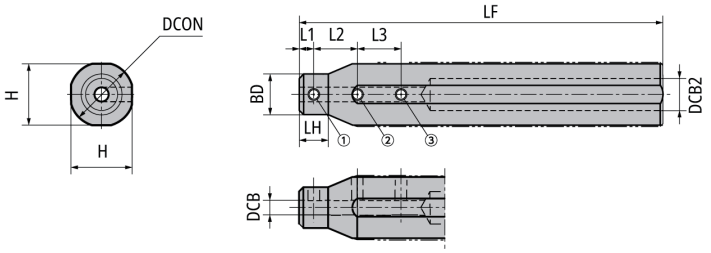
EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631403	**NBH02015H**	●	N	15	2	9	15.875	15	100	10	5	10	–	SBF../SHF..	SSP..
5702915	**NBH02515H**	●	N	15	2.5	9	15.875	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631411	**NBH03015H**	●	N	15	3	9	15.875	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586110	**NBH03515H**	●	N	15	3.5	9	15.875	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586128	**NBH04015H**	●	N	15	4	9	15.875	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5585997	**NBH04515H**	●	N	15	4.5	9	15.875	15	100	10	5	15	15	–	–
5585989	**NBH05015H**	●	N	15	5	9	15.875	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5585971	**NBH06015H**	●	N	15	6	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5585963	**NBH08015H**	●	N	15	8	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631429	**NBH02016H**	●	N	15	2	9	16	15	100	10	5	10	–	SBF../SHF..	SSP..
5702899	**NBH02516H**	●	N	15	2.5	9	16	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631437	**NBH03016H**	●	N	15	3	9	16	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586102	**NBH03516H**	●	N	15	3.5	9	16	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586094	**NBH04016H**	●	N	15	4	9	16	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586086	**NBH04516H**	●	N	15	4.5	9	16	15	100	10	5	15	15	–	–
5586078	**NBH05016H**	●	N	15	5	9	16	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586060	**NBH06016H**	●	N	15	6	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774195	**NBH07016H**	●	N	15	7	9	16	15	100	10	5	20	20	SBF../SHF..	–
5586052	**NBH08016H**	●	N	15	8	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631445	**NBH02019K**	●	N	18	2	11	19.05	18	125	10	5	10	–	SBF../SHF..	SSP..
5702907	**NBH02519K**	●	N	18	2.5	11	19.05	18	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631452	**NBH03019K**	●	N	18	3	11	19.05	18	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586045	**NBH03519K**	●	N	18	3.5	11	19.05	18	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586037	**NBH04019K**	●	N	18	4	11	19.05	18	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586029	**NBH04519K**	●	N	18	4.5	11	19.05	18	125	10	5	15	15	–	–
5586011	**NBH05019K**	●	N	18	5	11	19.05	18	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586003	**NBH06019K**	●	N	18	6	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774203	**NBH07019K**	●	N	18	7	11	19.05	18	125	10	5	20	20	SBF../SHF..	–
5586227	**NBH08019K**	●	N	18	8	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586219	**NBH10019K**	●	N	18	10	11	19.05	18	125	10	5	20	20	–	–

Spare Parts

Item Number	Clamp screw			Wrench (for Clamp screw)
	①	②	③	①②
NBH02015H	SS0406F	SS0406F	–	LW-2
NBH02515H	SS0406F	SS0406F	–	LW-2
NBH03015H	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	SS0404F	SS0404F	SS0404F	LW-2
NBH04515H	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	SS0403F	SS0403F	SS0403F	LW-2
NBH02016H	SS0406F	SS0406F	–	LW-2
NBH02516H	SS0406F	SS0406F	–	LW-2
NBH03016H	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	SS0404F	SS0404F	SS0404F	LW-2
NBH04516H	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	SS0404F	SS0404F	SS0404F	LW-2
NBH07016H	SS0403F	SS0404F	SS0404F	LW-2
NBH08016H	SS0403F	SS0403F	SS0403F	LW-2
NBH02019K	SS0408F	SS0408F	–	LW-2
NBH02519K	SS0408F	SS0408F	–	LW-2
NBH03019K	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	SS0406F	SS0406F	SS0406F	LW-2
NBH04519K	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	SS0406F	SS0406F	SS0406F	LW-2
NBH07019K	SS0404F	SS0404F	SS0404F	LW-2
NBH08019K	SS0404F	SS0404F	SS0404F	LW-2
NBH10019K	SS0403F	SS0404F	SS0404F	LW-2

STICK DUO | SB.. series/Sleeve

NBH Shank diameter Φ20 - Φ32



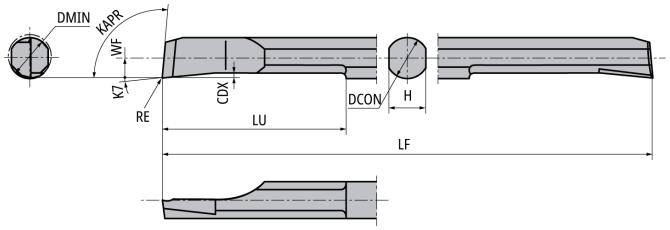
EDP	Item Number	Stock	Hand	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Insert Gage	
5631460	**NBH02020K**	●	N	11	2	11	20	19	125	10	5	10	–	SBF../SHF..	SSP..
5702881	**NBH02520K**	●	N	11	2.5	11	20	19	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631478	**NBH03020K**	●	N	12	3	11	20	19	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586201	**NBH03520K**	●	N	12	3.5	11	20	19	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586185	**NBH04020K**	●	N	13	4	11	20	19	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586177	**NBH04520K**	●	N	13	4.5	11	20	19	125	10	5	15	15	–	–
5586169	**NBH05020K**	●	N	14	5	11	20	19	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586151	**NBH06020K**	●	N	15	6	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774211	**NBH07020K**	●	N	16	7	11	20	19	125	10	5	20	20	SBF../SHF..	–
5586144	**NBH08020K**	●	N	17	8	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586136	**NBH10020K**	●	N	19	10	11	20	19	125	10	5	20	20	–	–
5914742	**NBH12020K**	●	N	19	12	14	20	19	125	10	5	25	25	–	–
5631486	**NBH02022K**	●	N	11	2	11	22	21	125	10	5	10	–	SBF../SHF..	SSP..
5702873	**NBH02522K**	●	N	11	2.5	11	22	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631494	**NBH03022K**	●	N	12	3	11	22	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586326	**NBH03522K**	●	N	12	3.5	11	22	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586318	**NBH04022K**	●	N	13	4	11	22	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586300	**NBH04522K**	●	N	13	4.5	11	22	21	125	10	5	15	15	–	–
5586292	**NBH05022K**	●	N	14	5	11	22	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586284	**NBH06022K**	●	N	15	6	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774229	**NBH07022K**	●	N	16	7	11	22	21	125	10	5	20	20	SBF../SHF..	–
5586276	**NBH08022K**	●	N	17	8	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586268	**NBH10022K**	●	N	19	10	11	22	21	125	10	5	20	20	–	–
5631502	**NBH12022K**	●	N	21	12	14	22	21	125	10	5	25	25	–	–
5631510	**NBH02023K**	●	N	11	2	11	23	21	125	10	5	10	–	SBF../SHF..	SSP..
5702857	**NBH02523K**	●	N	11	2.5	11	23	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631528	**NBH03023K**	●	N	12	3	11	23	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586250	**NBH03523K**	●	N	12	3.5	11	23	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651336	**NBH04023K**	●	N	13	4	11	23	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586243	**NBH04523K**	●	N	13	4.5	11	23	21	125	10	5	15	15	–	–
5631536	**NBH05023K**	●	N	14	5	11	23	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631544	**NBH06023K**	●	N	15	6	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631551	**NBH08023K**	●	N	17	8	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631569	**NBH10023K**	●	N	19	10	11	23	21	125	10	5	20	20	–	–
5631577	**NBH12023K**	●	N	21	12	14	23	21	125	10	5	25	25	–	–
5631585	**NBH02025K-MET**	●	N	11	2	11	25	24	125	10	5	10	–	SBF../SHF..	SSP..
5704283	**NBH02525K-MET**	●	N	11	2.5	11	25	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631593	**NBH03025K-MET**	●	N	12	3	11	25	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5631601	**NBH03525K-MET**	●	N	12	3.5	11	25	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651328	**NBH04025K-MET**	●	N	13	4	11	25	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631619	**NBH04525K-MET**	●	N	13	4.5	11	25	24	125	10	5	15	15	–	–
5631627	**NBH05025K-MET**	●	N	14	5	11	25	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631635	**NBH06025K-MET**	●	N	15	6	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774252	**NBH07025K-MET**	●	N	16	7	11	25	24	125	10	5	20	20	SBF../SHF..	–
5631643	**NBH08025K-MET**	●	N	17	8	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631650	**NBH10025K-MET**	●	N	19	10	11	25	24	125	10	5	20	20	–	–
5631668	**NBH12025K-MET**	●	N	21	12	14	25	24	125	10	5	25	25	–	–
5631676	**NBH02025K**	●	N	11	2	11	25.4	24	125	10	5	10	–	SBF../SHF..	SSP..
5702865	**NBH02525K**	●	N	11	2.5	11	25.4	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631684	**NBH03025K**	●	N	12	3	11	25.4	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586235	**NBH03525K**	●	N	12	3.5	11	25.4	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586383	**NBH04025K**	●	N	13	4	11	25.4	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586375	**NBH04525K**	●	N	13	4.5	11	25.4	24	125	10	5	15	15	–	–
5586367	**NBH05025K**	●	N	14	5	11	25.4	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586359	**NBH06025K**	●	N	15	6	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774260	**NBH07025K**	●	N	16	7	11	25.4	24	125	10	5	20	20	SBF../SHF..	–
5586342	**NBH08025K**	●	N	17	8	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586334	**NBH10025K**	●	N	19	10	11	25.4	24	125	10	5	20	20	–	–
5631692	**NBH12025K**	●	N	21	12	14	25.4	24	125	10	5	25	25	–	–
5939475	**NBH04532K**	●	N	13	4.5	11	32	30	125	10	5	15	15	–	–
5939483	**NBH05032K**	●	N	14	5	11	32	30	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5939491	**NBH06032K**	●	N	15	6	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5939509	**NBH07032K**	●	N	16	7	11	32	30	125	10	5	20	20	SBF../SHF..	–
5939525	**NBH08032K**	●	N	17	8	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5939533	**NBH10032K**	●	N	19	10	11	32	30	125	10	5	20	20	–	–
5939467	**NBH12032K**	●	N	21	12	14	32	30	125	10	5	25	25	–	–
5939459	**NBH14032K**	●	N	23	14	16	32	30	125	10	5	25	25	–	–
5939442	**NBH16032K**	●	N	25	16	18	32	30	125	10	5	25	25	–	–

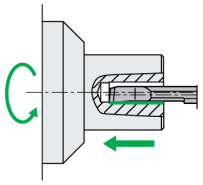
Spare Parts

Item Number	Clamp screw			Wrench (for Clamp screw)
	①	②	③	①②
NBH02020K	SS0404F	SS0404F	–	LW-2
NBH02520K	SS0404F	SS0404F	–	LW-2
NBH03020K	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	SS0404F	SS0406F	SS0406F	LW-2
NBH04520K	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	SS0404F	SS0406F	SS0406F	LW-2
NBH07020K	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	SS0404F	SS0404F	SS0404F	LW-2
NBH10020K	SS0404F	SS0404F	SS0404F	LW-2
NBH12020K	SS0403F	SS0403F	SS0403F	LW-2
NBH02022K	SS0404F	SS0406F	–	LW-2
NBH02522K	SS0404F	SS0406F	–	LW-2
NBH03022K	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	SS0404F	SS0406F	SS0406F	LW-2
NBH04522K	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	SS0404F	SS0406F	SS0406F	LW-2
NBH07022K	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	SS0404F	SS0406F	SS0406F	LW-2
NBH10022K	SS0404F	SS0404F	SS0404F	LW-2
NBH12022K	SS0404F	SS0404F	SS0404F	LW-2
NBH02023K	SS0404F	SS0406F	–	LW-2
NBH02523K	SS0404F	SS0406F	–	LW-2
NBH03023K	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	SS0404F	SS0406F	SS0406F	LW-2
NBH04523K	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	SS0404F	SS0406F	SS0406F	LW-2
NBH10023K	SS0404F	SS0404F	SS0404F	LW-2
NBH12023K	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K-MET	SS0404F	SS0406F	–	LW-2
NBH02525K-MET	SS0404F	SS0406F	–	LW-2
NBH03025K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K-MET	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K	SS0404F	SS0406F	–	LW-2
NBH02525K	SS0404F	SS0406F	–	LW-2
NBH03025K	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K	SS0404F	SS0404F	SS0404F	LW-2
NBH04532K	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	SS0404F	SS0408F	SS0408F	LW-2
NBH07032K	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	SS0404F	SS0408F	SS0408F	LW-2
NBH10032K	SS0404F	SS0408F	SS0408F	LW-2
NBH12032K	SS0404F	SS0406F	SS0406F	LW-2
NBH14032K	SS0504	SS0506	SS0506	LW-2
NBH16032K	SS0504	SS0506	SS0506	LW-2

SB.. series/Insert bar Carbide

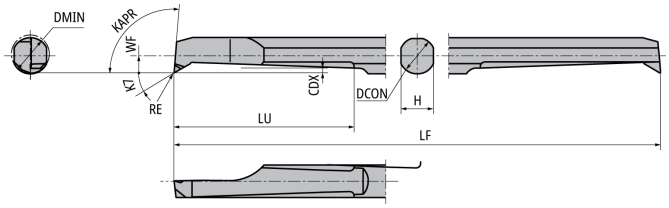
SBFS-S Sharp cutting edge

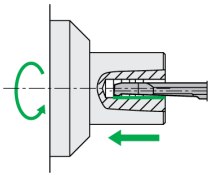




Item Number	Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD	
			mm	mm	mm	mm	°	°	mm	mm	mm	mm	DT4	ZM3
SBFS020R005S	R	Yes	2.2	0.25	2	1.8	5	95	50	10	0.05	0.9	●	●
SBFS025R005S	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.05	1.15	●	●
SBFS025R015S	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.15	1.15	●	●
SBFS030R005S	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.05	1.4	●	●
SBFS030R015S	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.15	1.4	●	●
SBFS035R005S	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.05	1.65	●	●
SBFS035R015S	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.15	1.65	●	●
SBFS040R005S	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.05	1.9	●	●
SBFS040R015S	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.15	1.9	●	●
SBFS050R005S	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.05	2.4	●	●
SBFS050R015S	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.15	2.4	●	●
SBFS060R005S	R	Yes	6.2	0.6	6	5.4	5	95	80	30	0.05	2.9	●	●
SBFS060R015S	R	Yes	6.2	0.6	6	5.4	5	95	80	30	0.15	2.9	●	●

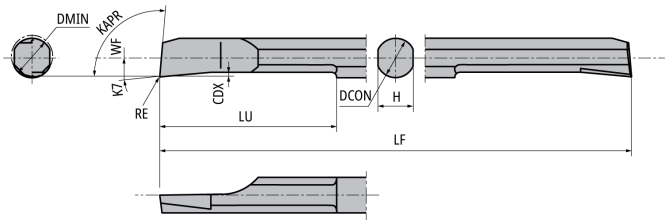
SBFB-F Evacuates chips BACKWARD

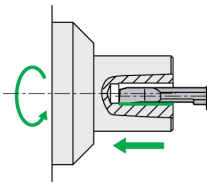




Item Number	Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD	
			mm	mm	mm	mm	°	°	mm	mm	mm	mm	DT4	ZM3
SBFB020R005F	R	Yes	2.2	0.25	2	1.8	30	95	50	8	0.05	0.95	●	●
SBFB025R005F	R	Yes	2.7	0.3	2.5	2.3	30	95	50	12.5	0.05	1.2	●	●
SBFB025R015F	R	Yes	2.7	0.3	2.5	2.3	30	95	50	12.5	0.15	1.2	●	●
SBFB030R005F	R	Yes	3.2	0.45	3	2.7	30	95	50	15	0.05	1.4	●	●
SBFB030R015F	R	Yes	3.2	0.45	3	2.7	30	95	50	15	0.15	1.4	●	●
SBFB035R005F	R	Yes	3.7	0.5	3.5	3.2	30	95	60	17.5	0.05	1.65	●	●
SBFB035R015F	R	Yes	3.7	0.5	3.5	3.2	30	95	60	17.5	0.15	1.65	●	●
SBFB040R005F	R	Yes	4.2	0.5	4	3.6	30	95	60	20	0.05	1.9	●	●
SBFB040R015F	R	Yes	4.2	0.5	4	3.6	30	95	60	20	0.15	1.9	●	●
SBFB050R005F	R	Yes	5.2	0.7	5	4.5	30	95	70	25	0.05	2.4	●	●
SBFB050R015F	R	Yes	5.2	0.7	5	4.5	30	95	70	25	0.15	2.4	●	●
SBFB060R005F	R	Yes	6.2	0.9	6	5.4	30	95	80	30	0.05	2.9	●	●
SBFB060R015F	R	Yes	6.2	0.9	6	5.4	30	95	80	30	0.15	2.9	●	●

SBFS-H Mirror finish edge

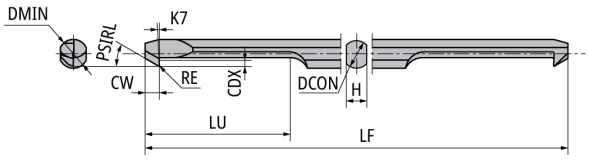


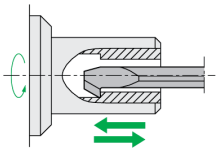


Item Number		Hand	Chip-breaker	DMIN	CDX	DCON	H	K7	KAPR	LF	LU	RE	WF	Carbide PVD	
				mm	mm	mm	mm	°	°	mm	mm	mm	mm	DT4	ZM3
SBFS020R005H	M	R	Yes	2.2	0.25	2	1.8	5	95	50	10	0.05	0.9		●
SBFS025R005H	M	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.05	1.15		●
SBFS025R015H	M	R	Yes	2.7	0.3	2.5	2.3	5	95	50	12.5	0.15	1.15		●
SBFS030R005H	M	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.05	1.4		●
SBFS030R015H	M	R	Yes	3.2	0.4	3	2.7	5	95	50	15	0.15	1.4		●
SBFS035R005H	M	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.05	1.65		●
SBFS035R015H	M	R	Yes	3.7	0.4	3.5	3.2	5	95	60	17.5	0.15	1.65		●
SBFS040R005H	M	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.05	1.9		●
SBFS040R015H	M	R	Yes	4.2	0.45	4	3.6	5	95	60	20	0.15	1.9		●
SBFS050R005H	M	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.05	2.4		●
SBFS050R015H	M	R	Yes	5.2	0.5	5	4.5	5	95	70	25	0.15	2.4		●
SBFS060R005H	M	R	Yes	6.2	0.6	6	5.4	5	95	80	30	0.05	2.9		●
SBFS060R015H	M	R	Yes	6.2	0.6	6	5.4	5	95	80	30	0.15	2.9		●
SBFS080R005H	M	R	Yes	8.2	0.8	8	7.3	5	95	80	30	0.05	3.9		●
SBFS080R015H	M	R	Yes	8.2	0.8	8	7.3	5	95	80	30	0.15	3.9		●

SB.. series/Insert bar Carbide for ID Back Turning

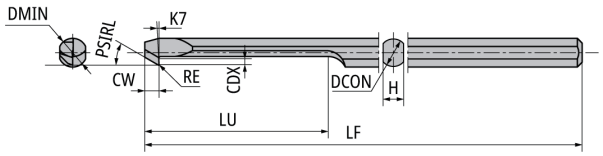
SBB-S Short type / Two-sided

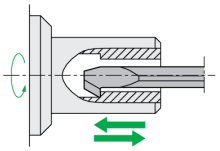




Item Number	Hand	Chip-breaker	DMIN	CDX	CW	DCON	H	K7	LF	LU	PSIRL	RE	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	°	mm	mm	ZM3
SBB030RB005-S	R	Yes	3	0.5	1.5	3	2.7	3	50	15	30	0.05	1.3	●
SBB030RB010-S	R	Yes	3	0.5	1.5	3	2.7	3	50	15	30	0.1	1.3	●
SBB040RB005-S	R	Yes	4	0.8	1.5	4	3.6	3	60	18	30	0.05	1.8	●
SBB040RB015-S	R	Yes	4	0.8	1.5	4	3.6	3	60	18	30	0.15	1.8	●

SBB Long type / Single-sided

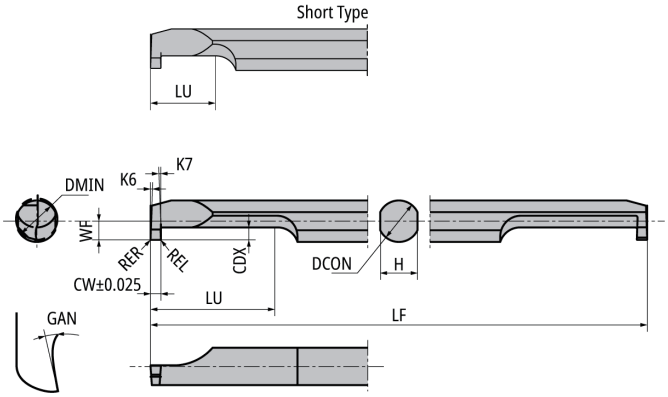


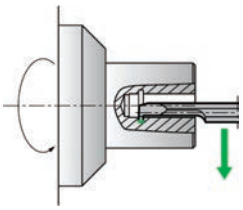


Item Number	Hand	Chip-breaker	DMIN	CDX	CW	DCON	H	K7	LF	LU	PSIRL	RE	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	°	mm	mm	ZM3
SBB030RB005	R	Yes	3	0.5	1.5	3	2.7	3	50	19	30	0.05	1.3	●
SBB030RB010	R	Yes	3	0.5	1.5	3	2.7	3	50	19	30	0.1	1.3	●
SBB040RB005	R	Yes	4	0.8	1.5	4	3.6	3	60	24	30	0.05	1.8	●
SBB040RB015	R	Yes	4	0.8	1.5	4	3.6	3	60	24	30	0.15	1.8	●

SB.. series/Insert bar Carbide for ID Grooving

SBG-S Short type / Two-sided

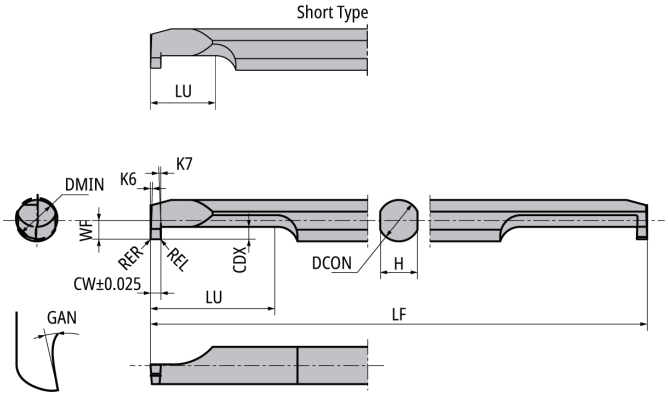


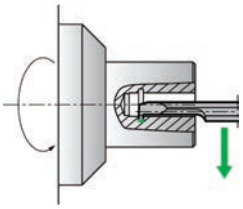


● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DMIN	APMX	CDX	CW	DCON	GAN	K6	K7	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	°	°	mm	mm	mm	mm	mm	ZM3
SBG030050RB-S	R	Yes	3	0.8	1	0.5	3	8	2	2	50	4.5	0.05	0.05	1.3	●
SBG030075RB-S	R	Yes	3	0.8	1	0.75	3	8	2	2	50	4.5	0.05	0.05	1.3	●
SBG030100RB-S	R	Yes	3	0.8	1	1	3	8	2	2	50	4.5	0.05	0.05	1.3	●
SBG030150RB-S	R	Yes	3	0.8	1	1.5	3	8	2	2	50	4.5	0.05	0.05	1.3	●
SBG040050RB-S	R	Yes	4	1	1.2	0.5	4	8	2	2	60	6	0.05	0.05	1.8	●
SBG040075RB-S	R	Yes	4	1	1.2	0.75	4	8	2	2	60	6	0.05	0.05	1.8	●
SBG040100RB-S	R	Yes	4	1	1.2	1	4	8	2	2	60	6	0.05	0.05	1.8	●
SBG040150RB-S	R	Yes	4	1	1.2	1.5	4	8	2	2	60	6	0.05	0.05	1.8	●
SBG050050RB-S	R	Yes	5	1.2	1.4	0.5	5	8	2	2	70	7.5	0.05	0.05	2.3	●
SBG050100RB-S	R	Yes	5	1.2	1.4	1	5	8	2	2	70	7.5	0.05	0.05	2.3	●
SBG050150RB-S	R	Yes	5	1.2	1.4	1.5	5	8	2	2	70	7.5	0.05	0.05	2.3	●
SBG050200RB-S	R	Yes	5	1.2	1.4	2	5	8	2	2	70	7.5	0.05	0.05	2.3	●
SBG060100RB-S	R	Yes	6	1.8	2	1	6	8	2	2	80	7.5	0.05	0.05	2.8	●
SBG060150RB-S	R	Yes	6	1.8	2	1.5	6	8	2	2	80	7.5	0.05	0.05	2.8	●
SBG060200RB-S	R	Yes	6	1.8	2	2	6	8	2	2	80	7.5	0.05	0.05	2.8	●
SBG080100RB-S	R	Yes	8	2.2	2.4	1	8	8	2	2	80	8.5	0.05	0.05	3.8	●
SBG080150RB-S	R	Yes	8	2.2	2.4	1.5	8	8	2	2	80	8.5	0.05	0.05	3.8	●
SBG080200RB-S	R	Yes	8	2.2	2.4	2	8	8	2	2	80	8.5	0.05	0.05	3.8	●

SBG Long type / Two-sided



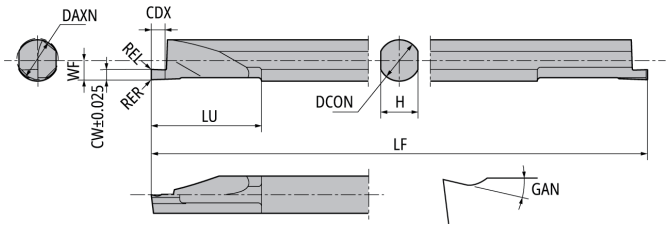


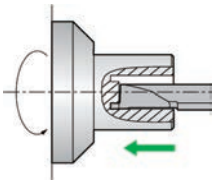
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	DMIN	APMX	CDX	CW	DCON	GAN	K6	K7	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	°	°	mm	mm	mm	mm	mm	ZM3
SBG030050RB	R	Yes	3	0.8	1	0.5	3	8	2	2	50	9	0.05	0.05	1.3	●
SBG030075RB	R	Yes	3	0.8	1	0.75	3	8	2	2	50	9	0.05	0.05	1.3	●
SBG030100RB	R	Yes	3	0.8	1	1	3	8	2	2	50	9	0.05	0.05	1.3	●
SBG040050RB	R	Yes	4	1	1.2	0.5	4	8	2	2	60	12	0.05	0.05	1.8	●
SBG040075RB	R	Yes	4	1	1.2	0.75	4	8	2	2	60	12	0.05	0.05	1.8	●
SBG040100RB	R	Yes	4	1	1.2	1	4	8	2	2	60	12	0.05	0.05	1.8	●
SBG050050RB	R	Yes	5	1.2	1.4	0.5	5	8	2	2	70	20	0.05	0.05	2.3	●
SBG050100RB	R	Yes	5	1.2	1.4	1	5	8	2	2	70	20	0.05	0.05	2.3	●
SBG050150RB	R	Yes	5	1.2	1.4	1.5	5	8	2	2	70	20	0.05	0.05	2.3	●
SBG060100RB	R	Yes	6	1.8	2	1	6	8	2	2	80	20	0.05	0.05	2.8	●
SBG060150RB	R	Yes	6	1.8	2	1.5	6	8	2	2	80	20	0.05	0.05	2.8	●
SBG060200RB	R	Yes	6	1.8	2	2	6	8	2	2	80	20	0.05	0.05	2.8	●
SBG080100RB	R	Yes	8	2.2	2.4	1	8	8	2	2	80	20	0.05	0.05	3.8	●
SBG080150RB	R	Yes	8	2.2	2.4	1.5	8	8	2	2	80	20	0.05	0.05	3.8	●
SBG080200RB	R	Yes	8	2.2	2.4	2	8	8	2	2	80	20	0.05	0.05	3.8	●

SB.. series/Insert bar Carbide for ID Face Grooving

SFG





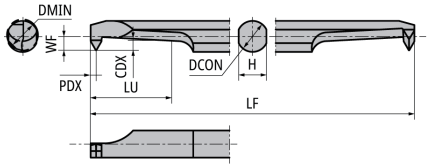
● Diagram shows right-hand tool

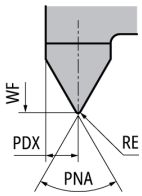
Item Number	Hand	Chip-breaker	DAXN	APMX	CDX	CW	DCON	GAN	H	LF	LU	REL	RER	WF	Carbide PVD
			mm	mm	mm	mm	mm	°	mm	mm	mm	mm	mm	mm	TM4
SFG060R100B	R	Yes	6	1.5	1.7	1	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG060R150B	R	Yes	6	2	2.2	1.5	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG060R200B	R	Yes	6	3	3.2	2	6	14	5.4	80	16	0.05	0.05	2.8	●
SFG080R100B	R	Yes	8	1.5	1.7	1	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R150B	R	Yes	8	2	2.2	1.5	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R200B	R	Yes	8	3	3.2	2	8	14	7.3	80	16	0.05	0.05	3.8	●
SFG080R300B	R	Yes	8	3	3.2	3	8	14	7.3	80	16	0.05	0.05	3.8	●

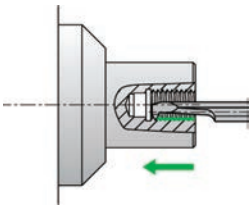
SB.. series/Insert bar Carbide for Internal Thread

SBT

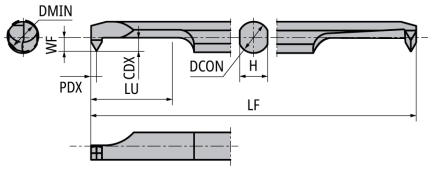
No.1







No.2

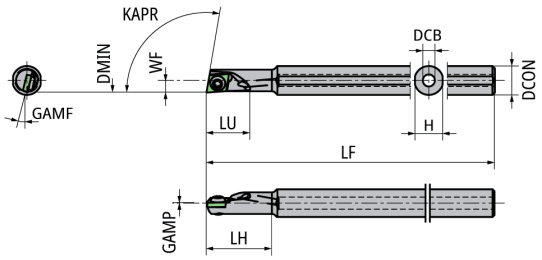


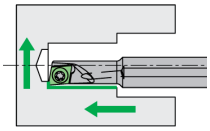
● Diagram shows right-hand tool
● No.1: Eccentric tapered shape

Figure	Item Number	Hand	Chip-breaker	DMIN	Pitch	CDX	DCON	H	LF	LU	PDX	PNA	RE	WF	Carbide PVD
				mm	mm	mm	mm	mm	mm	mm	mm	°	mm	mm	ZM3
1	**SBT025M3R**	R	No	2.5	0.5	0.6	2.5	2.3	50	5.4	0.4	60	0.05MAX Flat	1.1	●
1	**SBT030M4R**	R	No	3	0.5-0.8	0.8	3	2.7	50	7.5	0.5	60	0.05MAX Flat	1.3	●
1	**SBT030M4RB**	R	Yes	3	0.5-0.8	0.8	3	2.7	50	7.5	0.5	60	0.05MAX Flat	1.3	●
1	**SBT035M5RB**	R	Yes	3.5	0.5-1	1	3.5	3.2	60	8.5	0.55	60	0.05MAX Flat	1.55	●
1	**SBT040M6RB**	R	Yes	4	0.75-1.25	1.2	4	3.6	60	10.5	0.7	60	0.05	1.8	●
2	**SBT050M8RB**	R	Yes	5	0.75-1.5	1.5	5	4.5	70	15.8	0.8	60	0.05	2.3	●
2	**SBT060M10RB**	R	Yes	6	0.75-1.75	1.8	6	5.4	80	18.4	0.95	60	0.05	2.8	●

MBL.. series/Toolholder

S-MBR-OH Mogul Bar / Coolant through / Steel shank





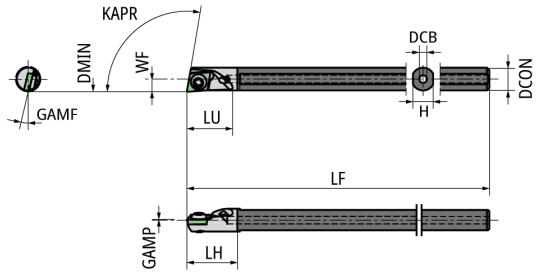
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

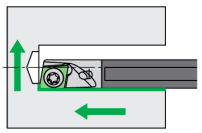
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5789888	**S06F-MBRD05-OH**	●	R	5	2.5	6	13	0	5.7	100	80	13.5	9	0.15	2.5	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S06F-MBRD05-OH	LR-S-2*3.5	CLR-13S

C045-MBR-OH Mogul Bar / Coolant through / Carbide shank





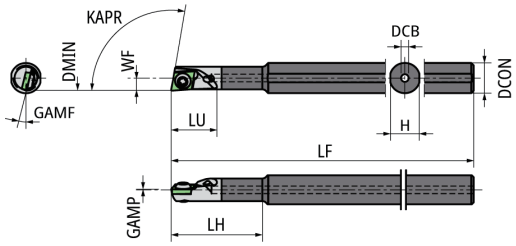
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

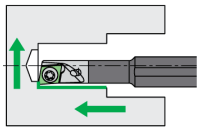
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LU mm	RE mm	WF mm	Insert Gage
5789896	**C045F-MBRD05-OH**	●	R	5	1.5	4.5	13	0	4	100	80	9	0.15	2.5	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C045F-MBRD05-OH	LR-S-2*3.5	CLR-13S

C06-MBR-OH Mogul Bar / Coolant through / Carbide shank





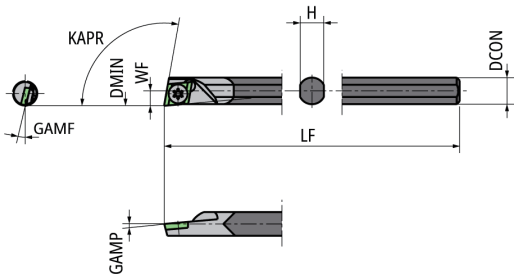
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

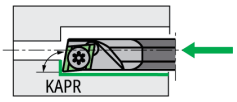
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5789904	**C06F-MBRD05-OH**	●	R	5	1.5	6	13	0	5.7	100	80	18	9	0.15	2.5	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06F-MBRD05-OH	LR-S-2*3.5	CLR-13S

C045-MBR Carbide shank





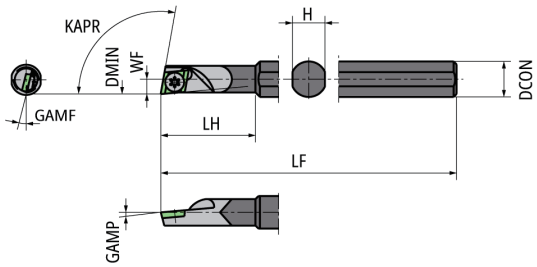
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

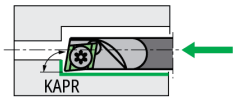
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5610175	**C045F-MBR**	●	R	5	4.5	13	5	4	100	80	0.15	2.5	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C045F-MBR	LR-S-2*3.5	CLR-13S

C06-MBR Carbide shank





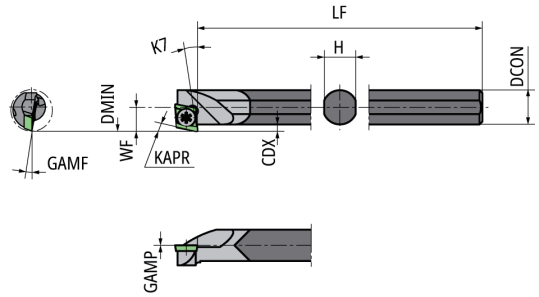
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

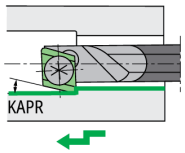
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5162706	**C06F-MBR**	●	R	5	6	13	5	5.5	100	80	18	0.15	2.5	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06F-MBR	LR-S-2*3.5	CLR-13S

C-MSBR Carbide shank for ID Back Turning





- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

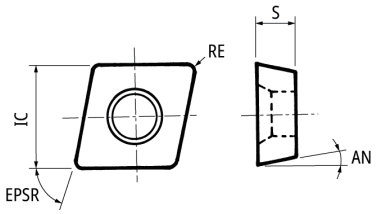
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5161054	**C04J-MSBR**	●	R	5.7	1	4	10	0	3.5	13	110	0.15	3.2	MBL..
5161047	**C06J-MSBR**	●	R	7.7	1	6	4	0	5.5	13	110	0.15	4.2	MBL..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C04J-MSBR	LR-S-2*3.5	CLR-13S
C06J-MSBR	LR-S-2*3.5	CLR-13S

MBL.. series/Inserts Carbide

MBL



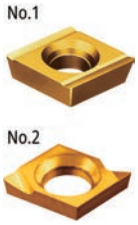
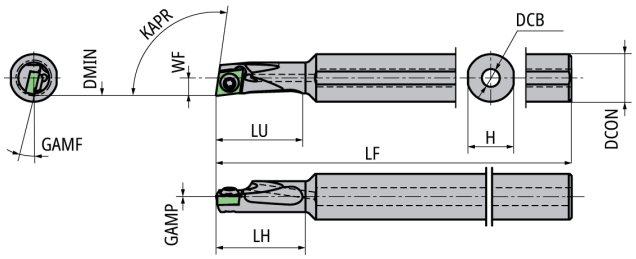
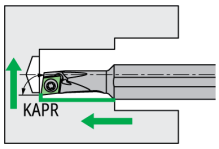


Figure	Item Number	Hand	Chip-breaker	AN °	EPSR °	IC mm	RE mm	S mm	Carbide PVD QM3	ST4	TM4	ZM3
1	**MBL005FL**	L	Yes	9	75	3.6	0.05	1	●		●	●
1	**MBL015FL**	L	Yes	9	75	3.6	0.15	1	●		●	●
2	**MBL005FRF1**	R	Yes	9	75	3.6	0.05	1	●	●	●	
2	**MBL015FRF1**	R	Yes	9	75	3.6	0.15	1	●	●	●	

ERGH.. series/Toolholder

S-SEXR-OH Mogul Bar / Coolant through / Steel shank





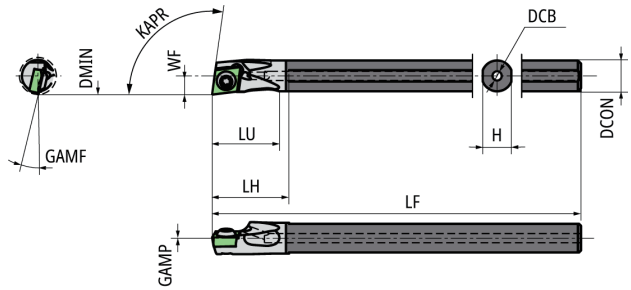
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

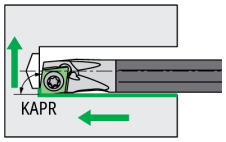
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5789912	**S08G-SEXRRT3D06-OH**	●	R	6	3	8	13	0	7.7	98	90	15	15	0.2	3	ERGHT301..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S08G-SEXRRT3D06-OH	LR-S-2*3.7	CLR-13S

C05-SEXR-OH Mogul Bar / Coolant through / Carbide shank





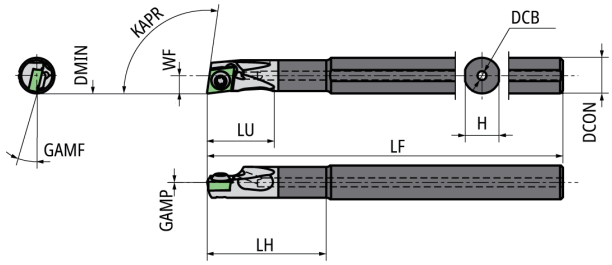
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

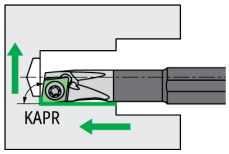
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LU mm	RE mm	WF mm	Insert Gage
5789920	**C05G-SEXRRT3D06-OH**	●	R	6	1.5	5	13	0	4	98	90	11	0.2	3	ERGHT301..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C05G-SEXRRT3D06-OH	LR-S-2*3.7	CLR-13S

C06-SEXR-OH Mogul Bar / Coolant through / Carbide shank





- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5789938	**C06G-SEXRRT3D06-OH**	●	R	6	1.5	6	13	0	5.7	98	90	20	11	0.2	3	ERGHT301..
5800487	**C06G-SEXRLT3D06-OH**	●	L	6	1.5	6	13	0	5.7	98	90	20	11	0.2	3	ERGHT301..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06G-SEXRRT3D06-OH	LR-S-2*3.7	CLR-13S
C06G-SEXRLT3D06-OH	LR-S-2*3.7	CLR-13S

ERGH.. series/Inserts Carbide

ERGH

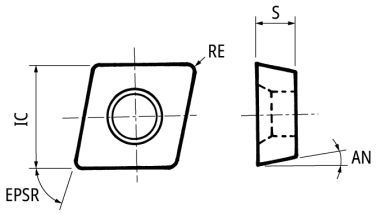
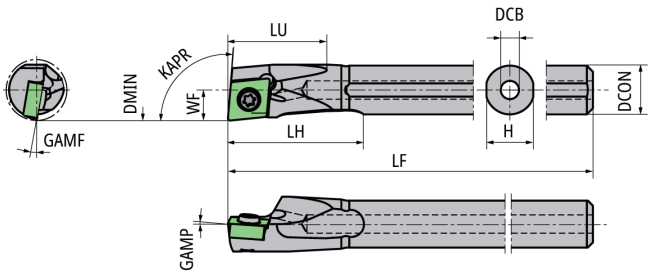
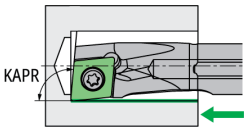


Figure	Item Number	Hand	Chip-breaker	AN °	EPSR °	IC mm	RE mm	S mm	Carbide PVD QM3	ST4	TM4	ZM3
1	**ERGHT30102FRA2**	R	Yes	9	75	3.97	0.2	1.59			●	●
1	**ERGHT30104FRA2**	R	Yes	9	75	3.97	0.4	1.59			●	
1	**ERGHT30102FLA2**	L	Yes	9	75	3.97	0.2	1.59			●	●
1	**ERGHT30104FLA2**	L	Yes	9	75	3.97	0.4	1.59			●	●
2	**ERGHT30101FRF1**	R	Yes	9	75	3.97	0.1	1.59	●	●	●	
2	**ERGHT30102FRF1**	R	Yes	9	75	3.97	0.2	1.59	●	●	●	
2	**ERGHT30104FRF1**	R	Yes	9	75	3.97	0.4	1.59	●	●	●	

CP.. series/Toolholder

S-SCLP-OH Mogul Bar / Coolant through / Steel shank





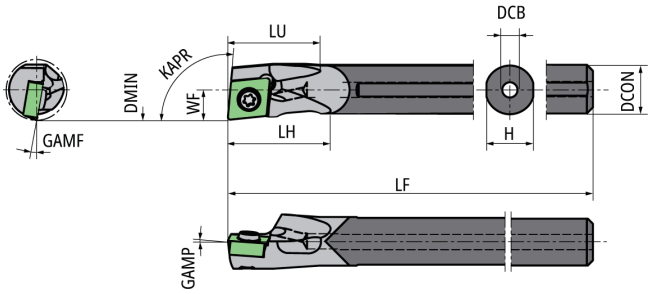
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

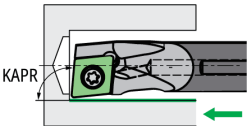
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF mm	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770029	**S06F-SCLPR04D07-OH**	●	R	7	2.5	6	9	5	5.75	95	80	17	12	0.2	3.5	CP..0401..
5770037	**S07G-SCLPR04D08-OH**	●	R	8	3	7	7	5	6.75	95	90	19.5	13.5	0.2	4	CP..0401..
5770045	**S08H-SCLPR06D10-OH**	●	R	10	3	8	10	5	7.7	95	100	22	16	0.4	5	CP..0602..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S06F-SCLPR04D07-OH	LR-S-2*3.7	CLR-13S
S07G-SCLPR04D08-OH	LR-S-2*3.7	CLR-13S
S08H-SCLPR06D10-OH	LR-S-2.5*6	CLR-15S

C-SCLP-OH Mogul Bar / Coolant through / Carbide shank





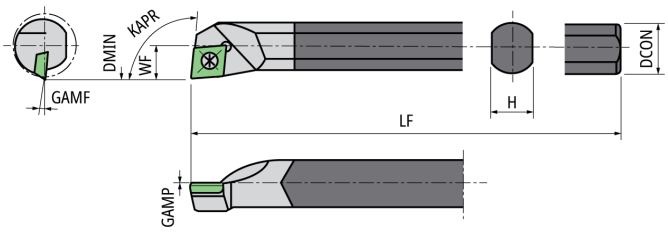
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

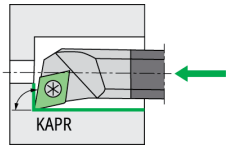
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770136	**C06H-SCLPR04D07-OH**	●	R	7	2	6	9	5	5.75	95	100	11.5	12	0.2	3.5	CP..0401..
5770151	**C07J-SCLPR04D08-OH**	●	R	8	2	7	7	5	6.75	95	110	13	13.5	0.2	4	CP..0401..
5770169	**C08K-SCLPR06D10-OH**	●	R	10	2.5	8	10	5	7.7	95	125	16.5	15	0.4	5	CP..0602..
5800495	**C06H-SCLPL04D07-OH**	●	L	7	2	6	9	5	5.75	95	100	11.5	12	0.2	3.5	CP..0401..
5800503	**C08K-SCLPL06D10-OH**	●	L	10	2.5	8	10	5	7.7	95	125	16.5	15	0.4	5	CP..0602..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06H-SCLPR04D07-OH	LR-S-2*3.7	CLR-13S
C07J-SCLPR04D08-OH	LR-S-2*3.7	CLR-13S
C08K-SCLPR06D10-OH	LR-S-2.5*6	CLR-15S
C06H-SCLPL04D07-OH	LR-S-2*3.7	CLR-13S
C08K-SCLPL06D10-OH	LR-S-2.5*6	CLR-15S

C-SCLP-N Carbide shank





- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

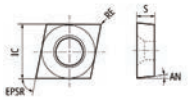
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5853288	**C06J-SCLPR-04-N**	●	R	8	6	6	0	5.2	95	110	0.4	4	CP..0401..
5853296	**C08K-SCLPR-06-N**	●	R	10	8	10	0	7	95	125	0.4	5	CP..0602..
5853304	**C10M-SCLPR-08-N**	●	R	12	10	6	0	9	95	150	0.4	6	CP..0802..

Spare Parts

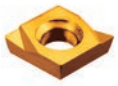
Item Number	Clamp screw	Wrench (for Clamp screw)
C06J-SCLPR-04-N	LR-S-2*4.4	CLR-13S
C08K-SCLPR-06-N	LR-S-2.5*5.5	CLR-15S
C10M-SCLPR-08-N	LR-S-3*6.2	RLR-20S

CP.. series/Inserts Carbide

CP..

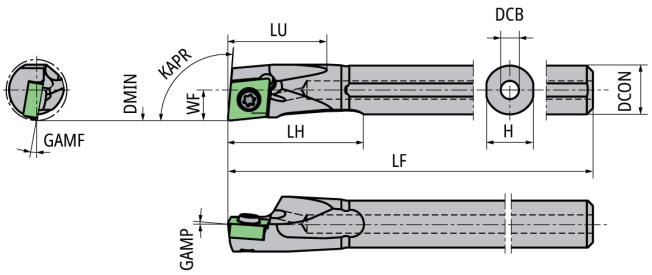


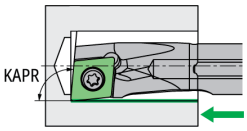
Steel	○	●	●	●	●	●	●	●
Stainless Steel	●	○	○	○	●	○	●	●
Cast Iron							●	
Non-Ferrous Material					○		○		●
Heat Resistant Alloy		●	○	○				
Hardened Material		○	○	○				
Others (non-metallic)								●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	CPGH060202FNAM5	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●			
	CPGH080202FNAM5	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●			
	**CPGH040101FRF1**	Up-sharp edge	80	4.76	1.59	11	0.1	–	●			●	●					
	CPGH040102FRF1	Up-sharp edge	80	4.76	1.59	11	0.2	–	●			●	●					
	CPGH040104FRF1	Up-sharp edge	80	4.76	1.59	11	0.4	–	●			●	●					
	CPGH060202FRF1	Up-sharp edge	80	6.35	2.38	11	0.2	–	●			●	●					
	CPGH060204FRF1	Up-sharp edge	80	6.35	2.38	11	0.4	–	●			●	●					
	CPGH040101LS	Up-sharp edge	80	4.76	1.59	11	0.1	–				●	●					
	CPGH040102LS	Up-sharp edge	80	4.76	1.59	11	0.2	–				●	●					
	CPGH040104LS	Up-sharp edge	80	4.76	1.59	11	0.4	–				●	●					
	CPGH060202LS	Up-sharp edge	80	6.35	2.38	11	0.2	–				●	●					
	CPGH060204LS	Up-sharp edge	80	6.35	2.38	11	0.4	–				●	●					
	CPGH060202FLA	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●			
	CPGH060204FLA	Up-sharp edge	80	6.35	2.38	11	0.4	–					●		●			
	CPGH080202FLA	Up-sharp edge	80	6.35	2.38	11	0.2	–					●		●			
	CPGH080204FLA	Up-sharp edge	80	6.35	2.38	11	0.4	–					●		●			
	CPGH040102FLA1	Up-sharp edge	80	4.76	1.59	11	0.2	–					●		●			
	CPGH040104FLA1	Up-sharp edge	80	4.76	1.59	11	0.4	–					●		●			

CC.. series/Toolholder

S-SCLC-OH Mogul Bar / Coolant through / Steel shank





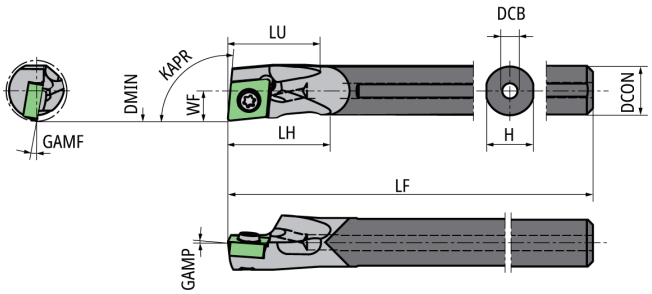
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

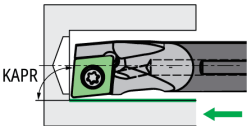
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770052	**S08H-SCLCR06D10-OH**	●	R	10	3	8	13	0	7.7	95	100	22	16	0.4	5	CC..0602..
5770060	**S10K-SCLCR06D12-OH**	●	R	12	3.5	10	11	0	9.6	95	125	27.5	20	0.4	6	CC..0602..
5770078	**S12M-SCLCR06D14-OH**	●	R	14	4	12	9	0	11.5	95	150	32.5	23	0.4	7	CC..0602..
5770086	**S16Q-SCLCR09D18-OH**	●	R	18	5	16	10	0	15.4	95	180	42.5	30	0.4	9	CC..09T3..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S08H-SCLCR06D10-OH	LRIS-2.5*5	CLR-15S
S10K-SCLCR06D12-OH	LRIS-2.5*5	CLR-15S
S12M-SCLCR06D14-OH	LRIS-2.5*5	CLR-15S
S16Q-SCLCR09D18-OH	LRIS-4*8	LLR-25S-20*65

C-SCLC-OH Mogul Bar / Coolant through / Carbide shank





- Diagram shows right-hand tool
- Use a left-handed insert
- For F1 chipbreaker, right-hand inserts fit to right-hand toolholder
- F1 chipbreaker evacuates chips BACKWARD

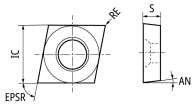
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770185	**C08K-SCLCR06D10-OH**	●	R	10	2.5	8	13	0	7.7	95	125	16.5	15	0.4	5	CC..0602..
5770193	**C10M-SCLCR06D12-OH**	●	R	12	2.5	10	11	0	9.6	95	150	20	19.5	0.4	6	CC..0602..
5770201	**C12M-SCLCR06D14-OH**	●	R	14	3	12	9	0	11.5	95	150	23.5	22.5	0.4	7	CC..0602..
5800511	**C10M-SCLCL06D12-OH**	●	L	12	2.5	10	11	0	9.6	95	150	20	19.5	0.4	6	CC..0602..

Spare Parts

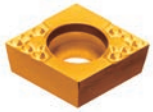
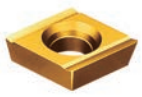
Item Number	Clamp screw	Wrench (for Clamp screw)
C08K-SCLCR06D10-OH	LRIS-2.5*5	CLR-15S
C10M-SCLCR06D12-OH	LRIS-2.5*5	CLR-15S
C12M-SCLCR06D14-OH	LRIS-2.5*5	CLR-15S
C10M-SCLCL06D12-OH	LRIS-2.5*5	CLR-15S

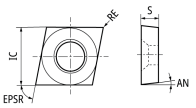
CC.. series/Inserts Carbide

CC..

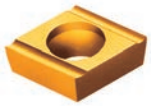
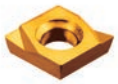
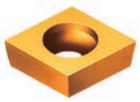


Steel	○	●	●	●	●	●	●		●	
Stainless Steel	●	○	○	○	●	○	●		●	
Cast Iron								●		
Non-Ferrous Material					○		○			●
Heat Resistant Alloy		●	○	○						
Hardened Material		○	○	○						
Others (non-metallic)										●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	(ISO)		°	mm	mm	°	mm	mm										
	CCGT09T300YL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●					
	CCGT09T301MYL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●					
	CCGT09T302MYL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●					
	CCGT09T304MYL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●					
	CCGT09T308MYL	Up-sharp edge	80	9.525	3.97	7	0.78	–	●	●	●	●	●					
	CCGT060201MCL	Up-sharp edge	80	6.35	2.38	7	0.08	–	●	●	●	●	●					
	CCGT060202MCL	Up-sharp edge	80	6.35	2.38	7	0.18	–	●	●	●	●	●					
	CCGT09T300CL	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●					
	CCGT09T301MCL	Up-sharp edge	80	9.525	3.97	7	0.08	–	●	●	●	●	●					
	CCGT09T302MCL	Up-sharp edge	80	9.525	3.97	7	0.18	–	●	●	●	●	●					
	CCGT09T304MCL	Up-sharp edge	80	9.525	3.97	7	0.38	–	●	●	●	●	●					
	CCGT060200FNAM3	Up-sharp edge	80	6.35	2.38	7	0.03	–			●		●	●				
	CCGT060201MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.08	–	●		●	●	●					
	CCGT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–						●	●			
	CCGT060202MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.18	–	●		●	●	●					
	CCGT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–							●			
	CCGT060204MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.38	–	●		●	●	●					
	CCGT09T300FNAM3	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●				
	CCGT09T301MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.08	–	●		●	●	●	●	●			
	CCGT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●				
	CCGT09T302MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.18	–	●		●	●	●	●	●			
	CCGT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–				●		●				
	CCGT09T304MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.38	–	●		●	●	●	●	●			
	CCMT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	–		●								
	CCMT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	–		●								
	CCMT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	–		●								
	CCMT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	–		●								
	CCMT09T308FNAM3	Up-sharp edge	80	9.525	3.97	7	0.8	–		●								
	CCGT060200AZ7	Up-sharp edge	80	6.35	2.38	7	0.03	–				●						
	CCGT060201MAZ7	Up-sharp edge	80	6.35	2.38	7	0.08	–				●						
	CCGT060202MAZ7	Up-sharp edge	80	6.35	2.38	7	0.18	–				●						
	CCGT09T300AZ7	Up-sharp edge	80	9.525	3.97	7	0.03	–			●	●	●		●			
	CCGT09T301MAZ7	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●		●			
	CCGT09T302MAZ7	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●		●			
	CCGT09T304MAZ7	Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●		●			
	CCMT060202E002AZ8	E002	80	6.35	2.38	7	0.2	–									●	
	CCMT060204E004AZ8	E004	80	6.35	2.38	7	0.4	–									●	
	CCMT060208E004AZ8	E004	80	6.35	2.38	7	0.8	–									●	
	CCMT09T302E002AZ8	E002	80	6.35	2.38	7	0.2	–									●	
	CCMT09T304E004AZ8	E004	80	6.35	2.38	7	0.4	–									●	
	CCMT09T308E004AZ8	E004	80	6.35	2.38	7	0.8	–									●	
	CCGT060200RS	Up-sharp edge	80	6.35	2.38	7	0.03	–			●			●	●			
	CCGT060201MRS	Up-sharp edge	80	6.35	2.38	7	0.08	–			●	●						
	CCGT060202MRS	Up-sharp edge	80	6.35	2.38	7	0.18	–			●	●						
	CCGT09T300RS	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●	●	●			
	CCGT09T301MRS	Up-sharp edge	80	9.525	3.97	7	0.08	–			●	●	●					
	CCGT09T301RS	Up-sharp edge	80	9.525	3.97	7	0.1	–				●		●	●			
	CCGT09T302MRS	Up-sharp edge	80	9.525	3.97	7	0.18	–			●	●	●					
	CCGT09T302RS	Up-sharp edge	80	9.525	3.97	7	0.2	–				●		●	●			
	CCGT09T304MRS	Up-sharp edge	80	9.525	3.97	7	0.38	–			●	●	●					
	CCGT09T304RS	Up-sharp edge	80	9.525	3.97	7	0.4	–				●						

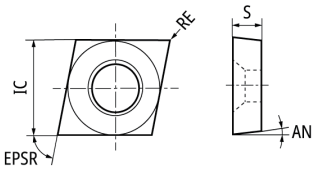


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

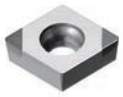
Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	CCGT060200RU	Up-sharp edge	80	6.35	2.38	7	0.03	–			●				●			
	CCGT060201RU	Up-sharp edge	80	6.35	2.38	7	0.1	–			●				●			
	CCGT060202RU	Up-sharp edge	80	6.35	2.38	7	0.2	–			●				●			
	CCGT09T300RU1	Up-sharp edge	80	9.525	3.97	7	0.03	–			●		●		●			
	CCGT09T301RU1	Up-sharp edge	80	9.525	3.97	7	0.1	–			●		●		●			
	CCGT09T302RU1	Up-sharp edge	80	9.525	3.97	7	0.2	–			●		●		●			
	CCGT09T304RU1	Up-sharp edge	80	9.525	3.97	7	0.4	–			●		●		●			
	CCGT060201LU	Up-sharp edge	80	6.35	2.38	7	0.1	–							●			
	CCGT060202LU	Up-sharp edge	80	6.35	2.38	7	0.2	–							●			
	CCGT09T300LU1	Up-sharp edge	80	9.525	3.97	7	0.03	–							●			
	CCGT09T301LU1	Up-sharp edge	80	9.525	3.97	7	0.1	–							●			
	CCGT09T302LU1	Up-sharp edge	80	9.525	3.97	7	0.2	–							●			
	CCGT09T304LU1	Up-sharp edge	80	9.525	3.97	7	0.4	–							●			
	CCET09T3005RKHG	Up-sharp edge	80	9.525	3.97	7	0.05	–					●	●				
	CCET09T3008RKHG	Up-sharp edge	80	9.525	3.97	7	0.08	–					●	●				
	CCET09T3018RKHG	Up-sharp edge	80	9.525	3.97	7	0.18	–					●	●				
	CCET09T302RKHG	Up-sharp edge	80	9.525	3.97	7	0.2	–					●	●				
	CCGT060201FRF1	Up-sharp edge	80	6.35	2.38	7	0.1	–	●			●	●					
	CCGT060202FRF1	Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●					
	CCGT060204FRF1	Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●					
	CCGT09T302FRF1	Up-sharp edge	80	6.35	2.38	7	0.2	–	●			●	●					
	CCGT09T304FRF1	Up-sharp edge	80	6.35	2.38	7	0.4	–	●			●	●					
	CCGW060200FN	Up-sharp edge	80	6.35	2.38	7	0.03	–							●			
	CCGW060200H	Up-sharp edge	80	6.35	2.38	7	0.03	–										●
	CCGW060201FN	Up-sharp edge	80	6.35	2.38	7	0.1	–							●			
	CCGW060201H	Up-sharp edge	80	6.35	2.38	7	0.1	–										●
	CCGW060202H	Up-sharp edge	80	6.35	2.38	7	0.2	–										●
	CCGW09T300FN	Up-sharp edge	80	9.525	3.97	7	0.03	–							●			
	CCGW09T300H	Up-sharp edge	80	9.525	3.97	7	0.03	–										●
	CCGW09T301FN	Up-sharp edge	80	9.525	3.97	7	0.1	–							●			
	CCGW09T301H	Up-sharp edge	80	9.525	3.97	7	0.1	–										●
	CCGW09T302H	Up-sharp edge	80	9.525	3.97	7	0.2	–										●
	CCGW09T302MP	Up-sharp edge	80	9.525	3.97	7	0.18	–			●							

CC.. series/Inserts CBN

CCGW

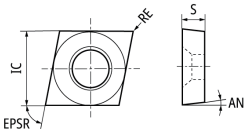


Steel	
Stainless Steel	
Cast Iron	● ● ● ● ○ ○
Non-Ferrous Material	
Heat Resistant Alloy	
Hardened Material	● ● ● ● ●
Others (non-metallic)	

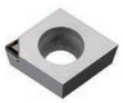
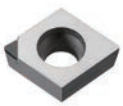
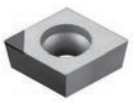
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16 PVD	B22	B23	B30	B36	B6K PVD	B40	B52	B5K PVD
	**CCGW060202PDFNX**	Up-sharp edge	80	6.35	2.38	7	0.2	–	2.3	2	–				●				●	
	CCGW060202PDS01015	S01015	80	6.35	2.38	7	0.2	–	2.3	2	–					●		●	●	
	CCGW060202PDS01325	S01325	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060202PDS01535	S01535	80	6.35	2.38	7	0.2	–	2.3	2	–					●			●	
	CCGW060204PDFNX	Up-sharp edge	80	6.35	2.38	7	0.4	–	2.3	2	–				●					
	CCGW060204PDS01015	S01015	80	6.35	2.38	7	0.4	–	2.3	2	–					●		●	●	
	CCGW060204PDS01325	S01325	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060204PDS01535	S01535	80	6.35	2.38	7	0.4	–	2.3	2	–					●			●	
	CCGW060208PDFNX	Up-sharp edge	80	6.35	2.38	7	0.8	–	2.2	2	–								●	
	CCGW060208PDS01015	S01015	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01325	S01325	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDS01535	S01535	80	6.35	2.38	7	0.8	–	2.2	2	–					●		●	●	
	CCGW060208PDT01520	T01520	80	6.35	2.38	7	0.8	–	2.2	2	–					●				
	CCGW09T302PDFNX	Up-sharp edge	80	9.525	3.97	7	0.2	–	2.3	2	–				●				●	
	CCGW09T302PDS01015	S01015	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01325	S01325	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T302PDS01535	S01535	80	9.525	3.97	7	0.2	–	2.3	2	–					●		●	●	
	CCGW09T304PDFNX	Up-sharp edge	80	9.525	3.97	7	0.4	–	2.3	2	–				●				●	
	CCGW09T304PDS01015	S01015	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01325	S01325	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T304PDS01535	S01535	80	9.525	3.97	7	0.4	–	2.3	2	–					●		●	●	
	CCGW09T308PDFNX	Up-sharp edge	80	9.525	3.97	7	0.8	–	2.2	2	–				●					
	CCGW09T308PDS01015	S01015	80	9.525	3.97	7	0.8	–	2.2	2	–							●	●	
	CCGW09T308PDS01535	S01535	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T308PTS01325	S01325	80	9.525	3.97	7	0.8	–	2.2	2	–					●		●	●	
	CCGW09T312PDFNX	Up-sharp edge	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PDS01015	S01015	80	9.525	3.97	7	1.2	–	2.7	2	–								●	
	CCGW09T312PTS01325	S01325	80	9.525	3.97	7	1.2	–	2.7	2	–					●				

CC.. series/Inserts PCD

CCM.

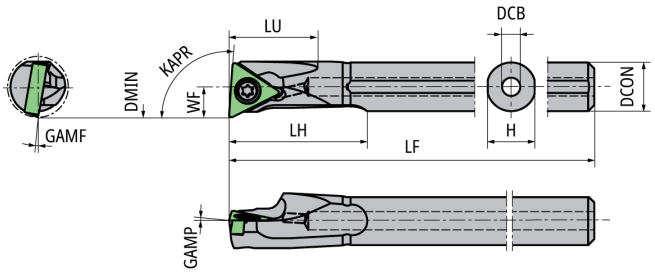


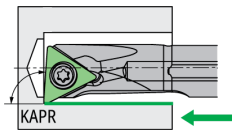
Steel	
Stainless Steel	
Cast Iron	
Non-Ferrous Material	● ● ●
Heat Resistant Alloy	
Hardened Material	
Others (non-metallic)	●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**CCMT060201PBF**	Up-sharp edge	80	6.35	2.38	7	0.1	1		●	
	CCMT060202PBF	Up-sharp edge	80	6.35	2.38	7	0.2	1		●	
	CCMT060204PBF	Up-sharp edge	80	6.35	2.38	7	0.4	1		●	
	CCMT09T301PBF	Up-sharp edge	80	9.525	3.97	7	0.1	1		●	
	CCMT09T302PBF	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PBF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMT09T302PF**	Up-sharp edge	80	9.525	3.97	7	0.2	1		●	
	CCMT09T304PF	Up-sharp edge	80	9.525	3.97	7	0.4	1		●	
	**CCMW09T301**	Up-sharp edge	80	9.525	3.97	7	0.1	1	●		
	CCMW09T302	Up-sharp edge	80	9.525	3.97	7	0.2	1	●		
	CCMW09T304	Up-sharp edge	80	9.525	3.97	7	0.4	1	●		
	CCMW09T308	Up-sharp edge	80	9.525	3.97	7	0.8	1	●		

TP.. series/Toolholder

S-STUP-OH Mogul Bar / Coolant through / Steel shank





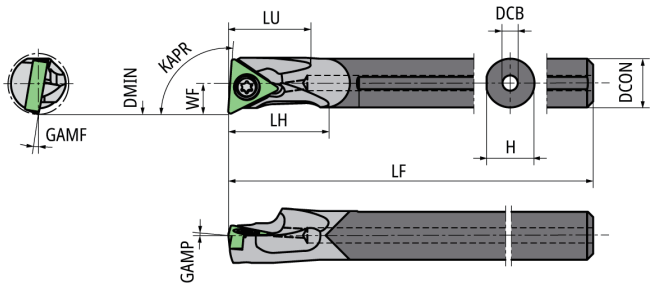
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1/FG chipbreaker, right-hand inserts fit to right-hand toolholder
- F1/FG chipbreaker evacuates chips BACKWARD

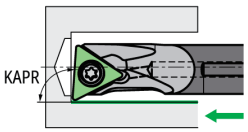
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5769989	**S08H-STUPR09D10-OH**	●	R	10	3	8	10	5	7.7	93	100	22.5	14.5	0.4	5	TP..0902..
5769997	**S10K-STUPR11D12-OH**	●	R	12	3.5	10	7.5	5	9.6	93	125	27.5	18.5	0.4	6	TP..1103..
5770003	**S12M-STUPR11D14-OH**	●	R	14	4	12	5	5	11.5	93	150	32.5	22	0.4	7	TP..1103..
5770011	**S16Q-STUPR11D18-OH**	●	R	18	5	16	3	5	15.4	93	180	42.5	28.5	0.4	9	TP..1103..
5886817	**S20Q-STUPR11D22-OH**	●	R	22	5	20	3	5	19.4	93	180	46	38	0.4	11	TP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S08H-STUPR09D10-OH	LR-S-2.5*4.8	CLR-15S
S10K-STUPR11D12-OH	LR-S-3*5.8	RLR-20S
S12M-STUPR11D14-OH	LR-S-3*5.8	RLR-20S
S16Q-STUPR11D18-OH	LR-S-3*5.8	RLR-20S
S20Q-STUPR11D22-OH	LR-S-3*5.8	RLR-20S

C-STUP-OH Mogul Bar / Coolant through / Carbide shank





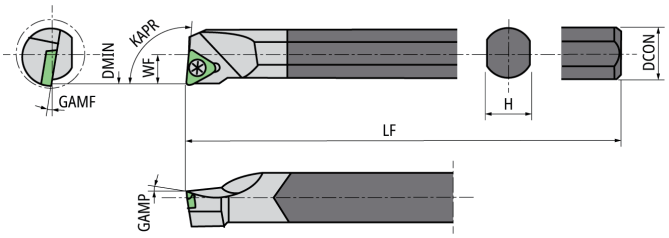
- Diagram shows right-hand tool
- Use a left-handed insert
- For F1/FG chipbreaker, right-hand inserts fit to right-hand toolholder
- F1/FG chipbreaker evacuates chips BACKWARD

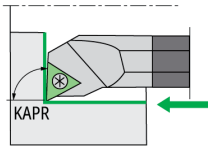
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770102	**C08K-STUPR09D10-OH**	●	R	10	2.5	8	10	5	7.7	93	125	16.5	14.5	0.4	5	TP..0902..
5770110	**C10M-STUPR11D12-OH**	●	R	12	2.5	10	7.5	5	9.6	93	150	20	17.5	0.4	6	TP..1103..
5770128	**C12M-STUPR11D14-OH**	●	R	14	3	12	5	5	11.5	93	150	23	21.5	0.4	7	TP..1103..
5821814	**C16Q-STUPR11D18-OH**	●	R	18	4	16	3	5	15.4	93	180	29	28	0.4	9	TP..1103..
5800537	**C08K-STUPL09D10-OH**	●	L	10	2.5	8	10	5	7.7	93	125	16.5	14.5	0.4	5	TP..0902..
5800545	**C10M-STUPL11D12-OH**	●	L	12	2.5	10	7.5	5	9.6	93	150	20	17.5	0.4	6	TP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C08K-STUPR09D10-OH	LR-S-2.5*4.8	CLR-15S
C10M-STUPR11D12-OH	LR-S-3*5.8	RLR-20S
C12M-STUPR11D14-OH	LR-S-3*5.8	RLR-20S
C16Q-STUPR11D18-OH	LR-S-3*5.8	RLR-20S
C08K-STUPL09D10-OH	LR-S-2.5*4.8	CLR-15S
C10M-STUPL11D12-OH	LR-S-3*5.8	RLR-20S

C-STUP-N Carbide shank





- Diagram shows right-hand tool
- Use a left-handed insert
- For F1/FG chipbreaker, right-hand inserts fit to right-hand toolholder
- F1/FG chipbreaker evacuates chips BACKWARD

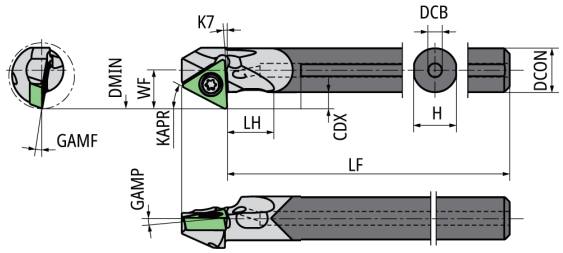
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5853262	**C08K-STUPR-08-N**	●	R	10	8	10	5	7	93	125	0.4	5	TP..0802..
5853270	**C10M-STUPR-09-N**	●	R	12	10	7	5	9	93	150	0.4	6	TP..0902..

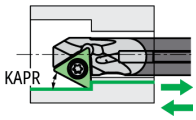
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C08K-STUPR-08-N	LR-S-2*5.5	CLR-13S
C10M-STUPR-09-N	LR-S-2.5*6	CLR-15S

TP.. series/Toolholder for ID Back Turning

C-STZP-OH Mogul Bar / Coolant through / Carbide shank





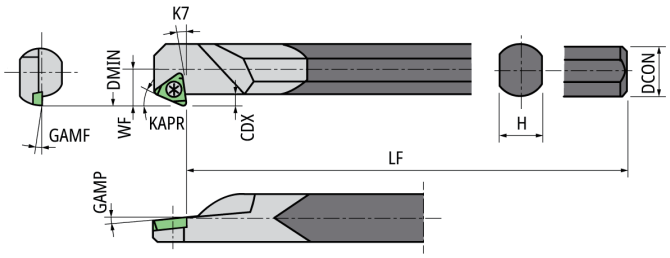
- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

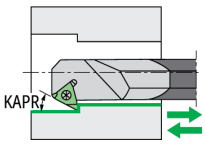
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5842869	**C08K-STZPR09D12-OH**	●	R	12	3	2.5	8	10	5	7.7	27	125	8.5	0.4	7	TP..0902..
5842877	**C10M-STZPR09D14-OH**	●	R	14	3	2.5	10	7	5	9.6	27	150	12	0.4	8	TP..0902..
5842885	**C12M-STZPR11D175-OH**	●	R	17.5	4.5	3	12	5	5	11.5	27	150	14.5	0.4	10.5	TP..1103..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C08K-STZPR09D12-OH	LR-S-2.5*4.8	CLR-15S
C10M-STZPR09D14-OH	LR-S-2.5*4.8	CLR-15S
C12M-STZPR11D175-OH	LR-S-3*5.8	RLR-20S

B-STZP-N Carbide shank





- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

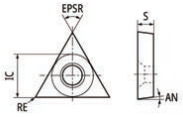
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5852801	**B12Q-STZPR-09-N**	●	R	16	3	12	5	5	11	27	180	0.2	9	TP..0902..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
B12Q-STZPR-09-N	LR-S-2.5*6.8	CLR-15S

TP.. series/Inserts Carbide

TPGH

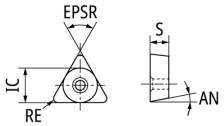


Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

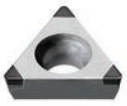
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide PVD ST4	PVD DM4	PVD DT4	PVD QM3	PVD TM4	PVD VM1	PVD ZM3	CVD CP1	CVD CP7	Uncoated KM1
	TPGH090202RFG	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●					
	TPGH090204RFG	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●					
	TPGH110302RFG	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●					
	TPGH110304RFG	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●					
	TPGH080202FRF1	Up-sharp edge	60	4.76	2.38	11	0.2	–					●	●	●			
	TPGH080204FRF1	Up-sharp edge	60	4.76	2.38	11	0.4	–					●	●	●			
	TPGH090201FRF1	Up-sharp edge	60	5.56	2.38	11	0.1	–	●			●	●					
	TPGH090202FRF1	Up-sharp edge	60	5.56	2.38	11	0.2	–	●			●	●	●	●			
	TPGH090204FRF1	Up-sharp edge	60	5.56	2.38	11	0.4	–	●			●	●	●	●			
	TPGH090208FRF1	Up-sharp edge	60	5.56	2.38	11	0.8	–	●			●	●		●			
	TPGH110302FRF1	Up-sharp edge	60	6.35	3.18	11	0.2	–	●			●	●	●	●			
	TPGH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	–	●			●	●	●	●			
	TPGH110308FRF1	Up-sharp edge	60	6.35	3.18	11	0.8	–	●			●	●		●			
	TPGH090202FLK	Up-sharp edge	60	5.56	2.38	11	0.2	–					●					
	TPGH090204FLK	Up-sharp edge	60	5.56	2.38	11	0.4	–					●					
	TPGH090208FLK	Up-sharp edge	60	5.56	2.38	11	0.8	–					●					
	TPGH090202FLB2	Up-sharp edge	60	5.56	2.38	11	0.2	–					●		●			
	TPGH090204FLB2	Up-sharp edge	60	5.56	2.38	11	0.4	–					●		●			
	TPGH090208FLB2	Up-sharp edge	60	5.56	2.38	11	0.8	–					●		●			
	TPGH080202FLB3	Up-sharp edge	60	4.76	2.38	11	0.2	–					●		●			
	TPGH080204FLB3	Up-sharp edge	60	4.76	2.38	11	0.4	–					●		●			

TP.. series/Inserts CBN

TPGW

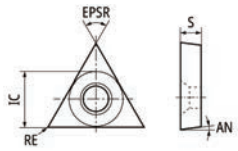


												CBN								
Steel																				
Stainless Steel																				
Cast Iron	●	●	●	●			○	○												
Non-Ferrous Material																				
Heat Resistant Alloy																				
Hardened Material					●	●	●	●	●											
Others (non-metallic)																				

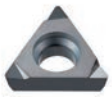
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	D2 mm	Length of edge	No. of edge	S1 mm	CBN B16	PVD B22	B23	B30	B36	PVD B6K	B40	B52	PVD B5K
	**TPGW090202PTS01015**	S01015	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090202PTS01325	S01325	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090202PTS01535	S01535	60	5.56	2.38	11	0.2	–	2.2	3	–					●			●	
	TPGW090204PTS01015	S01015	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090204PTS01325	S01325	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090204PTS01535	S01535	60	5.56	2.38	11	0.4	–	2	3	–					●			●	
	TPGW090208PTS01015	S01015	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW090208PTS01325	S01325	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW090208PTS01535	S01535	60	5.56	2.38	11	0.8	–	1.7	3	–					●			●	
	TPGW110302PTS01015	S01015	60	6.35	3.18	11	0.2	–	2.2	3	–					●		●	●	
	TPGW110302PTS01325	S01325	60	6.35	3.18	11	0.2	–	2.2	3	–					●			●	
	TPGW110302PTS01535	S01535	60	6.35	3.18	11	0.2	–	2.2	3	–					●		●	●	
	TPGW110302PTT01020	T01020	60	6.35	3.18	11	0.2	–	2.2	3	–				●					
	TPGW110304PTS01015	S01015	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTS01325	S01325	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTS01535	S01535	60	6.35	3.18	11	0.4	–	2	3	–					●		●	●	
	TPGW110304PTT01020	T01020	60	6.35	3.18	11	0.4	–	2	3	–				●					
	TPGW110304PTT01515	T01515	60	6.35	3.18	11	0.4	–	2	3	–			●	●					
	TPGW110308PTS01015	S01015	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTS01325	S01325	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTS01535	S01535	60	6.35	3.18	11	0.8	–	1.7	3	–					●		●	●	
	TPGW110308PTT01020	T01020	60	6.35	3.18	11	0.8	–	1.7	3	–				●					
	TPGW110308PTT01515	T01515	60	6.35	3.18	11	0.8	–	1.7	3	–			●						
	TPGW110312PTS01015	S01015	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTS01325	S01325	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTS01535	S01535	60	6.35	3.18	11	1.2	–	2.3	3	–							●	●	
	TPGW110312PTT01020	T01020	60	6.35	3.18	11	1.2	–	2.3	3	–				●					
	TPGW110312PTT01515	T01515	60	6.35	3.18	11	1.2	–	2.3	3	–			●						

TP.. series/Inserts PCD / Diamond Coating

TPM.

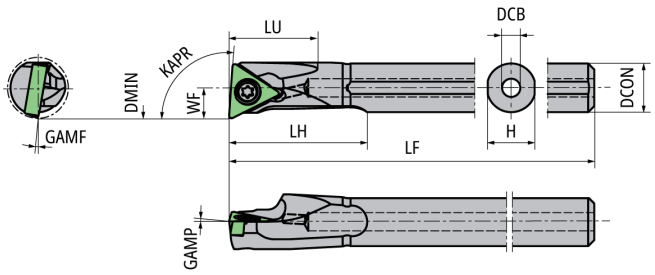


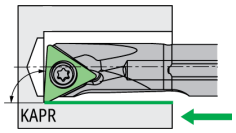
	PD1	PD2	UC1
Steel			
Stainless Steel			
Cast Iron			
Non-Ferrous Material	●	●	●
Heat Resistant Alloy			
Hardened Material			
Others (non-metallic)			●

Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	No. of edge	PCD PD1	PCD PD2	Diamond Coating UC1
	**TPMH110302FRF1**	Up-sharp edge	60	6.35	3.18	11	0.2	3			●
	TPMH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	3			●
	TPMT090201PBF	Up-sharp edge	60	5.56	2.38	11	0.1	1		●	
	TPMT090202PBF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PBF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110301PBF	Up-sharp edge	60	6.35	3.18	11	0.1	1		●	
	TPMT110302PBF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PBF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	
	TPMT090202PF	Up-sharp edge	60	5.56	2.38	11	0.2	1		●	
	TPMT090204PF	Up-sharp edge	60	5.56	2.38	11	0.4	1		●	
	TPMT110302PF	Up-sharp edge	60	6.35	3.18	11	0.2	1		●	
	TPMT110304PF	Up-sharp edge	60	6.35	3.18	11	0.4	1		●	

TC.. series/Toolholder

S-STUC-OH Mogul Bar / Coolant through / Steel shank





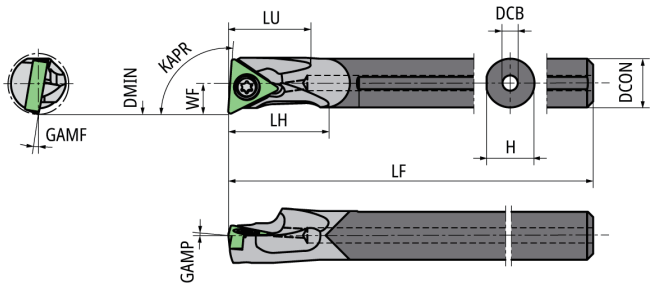
- Diagram shows right-hand tool
- Use a left-handed insert
- For F05 chipbreaker, right-hand inserts fit to right-hand toolholder
- F05 chipbreaker evacuates chips BACKWARD

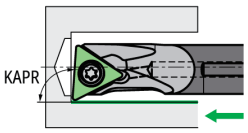
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5769971	**S07G-STUCR06D08-OH**	●	R	8	2.5	7	11	0	6.75	93	90	19.5	12.5	0.2	4	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S07G-STUCR06D08-OH	LR-S-2*4.4	CLR-13S

C-STUC-OH Mogul Bar / Coolant through / Carbide shank





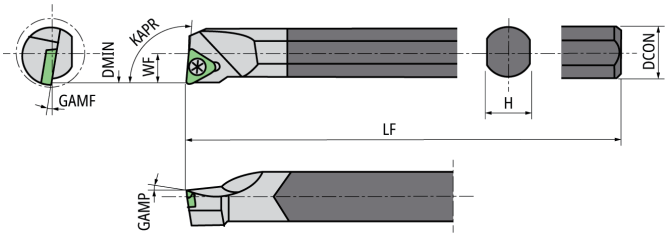
- Diagram shows right-hand tool
- Use a left-handed insert
- For F05 chipbreaker, right-hand inserts fit to right-hand toolholder
- F05 chipbreaker evacuates chips BACKWARD

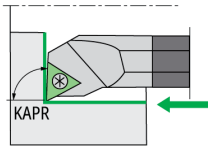
EDP	Item Number	Stock	Hand	DMIN mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	LU mm	RE mm	WF mm	Insert Gage
5770094	**C07J-STUCR06D08-OH**	●	R	8	2	7	11	0	6.75	93	110	13	12.5	0.2	4	TC..0601..
5800529	**C07J-STUCL06D08-OH**	●	L	8	2	7	11	0	6.75	93	110	13	12.5	0.2	4	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C07J-STUCR06D08-OH	LR-S-2*4.4	CLR-13S
C07J-STUCL06D08-OH	LR-S-2*4.4	CLR-13S

C-STUC-N Carbide shank





- Diagram shows right-hand tool
- Use a left-handed insert
- For F05 chipbreaker, right-hand inserts fit to right-hand toolholder
- F05 chipbreaker evacuates chips BACKWARD

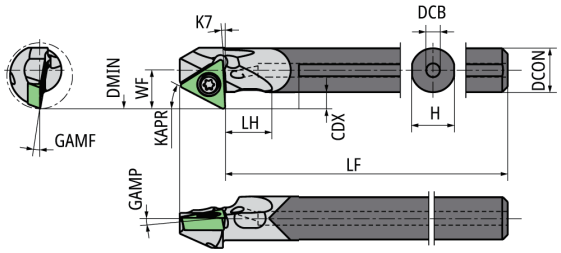
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5853247	**C06J-STUCR-06-N**	●	R	8	6	10	0	5.2	93	110	0.2	4	TC..0601..

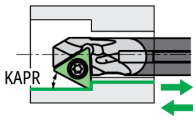
Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06J-STUCR-06-N	LR-S-2*4.4	CLR-13S

TC.. series/Toolholder for ID Back Turning

C-STZC-OH Mogul Bar / Coolant through / Carbide shank





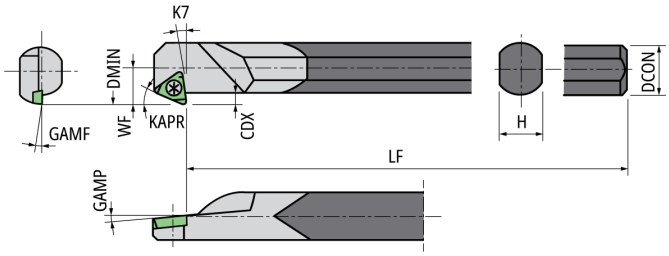
- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

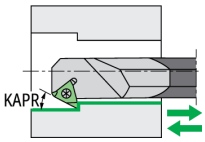
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCB mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	LH mm	RE mm	WF mm	Insert Gage
5842851	**C06H-STZCR06D10-OH**	●	R	10	2.5	2	6	10	0	5.8	27	100	6	0.2	5.5	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
C06H-STZCR06D10-OH	LR-S-2*4.4	CLR-13S

B-STZC-N Carbide shank





- Diagram shows right-hand tool
- Use right-hand inserts for machining backward
- Use left-hand inserts for machining forward

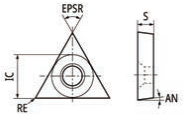
EDP	Item Number	Stock	Hand	DMIN mm	CDX mm	DCON mm	GAMF °	GMAP °	H mm	KAPR °	LF mm	RE mm	WF mm	Insert Gage
5852819	**B06J-STZCR-06-N**	●	R	10	2.5	6	10	0	5.2	27	110	0.2	5.5	TC..0601..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
B06J-STZCR-06-N	LR-S-2*4.4	CLR-13S

TC.. series/Inserts Carbide

TCG.

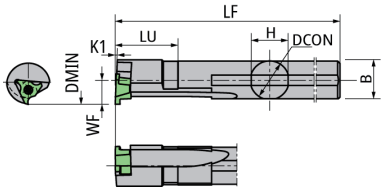


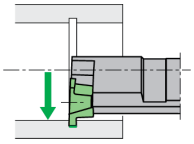
Steel	○	●	●	●	●	●	●		●									
Stainless Steel	●	○	○	○	●	○	●		●									
Cast Iron								●										
Non-Ferrous Material					○		○											●
Heat Resistant Alloy		●	○	○														
Hardened Material		○	○	○														
Others (non-metallic)																		●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide									
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	Uncoated
	(ISO)		°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1
	TCGH060101FRF05	Up-sharp edge	60	3.97	1.59	7	0.1	–	●			●	●					
	TCGH060102FLF05	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060102FRF05	Up-sharp edge	60	3.97	1.59	7	0.2	–	●			●	●		●			
	TCGH060104FRF05	Up-sharp edge	60	3.97	1.59	7	0.4	–	●			●	●		●			
	TCGH060102FLK	Up-sharp edge	60	3.97	1.59	7	0.2	–					●					
	TCGH060104FLK	Up-sharp edge	60	3.97	1.59	7	0.4	–					●					
	TCGH060102FLB1	Up-sharp edge	60	3.97	1.59	7	0.2	–					●		●			
	TCGH060104FLB1	Up-sharp edge	60	3.97	1.59	7	0.4	–					●		●			

GTG.. series/Toolholders for ID Grooving

S-BG Mogul Bar / Steel shank





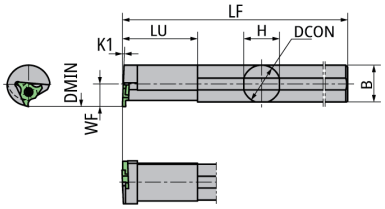
●Diagram shows right-hand tool
NOTE: Use a left-handed insert.

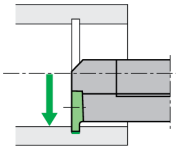
EDP	Item Number	Stock	Hand	DMIN mm	APMX mm	B mm	CW mm	DCON mm	H mm	K1 °	LF mm	LU mm	WF mm	Insert Gage
5854500	**S08H-BGR10D10**	●	R	10	1	7.85	0.5-2	8	7.7	2	120	20	5	GTG10..
5854518	**S10K-BGR10D12**	●	R	12	1	9.8	0.5-2	10	9.6	2	120	25	6	GTG10..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
S08H-BGR10D10	LR-S-2.5*6.8	CLR-15S
S10K-BGR10D12	LR-S-2.5*6.8	CLR-15S

BG Steel shank





●Diagram shows right-hand tool
NOTE: Use a left-handed insert.

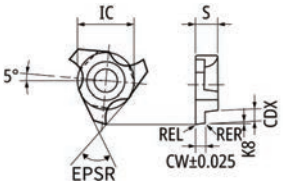
EDP	Item Number	Stock	Hand	DMIN mm	APMX mm	B mm	CW mm	DCON mm	H mm	K1 °	LF mm	LU mm	WF mm	Insert Gage
5711585	**BGR08-00S**	●	R	10	1	7.5	0.5-2	8	7	2	125	20	5	GTG10..
5711593	**BGR08-10S**	●	R	10	1	7.5	1.5-2	8	7	2	125	20	5	GTG10..
5711601	**BGR10-00S**	●	R	12	1	9.5	0.5-2	10	9	2	150	25	6	GTG10..
5711619	**BGR10-10S**	●	R	12	1	9.5	1.5-2	10	9	2	150	25	6	GTG10..
5711627	**BGR12-00S**	●	R	14	2	11.5	1-2	12	11	2	180	30	7	GTG14..
5711635	**BGR12-12S**	●	R	14	2	11.5	1.75-2	12	11	2	180	30	7	GTG14..
5711643	**BGR14-00S**	●	R	16	2	13.5	1-2	14	13	2	180	35	8	GTG14..
5711650	**BGR14-12S**	●	R	16	2	13.5	1.75-2	14	13	2	180	35	8	GTG14..
5536362	**BGR16**	●	R	20	3	15.5	1.5-2	16	15	2	200	40	10	GTG20..
5435433	**BGR20**	●	R	25	3	19.5	1.5-2	20	19	2	200	40	12	GTG20..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
BGR08-00S	LR-S-2.5*6.8	CLR-15S
BGR08-10S	LR-S-2.5*6.8	CLR-15S
BGR10-00S	LR-S-2.5*6.8	CLR-15S
BGR10-10S	LR-S-2.5*6.8	CLR-15S
BGR12-00S	LR-S-3*7.8	RLR-20S
BGR12-12S	LR-S-3*7.8	RLR-20S
BGR14-00S	LR-S-3*7.8	RLR-20S
BGR14-12S	LR-S-3*7.8	RLR-20S
BGR16	LR-S-3*7.8	RLR-20S
BGR20	LR-S-3*7.8	RLR-20S

GTG.. series/Inserts Carbide

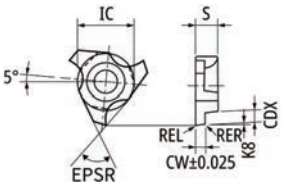
GTG..005



● Diagram shows left-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	IC	K8	REL	RER	S	Carbide PVD		
			mm	mm	mm	°	mm	°	mm	mm	mm	QM3	TM4	ZM3
GTG10050FL005	L	Yes	1	1.2	0.5	60	5.56	2	0.05	0.05	3.18		●	
GTG10075FL005	L	Yes	1	1.2	0.75	60	5.56	2	0.05	0.05	3.18		●	
GTG10100FL005	L	Yes	1	1.2	1	60	5.56	2	0.05	0.05	3.18		●	
GTG10150FL005	L	Yes	1	1.2	1.5	60	5.56	2	0.05	0.05	3.18		●	
GTG10200FL005	L	Yes	1	1.2	2	60	5.56	2	0.05	0.05	3.18		●	

GTG..

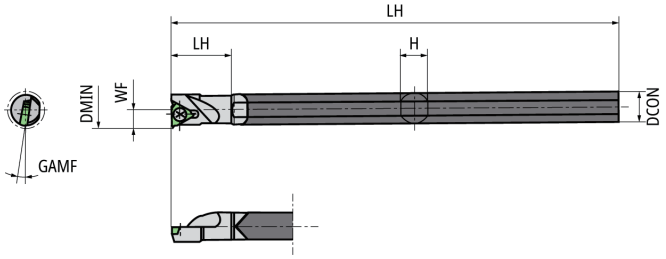


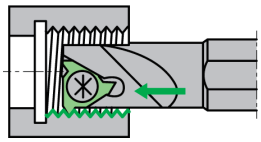
● Diagram shows left-hand tool

Item Number	Hand	Chip-breaker	APMX	CDX	CW	EPSR	IC	K8	REL	RER	S	Carbide PVD		
			mm	mm	mm	°	mm	°	mm	mm	mm	QM3	TM4	ZM3
GTG10050FL00	L	Yes	1	1.2	0.5	60	5.56	2	0.05	0.05	3.18			●
GTG10065FL00	L	Yes	1	1.2	0.65	60	5.56	2	0.05	0.05	3.18			●
GTG10075FL00	L	Yes	1	1.2	0.75	60	5.56	2	0.05	0.05	3.18			●
GTG10100FL00	L	Yes	1	1.2	1	60	5.56	2	0.05	0.05	3.18			●
GTG10150FL00	L	Yes	1	1.2	1.5	60	5.56	2	0.05	0.05	3.18			●
GTG10200FL01	L	Yes	1	1.2	2	60	5.56	2	0.1	0.1	3.18			●
GTG14100FL00	L	Yes	2	2.2	1	60	7.94	2	0.05	0.05	3.18			●
GTG14150FL00	L	Yes	2	2.2	1.5	60	7.94	2	0.05	0.05	3.18			●
GTG14200FL01	L	Yes	2	2.2	2	60	7.94	2	0.1	0.1	3.18			●
GTG20150FL	L	Yes	3	3.2	1.5	60	9.525	2	0.2	0.2	3.18	●		
GTG20200FL	L	Yes	3	3.2	2	60	9.525	2	0.2	0.2	3.18	●		

Internal Thread
TMN.. series/Toolholder

TGC Carbide shank





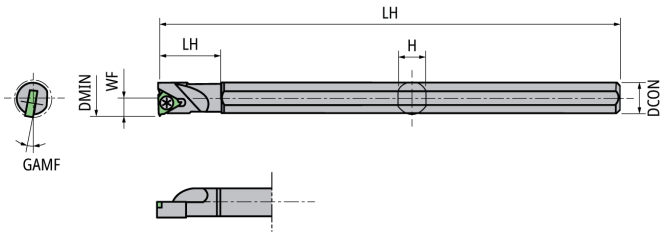
● Diagram shows right-hand tool

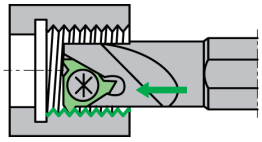
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	H mm	LF mm	LH mm	WF mm	Insert Gage
5455092	**TGC10T06H161R**	●	R	8	6	10	5.5	100	13	3.8	TMN06..
5455084	**TGC10T08K162R**	●	R	10	8	10	7	125	17	4.7	TMN08..
5455076	**TGC10T10M163R**	●	R	12	10	10	9	150	20	6	TMN09..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
TGC10T06H161R	LR-S-2*4.4	CLR-13S
TGC10T08K162R	LR-S-2*5.5	CLR-13S
TGC10T10M163R	LRIS-2.2*6	CLR-13S

HN Steel shank





● Diagram shows right-hand tool

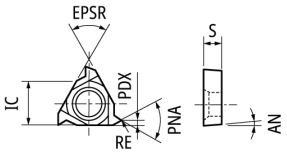
EDP	Item Number	Stock	Hand	DMIN mm	DCON mm	GAMF °	H mm	LF mm	LH mm	WF mm	Insert Gage
5845177	**HN59Z-0028**	●	R	8	6	10	5.5	100	13	3.8	TMN06..
5845193	**HN59Z-0029**	●	R	10	8	10	7	125	17	4.7	TMN08..
5845185	**HN59Z-0030**	●	R	12	10	10	9	150	20	6	TMN09..

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
HN59Z-0028	LR-S-2*4.4	CLR-13S
HN59Z-0029	LR-S-2*5.5	CLR-13S
HN59Z-0030	LRIS-2.2*6	CLR-13S

TMN.. series/Inserts Carbide

TMN

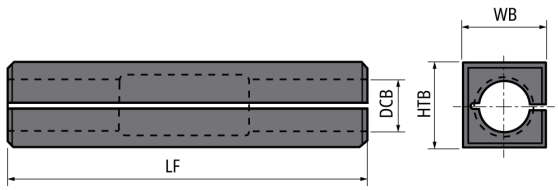


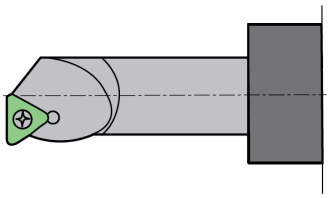
● Diagram shows right-hand tool

Item Number	Hand	Chip-breaker	AN	EPSR	IC	PNA	RE	S	Pitch	Carbide PVD
			°	°	mm	°	mm	mm	mm	ZM3
TMN06FR03	R	Yes	7	60	3.97	60	0.03	1.59	0.4-0.75	●
TMN08FR03	R	Yes	7	60	4.76	60	0.03	2.38	0.4-0.75	●
TMN09FR03	R	Yes	7	60	5.56	60	0.03	2.38	0.4-0.75	●

Boring bar adaptors

S..-H





EDP	Item Number	Stock	DCB mm	HTB mm	LF mm	WB mm
5764204	**S06-H**	●	6	20	60	20
5580717	**S08-H**	●	8	20	60	20
5632286	**S10-H**	●	10	20	60	20
5758198	**S12-H**	●	12	25	70	25

Shaper

SHAPER DUO W02

Insert bar W03

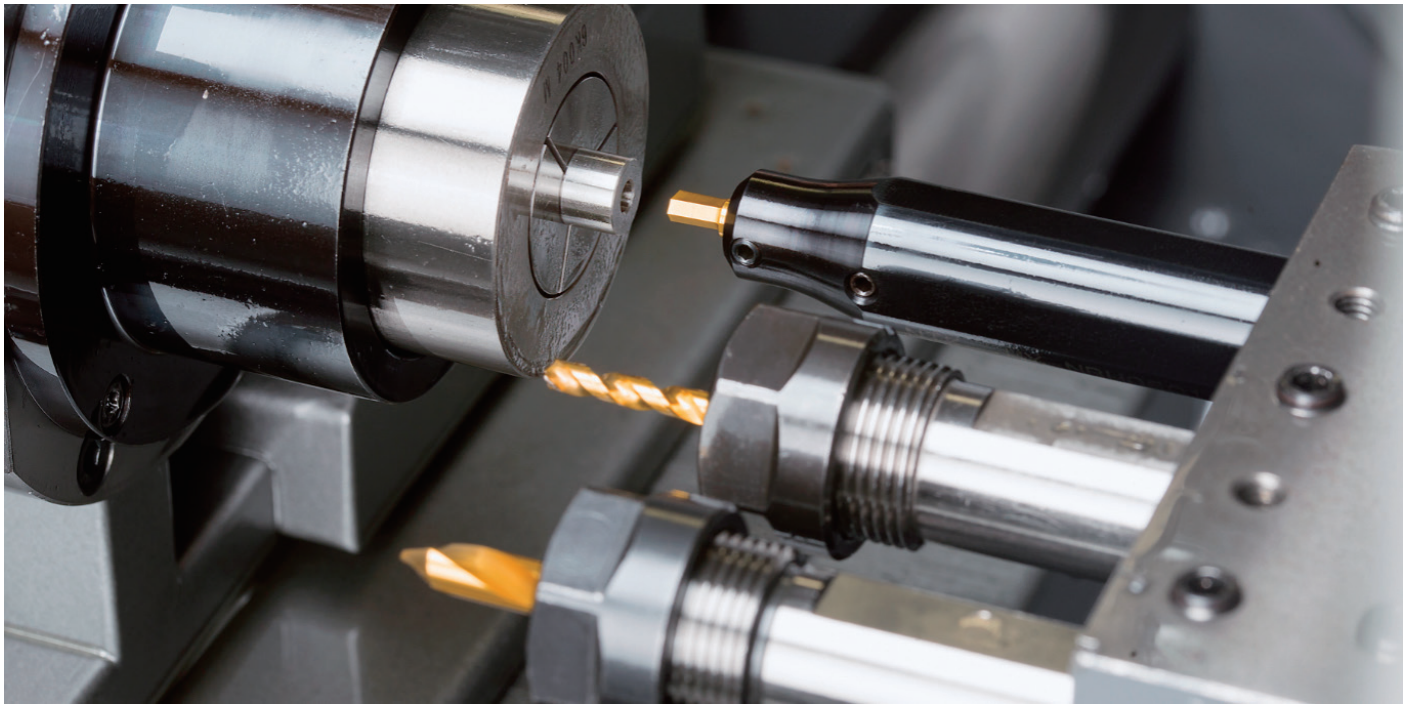
Sleeve W04

Machining Procedure W13

Set-up Instructions - Hexagonal W14

Machining Program Code Explanation W15

Troubleshooting W17



For socket hole machining on CNC automatic lathes

SHAPER DUO

Hexagon, square and hexalobular socket machining can be achieved at a low cost and without any special equipment .

Wide range of socket styles and sizes can be machined by using the sub-spindle of automatic lathes.

Features ①

- Machine square, hexagon, and hexalobular socket holes
- Less tool pressure than Rotary-Broaching. Ideal for machining small diameter work pieces
- Wide range of socket dimensions can be machined with one size of SHAPER DUO
- Special workpieces and small quantity part runs can be machined with less tool costs

Features ②

Comparison Chart of Hexalobular Socket Machining

	Tool Pressure	Cycle Time	Tool Cost	High speed spindle	Programming	
Shaper Duo	◎	◎	◎	Not necessary	Simple	• No high speed spindle needed • A lot less cycle time
End mill	○	×	△	Necessary	Complicated	• Need high speed spindle • Time consuming process

***Small diameter end mill driven by high-speed spindle is popular way to create Hexalobular(6-lobe) socket.**
It has some flexibility but needs high speed spindle unit and it is a time consuming process.
***SHAPER DUO can make Hexalobular(6-lobe) socket faster and simpler.**

Comparison Chart of HEX Socket Machining

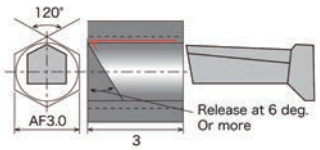
	Tool Pressure	Cycle Time	Flexibility	Tool Cost	
Shaper Duo	◎	△ ※Can be off-set by over-wrapping operation	○	◎	• Less tool pressure-especially on small diameter parts • One size can cover several socket sizes
Broach Tool	△	○	×	△	• Need to have tools for each socket size

***Rotary-broaching is an efficient way to machine a Hexagon socket.**
But tool pressure is high and often times it pushes part too hard.
***SHAPER DUO system enables less tool pressure and provides better tolerance with less cost.**

Example of machining Hexagon socket

SHAPER DUO has better tool life compared to the competitor which has an immediate worn and rounded cutting edge.
NTK's special grinding process and TM4 grade enable to:
① Keep good corner edge sharpness and long tool life ② Provide better tolerance and accuracy ③ Provide better surface quality

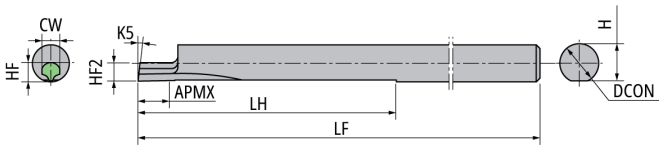
Work materials	SUS303
Feed	2,000 mm/min
Depth of cut (ap)	Roughing 0.025mm
	Finishing 0.005mm
Coolant	WET

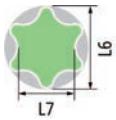


Insert bar

Hexalobular socket (6-LOBE hole)

SSP-T

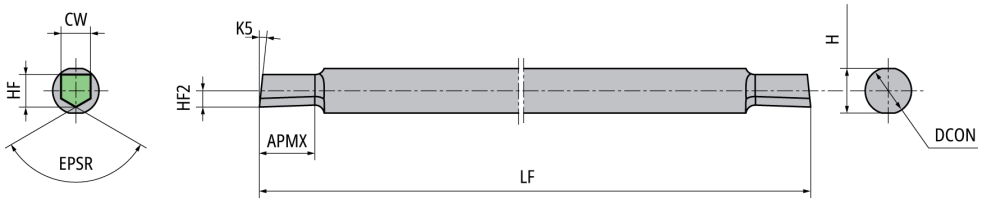




Item Number	Socket size	Socket number	L6 mm	L7 mm	Recommended Pilot bore Dia. mm	APMX mm	CW mm	DCON mm	H mm	HF mm	HF2 mm	K5 °	LF mm	LH nn	Carbide PVD coating TM4
SSP050N25T06	T6	6	1.75	1.27	1.15	2.5	1.2	5	4.75	1.09	2.4	6	70	35	●
SSP050N31T07	T7	–	–	–	1.38	3.1	1.4	5	4.75	1.29	2.4	6	70	35	●
SSP050N36T08	T8	8	2.4	1.75	1.62	3.6	1.6	5	4.75	1.5	2.4	6	70	35	●
SSP050N41T10	T10	10	2.8	2.05	1.92	4.1	1.8	5	4.75	1.7	2.4	6	70	35	●
SSP050N43T15	T15	15	3.35	2.4	2.3	4.3	2.2	5	4.75	2.1	2.4	6	70	35	●
SSP050N46T20	T20	20	3.95	2.85	2.71	4.6	2.6	5	4.75	2.5	2.4	6	70	35	●
SSP050N50T25	T25	25	4.5	3.25	3.13	5	3	5	4.75	2.9	2.4	6	70	35	●
SSP050N55T27	T27	–	–	–	3.52	5.5	3.4	5	4.75	3.3	2.4	6	70	35	●
SSP050N55T30	T30	30	5.6	4.05	3.91	5.5	3.8	5	4.75	3.7	2.4	6	70	35	●

Hexagon socket

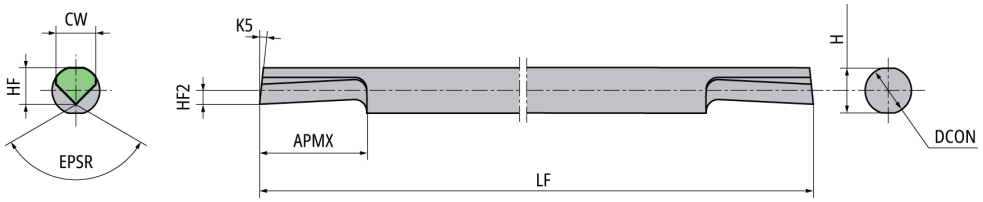
SSP-H

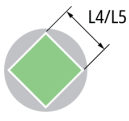


Item Number	Base AF L4 mm	AF range L5 mm	APMX mm	CW mm	DCON mm	EPSR °	H mm	HF mm	HF2 mm	K5 °	LF mm	Carbide PVD coating TM4
SSP020N06515H	1	1-1.1	1.5	0.65	2	120	1.8	0.7	0.35	15	50	●
SSP020N07018H	1.1	1.1-1.2	1.8	0.7	2	120	1.8	0.8	0.4	15	50	●
SSP020N07518H	1.2	1.2-1.3	1.8	0.75	2	120	1.8	0.9	0.45	15	50	●
SSP020N08020H	1.3	1.3-1.4	2	0.8	2	120	1.8	1	0.5	15	50	●
SSP020N1130H	1.5	1.4-1.9	3	1.1	2	120	1.8	0.9	0.45	6	50	●
SSP020N1430H	2	1.8-2.5	3	1.4	2	120	1.8	1.2	0.6	6	50	●
SSP030N1940H	3	2.3-3.5	4	1.9	3	120	2.8	1.5	0.75	6	50	●
SSP040N2450H	4	3.3-4.5	5	2.4	4	120	3.8	2.5	1.25	6	60	●
SSP050N3260H	5	4.3-6.1	6	3.2	5	120	4.8	3.3	1.65	6	70	●
SSP060N42120H	6	5.3-8.1	12	4.2	6	120	5.6	4	2	6	80	●
SSP080N62160H	8	7.3-12.1	16	6.2	8	120	7.6	4.9	2.45	6	80	●

Square Socket

SSP-S



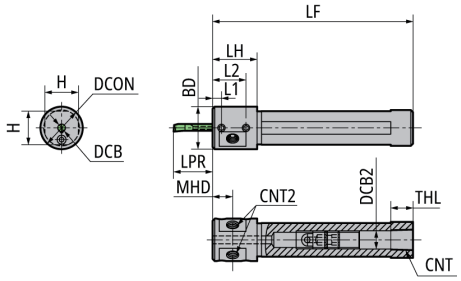


Item Number	Base AF L4 mm	AF range L5 mm	APMX mm	CW mm	DCON mm	EPSR °	H mm	HF mm	HF2 mm	K5 °	LF mm	Carbide PVD coating TM4
SSP020N1740S	2	2-2.3	4	1.7	2	90	1.8	1.6	0.7	6	50	●
SSP025N1940S	2.5	2.3-2.6	4	1.95	2.5	90	2.3	1.8	0.65	6	50	●
SSP030N2260S	3	2.6-3	6	2.2	3	90	2.8	2.05	0.65	6	50	●
SSP035N2760S	3.5	2.9-3.7	6	2.7	3.5	90	3.3	2.25	0.6	6	60	●
SSP040N3380S	4	3.7-4.5	8	3.35	4	90	3.8	3.05	1.15	6	60	●
SSP050N39100S	5	4.5-5.3	10	3.9	5	90	4.8	3.95	1.55	6	70	●
SSP060N47120S	6	5.3-6.5	12	4.75	8	90	5.6	4.5	1.7	6	80	●
SSP080N58160S	8	6.5-8	16	5.8	8	90	7.6	5.5	1.7	6	80	●

STICK DUO SPLASH

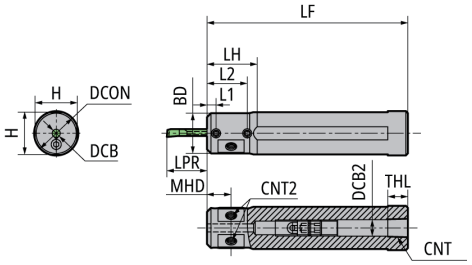
Sleeve for Shaper Duo series (Adjustable overhang / Internal coolant system)

HY-NBH-OH Shank diameter Φ16



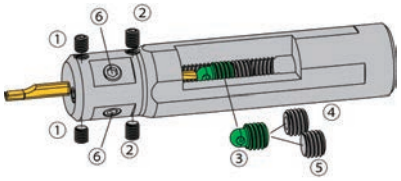
EDP	Item Number	Stock	BD mm	CNT	CNT2	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	LPR mm	L1 mm	L2 mm	MHD mm	THL mm	Applicable insert bar	
5893011	**HY-NBH02016G-OH**	●	19	Rc1/8	M6×P1.0	2	8.2	16	15	90	19	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893029	**HY-NBH02516G-OH**	●	19	Rc1/8	M6×P1.0	2.5	8.2	16	15	90	19	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893037	**HY-NBH03016G-OH**	●	19	Rc1/8	M6×P1.0	3	8.2	16	15	90	19	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893045	**HY-NBH03516G-OH**	●	19	Rc1/8	M6×P1.0	3.5	8.2	16	15	90	19	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893052	**HY-NBH04016G-OH**	●	19	Rc1/8	M6×P1.0	4	8.2	16	15	90	24	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893060	**HY-NBH05016G-OH**	●	19	Rc1/8	M6×P1.0	5	8.2	16	15	90	24	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..

HY-NBH-OH Shank diameter Φ19.05 - Φ25.4



EDP	Item Number	Stock	BD mm	CNT	CNT2	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	LPR mm	L1 mm	L2 mm	MHD mm	THL mm	Applicable insert bar	
5893078	**HY-NBH02019J-OH**	●	19.05	Rc1/8	M6×P1.0	2	8.2	19.05	18	110	–	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893086	**HY-NBH02519J-OH**	●	19.05	Rc1/8	M6×P1.0	2.5	8.2	19.05	18	110	–	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893094	**HY-NBH03019J-OH**	●	19.05	Rc1/8	M6×P1.0	3	8.2	19.05	18	110	–	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893102	**HY-NBH03519J-OH**	●	19.05	Rc1/8	M6×P1.0	3.5	8.2	19.05	18	110	–	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893136	**HY-NBH04019J-OH**	●	19.05	Rc1/8	M6×P1.0	4	8.2	19.05	18	110	–	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893144	**HY-NBH05019J-OH**	●	19.05	Rc1/8	M6×P1.0	5	8.2	19.05	18	110	–	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967922	**HY-NBH06019J-OH**	●	19.05	Rc1/8	M6×P1.0	6	8.2	19.05	18	110	–	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893151	**HY-NBH02020J-OH**	●	20	Rc1/8	M6×P1.0	2	8.2	20	19	110	–	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893169	**HY-NBH02520J-OH**	●	20	Rc1/8	M6×P1.0	2.5	8.2	20	19	110	–	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893177	**HY-NBH03020J-OH**	●	20	Rc1/8	M6×P1.0	3	8.2	20	19	110	–	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893185	**HY-NBH03520J-OH**	●	20	Rc1/8	M6×P1.0	3.5	8.2	20	19	110	–	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893193	**HY-NBH04020J-OH**	●	20	Rc1/8	M6×P1.0	4	8.2	20	19	110	–	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893201	**HY-NBH05020J-OH**	●	20	Rc1/8	M6×P1.0	5	8.2	20	19	110	–	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967930	**HY-NBH06020J-OH**	●	20	Rc1/8	M6×P1.0	6	8.2	20	19	110	–	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893219	**HY-NBH02022X-OH**	●	20	Rc1/8	M6×P1.0	2	8.2	22	21	120	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893227	**HY-NBH02522X-OH**	●	20	Rc1/8	M6×P1.0	2.5	8.2	22	21	120	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893235	**HY-NBH03022X-OH**	●	20	Rc1/8	M6×P1.0	3	8.2	22	21	120	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893243	**HY-NBH03522X-OH**	●	20	Rc1/8	M6×P1.0	3.5	8.2	22	21	120	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893250	**HY-NBH04022X-OH**	●	20	Rc1/8	M6×P1.0	4	8.2	22	21	120	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893268	**HY-NBH05022X-OH**	●	20	Rc1/8	M6×P1.0	5	8.2	22	21	120	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967948	**HY-NBH06022X-OH**	●	20	Rc1/8	M6×P1.0	6	8.2	22	21	120	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893276	**HY-NBH02025.0K-OH**	●	20	Rc1/8	M6×P1.0	2	8.2	25	24	125	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893284	**HY-NBH02525.0K-OH**	●	20	Rc1/8	M6×P1.0	2.5	8.2	25	24	125	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893292	**HY-NBH03025.0K-OH**	●	20	Rc1/8	M6×P1.0	3	8.2	25	24	125	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893300	**HY-NBH03525.0K-OH**	●	20	Rc1/8	M6×P1.0	3.5	8.2	25	24	125	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893318	**HY-NBH04025.0K-OH**	●	20	Rc1/8	M6×P1.0	4	8.2	25	24	125	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893326	**HY-NBH05025.0K-OH**	●	20	Rc1/8	M6×P1.0	5	8.2	25	24	125	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967955	**HY-NBH06025.0K-OH**	●	20	Rc1/8	M6×P1.0	6	8.2	25	24	125	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..
5893334	**HY-NBH02025.4K-OH**	●	20	Rc1/8	M6×P1.0	2	8.2	25.4	24	125	25	5-18	4	15	9.5	10	SBF../SHF..	SSP..
5893367	**HY-NBH02525.4K-OH**	●	20	Rc1/8	M6×P1.0	2.5	8.2	25.4	24	125	25	6.3-19.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893375	**HY-NBH03025.4K-OH**	●	20	Rc1/8	M6×P1.0	3	8.2	25.4	24	125	25	7.5-21	4	15	9.5	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893383	**HY-NBH03525.4K-OH**	●	20	Rc1/8	M6×P1.0	3.5	8.2	25.4	24	125	25	8.8-24.5	4	15	9.5	10	SBF../SHF..	SBT../SSP..
5893391	**HY-NBH04025.4K-OH**	●	20	Rc1/8	M6×P1.0	4	8.2	25.4	24	125	25	10-28	4	20	12	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5893409	**HY-NBH05025.4K-OH**	●	20	Rc1/8	M6×P1.0	5	8.2	25.4	24	125	25	12.5-35	4	20	12	10	SBF../SHF..	SBG../SBT../SSP..
5967963	**HY-NBH06025.4K-OH**	●	20	Rc1/8	M6×P1.0	6	8.2	25.4	24	125	25	15-42	4	20	12	10	SBF../SHF..	SBG../SFG../SBT../SSP..

Parts

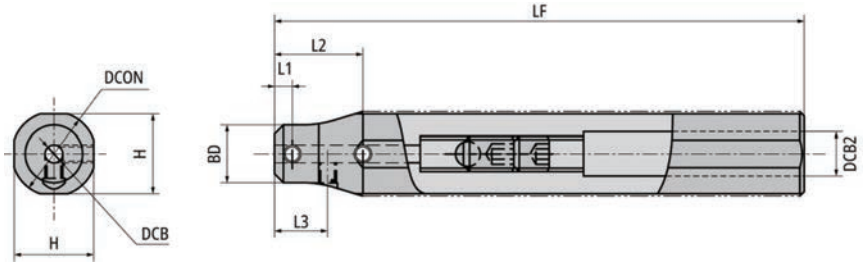


Item Number	Clamp Screw		Overhang Adjustment			M6 Screw	Wrench		
	①	②	③	④	⑤	⑥	for①②	for③④⑤	for⑥
HY-NBH02016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02516G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03516G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05016G-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02519J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03519J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06019J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02520J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03520J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06020J-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02522X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03522X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06022X-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02525.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03525.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06025.0K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH02525.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH03525.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH04025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH05025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3
HY-NBH06025.4K-OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH	SS0806F	SS0605SC	LW-2	LW-4*104	LW-3

STICK DUO HYPER

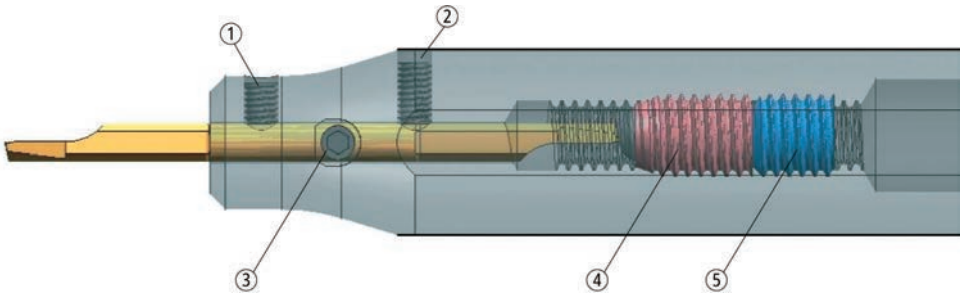
Sleeve for Shaper Duo series (Adjustable overhang)

HY-NBH



EDP	Item Number	Stock	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	L1 mm	L2 mm	L3 mm	Applicable insert bar	
5709894	**HY-NBH02016H**	●	11	2	10	16	15	100	4	15	9.5	SBF../SHF..	SSP..
5709902	**HY-NBH02516H**	●	11.5	2.5	10	16	15	100	4	15	9.5	SBF../SHF..	SBT../SSP..
5709910	**HY-NBH03016H**	●	12	3	10	16	15	100	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5709936	**HY-NBH03516H**	●	12.5	3.5	10	16	15	100	4	20	12	SBF../SHF..	SBT../SSP..
5709944	**HY-NBH04016H**	●	13	4	10	16	15	100	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5709951	**HY-NBH05016H**	●	14	5	10	16	15	100	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5709969	**HY-NBH02019K**	●	11	2	10	19.05	18	125	4	15	9.5	SBF../SHF..	SSP..
5709977	**HY-NBH02519K**	●	11.5	2.5	10	19.05	18	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5709985	**HY-NBH03019K**	●	12	3	10	19.05	18	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5709993	**HY-NBH03519K**	●	12.5	3.5	10	19.05	18	125	4	20	12	SBF../SHF..	SBT../SSP..
5710009	**HY-NBH04019K**	●	13	4	10	19.05	18	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5710017	**HY-NBH05019K**	●	14	5	10	19.05	18	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712708	**HY-NBH02020K**	●	11	2	10	20	19	125	4	15	9.5	SBF../SHF..	SSP..
5712716	**HY-NBH02520K**	●	11.5	2.5	10	20	19	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712724	**HY-NBH03020K**	●	12	3	10	20	19	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712740	**HY-NBH03520K**	●	12.5	3.5	10	20	19	125	4	20	12	SBF../SHF..	SBT../SSP..
5712757	**HY-NBH04020K**	●	13	4	10	20	19	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712765	**HY-NBH05020K**	●	14	5	10	20	19	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712773	**HY-NBH02022K**	●	11	2	10	22	21	125	4	15	9.5	SBF../SHF..	SSP..
5712799	**HY-NBH02522K**	●	11.5	2.5	10	22	21	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712831	**HY-NBH03022K**	●	12	3	10	22	21	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712856	**HY-NBH03522K**	●	12.5	3.5	10	22	21	125	4	20	12	SBF../SHF..	SBT../SSP..
5712872	**HY-NBH04022K**	●	13	4	10	22	21	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712914	**HY-NBH05022K**	●	14	5	10	22	21	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5712732	**HY-NBH02025K-MET**	●	11	2	10	25	24	125	4	15	9.5	SBF../SHF..	SSP..
5712823	**HY-NBH02525K-MET**	●	11.5	2.5	10	25	24	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5712849	**HY-NBH03025K-MET**	●	12	3	10	25	24	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5712864	**HY-NBH03525K-MET**	●	12.5	3.5	10	25	24	125	4	20	12	SBF../SHF..	SBT../SSP..
5712898	**HY-NBH04025K-MET**	●	13	4	10	25	24	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5712922	**HY-NBH05025K-MET**	●	14	5	10	25	24	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..
5713003	**HY-NBH02025K**	●	11	2	10	25.4	24	125	4	15	9.5	SBF../SHF..	SSP..
5713029	**HY-NBH02525K**	●	11.5	2.5	10	25.4	24	125	4	15	9.5	SBF../SHF..	SBT../SSP..
5713045	**HY-NBH03025K**	●	12	3	10	25.4	24	125	4	15	9.5	SBF../SHF../SBB..	SBG../SBT../SSP..
5713060	**HY-NBH03525K**	●	12.5	3.5	10	25.4	24	125	4	20	12	SBF../SHF..	SBT../SSP..
5713086	**HY-NBH04025K**	●	13	4	10	25.4	24	125	4	20	12	SBF../SHF../SBB..	SBG../SBT../SSP..
5713102	**HY-NBH05025K**	●	14	5	10	25.4	24	125	4	20	12	SBF../SHF..	SBG../SBT../SSP..

Parts

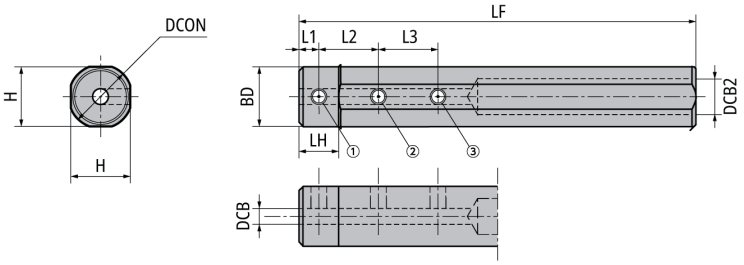


Item Number	Clamp Screw			Overhang Adjustment		Wrench	
	①	②	③	④	⑤	for①②③	for④⑤
HY-NBH02016H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02516H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03016H	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03516H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04016H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05016H	SS04045FS	SS0404F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02519K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03519K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05019K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02520K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03520K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05020K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02522K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03522K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05022K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02525K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03525K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05025K-MET	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH02525K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH03525K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH04025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104
HY-NBH05025K	SS04045FS	SS0406F	SS0404F	SS0812R	SS0808F	LW-2	LW-4*104

STICK DUO

Sleeve for Shaper Duo series

NBH Shank diameter Φ15.875 - Φ19.05



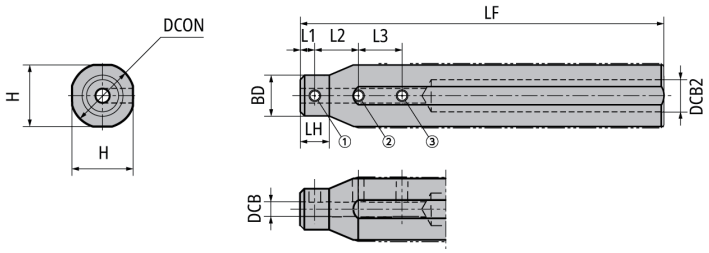
EDP	Item Number	Stock	BD	DCB	DCB2	DCON	H	LF	LH	L1	L2	L3	Applicable insert bar	
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
5631403	**NBH02015H**	●	15	2	9	15.875	15	100	10	5	10	–	SBF../SHF..	SSP..
5702915	**NBH02515H**	●	15	2.5	9	15.875	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631411	**NBH03015H**	●	15	3	9	15.875	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586110	**NBH03515H**	●	15	3.5	9	15.875	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586128	**NBH04015H**	●	15	4	9	15.875	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5585997	**NBH04515H**	●	15	4.5	9	15.875	15	100	10	5	15	15	–	–
5585989	**NBH05015H**	●	15	5	9	15.875	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5585971	**NBH06015H**	●	15	6	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5585963	**NBH08015H**	●	15	8	9	15.875	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631429	**NBH02016H**	●	15	2	9	16	15	100	10	5	10	–	SBF../SHF..	SSP..
5702899	**NBH02516H**	●	15	2.5	9	16	15	100	10	5	10	–	SBF../SHF..	SBT../SSP..
5631437	**NBH03016H**	●	15	3	9	16	15	100	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586102	**NBH03516H**	●	15	3.5	9	16	15	100	10	5	10	10	SBF../SHF..	SBT../SSP..
5586094	**NBH04016H**	●	15	4	9	16	15	100	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586086	**NBH04516H**	●	15	4.5	9	16	15	100	10	5	15	15	–	–
5586078	**NBH05016H**	●	15	5	9	16	15	100	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586060	**NBH06016H**	●	15	6	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774195	**NBH07016H**	●	15	7	9	16	15	100	10	5	20	20	SBF../SHF..	–
5586052	**NBH08016H**	●	15	8	9	16	15	100	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631445	**NBH02019K**	●	18	2	11	19.05	18	125	10	5	10	–	SBF../SHF..	SSP..
5702907	**NBH02519K**	●	18	2.5	11	19.05	18	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631452	**NBH03019K**	●	18	3	11	19.05	18	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586045	**NBH03519K**	●	18	3.5	11	19.05	18	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586037	**NBH04019K**	●	18	4	11	19.05	18	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586029	**NBH04519K**	●	18	4.5	11	19.05	18	125	10	5	15	15	–	–
5586011	**NBH05019K**	●	18	5	11	19.05	18	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586003	**NBH06019K**	●	18	6	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774203	**NBH07019K**	●	18	7	11	19.05	18	125	10	5	20	20	SBF../SHF..	–
5586227	**NBH08019K**	●	18	8	11	19.05	18	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586219	**NBH10019K**	●	18	10	11	19.05	18	125	10	5	20	20	–	–

Parts

Item Number	Clamp Screw			Wrench for①②③
	①	②	③	
NBH02015H	SS0406F	SS0406F	–	LW-2
NBH02515H	SS0406F	SS0406F	–	LW-2
NBH03015H	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	SS0404F	SS0404F	SS0404F	LW-2
NBH04515H	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	SS0403F	SS0403F	SS0403F	LW-2
NBH02016H	SS0406F	SS0406F	–	LW-2
NBH02516H	SS0406F	SS0406F	–	LW-2
NBH03016H	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	SS0404F	SS0404F	SS0404F	LW-2
NBH04516H	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	SS0404F	SS0404F	SS0404F	LW-2
NBH07016H	SS0403F	SS0404F	SS0404F	LW-2
NBH08016H	SS0403F	SS0403F	SS0403F	LW-2
NBH02019K	SS0408F	SS0408F	–	LW-2
NBH02519K	SS0408F	SS0408F	–	LW-2
NBH03019K	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	SS0406F	SS0406F	SS0406F	LW-2
NBH04519K	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	SS0406F	SS0406F	SS0406F	LW-2
NBH07019K	SS0404F	SS0404F	SS0404F	LW-2
NBH08019K	SS0404F	SS0404F	SS0404F	LW-2
NBH10019K	SS0403F	SS0404F	SS0404F	LW-2

STICK DUO
Sleeve for Shaper Duo series

NBH Shank diameter Φ20 - Φ32



EDP	Item Number	Stock	BD mm	DCB mm	DCB2 mm	DCON mm	H mm	LF mm	LH mm	L1 mm	L2 mm	L3 mm	Applicable insert bar	
5631460	**NBH02020K**	●	11	2	11	20	19	125	10	5	10	–	SBF../SHF..	SSP..
5702881	**NBH02520K**	●	11	2.5	11	20	19	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631478	**NBH03020K**	●	12	3	11	20	19	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586201	**NBH03520K**	●	12	3.5	11	20	19	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586185	**NBH04020K**	●	13	4	11	20	19	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586177	**NBH04520K**	●	13	4.5	11	20	19	125	10	5	15	15	–	–
5586169	**NBH05020K**	●	14	5	11	20	19	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586151	**NBH06020K**	●	15	6	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774211	**NBH07020K**	●	16	7	11	20	19	125	10	5	20	20	SBF../SHF..	–
5586144	**NBH08020K**	●	17	8	11	20	19	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586136	**NBH10020K**	●	19	10	11	20	19	125	10	5	20	20	–	–
5914742	**NBH12020K**	●	19	12	14	20	19	125	10	5	25	25	–	–
5631486	**NBH02022K**	●	11	2	11	22	21	125	10	5	10	–	SBF../SHF..	SSP..
5702873	**NBH02522K**	●	11	2.5	11	22	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631494	**NBH03022K**	●	12	3	11	22	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586326	**NBH03522K**	●	12	3.5	11	22	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586318	**NBH04022K**	●	13	4	11	22	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586300	**NBH04522K**	●	13	4.5	11	22	21	125	10	5	15	15	–	–
5586292	**NBH05022K**	●	14	5	11	22	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586284	**NBH06022K**	●	15	6	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774229	**NBH07022K**	●	16	7	11	22	21	125	10	5	20	20	SBF../SHF..	–
5586276	**NBH08022K**	●	17	8	11	22	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586268	**NBH10022K**	●	19	10	11	22	21	125	10	5	20	20	–	–
5631502	**NBH12022K**	●	21	12	14	22	21	125	10	5	25	25	–	–
5631510	**NBH02023K**	●	11	2	11	23	21	125	10	5	10	–	SBF../SHF..	SSP..
5702857	**NBH02523K**	●	11	2.5	11	23	21	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631528	**NBH03023K**	●	12	3	11	23	21	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586250	**NBH03523K**	●	12	3.5	11	23	21	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651336	**NBH04023K**	●	13	4	11	23	21	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586243	**NBH04523K**	●	13	4.5	11	23	21	125	10	5	15	15	–	–
5631536	**NBH05023K**	●	14	5	11	23	21	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631544	**NBH06023K**	●	15	6	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5631551	**NBH08023K**	●	17	8	11	23	21	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631569	**NBH10023K**	●	19	10	11	23	21	125	10	5	20	20	–	–
5631577	**NBH12023K**	●	21	12	14	23	21	125	10	5	25	25	–	–
5631585	**NBH02025K-MET**	●	11	2	11	25	24	125	10	5	10	–	SBF../SHF..	SSP..
5704283	**NBH02525K-MET**	●	11	2.5	11	25	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631593	**NBH03025K-MET**	●	12	3	11	25	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5631601	**NBH03525K-MET**	●	12	3.5	11	25	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5651328	**NBH04025K-MET**	●	13	4	11	25	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5631619	**NBH04525K-MET**	●	13	4.5	11	25	24	125	10	5	15	15	–	–
5631627	**NBH05025K-MET**	●	14	5	11	25	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5631635	**NBH06025K-MET**	●	15	6	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774252	**NBH07025K-MET**	●	16	7	11	25	24	125	10	5	20	20	SBF../SHF..	–
5631643	**NBH08025K-MET**	●	17	8	11	25	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5631650	**NBH10025K-MET**	●	19	10	11	25	24	125	10	5	20	20	–	–
5631668	**NBH12025K-MET**	●	21	12	14	25	24	125	10	5	25	25	–	–
5631676	**NBH02025K**	●	11	2	11	25.4	24	125	10	5	10	–	SBF../SHF..	SSP..
5702865	**NBH02525K**	●	11	2.5	11	25.4	24	125	10	5	10	–	SBF../SHF..	SBT../SSP..
5631684	**NBH03025K**	●	12	3	11	25.4	24	125	10	5	10	10	SBF../SHF../SBB..	SBG../SBT../SSP..
5586235	**NBH03525K**	●	12	3.5	11	25.4	24	125	10	5	10	10	SBF../SHF..	SBT../SSP..
5586383	**NBH04025K**	●	13	4	11	25.4	24	125	10	5	15	15	SBF../SHF../SBB..	SBG../SBT../SSP..
5586375	**NBH04525K**	●	13	4.5	11	25.4	24	125	10	5	15	15	–	–
5586367	**NBH05025K**	●	14	5	11	25.4	24	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5586359	**NBH06025K**	●	15	6	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5774260	**NBH07025K**	●	16	7	11	25.4	24	125	10	5	20	20	SBF../SHF..	–
5586342	**NBH08025K**	●	17	8	11	25.4	24	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5586334	**NBH10025K**	●	19	10	11	25.4	24	125	10	5	20	20	–	–

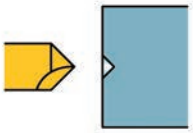
EDP	Item Number	Stock	BD	DCB	DCB2	DCON	H	LF	LH	L1	L2	L3	Applicable insert bar	
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
5631692	**NBH12025K**	●	21	12	14	25.4	24	125	10	5	25	25	–	–
5939475	**NBH04532K**	●	13	4.5	11	32	30	125	10	5	15	15	–	–
5939483	**NBH05032K**	●	14	5	11	32	30	125	10	5	15	15	SBF../SHF..	SBG../SBT../SSP..
5939491	**NBH06032K**	●	15	6	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SBT../SSP..
5939509	**NBH07032K**	●	16	7	11	32	30	125	10	5	20	20	SBF../SHF..	–
5939525	**NBH08032K**	●	17	8	11	32	30	125	10	5	20	20	SBF../SHF..	SBG../SFG../SSP..
5939533	**NBH10032K**	●	19	10	11	32	30	125	10	5	20	20	–	–
5939467	**NBH12032K**	●	21	12	14	32	30	125	10	5	25	25	–	–
5939459	**NBH14032K**	●	23	14	16	32	30	125	10	5	25	25	–	–
5939442	**NBH16032K**	●	25	16	18	32	30	125	10	5	25	25	–	–

Parts

Item Number	Clamp Screw			Wrench for①②③
	①	②	③	
NBH02020K	SS0404F	SS0404F	–	LW-2
NBH02520K	SS0404F	SS0404F	–	LW-2
NBH03020K	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	SS0404F	SS0406F	SS0406F	LW-2
NBH04520K	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	SS0404F	SS0406F	SS0406F	LW-2
NBH07020K	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	SS0404F	SS0404F	SS0404F	LW-2
NBH10020K	SS0404F	SS0404F	SS0404F	LW-2
NBH12020K	SS0403F	SS0403F	SS0403F	LW-2
NBH02022K	SS0404F	SS0406F	–	LW-2
NBH02522K	SS0404F	SS0406F	–	LW-2
NBH03022K	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	SS0404F	SS0406F	SS0406F	LW-2
NBH04522K	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	SS0404F	SS0406F	SS0406F	LW-2
NBH07022K	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	SS0404F	SS0406F	SS0406F	LW-2
NBH10022K	SS0404F	SS0404F	SS0404F	LW-2
NBH12022K	SS0404F	SS0404F	SS0404F	LW-2
NBH02023K	SS0404F	SS0406F	–	LW-2
NBH02523K	SS0404F	SS0406F	–	LW-2
NBH03023K	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	SS0404F	SS0406F	SS0406F	LW-2
NBH04523K	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	SS0404F	SS0406F	SS0406F	LW-2
NBH10023K	SS0404F	SS0404F	SS0404F	LW-2
NBH12023K	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K-MET	SS0404F	SS0406F	–	LW-2
NBH02525K-MET	SS0404F	SS0406F	–	LW-2
NBH03025K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K-MET	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K-MET	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K-MET	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K	SS0404F	SS0406F	–	LW-2
NBH02525K	SS0404F	SS0406F	–	LW-2
NBH03025K	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K	SS0404F	SS0404F	SS0404F	LW-2
NBH04532K	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	SS0404F	SS0408F	SS0408F	LW-2
NBH07032K	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	SS0404F	SS0408F	SS0408F	LW-2
NBH10032K	SS0404F	SS0408F	SS0408F	LW-2
NBH12032K	SS0404F	SS0406F	SS0406F	LW-2
NBH14032K	SS0504	SS0506	SS0506	LW-2
NBH16032K	SS0504	SS0506	SS0506	LW-2

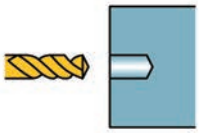
Machining Procedure

① Center drilling



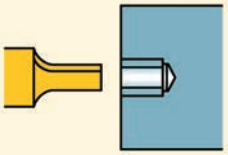
Make a center hole which is smaller than pilot hole drill.

② Drilling (Pilot hole)



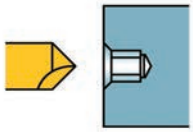
Select a drill with same or smaller (0 ~ -0.1mm) dia. as AF and machine a bit deeper because burrs may cause chipping on shaper insert

③ Shaper tool



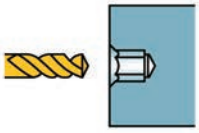
Machine socket rotating 60 degrees 6 times

④ Chamfering



Chamfer with the same pilot hole drill as ①

⑤ Deburring



Finish and deburr with the same drill as in process②
☆Reduce cutting conditions due to heavy interruption

SHAPER DUO Process Chart -Hexalobular-

Socket Size	Tool	Pilot bore Dia. (mm)	Starting" X" position (mm)	Final" X" position (mm)	Number of passes		Estimated cycle time*		
					Roughing pass 0.025mm	Finishing pass 0.005mm	ISO10664 Standard depth of Hexalobular hole (mm)	Whole process ①-⑤	Shaper process ③
T6	**SSP050N25T06**	1.15	1.14	1.75	13	1	1.82	51 sec	23.2 sec
T7	**SSP050N31T07**	1.38	1.35	2.06	15	1	2.44	59 sec	28.2 sec
T8	**SSP050N36T08**	1.62	1.59	2.40	17	1	3.05	67 sec	33.8 sec
T10	**SSP050N41T10**	1.92	1.89	2.80	19	1	3.56	75 sec	39.5 sec
T15	**SSP050N43T15**	2.3	2.29	3.35	22	1	3.81	84 sec	46.2 sec
T20	**SSP050N46T20**	2.71	2.69	3.95	26	1	4.07	94 sec	55.4 sec
T25	**SSP050N50T25**	3.13	3.09	4.50	29	1	4.45	105 sec	63.8 sec
T27	**SSP05S0N55T27**	3.52	3.51	5.07	32	1	4.70	115 sec	71.8 sec
T30	**SSP050N55T30**	3.91	3.89	5.60	35	1	4.95	125 sec	80.2 sec

*Using carbide drills *Shaper cutting conditions Feed: 3000mm/min Depth of cut : Roughing 0.025mm / Finishing 0.005mm

SHAPER DUO Process Chart -Hexagonal-

HEX Standard	Tool	Pilot bore Dia. (mm)	Starting" X" position (mm)	Final" X" position (mm)	Number of passes		Estimated cycle time*		
					Roughing pass 0.025mm	Finishing pass 0.005mm	ISO 2936 standard depth of Hex hole (mm)	Whole process ①-⑤	Shaper process ③
HEX 1.5	**SSP020N1130H**	1.5	1.47	1.73	6	1	2	39 sec	14 sec
HEX 2.0	**SSP020N1430H**	2.0	1.95	2.31	8	1	2.5	44 sec	16 sec
HEX 2.5	**SSP030N1940H**	2.5	2.48	2.89	9	1	3	50 sec	20 sec
HEX 3.0	**SSP030N1940H**	3.0	2.95	3.46	11	1	3.5	55 sec	23 sec
HEX 4.0	**SSP040N2450H**	4.0	3.96	4.62	14	1	5	73 sec	33 sec
HEX 5.0	**SSP050N3260H**	5.0	4.96	5.77	17	1	6	90 sec	46 sec
HEX 6.0	**SSP060N42120H**	6.0	5.97	6.93	20	1	8	117 sec	63 sec
HEX 8.0	**SSP080N62160H**	8.0	7.98	9.24	26	1	10	155 sec	92 sec

*Using carbide drills *Shaper cutting conditions Feed: 3000mm/min Depth of cut : Roughing 0.025mm / Finishing 0.005mm

Recommended cutting conditions

Feed : F1000 - F4000 mm/min Depth of Cut : Roughing 0.025mm / Finishing 0.005mm

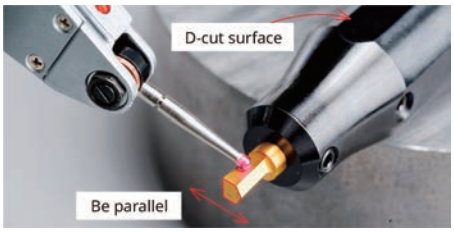
Precautions when replacing the insert bar

The tool nose position dimensions (HF2) vary. Check the dimensions of the cutting tool after changing tools or indexing insert bar.

SHAPER DUO Set-up Instructions -Hexagonal

Outside machine

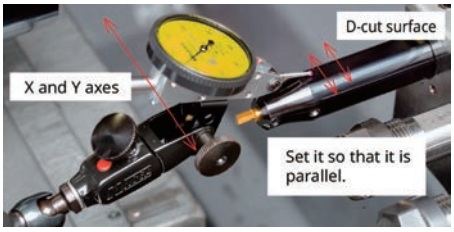
①



- Set the insert bar in the sleeve and check the parallelism of the flat portion of the sleeve and the insert bar.
- Minimize the overhang of the insert.

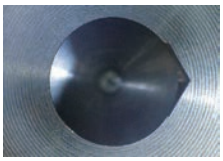
Inside machine

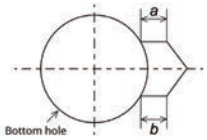
②



- Set the sleeve into the tool post and make sure the sleeve is set parallel.
- Minimize sleeve overhang.

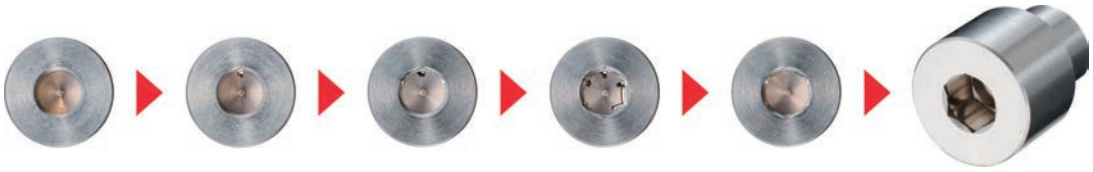
③



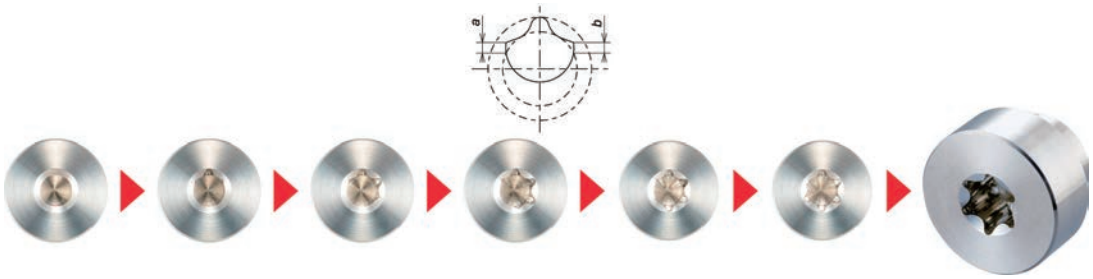


- Increase the number of machining passes with smaller depth of cut if the insert chips with large depth of cut.
  (0.025mm×5pass is recommended)
  No chamfering process is required for measuring purpose.
- Measure the length of both [a] and [b] with comparator or magnifier.
- Adjust centerline height by rotating the sleeve until you get the same length for [a] and [b].(The difference should be less than 0.02mm)
  *If the straight is not seen with increased passes, you need to reset the insert and the sleeve.Please make sure both the insert and the sleeve are set up correctly.

④ **Machine Hexagonal shape**
***Run full HEX machining program.**

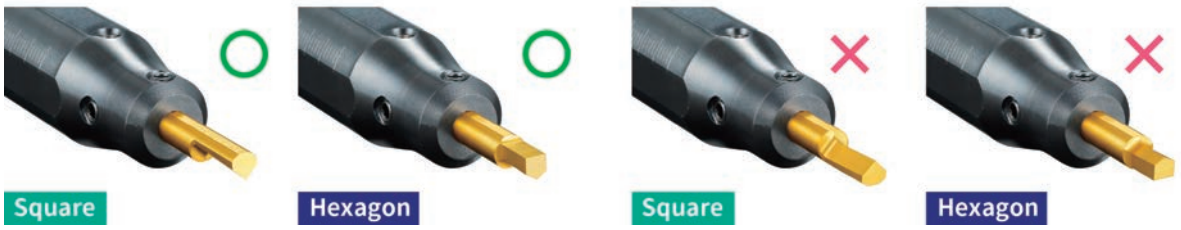


Machining hexalobular shape is basically the same as hexagon socket



Important Note for Insert Set-up

When using the STICK DUO HYPER series, it is important that the insert is installed and oriented so the bar flat is lined up with the clamp screws. If installed in the wrong position, insert edge chipping may occur due to interference with the positioning and clamping screws. See diagram below.



Machining Program Code Explanation

Important: The programming codes and values will depend on the machine brands.For details, please contact the machine manufacturer.
Example machining piece : Hexagon socket dimensions
: AF 3.0mm, Diagonal 3.46mm, Socket depth 3.5mm, Pilot drill diameter ϕ3.0mm
DOC : Roughing 0.025mm / Finishing 0.005mm
Insert bar : TM4 SSP030N1940H

■ Programming tips

- Make a program considering final "X"position.

#1 Final " X "position : 3.46mm (AF)
#2 Finishing position of roughing : 3.46−0.01 (Finishing) =3.45mm
#3 Calculate total DOC for roughing : 3.45−3.0 (Pilot hole) = 0.45mm
#4 Determine number of cuts : 0.45÷0.05 (DOC for Dia.)= 9.0 + 2 (round down to whole number and add " 2" for program adjustment)
→ Roughing sequence runs 11 times
#5 Set starting point : 3.45−(0.05×(11−1)) = 2.95mm : must subtract by "1" for program adjustment

Main program

```
☆:Rear spindle rotation stop
☆:Back spindle indexing  0°  ·····①
T○○○○(Shaper)
G50  U-1.5  ·····②
G0  X2.95  Z-2.0  T○○  ·····③
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆Back spindle indexing  60°  ·····①
G0  X2.95  Z-2.0
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆:Back spindle indexing  120°  ·····①
G0  X2.95  Z-2.0
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆:Back spindle indexing  180°  ·····①
G0  X2.95  Z-2.0
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆:Back spindle indexing  240°  ·····①
G0  X2.95  Z-2.0
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆:Back spindle indexing  300°  ·····①
G0  X2.95  Z-2.0
☆:Sub-program call (○○○①) Repeat 11 times  ·····④
☆:Sub-program call (○○○②)  ·····⑤

☆:Spindle indexing release
G0  Z-2.0
G50  U-1.5
G0  U0  W0  T0
M1
```

Sub-program ①

```
N○○○①  (Roughing)
G4  U0.02  ·····⑥
G98  G1  Z3.5  F3000  ·····⑦
G4  U0.02
U-0.2  W-0.018  ·····⑧
G4  U0.02
G0  Z-2.0
G4  U0.02
U0.25  ·····⑨
M99
```

Sub-program ②

```
N○○○②  (Finishing)
G98  G1  X3.46  Z-2.0  F1000
G4  U0.02
Z3.5  F3000
G4  U0.02
U-0.2  W-0.018
G4  U0.02
G0  Z-2.0
M99
```

☆:Enter the program corresponding to your machine.

①=Index the sub-spindle 6 times in 60 degree increments.

②=Specify the coordinate system shift command (in X axis direction) for the tool.
[2 x HF2 ; where HF2 is tool dimension located in the catalog].
* A positive direction shift is recommended for easier programming.

③=Execute the positioning of the tool.
- X position should be smaller than pilot drill diameter.
- Z position should be offset 2.0 mm from material to achieve program feed rate.

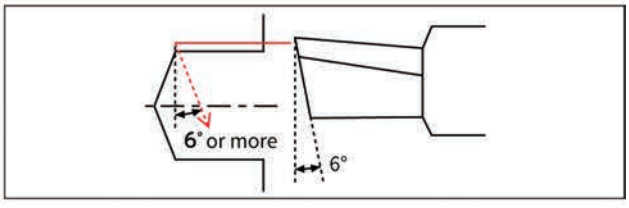
④=Go to the Sub-Program #1.
- Sequence runs 11 times. First cutting point X2.95 and final cutting point X3.45, with 0.05 DOC (for diameter) each time.

⑤=Go to the Sub-Program #2, for finishing sequence.
- Finishing operation with 0.005mm DOC (X 3.46) is recommended for better surface finish.

⑥=Specify dwell time. This allows the program and machine to stay synchronized.

⑦=Cut into part 3.5mm. F3000 is recommended feed to be used for most materials; including Titanium Alloy and Stainless Steel.

⑧=This code backs off the tool with an angle greater than K5 degrees (10 degrees used in example). See page 3.



⑨=Return to the X position + 0.05mm (the DOC for diameter).

Hexagon Socket Programming Code Examples from Machine Builders in Metric

Important: The programming codes and values will depend on the machine brands.For details, please contact to the machine manufactures.
Example machining piece : Hexagon socket dimensions
: AF 3.0mm, Diagonal 3.46mm, Socket depth 3.5mm, Pilot drill diameter ϕ3.0mm
DOC : Roughing 0.025mm / Finishing 0.005mm
Insert bar : TM4 SSP030N1940H

■CITIZEN

Main program

```
M25
M78  S0  ·····①
T○○○○(Shaper)
G50  U-1.5  ·····②
G0  X2.95  Z-2.0  T○○  ·····③
M98  P2100  L11  ·····④
M98  P2200  ·····⑤

M78  S60  ·····①   ┐
G0  X2.95  Z-2.0   │
M98  P2100  L11    ├《A》
M98  P2200         ┘

  Repeat《A》 at S120, S180, S240, S300
  with indexing at 60° increments

M20
G0  Z-2.0
G50  U-1.5
G0  U0  W0  T0
M1
```

Sub-program①

```
N2100  (Roughing)
G4  U0.02  ·····⑥
G98  G1  Z3.5  F3000  ·····⑦
G4  U0.02
U-0.2  W-0.018  ·····⑧
G4  U0.02
G0  Z-2.0
G4  U0.02
U0.25  ·····⑨
M99
```

Sub-program②

```
N2200  (Finishing)
G98  G1  X3.46  Z-2.0  F1000
G4  U0.02
Z3.5  F3000
G4  U0.02
U-0.2  W-0.018
G4  U0.02
G0  Z-2.0
M99
```

■STAR

Main program

```
M25
T○○○○ (Shaper)
G50  U-1.5  ·····②
M8
G0  X2.95  Z-2.0  C0  T○○  ·····①③
M98  P2100  L11  ·····④
M98  P2200  ·····⑤

G0  C60.0  ·····①   ┐
G0  X2.95  Z-2.0    │
M98  P2100  L11     ├《A》
M98  P2200          ┘

  Repeat《A》 at S120, S180, S240, S300
  with indexing at 60° increments

G0  Z-2.0
G50  U-1.5
G0  T0
G28  W0
M1
```

Sub-program①

```
O2100  (Roughing)
G4  U0.02  ·····⑥
G98  G1  Z3.5  F3000  ·····⑦
G4  U0.02
U-0.2  W-0.018  ·····⑧
G4  U0.02
G0  Z-2.0
G4  U0.02
U0.25  ·····⑨
M99
```

Sub-program②

```
O2200  (Finishing)
G98  G1  X3.46  Z-2.0  F1000
G4  U0.02
Z3.5  F3000
G4  U0.02
U-0.2  W-0.018
G4  U0.02
G0  Z-2.0
M99
```

■TSUGAMI

Main program

```
M105
M150
G28  H0  ·····①
M182
T○○○○  (Shaper)
G50  U-1.5  ·····②
G0  X2.95  Z2.0  T○○  ·····③
M98  P2100  L11  ·····④
M98  P2200  ·····⑤
M183

G0  C60  ·····①   ┐
M182              │
G0  X2.95  Z2.0   ├《A》
M98  P2100  L11   │
M98  P2200        │
M183              ┘

  Repeat《A》 at S120, S180, S240, S300
  with indexing at 60° increments

M151
G0  Z2.0
G50  U-1.5
G0  U0  W0  T0
M1
```

Sub-program①

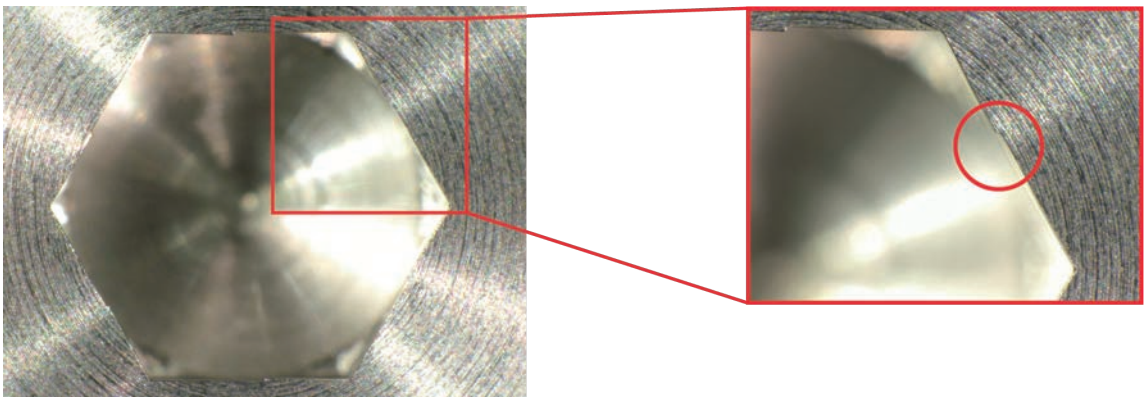
```
O2100  (Roughing)
G4  U0.02  ·····⑥
G98  G1  Z-3.5  F3000  ·····⑦
G4  U0.02
U-0.2  W0.018  ·····⑧
G4  U0.02
G0  Z2.0
G4  U0.02
U0.25  ·····⑨
M99
```

Sub-program②

```
O2200  (Finishing)
G98  G1  X3.46  Z2.0  F1000
G4  U0.02
Z-3.5  F3000
G4  U0.02
U-0.2  W0.018
G4  U0.02
G0  Z2.0
M99
```

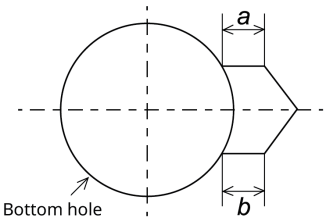
Troubleshooting

Problem: Step on sides

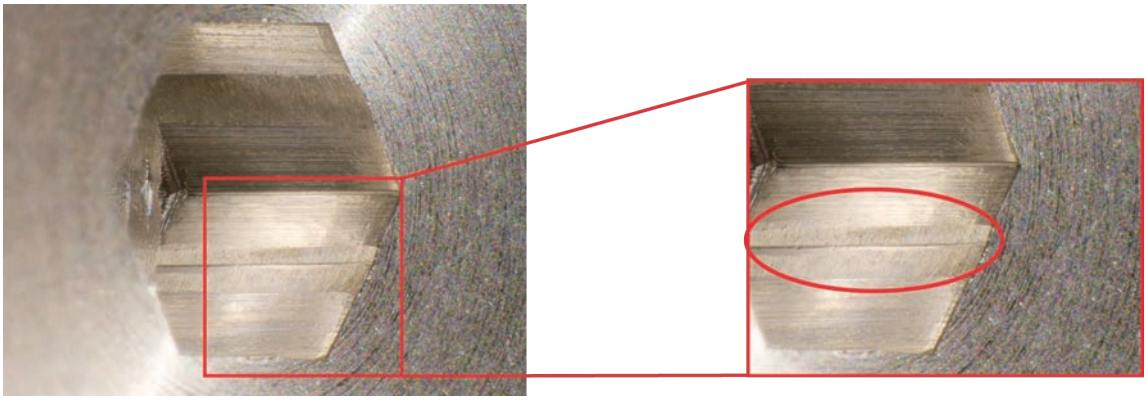


Cause: Incorrect tool set-up (Center-line shift)

Solution: Machine one angle and make sure both [a] and [b] lengths are identical, rotating the sleeve if necessary



Problem: Wall dented



Cause: Pilot hole remaining

Solution: Need pilot hole tool's offset

Problem: Wall tapered

Solution:

- Smaller depth of cut
- Less tool overhang

Problem: Chuck is slipping / Insert chipped

Solution:

- Run at 3000 mm/min feed rate
- Smaller depth of cut

- 3000 mm/min feed rate can cover most materials including Titanium alloy and Stainless steel.
- Too slow or too fast of a feed rate may cause excessive tool pressure for the workpiece and tool.

Endmill

Product Lines X02

Recommended Cutting Conditions X03

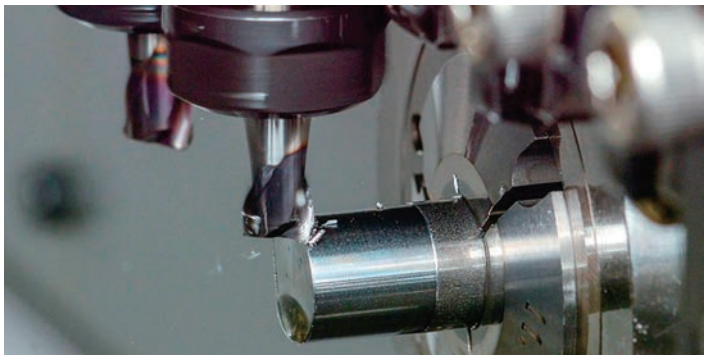
RWEM.. series X04

REZ.. series X05

REL.. series X08

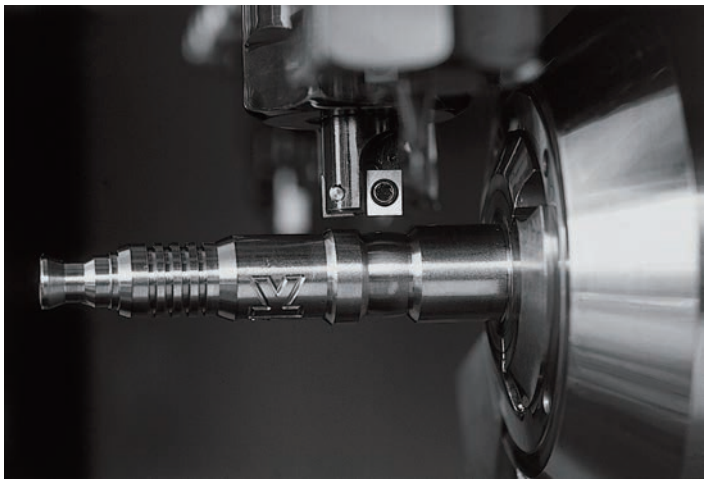
Product Lines

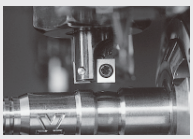
S-MILL / Solid Carbide Endmills



Series	Features	DC (mm)	CICT	APMX (mm)	Pages
RWEM.. series	Small diameter solid end mill • Original NTK design for sharpness and ease of use on automated lathes • Stable machining even with small-diameter machining that is easy to vibrate • A lineup of full-length dimensions optimized for Swiss CNC lathes	φ2 - 10	2,3,4 flute	- 6.0	**X4**

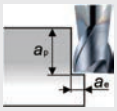
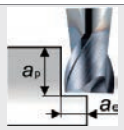
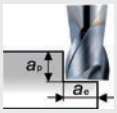
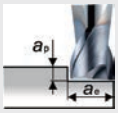
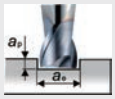
Indexable Endmills



Series	Features	DC (mm)	CICT	APMX (mm)	Pages
REZ.. series	Lead angle 90° • Can be used for right angle milling • Plunging and D-cuts using an insert with a center cutting edge • Slope milling is possible • Oversized head allows for machining close to guide bushing • Standard 45 degree lead angle end mill with indexable inserts	φ8 - 20	1,2,3 flute	- 5.3	**X5**
REL.. series 	Lead angle 89° • Solid → Easy tool management with indexable inserts • No need to re-grind or re-coat which reduces tool costs • Fine grain carbide - PVD coated inserts enable three to five times faster cutting speeds compared to high-speed end mills	φ10	2 flute	- 5.3	**X8**

Recommended Cutting Conditions

S-MILL / Solid Carbide Endmills

Flute	φDc (mm)	Carbon steel S45C		Alloy steel S45C		Stainless steel SUS304		 $a_e = \varphi D_c \times 0.2$		 $a_e = \varphi D_c \times 0.5$		 $a_e = \varphi D_c \times 0.75$		 $a_e = \varphi D_c \times 0.9$		 $a_e = \varphi D_c$
		RPM (min^{-1})	Feed (mm/min)	RPM (min^{-1})	Feed (mm/min)	RPM (min^{-1})	Feed (mm/min)	a_p (mm)	a_e (mm)	a_p (mm)	a_e (mm)	a_p (mm)	a_e (mm)	a_p (mm)	a_e (mm)	a_p (mm)
2 flute	2.0	6,000	100	6,000	100	6,000	90	≦2.0	0.4	≦0.8	1.0	≦0.6	1.5	≦0.5	1.8	≦0.4
	3.0	6,000	210	6,000	240	6,000	180	≦3.0	0.6	≦1.2	1.5	≦0.9	2.3	≦0.7	2.7	≦0.6
	4.0	6,000	320	5,600	300	5,200	240	≦4.0	0.8	≦1.6	2.0	≦1.2	3.0	≦1.0	3.6	≦0.8
	5.0	5,000	370	4,500	330	4,100	260	≦5.0	1.0	≦2.0	2.5	≦1.5	3.8	≦1.2	4.5	≦1.0
	6.0	4,200	380	3,700	340	3,400	270	≦6.0	1.2	≦2.4	3.0	≦1.8	4.5	≦1.5	5.4	≦1.2
	7.0	3,600	370	3,200	330	3,000	270	≦6.0	1.4	≦2.8	3.5	≦2.1	5.3	≦1.7	6.3	≦1.4
	8.0	3,200	360	2,800	320	2,600	250	≦6.0	1.6	≦3.2	4.0	≦2.4	6.0	≦2.0	7.2	≦1.6
	10.0	2,500	320	2,200	280	2,100	230	≦6.0	2.0	≦4.0	5.0	≦3.0	7.5	≦2.5	9.0	≦2.0
3 flute	3.0	6,000	250	6,000	250	6,000	220	≦3.0	8.0	≦1.2	1.5	≦0.9	2.3	≦0.7	2.7	≦0.6
	4.0	6,000	390	5,600	360	5,200	290	≦4.0	0.8	≦1.6	2.0	≦1.2	3.0	≦1.0	3.6	≦0.8
	5.0	5,000	440	4,500	400	4,100	310	≦5.0	1.0	≦2.0	2.5	≦1.5	3.8	≦1.2	4.5	≦1.0
	6.0	4,200	460	3,700	410	3,400	330	≦6.0	1.2	≦2.4	3.0	≦1.8	4.5	≦1.5	5.4	≦1.2
	7.0	3,600	450	3,200	400	3,000	320	≦6.0	1.4	≦2.8	3.5	≦2.1	5.3	≦1.7	6.3	≦1.4
	8.0	3,200	430	2,800	380	2,600	310	≦6.0	1.6	≦3.2	4.0	≦2.4	6.0	≦2.0	7.2	≦1.6
	10.0	2,500	380	2,200	330	2,100	280	≦6.0	2.0	≦4.0	5.0	≦3.0	7.5	≦2.5	9.0	≦2.0
4 flute	3.0	6,000	290	6,000	290	6,000	250	≦3.0	0.6	≦1.2	1.5	≦0.9	2.3	≦0.7	2.7	≦0.6
	4.0	6,000	450	5,500	410	5,200	340	≦4.0	0.8	≦1.6	2.0	≦1.2	3.0	≦1.0	3.6	≦0.8
	5.0	5,000	520	4,500	460	4,100	370	≦5.0	1.0	≦2.0	2.5	≦1.5	3.8	≦1.2	4.5	≦1.0
	6.0	4,200	540	3,700	480	3,400	380	≦6.0	1.2	≦2.4	3.0	≦1.8	4.5	≦1.5	5.4	≦1.2
	7.0	3,600	520	3,200	460	3,000	380	≦6.0	1.4	≦2.8	3.5	≦2.1	5.3	≦1.7	6.3	≦1.4
	8.0	3,200	500	2,800	440	2,600	360	≦6.0	1.6	≦3.2	4.0	≦2.4	6.0	≦2.0	7.2	≦1.6
	10.0	2,500	440	2,200	390	2,100	320	≦6.0	2.0	≦4.0	5.0	≦3.0	7.5	≦2.5	9.0	≦2.0

Cutting conditions (machine, work material...) affects surface finish and burr generation.
If cutting performance is not good with above cutting conditions, please adjust speed and feed by same ratio.

Indexable Endmills

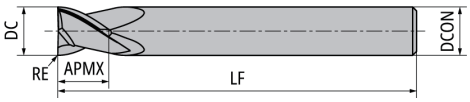
Work Material	RPM (m/min)	Axial Feed (mm/t)	Depth of cut (mm)	Width of cut (mm)
Stainless	40 ~ 60	~ 0.05	~ 1.5	- 50% of cutter diameter
Steel	80 ~ 120	~ 0.05	~ 3.0	- 50% of cutter diameter

S-MILL

RWEM.. series

RWEM-H2

No.1



No.2

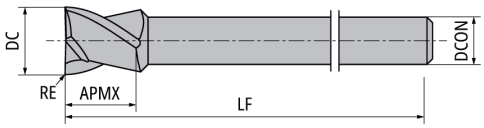
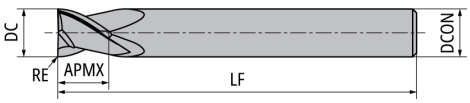


Figure	Item Number	NOF	APMX mm	DC mm	DCON mm	LF mm	RE mm	Carbide AC3
1	**RWEM020H2R00S04**	2	2	2	4	40	0	●
1	**RWEM030H2R00S04**	2	3	3	4	40	0	●
1	**RWEM040H2R00S04**	2	4	4	4	40	0	●
1	**RWEM050H2R00S06**	2	5	5	6	45	0	●
1	**RWEM060H2R00S06**	2	6	6	6	45	0	●
1	**RWEM070H2R00S08**	2	6	7	8	50	0	●
2	**RWEM080H2R00S07**	2	6	8	7	50	0	●
1	**RWEM080H2R00S08**	2	6	8	8	50	0	●
2	**RWEM100H2R00S07**	2	6	10	7	50	0	●
1	**RWEM100H2R00S10**	2	6	10	10	50	0	●

RWEM-H3

No.1



No.2

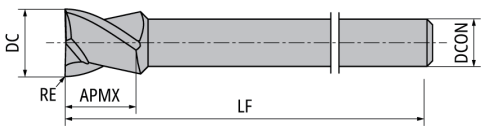
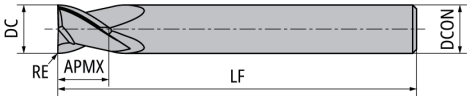


Figure	Item Number	NOF	APMX mm	DC mm	DCON mm	LF mm	RE mm	Carbide AC3
1	**RWEM030H3R00S04**	3	3	3	4	40	0	●
1	**RWEM040H3R00S04**	3	4	4	4	40	0	●
1	**RWEM050H3R00S06**	3	5	5	6	45	0	●
1	**RWEM060H3R00S06**	3	6	6	6	45	0	●
1	**RWEM070H3R00S08**	3	6	7	8	50	0	●
2	**RWEM080H3R00S07**	3	6	8	7	50	0	●
1	**RWEM080H3R00S08**	3	6	8	8	50	0	●
2	**RWEM100H3R00S07**	3	6	10	7	50	0	●
1	**RWEM100H3R00S10**	3	6	10	10	50	0	●

RWEM-H4

No.1



No.2

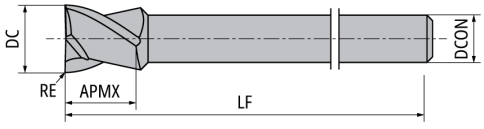
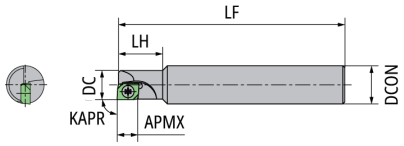


Figure	Item Number	NOF	APMX mm	DC mm	DCON mm	LF mm	RE mm	Carbide AC3
1	**RWEM030H4R00S04**	4	3	3	4	40	0	●
1	**RWEM040H4R00S04**	4	4	4	4	40	0	●
1	**RWEM050H4R00S06**	4	5	5	6	45	0	●
1	**RWEM060H4R00S06**	4	6	6	6	45	0	●
1	**RWEM070H4R00S08**	4	6	7	8	50	0	●
2	**RWEM080H4R00S07**	4	6	8	7	50	0	●
1	**RWEM080H4R00S08**	4	6	8	8	50	0	●
2	**RWEM100H4R00S07**	4	6	10	7	50	0	●
1	**RWEM100H4R00S10**	4	6	10	10	50	0	●

Indexable Endmills

REZ.. series/Toolholders for Lead angle 90°

REZ-1R



● Diagram shows right-hand tool

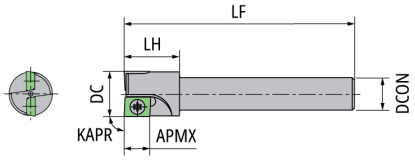
EDP	Item Number	Stock	Hand	APMX	CICT	DC mm	DCON mm	KAPR °	LF mm	LH mm	Insert Gage
5276498	**REZ080C1R212**	●	R	※5.3	1	8	10	90	60	12	CZH04..
5285812	**REZ100C1R218**	●	R	※5.3	1	10	10	90	75	12	CZH05..-141

※4.0mm for an insert with a center cutting edge
Note : The model number stamped on the actual holder is partly shortened for reasons of space.

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
REZ080C1R212	FSI02-2.2*4.0	T-07
REZ100C1R218	FSI02-2.2*4.3	T-07

REZ-2R



● Diagram shows right-hand tool

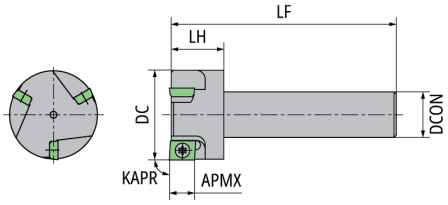
EDP	Item Number	Stock	Hand	APMX	CICT	DC mm	DCON mm	KAPR °	LF mm	LH mm	Insert Gage
5520317	**REZ100B2R329**	●	R	※5.3	2	10	5	90	40	10	CZH04..
5120936	**REZ100C2R133**	●	R	※5.3	2	10	6	90	50	12	CZH04..
5120951	**REZ100C2R132**	●	R	※5.3	2	10	7	90	50	12	CZH04..
5137971	**REZ100C2R141**	●	R	※5.3	2	10	10	90	50	12	CZH04..
5355458	**REZ120C2R141**	●	R	※5.3	2	12	10	90	50	12	CZH04..
5355466	**REZ140C2R141**	●	R	※5.3	2	14	10	90	50	12	CZH04..

※4.0mm for an insert with a center cutting edge
Note : The model number stamped on the actual holder is partly shortened for reasons of space.

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
REZ100B2R329	FSI02-2.2*4.3	T-07
REZ100C2R133	FSI02-2.2*4.3	T-07
REZ100C2R132	FSI02-2.2*4.3	T-07
REZ100C2R141	FSI02-2.2*4.3	T-07
REZ120C2R141	FSI02-2.2*4.3	T-07
REZ140C2R141	FSI02-2.2*4.3	T-07

REZ-3R for oversized head



● Diagram shows right-hand tool

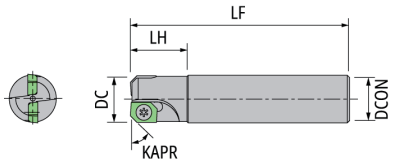
EDP	Item Number	Stock	Hand	APMX	CICT	DC mm	DCON mm	KAPR °	LF mm	LH mm	Insert Gage
5520325	**REZ150B3R330**	●	R	※5.3	3	15	5	90	40	10	CZH04..
5496088	**REZ200M3R319**	●	R	※5.3	3	20	7	90	50	12	CZH04..
5496096	**REZ200M3R320**	●	R	※5.3	3	20	10	90	50	12	CZH04..

※4.0mm for an insert with a center cutting edge
Note : The model number stamped on the actual holder is partly shortened for reasons of space.

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
REZ150B3R330	FSI02-2.2*4.3	T-07
REZ200M3R319	FSI02-2.2*4.3	T-07
REZ200M3R320	FSI02-2.2*4.3	T-07

REZ-2R for Lead angle 45°



● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	CICT	DC mm	DCON mm	KAPR °	LF mm	LH mm	Insert Gage	
5880281	**REZ100C2R461**	●	R	2	10	10	45	50	12	CZH04..	CZH04..-C45
5880299	**REZ100C2R466**	●	R	2	10	7	45	50	12	CZH04..	CZH04..-C45

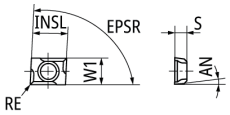
Note : The model number stamped on the actual holder is partly shortened for reasons of space.

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
REZ100C2R461	FSI02-2.2*4.3	T-07
REZ100C2R466	FSI02-2.2*4.3	T-07

REZ.. series/Insert Carbide

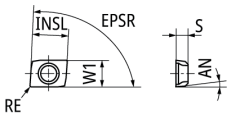
CZH-BL Less tool pressure with chipbreaker



● Diagram shows right-hand tool

Item Number	Chip-breaker	Center cutting edge	Wiper	AN	EPSR	INSL	RE	S	W1	Carbide PVD	
				°	°	mm	mm	mm	mm	DM4	TM4
CZH04005CFR-BL	Yes	No	No	7	87	5.56	0.05	1.88	4.2	●	●
CZH0402CFR-BL	Yes	No	No	7	87	5.56	0.2	1.88	4.2	●	●

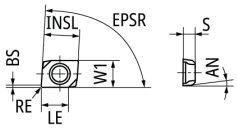
CZH-070



● Diagram shows right-hand tool

Item Number	Chip-breaker	Center cutting edge	Wiper	AN	EPSR	INSL	RE	S	W1	Carbide PVD	
				°	°	mm	mm	mm	mm	DT4	ZM3
CZH04005CFR-070	No	Yes	No	7	87	5.56	0.05	1.88	4.2	●	●
CZH0402CFR-070	No	Yes	No	7	87	5.56	0.2	1.88	4.2	●	●

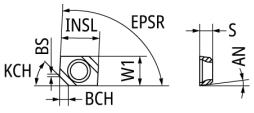
CZH-140/141



● Diagram shows right-hand tool

Item Number	Chip-breaker	Center cutting edge	Wiper	AN	BS	EPSR	INSL	LE	RE	S	W1	Carbide PVD	
				°	mm	°	mm	mm	mm	mm	mm	DT4	ZM3
CZH04005CFR-140	No	Yes	Straight	7	0.4	87	5.56	4	0.05	1.88	4.2	●	●
CZH0402CFR-140	No	Yes	Straight	7	0.4	87	5.56	4	0.2	1.88	4.2	●	●
CZH05005CFR-141	No	Yes	Straight	10	0.4	87	5.28	4	0.05	2.18	5.56		●
CZH0502CFR-141	No	Yes	Straight	10	0.4	87	5.28	4	0.2	2.18	5.56		●

CZH-C45 for Lead angle 45°



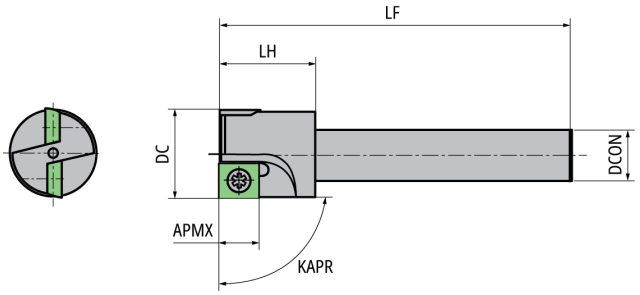
● Diagram shows right-hand tool

Item Number	Chip-breaker	Center cutting edge	Wiper	AN	BCH	BS	EPSR	INSL	KCH	S	W1	Carbide PVD	
				°	mm	mm	°	mm	°	mm	mm	DT4	QM3
CZH0400CFR-C45	Yes	No	Straight	7	1.35	0.3	87	5.56	45	1.88	4.2	●	●

Indexable Endmills

REL.. series/Toolholders for Lead angle 89°

REL-2R



● Diagram shows right-hand tool

EDP	Item Number	Stock	Hand	APMX	CICT	DC mm	DCON mm	KAPR °	LF mm	LH mm	Insert Gage
5092374	**REL100C2R106**	●	R	※	2	10	10	89	50	12	CLH04..-045
5092358	**REL100C2R107**	●	R	※	2	10	7	89	50	12	CLH04..-045

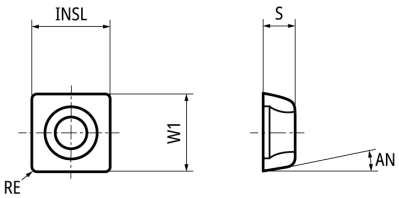
Note : The model number stamped on the actual holder is partly shortened for reasons of space.

Spare Parts

Item Number	Clamp screw	Wrench (for Clamp screw)
REL100C2R106	FSI02-2.2*4.3	T-07
REL100C2R107	FSI02-2.2*4.3	T-07

REL.. series/Insert Carbide

CLH-045



● Diagram shows right-hand tool

Item Number	Chip-breaker	Center cutting edge	Wiper	AN °	INSL mm	RE mm	S mm	W1 mm	Carbide PVD ZM3
CLH04005CFN-045	No	No	No	7	5.56	0.05	1.88	4.2	●
CLH0402CFN-045	No	No	No	7	5.56	0.2	1.88	4.2	●

Information

ISO13399 compliance Y02

Wrenches Y04

Clamp Screws Y05

Turning Tool Terminology Y06

Milling Cutter Terminology Y07

Calculation Formula for Turning Y08

Calculation Formula for Milling Processes Y10

Troubleshooting for Turning Y12

Troubleshooting Case Studies: Turning Y13

Troubleshooting for Milling Y14

Troubleshooting Case Studies: Milling Y15

Surface Roughness Standards Y16

Hardness Comparison Chart Y17

Grade Comparison Chart Y18

Material Cross Reference Chart Y21

Swiss Machine List Y29

List of Property Symbols Complying with ISO13399

ISO13399 Property Symbols	Content
ADJLX	adjustment limit maximum
ADJRG	adjustment range
ALF	clearance angle radial
ALP	clearance angle axial
AN	clearance angle major
ANN	clearance angle minor
APMX	depth of cut maximum
AS	clearance angle wiper edge
ASP	adjusting screw protrusion
AZ	plunge depth maximum
B	shank width
BBD	balanced by design
BCH	corner chamfer length
BD	body diameter
BDX	body diameter maximum
BHCC	bolt hole circle count
BHTA	body half taper angle
BMC	body material code
BS	wiper edge length
BSR	wiper edge radius
CASC	cartridge size code
CB	chip breaker face count
CBP	chip breaker property
CBDP	connection bore depth
CBMD	chip breaker manufacturers designation
CCMS	connection code machine side
CCWS	connection code workpiece side
CCP	chamfer corner property
CDI	insert cutting diameter
CDX	cutting depth maximum
CEATC	tool cutting edge angle type code
CECC	cutting edge condition code
CEDC	cutting edge count
CF	spot chamfer
CHW	corner chamfer width
CICT	cutting item count
CNC	corner count
CND	coolant entry diameter
CNSC	coolant entry style code
CNT	coolant entry thread size
CP	coolant pressure
CRE	spot radius
CRKS	connection retention knob thread size
CSP	coolant supply property
CTP	coating property
CTX	cutting point translation X-direction
CTY	cutting point translation Y-direction
CUTDIA	work piece parting diameter maximum
CUB	connection unit basis
CW	cutting width
CWX	cutting width maximum
CXD	coolant exit diameter
CXSC	coolant exit style code
CZC	connection size code
D1	fixing hole diameter
DAH	diameter access hole
DAXN	axial groove outside diameter minimum
DAXX	axial groove outside diameter maximum
DBC	diameter bolt circle
DC	cutting diameter
DCB	connection bore diameter
DCBN	connection bore diameter minimum
DCBX	connection bore diameter maximum
DCC	design configuration style code
DCCB	counterbore diameter connection bore
DCIN	cutting diameter internal
DCINN	cutting diameter internal minimum
DCINX	cutting diameter internal maximum

ISO13399 Property Symbols	Content
DCSC	cutting diameter size code
DCN	cutting diameter minimum
DCON	connection diameter
DCONMS	connection diameter machine side
DCONWS	connection diameter workpiece side
DCSFMS	contact surface diameter machine side
DCX	cutting diameter maximum
DF	flange diameter
DHUB	hub diameter
DMIN	minimum bore diameter
DMM	shank diameter
DN	neck diameter
DRVA	drive angle
EPSR	insert included angle
FHA	flute helix angle
FHCSA	fixing hole countersunk angle
FHCSD	fixing hole countersunk diameter
FLGT	flange thickness
FMT	form type
FXHLP	fixing hole property
GAMF	rake angle radial
GAMN	rake angle normal
GAMO	rake angle orthogonal
GAMP	rake angle axial
GAN	insert rake angle
H	shank height
HA	thread height theoretical
HAND	hand
HBH	head bottom offset height
HBKL	head back offset length
HBKW	head back offset width
HBL	head bottom offset length
HC	thread height actual
HF	functional height
HHUB	hub height
HTB	body height
IC	inscribed circle diameter
IFS	insert mounting style code
IIC	insert interface code
INSL	insert length
KAPR	tool cutting edge angle
KCH	corner chamfer angle
KRINS	cutting edge angle major
KWL	keyway length
KWW	keyway width
KYP	keyway property
L	cutting edge length
LAMS	inclination angle
LB	body length
LBB	chip breaker width
LBX	body length maximum
LCCB	counterbore depth connection bore
LCF	length chip flute
LDRED	reduced body diameter length
LE	cutting edge effective length
LF	functional length
LFA	a dimension on lf
LH	head length
LPR	protruding length
LS	shank length
LSC	clamping length
LSCN	clamping length minimum
LSCX	clamping length maximum
LTA	LTA length (length from MCS to CRP)
LU	usable length
LUX	usable length maximum
M	m-dimension
M2	distance between the nominal inscribed circle and the corner of an insert that has the secondary included angle

ISO13399 Property Symbols	Content
MHA	mounting hole angle
MHD	mounting hole distance
MHH	mounting hole height
MIID	master insert identification
MTP	clamping type code
NCE	cutting end count
NOF	flute count
NOI	insert index count
NT	tooth count
OAH	overall height
OAL	overall length
OAW	overall width
PDPT	profile depth insert
PDX	profile distance ex
PDY	profile distance ey
PFS	profile style code
PL	point length
PNA	profile included angle
PSIR	tool lead angle
PSIRL	cutting edge angle major left hand
PSIRR	cutting edge angle major right hand
RAL	relief angle left hand
RAR	relief angle right hand
RCP	rounded corner property
RE	corner radius
REL	corner radius left hand
RER	corner radius right hand
RMPX	ramping angle maximum
RPMX	rotational speed maximum
S	insert thickness
S1	insert thickness total
SC	insert shape code
SDL	step diameter length
SIG	point angle
SSC	insert seat size code

ISO13399 Property Symbols	Content
SX	shank cross section shape code
TC	tolerance class insert
TCE	tipped cutting edge code
TCTR	thread tolerance class
TD	thread diameter
THFT	thread form type
THL	threading length
THLGTH	thread length
THSC	tool holder shape code
THUB	hub thickness
TP	thread pitch
TPI	threads per inch
TPIN	threads per inch minimum
TPIX	threads per inch maximum
TPN	thread pitch minimum
TPT	thread profile type
TPX	thread pitch maximum
TQ	torque
TSYC	tool style code
TTP	thread type
ULDR	usable length diameter ratio
UST	unit system
W1	insert width
WEP	wiper edge property
WF	functional width
WF2	distance between the cutting reference point and the front seating surface of a turning tool
WFS	functional width secondary
WT	weight of item
ZEFF	face effective cutting edge count
ZEFP	peripheral effective cutting edge count
ZNC	cutting edge center count
ZNF	face mounted insert count
ZNP	peripheral mounted insert count

List of Reference Symbols Complying with ISO13399

ISO13399 Property Symbols	Content
CIP	Coordinate system In Process
CRP	Cutting Reference Point
CSW	Coordinate System Workpiece side
MCS	Mounting Coordinate System
PCS	Primary Coordinate System

Spare Parts - Wrenches

Standard Items

Package quantity : 5pc/case

Item Number	Appearance
CLR-13S	
CLR-15S	
RLR-20S	
LLR-25S	
LLR-25S-20*65	
LLR-28S	

Optional Items

Package quantity : 5pc/case

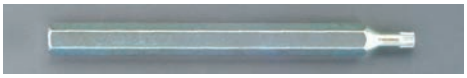
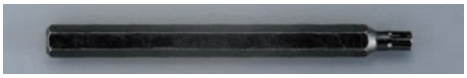
Item Number	Appearance
LLR-13S	
LLR-15S	
LLR-20S	

Driver type wrench for increased adaptability

Package quantity : 1pc/case

Item Number	Magnetic Driver Handle
XX2815-04	

Package quantity : 5pc/case

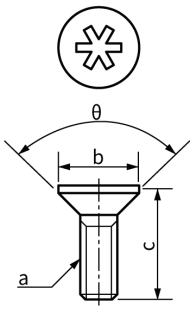
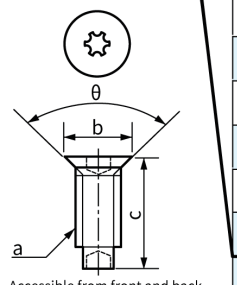
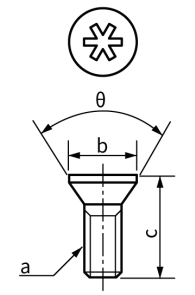
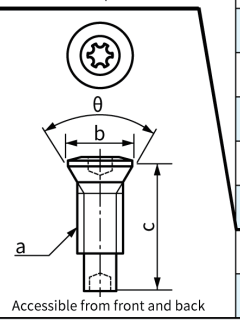
Item Number	Replaceable Bits
HLR-13S	
HLR-15S	
HLR-20S	
HLR-25S	

Driver type wrench kits

Package quantity : 1pc/case

Item Number	Contents
XX2815-04-13S	XX2815-04 with HLR-13S
XX2815-04-15S	XX2815-04 with HLR-15S
XX2815-04-20S	XX2815-04 with HLR-20S
XX2815-04-25S	XX2815-04 with HLR-25S

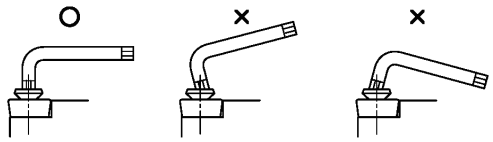
Clamp Screws and Wrenches

Clamp Screw			Dimension（mm）				Standard Wrench	
Appearance	Order Code	Item Number	a	b	c	θ (°)	Order Code	Item Number
	5704739	LR-S-2×3.5	M2×P0.4	3.1	3.5	82	5681994	CLR-13S
	5907704	LR-S-2×3.7	M2×P0.4	3.1	3.7	82		
	5907712	LR-S-2×4.4	M2×P0.4	3.1	4.4	82		
	5907720	LR-S-2×5.5	M2×P0.4	3.0	5.5	90		
	5907738	LR-S-2.5×4.8	M2.5×P0.45	3.6	4.8	82	5681978	CLR-15S
	5704747	LR-S-2.5×5.5	M2.5×P0.45	3.6	5.5	82		
	5907746	LR-S-2.5×6	M2.5×P0.45	3.5	6.0	90		
	5907753	LR-S-2.5×6.8	M2.5×P0.45	3.5	6.8	90		
 Accessible from front and back	5773619	LR-S-3×5.8	M3×P0.5	4.1	5.8	90	5485164	RLR-20S
	5907761	LR-S-3×6.2 ※1	M3×P0.5	5.2	6.2	82		
	5907779	LR-S-3×7.8 ※1	M3×P0.5	4.0	7.8	90		
	5123997	LR-5-3.5×10.6 ※2	M3.5×P0.6	5.0	10.6	90		
	5907787	LR-S-4×5.8	M4×P0.7	5.8	6.0	82		
	5907795	LR-S-4×9	M4×P0.7	5.8	9.0	82		
	5116991	LR-S-4×10PW	M4×P0.7	5.8	10.0	90	5681978	CLR-15S
	5534029	LRIS-2×6	M2×P0.4	2.6	6.0	60	5681994	CLR-13S
	5907803	LRIS-2.2×6	M2.2×P0.45	3.15	6.0	60		
	5989181	LRIS-2.5×5	M2.5×P0.45	3.6	5.0	60	5681978	CLR-15S
	5907811	LRIS-2.5×7	M2.5×P0.45	3.6	7.0	60		
	5907829	LRIS-3×6	M3×P0.5	4.0	6.0	60	5485164	RLR-20S
	5428156	LRIS-3×8	M3×P0.5	4.2	8.0	60		
	5477328	LRIS-4×5	M4×P0.7	5.85	5.0	60	5364930 5794698	LLR-25S LLR-25S-20＊65
	5907837	LRIS-4×6	M4×P0.7	5.85	6.0	60		
	5977566	LRIS-4×8	M4×P0.7	5.85	8.0	60		
	5907845	LRIS-4×10	M4×P0.7	5.85	10.0	60		
	5684105	LRIS-4×12	M4×P0.7	5.85	12.0	60		
 Accessible from front and back	5907852	LRIS-5×10	M5×P0.8	7.0	9.5	60	5364948	LLR-28S
	5116983	LRIS-4×10PW	M4×P0.7	5.7	10.0	60	5681978	CLR-15S
	5090576	LRIS-4×12PW	M4×P0.7	5.7	12.0	60		

※1 Tightening Torque 1.8(N.m)
※2 Tightening Torque 2.1(N.m)

Attention: When tightening screws

- Make sure the wrench tip and wrench hole are neither deformed nor stripped
- Engage the wrench straight to screw hole



- Do not apply more torque than the recommended amount (as shown to the right)

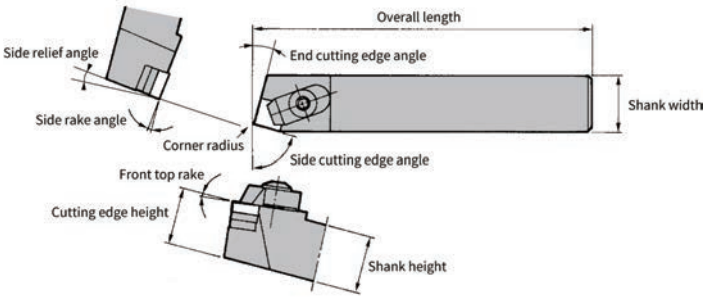
Note: Wrenches and bits come in a pack of five. Clamp screws come in a pack of ten.

Recommended Tightening Torque

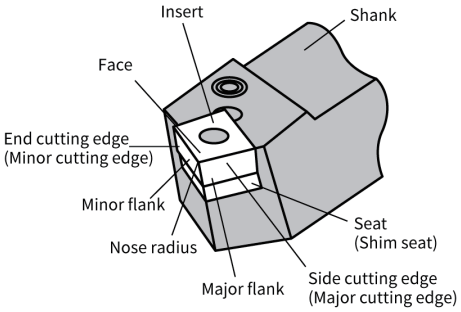
Item Number	Recommended Tightening Torque (N.m)
CLR-13S	0.7
LLR-13S	
HLR-13S	
RLR-15S	1.4
LLR-15S	
HLR15S	
RLR-20S	3.0 ※1,※2
LLR-20S	
HLR20S	
LLR-25S	5.0
LLR-25S-20*65	
HLR-25S	
LLR-28S	7.0
LW-3	5
LW-4	12
LW-5	15

Turning Tool Terminology

Toolholder part names



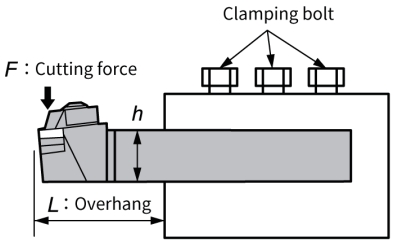
Part names of a cutting tool



Holder rigidity

Toolholder deflection

$$\delta = \frac{4 \times F \times L^3}{E \times b \times h^3} = \frac{4 \times k_c \times f \times L^3}{E \times b \times h^3}$$

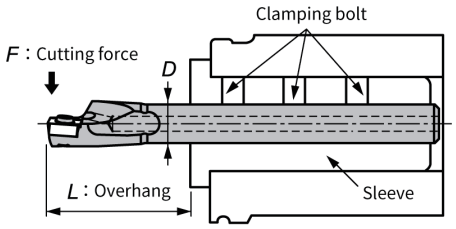


Symbol	Term	Unit
δ	Deflection amount	mm
b	Shank width	mm
h	Shank height	mm
E	Young's modulus	N/mm^2
a_p	Depth of cut	mm
f	Feed amount	mm/rev
k_c	Specific cutting force	N/mm^2
L	Overhang	mm
F	Cutting force	N

($F = k_c \times a_p \times f$)

Boring bar deflection

$$\delta = \frac{64 \times F \times L^3}{3 \times E \times \pi \times D^4} = \frac{64 \times k_c \times a_p \times f \times L^3}{3 \times E \times \pi \times D^4}$$



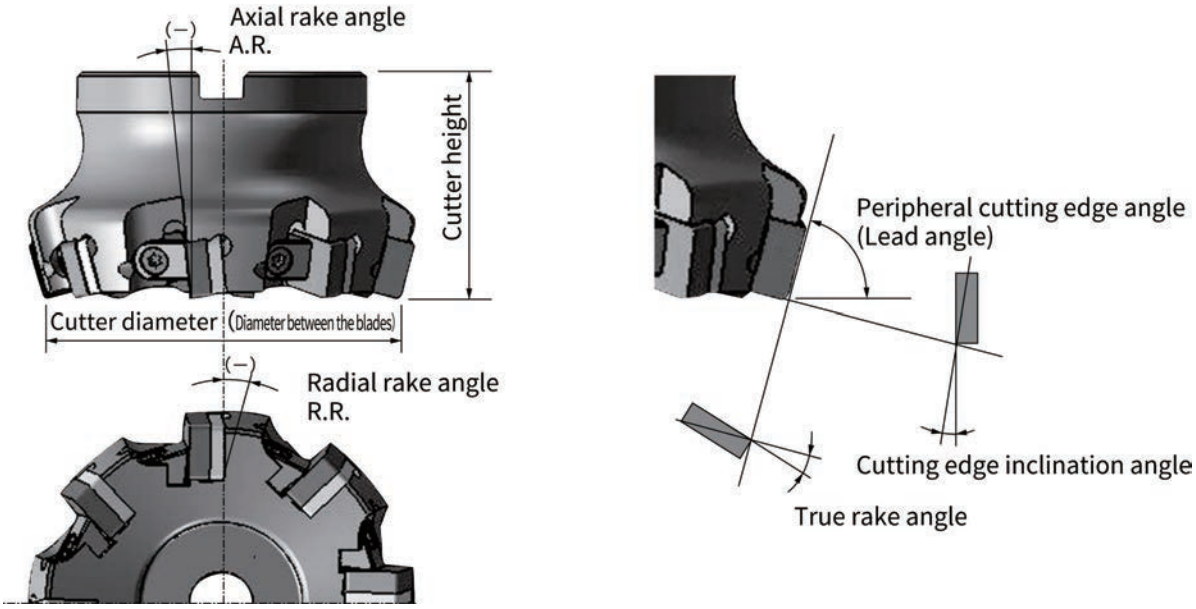
Symbol	Term	Unit
δ	Deflection amount	mm
D	Shank width	mm
E	Young's modulus	N/mm^2
a_p	Depth of cut	mm
f	Feed amount	mm/rev
k_c	Specific cutting force	N/mm^2
L	Overhang	mm
F	Cutting force	N

($F = k_c \times a_p \times f$)

An important factor in improving the rigidity of a toolholder is to ensure the overhang of the tool shank is as short as possible.

Milling Cutter Terminology

Milling cutter terminology



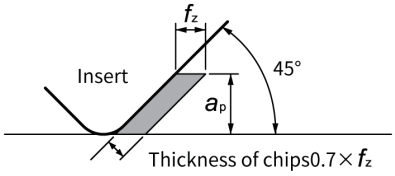
Functions of each cutting edge angle

Name	Function	Effects
Radial rake angle: R.R.	Controls the direction of chip evacuation and cutting force	Negative (-): Excels in chip control performance
Axial rake angle: A.R.	Controls the direction of chip evacuation and cutting force	Positive (+): Excels in cutting performance and BUE resistance
Lead angle	Controls the thickness and evacuation direction of chips	Larger lead angles decrease the thickness of chips and relieves cutting load
True rake angle	Actual rake angle	Larger angles excel in cutting performance and BUE resistance, but lower the cutting edge strength Smaller angles increase the cutting edge strength but lower the BUE resistance
Cutting edge tilt angle	Controls the direction of chip evacuation	Larger angles excel in chip control performance and relieve cutting load, but lower the strength of the insert corner

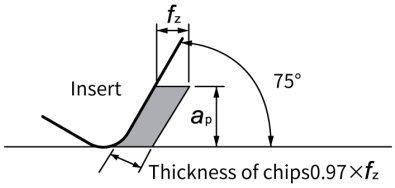
Functions of each angle

[Lead angle]: Relationship of this angle and chip thickness

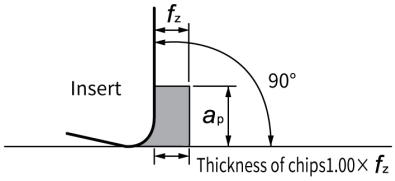
Lead angle : 45 degrees



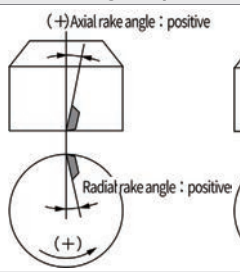
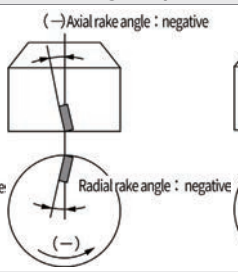
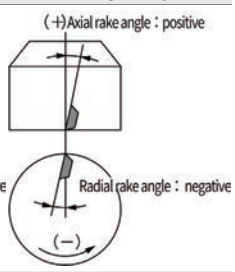
Lead angle : 75 degrees



Lead angle : 90 degrees

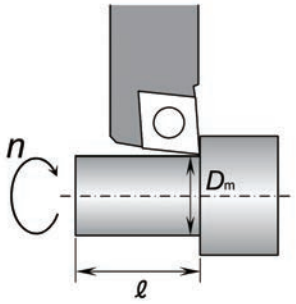


[Rake angle]: Combinations and characteristics

		Double-positive cutting edge shape (DP edge shape)	Double-negative cutting edge shape (DN edge shape)	Negative-positive cutting edge shape (NP edge shape)
Combinations of the angles for basic cutting edge shapes				
Radial rake angle(R.R.)		Positive(+)	Negative(-)	Negative(-)
Axial rake angle(A.R.)		Positive(+)	Negative(-)	Positive(+)
Insert specification		Positive (single side used)	Negative(both sides used)	Positive(single side used)
Work material	Steel	●	–	●
	Cast iron	–	●	●
	Aluminum alloy	●	–	–

Calculation Formula for Turning

Calculating the cutting speed



Calculating the cutting speed from the rotation speed

$$v_c = \frac{\pi \times D_m \times n}{1000} \quad (m/min)$$

v_c : Cutting speed (m/min)
D_m : Machining diameter (mm)
n : Spindle speed (min^{-1})
π : Pi (3.14)

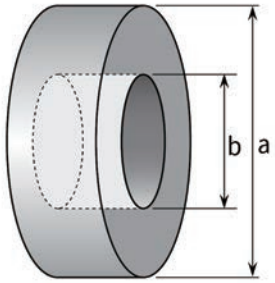
Calculating the revolution speed from the cutting speed

$$n = \frac{1000 \times v_c}{\pi \times D_m} \quad (min^{-1})$$

Example : Obtaining a cutting speed for machining a work piece of 200mm diameter at the spindle speed of 1,000 min-1:

$$v_c = \frac{\pi \times 200 \times 1000}{1000} = 628\ (m/min)$$

Calculating the cutting time



Calculating the cutting time for OD (ID) machining

$$T = \frac{\ell}{f \times n} \quad (min)$$

T : Cutting time (min)
ℓ : Cutting length (mm)
f : Feed rate (mm/rev)
n : Spindle speed (min^{-1})

Calculating the cutting time for facing

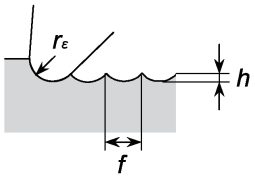
$$T = \frac{\pi \times (a^2 - b^2)}{4000 \times v_c \times f} \quad (min)$$

T : Cutting time (min)
v_c : Cutting speed (m/min)
f : Feed rate (mm/rev)
π : Pi (3.14)

Example : Obtaining a cutting time for machining of work to be cut 100mm long at the spindle speed of 1,000 rpm and at a feed rate of 0.1mm/rev:

$$T = \frac{100}{0.1 \times 1000} = 1\ (min)$$

Calculating the theoretical surface roughness



$$h = \frac{f^2}{8\ r_\varepsilon} \times 1000 \quad (\mu m)$$

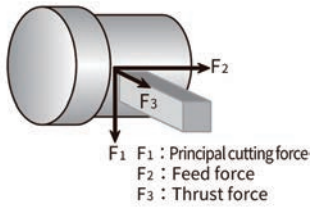
h : Theoretical surface roughness (μm)
f : Feed amount (mm/rev)
r_ε : Corner radius (mm)

Example : Obtaining the theoretical surface roughness when machining with an insert having 0.8mm corner nose radius at a feed rate of 0.1mm/rev

$$h = \frac{0.1^2}{8 \times 0.8} \times 1000 = 1.56\ (\mu m)$$

[Guidelines for actually finished surface roughness]
Steel type work: Theoretical surface roughness × 1.5 to 3
Cast iron type work: Theoretical surface roughness × 3 to 5

Calculating the cutting force



$$F_{(N)} = k_c \times a_p \times f$$

F : Cutting force (N)
k_c : Specific cutting force (N/mm²) ※See the table below.
a_p : Depth of cut (mm)
f : Feed amount (mm/rev)

Example : Calculating the cutting force for grey cast iron cut at the feed rate of 0.2 mm/rev and with a depth of cut of 3 mm:

$$F = 1800 \times 3 \times 0.2 = \underline{1080\,(N)}$$

Calculating the power required

$$P_{c\,(kW)} = \frac{v_c \times f \times a_p \times k_c}{60 \times 10^{3} \times \eta}$$

P_c : Required power (kW)
V_c : Cutting speed (m/min)
f : Feed amount (mm/rev)
a_p : Depth of cut (mm)
k_c : Specific cutting force (N/mm²) ※See the table below.
η : Mechanical efficiency (0.7 - 0.8)

Example : Calculating the cutting power for the machining of grey cast iron at a cutting speed of 700 m/min, feed rate of 0.4 mm/rev, and with a depth of cut of 2 mm
(with 0.8 set as the mechanical efficiency)

$$P_c = \frac{700 \times 0.4 \times 2 \times 1400}{60 \times 10^{3} \times 0.8} = \underline{16.33\,(kW)}$$

Specific cutting force

Work material		Tensile strength or hardness	Specific cutting force (N/mm²) "kc" to cutting feed rate (mm/rev)				
			0.1mm/rev	0.2mm/rev	0.3mm/rev	0.4mm/rev	0.6mm/rev
Soft steel		520	3610	3100	2720	2500	2280
Medium steel		620	3080	2700	2570	2450	2300
Hard steel		720	4500	3600	6250	2950	2640
Tool steel	SKD	670	3040	2800	2630	2500	2400
		770	3150	2850	2620	2450	2340
Cr-Mo steel	SCM	600	3610	3200	2880	2700	2500
		730	4500	3900	3400	3150	2850
Alloy steel	SNCM	900	3070	2650	2350	2200	1980
		HB350	3310	2900	2580	2400	2200
Gray cast iron	FC	HB200	2110	1800	1600	1400	1330

Calculating the volume of chips produced

$$Q_{(cm^3/min)} = v_c \times f \times a_p$$

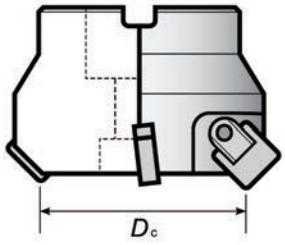
Q : Volume of evacuated chips (cm^3/min)
V_c : Cutting speed (m/min)
a_p : Depth of cut (mm)
f : Feed amount (mm /rev)

Example : Obtaining the volume of chips evacuated per minute for machining at a cutting speed of 700 m/min, feed of 0.4 mm/rev, and a depth of cut of 2mm

$$Q = 700 \times 0.4 \times 2 = \underline{560\ (cm^3/min)}$$

Calculation Formula for Milling Processes

Calculating the cutting speed



Calculating the cutting speed from the rotation speed

$$v_c = \frac{\pi \times D_c \times n}{1000} \quad (m/min)$$

V_c : Cutting speed (m/min)
D_c : Cutter diameter (mm)
n : Spindle speed (min^{-1})
π : Pi (3.14)

Calculating the revolution speed from the cutting speed

$$n = \frac{1000 \times v_c}{\pi \times D_c} \quad (min^{-1})$$

Example : Obtaining the cutting speed for machining with an 200mm diameter cutter at the Spindle speed of 1,000 rpm:

$$v_c = \frac{\pi \times 200 \times 1000}{1000} = 628(m/min)$$

Calculating the feeding speed and feed rate

Calculating the feed rate per blade

$$f_z = \frac{v_f}{z \times n} \quad (mm/t)$$

f_z : Amount per tooth (mm/t)
V_f : Table feed (mm/min)
z : Number of tooth
n : Spindle speed (min^{-1})

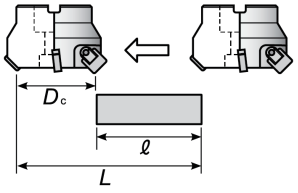
Calculating the feeding speed per minute

$$v_f = f_z \times z \times n \quad (mm/min)$$

Example : Obtaining the feed rate for milling with a 10-teeth cutter at the 0.2mm/t and the revolution speed of 1,000 rpm

$$v_f = 0.2 \times 10 \times 1000 = 2000(mm/min)$$

Calculating the machining time



$$T = \frac{L}{v_f} \quad (min)$$

T : Cutting time (min)
L : Total length of table feed (mm) ($\ell + D_c$)
v_f : Table feed (mm/min)

Example : Obtaining the machining time for milling 200mm on a work piece fed at the rate of 1000mm/min:

$$T = \frac{200}{1000} = 0.2(min)$$

Calculating the cutting power

$$P_c = \frac{a_e \times a_p \times v_f \times k_c}{60 \times 10^{6} \times \eta} \quad (kW)$$

P_c : Required power (kW)
a_e : Cutting length (mm)
a_p : Depth of cut (mm)
v_f : Feed rate (mm/min)
k_c : Specific cutting force (N/mm^2) ※See the table below.
η : Mechanical efficiency (0.7 - 0.8)

Example : Calculating the power required to machine gray cast iron for a length of 150 mm, at a feed rate of 1,100 mm/min, and with a depth of cut of 3 mm
(with 0.8 set as the mechanical efficiency and 0.2 mm as the feed per tooth/blade)

$$P_c = \frac{150 \times 3 \times 1100 \times 1400}{60 \times 10^{6} \times 0.8} = 14.44\,(kW)$$

Specific cutting force

Work material		Tensile strength or hardness	Specific cutting force (N/mm^2) "kc " to cutting feed amount (mm/rev)				
			0.1mm/t	0.2mm/t	0.3mm/t	0.4mm/t	0.6mm/t
Soft steel		520	2200	1950	1820	1700	1580
Medium steel		620	1980	1800	1730	1600	1570
Hard steel		720	2520	2200	2040	1850	1740
Tool steel	SKD	670	1980	1800	1730	1700	1600
		770	2030	2030	1800	1750	1700
Cr-Mo steel	SCM	600	2180	2000	1860	1800	1670
		730	2540	2250	2140	2000	1800
Alloy steel	SNCM	900	2000	1800	1680	1600	1500
		HB350	2100	1900	1760	1700	1530
Gray cast iron	FC	HB200	1750	1400	1240	1050	970
Aluminum alloy	AC,ADC	160	580	480	400	350	320

Calculating the volume of evacuated chips

$$Q = a_e \times a_p \times v_f \quad (cm^3/min)$$

Q : Volume of evacuated chips (cm^2/min)
a_e : Cutting length (mm)
a_p : Depth of cut (mm)
V_f : Feed rate (mm/min)

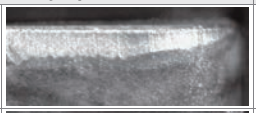
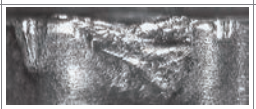
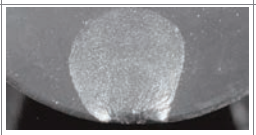
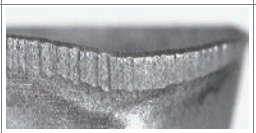
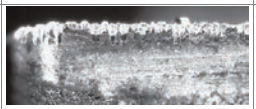
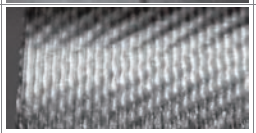
Example : Obtaining the volume of chips evacuated per minute for machining at a cutting speed of 700 m/min, feed rate of 0.4 mm/rev, and with a 2 mm depth of cut:

$$Q = 150 \times 3 \times 1100 = 495\,(cm^3/min)$$

Troubleshooting for Turning

Type of problem	Possible cause	Corrective measures	Material/grade selection: Change to a harder material/grade	Material/grade selection: Change to a tougher material/grade	Material/grade selection: Change to a material/grade more resistant to thermal shock	Material/grade selection: Change to a material/grade more resistant to deposition	Cutting conditions: Cutting speed (Decrease ↘ / Increase ↗)	Cutting conditions: Feed rate (Decrease ↘ / Increase ↗)	Cutting conditions: Depth of cut (Decrease ↘ / Increase ↗)	Cutting conditions: Coolant: Use non-water-soluble type	Cutting conditions: Coolant: Review dry or wet operation	Tool shape: Review the type of chipbreaker	Tool shape: Rake angle (Decrease ↘ / Increase ↗)	Tool shape: Nose radius of the insert	Tool shape: Side cutting edge angle	Tool shape: Cutting edge strength, honing	Tool shape: Improve the accuracy of insert	Tool shape: Improve the rigidity of the holder	Machine/installation: Improve the installation accuracy of the cutting tool	Machine/installation: Review the overhang of the cutting tool	Machine/installation: Prevent vibration of the machine, improve the machine rigidity
Short tool life	Excessive insert wear	Unsuitable tool material/grade	●																		
		Unsuitable cutting edge shape										●	↗	↗	↗	↘					
		Improper cutting conditions					↘	↗			Wet										
	Fracture/chipping of the cutting edge	Unsuitable tool material/grade		●																	
		Improper cutting conditions						↘	↘												
		Insufficient cutting edge strength										●		↗		↗					
		Thermal shock			●		↘	↘	↘	●	Dry										
		Built-up edge				●	↗	↗		●	Wet										
		Insufficient toughness																●	●	●	●
Poor dimensional accuracy	Variation in dimensions during cutting	Improper accuracy of insert															●				
		Clearance/relief of the work/tool										●	↗	↘	↘	↘		●	●	●	●
	Need for offsetting during cutting	Increased flank wear	●											↗							
		Built-up edge				●	↗														
		Improper cutting conditions					↘	↗													
Poor surface finish	Poor surface roughness	Deposition					↗			●	Wet										
		Unsuitable cutting edge shape										●		↗							
		Chatter					↘	↘	↘									●	●	●	●
Heat	Deterioration in tool life/accuracy due to excessive heat generation	Improper cutting conditions					↘	↘	↘												
		Unsuitable cutting edge shape										●	↗			↘					
Burring, chipping, scuffing	Burring	Boundary wear	●																		
		Improper cutting conditions					↘	↓↑			Wet										
		Unsuitable cutting edge shape										●	↗	↘	↘	↘					
	Chipping	Improper cutting conditions						↘	↘												
		Unsuitable cutting edge shape										●	↗	↗	↗	↘					
		Vibration																●	●	●	●
	Scuffing	Unsuitable tool material/grade				●															
		Improper cutting conditions					↗			●	Wet										
		Unsuitable cutting edge shape										●	↗			↘					
		Vibration																●	●	●	●
Chip control	Elongated chips	Improper cutting conditions					↘	↗	↗		Wet										
		Chipbreaker's effective chip control range										●									
		Unsuitable cutting edge shape												↘	↘						

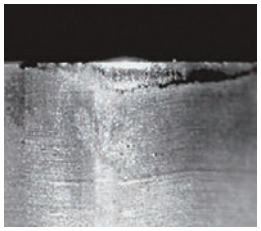
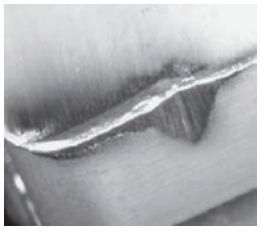
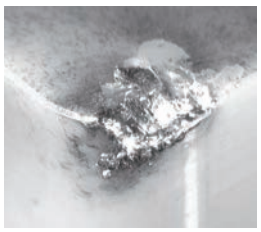
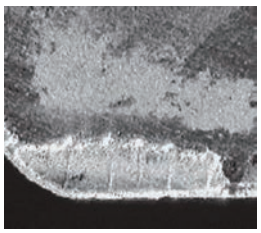
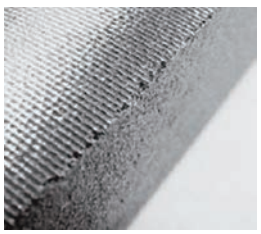
Troubleshooting Case Studies: Turning

	Case/Symptom		Possible causes	Corrective measures
Insert	VB wear		• The material / grade is too soft • Cutting speed is too high • Relief angle is too small	• Use a coated grade • Choose a material/grade highly resistant to wear • Decrease the cutting speed
	Wear on face		• High temperature causes chemical reactions between the insert material and chips	• Use a coated grade • Decrease both of the cutting speed and feed rate • Widen the rake angle
	Notching wear		• The work surface is too hard • Boundary area has been oxidized • Burrs, caused by chips in the sheared form, have been cut	• Widen the side cutting edge angle • Make the nose radius larger so that cutting is performed within the radius • Use a round insert
	Chipping/ fracture		• Feed rate is too high • Chips have become trapped • Chatter resulting in vibration	• Enlarge the honed edge • Make the nose radius larger • Narrow the rake angle to secure the cutting edge strength
	Flaking		• This is due to compressive forces being applied to the cutting edge from elastic deformation in the area being cut • This occurs when deposited/adhered material is peeled off	• Change the cutting conditions by checking the cutting edge • Choose a material/grade highly resistant to fracture • Increase the coolant rate and pressure • Improve the run-out of the main spindle of the machine
	Plastic deformation		• High cutting force and excessive heat is applied to the cutting edge	• Choose a material/grade highly resistant to wear • Decrease both of the cutting speed and feed rate • Make the nose radius larger • Use coolant
	Built-up edge		• This occurs because the cutting temperature is lower than the recrystallization temperature of the work material	• Increase the cutting speed • Use coolant with excellent lubrication performance • Change to a grade with less affinity to the work material
	Deposition		• The deposition is caused to the face by a chemical reaction of the work material due to heat generation	• Increase the cutting speed • Widen the relief angle • Hone the face with a mirror-like-surface finish • Change to a grade with less affinity to the work material
	Clamping crack		• The insert was clamped under improper seating conditions	• Clean the clamping areas and install the insert in the recommended way • Tighten to the specified torque
Work piece	Chipping		• The feed rate is too high • An unsuitable insert was selected	• Decrease the feed rate • Use a smaller edge preparation • Change to a grade highly resistant to boundary wear • Change the cutting edge angle of the holder
	Burring		• The feed rate is incorrect • The shape of insert is not suitable	• Decrease the feed rate • Use a smaller edge preparation
	Chatter mark		• The cutting force is too great • The rigidity of the work piece and cutting tool is insufficient	• Decrease the feed rate • Use a smaller edge preparation • Ensure tool overhang is minimized • Change the cutting edge angle of the holder
	Gouging		• Vibration of the cutting edge due to deposition/built-up edge	• Increase the cutting speed • Use cutting oil excellent in lubrication performance • Change to a grade with less affinity to the work material

Troubleshooting for Milling

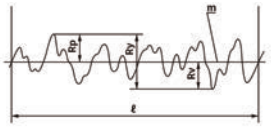
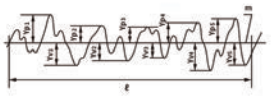
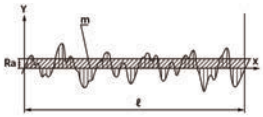
Type of problem		Possible cause \ Corrective measures	Material/grade selection: Change to a harder material/grade	Material/grade selection: Change to a tougher material/grade	Material/grade selection: Change to a material/grade more resistant to thermal shock	Material/grade selection: Change to a material/grade more resistant to deposition	Cutting conditions: Cutting speed (Decrease ↘ / Increase ↗)	Cutting conditions: Feed rate (Decrease ↘ / Increase ↗)	Cutting conditions: Depth of cut (Decrease ↘ / Increase ↗)	Cutting conditions: Review cutter diameter and cutting width	Cutting conditions: Review tool path	Cutting conditions: Coolant: Wet	Cutting conditions: Coolant: Dry	Tool shape: Relief angle of insert (Decrease ↘ / Increase ↗)	Tool shape: Nose radius of cutting edge (Decrease ↘ / Increase ↗)	Tool shape: Cutting edge strength, honing (Decrease ↘ / Increase ↗)	Tool shape: Number of teeth/blades	Tool shape: Enlarge the chip pocket	Tool shape: Check the wiper shape	Tool shape: Improve accuracy of cutting edge run-out	Tool shape: Improve rigidity of tool
Damaged or broken cutting edge of the insert	Increased flank wear	Improper cutting conditions					↘					●									
		Unsuitable cutting edge shape	●											↗		↘			●		
	Increased wear on face	Improper cutting conditions					↘	↘	↘			●									
		Unsuitable cutting edge shape	●											↗	↗	↘					
	Fracture/ chipping on cutting edge	Improper cutting conditions						↘	↘		●										
		Unsuitable cutting edge shape		●										↘	↗	↗			●	●	●
	Thermal shock	Improper cutting conditions					↘	↘	↘				●								
		Unsuitable cutting edge shape			●									↗		↘					
	Built-up edge	Improper cutting conditions					↗	↗				●									
		Unsuitable cutting edge shape				●								↗		↘					
Machining accuracy	Poor surface finish	Improper cutting conditions					↗	↘	↘			●									
		Unsuitable cutting edge shape	●			●										↘	↘		●	●	
	Burring	Improper cutting conditions						↓↑	↘	●	●										
		Unsuitable cutting edge shape												↗	↘	↘			●		
	Chipping	Improper cutting conditions						↘	↘		●										
		Unsuitable cutting edge shape												↗	↗	↘	↗		●		
	Poor flatness and parallelism	Improper cutting conditions						↘	↘			●		↗	↘	↘	↘		●	●	●
Others	Increased chatter/ vibration	Improper cutting conditions					↘	↘	↘	●	●			↗	↘	↘	↘				
	Poor chip evacuation	Improper cutting conditions					↗	↘		●		●	●								
		Unsuitable tool/blade edge shape												↗			↘	●			

Troubleshooting Case Studies: Milling

	Case/Symptom		Possible causes	Corrective measures
Insert	VB wear		• Cutting speed is too high. • Feed rate is too low. • The shape of the insert is not suitable. • The material / grade of the insert is not suitable.	• Decrease the cutting speed. • Increase the feed rate. • Make the nose radius larger. • Change to a grade highly resistant to boundary wear.
	Notching wear		• The material / grade of the inserts is not suitable. • The shape of the cutter is not suitable. • The shape of insert is not suitable.	• Change to a grade highly resistant to boundary wear. • Widen the rake angle. • Change the insert shape to a different one.
	Chipping / fracture		• The cutting speed is incorrect. • The shape of the cutter is not suitable. • The shape of insert is not suitable.	• Decrease the feed rate and depth of cut in order to reduce the cutting force. • Use a smaller edge preparation. • Prepare the cutting edge to give it a round honing. • Change to a grade highly resistant to fracture.
	Thermal crack		• The cutting conditions are incorrect. • The material / grade of insert is not suitable.	• Decrease the cutting speed. • Change to dry cutting from wet cutting. • Use a material / grade highly resistant to thermal shock.
Work piece	Chipping		• The feed rate is too high. • An unsuitable insert is selected. • The shape of the cutter is not suitable.	• Decrease the feed rate. • Use a smaller edge preparation. • Change to a grade highly resistant to boundary wear. • Set the lead angle at 45 degrees.
	Burring		• The feed rate is incorrect. • The shape of the insert is not suitable. • The shape of the cutter is not suitable.	• Adjust the feed rate. • Use a smaller edge preparation. • Make the lead angle narrower.

Surface Roughness Standards

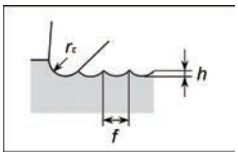
Obtaining the surface roughness

Type	New symbol JIS B0601:'01	Old symbol JIS B0601:'94	Calculation	Obtaining method (example)
Max. height (Peak)	Rz	Ry	The addition of the max. value for the depth Rv and the max. height Rp on the roughness curve for the reference length $Rz = Rp + Rv$	
Average roughness of 10 points	RzJIS	Rz	The addition of the average of the maximum to fifth highest values and the average of the deepest to the fifth deepest values on the roughness curve for the reference length $Rz_{JIS} = \frac{(Yp1+Yp2+Yp3+Yp4+Yp5)+(Yv1+Yv2+Yv3+Yv4+Yv5)}{5}$	
Arithmetic average of roughness	Ra	Ra	The average of absolute values on the roughness curve f (x) for the reference length: $Ra = \frac{1}{\ell}\int_0^{\ell}\{f(x)\}$	

Theoretical surface roughness

The theoretical surface roughness for lathe machining is the minimum value which can be obtained under the set machining conditions, and can be expressed by the following formula.

$$h_{(\mu m)} = \frac{f^2}{8\,r_\varepsilon} \times 1000$$



h : Theoretical surface roughness (μm)
f : Feed amount (mm/rev)
r_ε : Nose radius (mm)

Actual surface roughness

- When machining steel: Theoretical surface roughness x 1.5 – 3
- When machining cast iron: Theoretical surface roughness x 3 – 5

Relationship with triangle symbols

Arithmetic average roughness Ra(μm)	Maximum height Rz(μm)	10-point average roughness Rz_{JIS}(μm)	※ (Triangle symbol)
0.025	0.1	0.1	▽▽▽▽
0.05	0.2	0.2	
0.1	0.4	0.4	
0.2	0.8	0.8	
0.4	1.6	1.6	▽▽▽
0.8	3.2	3.2	
1.6	6.3	6.3	
3.2	12.5	12.5	▽▽
6.3	25	25	
12.5	50	50	▽
25	100	100	

Examples of reading

1. When Ra = 1.6μm ➡ 1.6μm Ra
2. When Rz = 6.3μm ➡ 6.3μm Rz
3. When Rz_{JIS} = 6.3μm ➡ 6.3μm Rz_{JIS}

※The finishing symbols (triangle symbol ▽ and symbol ~) are no longer used in JIS pursuant to the 1994 revision.

Hardness Comparison Chart

Brinell hardness,10mm balls 3000kg(fHB)		Vickers Hardness (HV)	Rockwell hardness			Shore hardness (HS)	Tensile strength Kgf/mm2 [N/m2] Approximate value Mpa(1)
Standard ball	Tungsten carbide ball		Scale A Load: 60 kgf brale indenter (HRA)	Scale B Load: 100 kgf Diameter 1/16" indenter (HRB)	Scale C Load: 150 kgf brale indenter (HRC)		
–	–	940	85.6	–	68	97	
–	–	920	85.3	–	67.5	96	
–	–	900	85	–	67	95	
–	(767)	880	84.7	–	66.4	93	
–	(757)	860	84.4	–	65.9	92	
–	(745)	840	84.1	–	65.3	91	
–	(733)	820	83.8	–	64.7	90	
–	(722)	800	83.4	–	64	88	
–	(710)	780	83	–	63.3	87	
–	(698)	760	82.6	–	62.5	86	
–	(684)	740	82.2	–	61.8	84	
–	(670)	720	81.8	–	61	83	
–	(656)	700	81.3	–	60.1	81	
–	(647)	690	81.1	–	59.7	–	
–	(638)	680	80.8	–	59.2	80	
–	630	670	80.6	–	58.8	–	
–	620	660	80.3	–	58.3	79	
–	611	650	80	–	57.8	–	
–	601	640	79.8	–	57.3	77	
–	591	630	78	–	56.8	–	
–	582	620	79.2	–	56.3	75	
–	573	610	78.9	–	55.7	–	
–	564	600	78.6	–	55.2	74	
–	554	590	78.4	–	54.7	–	
–	545	580	78	–	54.1	72	
–	535	570	77.8	–	53.6	–	
–	525	560	77.4	–	53	71	
–	517	550	77	–	52.3	–	
–	507	540	76.7	–	51.7	69	
–	497	530	76.4	–	51.1	–	
–	488	520	76.1	–	50.5	67	
–	479	510	75.7	–	49.8	–	
–	471	500	75.3	–	49.1	66	
–	460	490	74.9	–	48.4	–	
–	452	480	74.5	–	47.7	64	
–	442	470	74.1	–	46.9	–	
–	433	460	73.6	–	46.1	62	
–	425	450	73.3	–	45.3	–	
–	415	440	72.8	–	44.5	59	
–	405	430	72.3	–	43.6	–	

Brinell hardness,10mm balls 3000kg(fHB)		Vickers Hardness (HV)	Rockwell hardness			Shore hardness (HS)	Tensile strength Kgf/mm2 [N/m2] Approximate value Mpa(1)
Standard ball	Tungsten carbide ball		Scale A Load: 60 kgf brale indenter (HRA)	Scale B Load: 100 kgf Diameter 1/16" indenter (HRB)	Scale C Load: 150 kgf brale indenter (HRC)		
–	397	420	71.8	–	42.7	57	
–	388	410	71.4	–	41.8	–	
–	379	400	70.8	–	40.8	55	
–	369	390	70.3	–	39.8	–	
–	360	380	69.8	(110.0)	38.8	52	
–	350	370	69.2	–	37.7	–	
–	341	360	68.7	–	36.6	50	
–	331	350	62.1	–	35.5	–	
–	322	340	67.6	–	34.4	47	
–	313	330	67	–	33.3	–	
247	247	260	62.4	(101.0)	24	37	825
243	243	255	62	–	23.1	–	805
238	238	250	61.6	99.5	22.2	36	795
233	233	245	61.2	–	21.3	–	780
228	228	240	60.7	98.1	20.3	34	765
219	219	230		96.7	(18.0)	33	730
209	209	220		95	(15.7)	32	695
200	200	210		93.4	(13.4)	30	670
190	190	200		91.5	(11.0)	29	635
181	181	190		89.5	(8.5)	28	605
171	171	180		87.1	(6.0)	26	580
162	162	170		85	(3.0)	25	545
152	152	160		81.7	(0.0)	24	515
143	143	150		78.7		22	490
133	133	140		75		21	455
124	124	130		71.2		20	425
114	114	120		66.7		–	390
105	105	110		62.3		–	–
95	95	100		56.2		–	–
90	90	95		52		–	–
86	86	90		48		–	–
81	81	85		41		–	–

(1) 1 MPa = 1 N/mm²
(2) This table is an excerpt from the JIS Iron and Steel Handbook
(3) Values in parentheses in the above table are not usually used

Grade Comparison Chart

BIDEMICS / Ceramics / NTK CeramiX

	NTK	GREENLEAF	HERTEL	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	NEWCOMER	ROMAY	SANDVIK	SPK	SSANGYONG	SUMITOMO	TAEGUTEC	TUNGALOY	VALENITE
K Cast iron	HC1 HW2	GEM19	AC5	I50	IN11	K060	KA30	NP5200	CC10			SZ200 SZ300		AB120 AW20		
	HC2 HC5 HC6	GEM7	HT610CA MC2	I100	IN22 IN23	K090 KY1615	A65 A66N PT600M	NP5000	CC20 CC30	CC620 CC650 CC6050	SN60 SN80 SH2	SD200 ST100 ST300 ST500 SD200 TA300 TC300	NB90S	AB30	LX11 LX21 CX710	Q32
	SX6 SP9	CSN100 CSN200 GSN100 HSN100 HSN200		MW30 MW43	IS6 IS8 IS80	KY3000 KY3400 KY3500 KYK25 KYK35 KY4400 KYK10 KY1320	CS7050 KS500 KS6000 KS6050		CC510 CC513 CC514 CC514SC CC515 CC516 CC516SC	CC1690 CC6090 CC6190	SL506 SL508 SL550C SL554C SL654 SL808 SL854C	SN26 SN300 SN400 SN500 SN600 SN700 SN800	NS260 NS260C SN2000K SN2100K	AS10 AS500 SC10 AW20 AB30 AB20	CX710 FX105	VPQ130 VPQ135
S Heat resistant alloy	JX1 JX3															
	WA1	WG300 WG600 WG700			IW7	KY1525 KY4300			CC60	CC670		SW400 SW500 SW700 SW800	WX1500 WX120	TC430		
	SX3 SX5 SX7 SX9	XSYTIN-1		MW37	IS9	KY1540 KY2100 KYS25 KYS30 KYSP30 KYSM10	CF1 KS6030 KS6040		CC5477	CC6060 CC650 CC6065		SN800 SN900	WX2500 WX2000	AS20	M101S	
H Hardened material	450 HC4 ZC4 HC5 HC7 ZC7	GEN7	HT610CA	I100	IN22 IN23 IN420	KY1615 KY4400	A65 A66N KT66 PT600M		CC30SC	CC6050 CC650		ST500 TM300 TC100 TC300	NB90S NB150H	AW120 AB30	LX11	Q35 VPZ205 VPZ215
	WA1	WG300 WG600 WG700			IW7	KY4300 KYS25				CC670		SW400 SW500 SW700 SW800				

BIDEMICS / CBN

	NTK	DIJET	MOLDINO	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SPK	SSANGYONG	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
K Cast iron	B23 B30 B99	JBN330 JBN795	BH200 BH250	CBN90 CBN95 CBN100	IB50 IB55 IB85	KB1345 KB1630 KB5630 KB9610 KB9640 KB1340	KBN60M KBN65B KBN900	BC5030 MB710 MB730 MB5015 MBS140	CB7525 CB7925	CBN20 CBNO50C CBN200 CBN300 CBN300P CBN350 CBN600	WBN100 WBN105 WBN115 WBN120 WBN750	SBN1000 SBN1600	BN500 BN600 BN700 BNS800	KB90 KB9OA TB650 TB670 TB730	BX470 BX480 BX850 BX870 BX90S BX910 BX930 BX950 BXC90	
P Heat resistant alloy	JP2															
	120			CBN80		KB1340 KB1630 KB5630		MB730		CBN170			BN700	KB90 TB730	BX950	
H Hardened material	B52 B36 B40 B5K B6K	JBN245 JBN300	BH200 BH250	CBN45 CBN50 CBN60 CBN70	IB10HC IB20H IB25HA IB25HC IB50 IB55	KB1340 KB1610 KB1625 KB5610 KB5625 KB5630 KB9610 KB9640	KBNO5M KBN10C KBN10M KBN25C KBN25M KBN30M KBN35N KBN510 KBN525 KBN900	BC8020 MB810 MB825 MB835 MB8025 MBC010	CB20 CB50 CB7015 CB7025 CB7525	CBN10 CBNO50C CBN100 CBN150 CBN160P CBN170 CBN200 CBN300P CBN350	WBN500 WBN550 WBN600 WBN650	SBN1000 SBN2000 SBN4000	BN250 BN300 BN350 BN1000 BN2000 BNC80 BNC100 BNC150 BNC160 BNC200 BNC300 BNC2010 BNC2020 BNX10 BNX20 BNX25 BNX300	KB50 TB610 TB650 TB670	BX310 BX330 BX360 BX380 BX530 BXC50 BXM10 BXM20	VPC225 WLB30 WLB50

PCD

	NTK	DIJET	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SSANGYONG	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
N Non-ferrous material	PD1 PD2	JDA10 JDA30 JDA40 JDA715 JDA735 JDA745	PCD3 PCD-F PCD-UF	ID5 ID8	KD1400 KD1405 KD1425 KD1410 KD1415 KD1425	KPD001 KPD010 KPD230	MD205 MD220 MD230	CD10	PD10 PD20 PD30	SPD1000 SPD2000 SPD3000	DA10 DA90 DA150 DA200 DA1000 DA2200	KP100 KP300 KP500	DX110 DX120 DX140 DX160 DX180	WCD10

Note: This chart is based on published data and not authorized by each manufacturer

Non coated carbide

	NTK	DIJET	GREENLEAF	MOLDINO	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	ROMAY	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
P Steel	KM1	DX30 DX35 SR30 SRT	G20M G60 G50 G70	EX35 EX40 EX45 WS10	CI5 CI6 CI7 CI9	IC50M IC54 IC70 IC28	KU10 K420 K125M	PW30	UTi20T			S10M 525M S60M	A30 ST10P ST20E ST30E ST40E	CT3000	TX40 UX25 UX30	
N Non-ferrous material	KM1	CR1 KG03 KG1 KG10 KG20 KG30 KT9 LF12	G02 G23	WH02 WH05 WH10 WH20D	CI1 CI2 CI3 CI4 CI65	IC04 IC10 IC20 IC28	K313 K68 K110M K115M K600 K1	GW15 GW25 KW10	HTi05T HTi10 UTi20T	R600	H10 H10F H13A	883 890 HX	EH520 G10E H1	UF1	G1F G2 G2F G3 KS05F KS15F KS20 TH03 TH10 TU10	WK1 WSN10

PVD coated carbide

	NTK	DIJET	GREENLEAF	MOLDINO	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
P Steel	VM1 ZM3 QM3 TM4 DT4 DM4	JC5003 JC5015 JC5030 JC5040	G915 G920 G925 G935	CY15 CY150 CY250 CY9020 HC844 IP2000 IP3000	CI25A C29	IC328 IC507 IC807 C907 C908 IC928 IC3028 IC830 IC570	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC710 KC720 KC722 KC730 KC735M KC792M	PR915 PR930 PR1005 PR1025 PR1115 PR1215 PR1225	VP10MF VP10RT VP15TF VP20MF VP20RT	GC1125 GC1525 GC15 GC1025 GC1145 GC2035 GC2145 GC4125	CP200 CP250 CP500	AC350 AC520U AC530U ACZ150 ACZ310 ACZ330 ACZ350	TT1040 TT7220 TT8010 TT8020 TT9030 TT9080	AH120 AH130 AH140 AH710 AH725 AH730 AH740 GH130 GH330 SH730 AH330 GH730	WSM30 WXM33 WXP20 WXP43
M Stainless steel	ST4 VM1 ZM3 QM3 TM4 DT4 DM4	JC5003 JC5015 JC5030 JC5040	G915 G920 G925	CY250 CY9020 P050S P100S	C23 CI24 C129	IC308 IC507 IC520 IC807/907 IC908 IC928 IC1008 IC1028 IC3028 IC830 IC570	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC710 KC720 KC722 KC730 KC735M KC792M	PR915 PR930 PR1025 PR1125 PR1215 PR1225	VP10MF VP10RT VP15TF VP20MF VP20RT	GC15 GC1005 GC1025 GC1105 GC1115 GC1125 GC1145 GC1525 GC2030 GC2035 GC4125	CP200 CP250 CP500 T52000 T52500	AC350 AC510U AC520U AC530U AC6040M ACZ150 ACZ310 ACZ330 ACZ350 EH510Z EH520Z AC6030M AC610M AC830P AC630M	TT1040 TT5080 TT7010 TT7080 TT7220 TT8010 TT8020 TT9030 TT9080 TT9020	AH120 AH130 AH140 AH710 AH725 AH730 GH130 GH330 GH730 SH730 AH330	WXM20 WXM33 WXN10 WXP20 WXP43
K Cast iron	QM3 DM4	JC5003 JC5015		CY10H CY100H CY9020		IC507 IC508 IC908 IC910 IC808 IC1008	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC720 KC730	PR905 PR1215	VP10RT VP15TF VP20RT	GC1020 GC1125 GC15	CP200 CP250 CP500 DTS2500 TK1000 TK2000 TS2000	AC510U AC520U AC530U ACZ310 EH10Z EH20Z EH510Z AC405K	TT1040 TT6080 TT7010 TT7080	AH110 AH120 GH110 GH130	
S Heat resistant alloy			G920 G925			IC807/907 IC908 IC830	KC5010 KC5510 KC5525 KC7310 KCU10 KCU25			GC15 GC1005 GC1025 GC1105 GC1115 GC1125 GC2145 GC4125		AC510U AC520U AC530U	TT8125 TT8135 TT8020 TT9030 TT9080 TT9020	AH905	
H Hardened material							KC5010 KC5510 KCU10 KCU25			GC1010 GC1025 GC1030		AC503U			

CVD coated carbide

	NTK	DIJET	GREENLEAF	MOLDINO	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	ROMAY	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
K Cast iron	CP1	JC050W JC105V JC110V JC215V JC605W JC605X JC610	GA5022 GA5023	GM25 GM8015 GM8020 GM8025 HG3305 HG3315 HG8010 HX3505 HX3515	CIN2 CINX CIT3 CIT6 CIX	IC418 IC428 IC9007 IC9015 IC9150	KCK05 KCK15 KCK20 KCP05 KCP10 KCP25 KCP30 KC9325	CA4010 CA4115 CA4120 CA4505 CA4515 CA5505	MC5005 MC5015 MY5015 UC5105 UC5115 UE6110	R100 R200 R500	GC3005 GC3205 GC3210 GC3215 GC4215 GC4315	MK1500 TH1000 TK1000 TK2000 TP200 TP2500 TX150	AC300G AC410K AC420K AC700G AC810P AC820P AC8025P ACK200	TT6300 TT6800 TT7005 TT7015	T1115 T5105 T5115 T5125	WPP01 WPP10 WPP20

Material Cross Reference Chart

Machine structural carbon steel

Grade	Japan JIS	China GB	USA AISI/SAE	UK BS	Germany DIN	France NF	Russia ГОСТ
Machine structural carbon steel	S10C	08 10	1010	040A10 045A10 045M10	C10E C10R	XC10	
	S12C		1012	040A12		XC12	
	S15C	15	1015	055M15	C15E C15R		
	S17C		1017			XC18	
	S20C	20	1020	070M20 C22 C22E C22R	C22 C22E C22R	C22 C22E C22R	
	S22C		1023				
	S25C	25	1025	C25 C25E C25R	C25 C25E C25R	C25 C25E C25R	
	S28C		1029				25Г
	S30C	30	1030	080A30 080M30 C30 C30E C30R	C30 C30E C30R	C30 C30E C30R	30Г
	S33C						30Г
	S35C	35	1035	C35 C35E C35R	C35 C35E C35R	C35 C35E C35R	35Г
	S38C		1038				35Г
	S40C	40	1039 1040	080M40 C40 C40E C40R	C40 C40E C40R	C40 C40E C40R	40Г
	S43C		1042 1043	080A42			40Г
	S45C	45	1045 1046	C45 C45E C45R	C45 C45E C45R	C45 C45E C45R	45Г
	S48C			080A47			45Г
	S50C	50	1049	080M50 C50 C50E C50R	C50 C50E C50R	C50 C50E C50R	50Г
	S53C		1050 1053				50Г
	S55C	55	1055	080M55 C55 C55E C55R	C55 C55E C55R	C55 C55E C55R	
	S58C	60	1059 1060	C60 C60E C60 R	C60 C60E C60 R	C60 C60E C60 R	60Г
	S09CK			045A10 045M10	C10E	XC10	
	S15CK	15F			C15E	XC12	
	S20CK					XC18	

Machine structural carbon steel

Grade	Japan JIS	China GB	USA AISI/SAE	UK BS	Germany DIN	France NF	Russia ГОСТ
Nickel-chromium steel	SNC236				36CrNi6		40XH
	SNC415	12CrNi2			14CrNi10		
	SNC631	30CrNi3			36CrNi10		30XH3A
	SNC815	12Cr2Ni4		655M13	15CrNi13		
	SNC836	37CrNi3			31CrNi14		
Nickel-chromium molybdenum steel	SCNM220	20CrNiMo	8615 8617 8620 8622	805A20 805M20 805A22 805M22	20NiCrMo2 20NiCrMoS2	20NCD 2	
	SCNM240		8637 8640		40NiCrMo2-2		
	SCNM415						
	SCNM420	18CrNiMnMoA	4320		17NiCrMo6-4		20XH2M (20XHM)
	SCNM431				30CrNiMo8		
	SCNM439	40CrNiMoA	4340		40NiCrMo6		
	SCNM447				34CrNiMo6		
	SCNM616						
	SCNM625						
	SCNM630						
	SCNM815						
Chromium steel	SCr415	15Cr 15CrA			17Cr3 17CrS3		15X 15XA
	SCr420	20Cr	5120				20X
	SCr430	30Cr	5130 5132	34Cr4 34CrS4	34Cr4 34CrS4	34Cr4 34CrS4	30X
	SCr435	35Cr	5132	37Cr4 37CrS4	37Cr4 37CrS4	37Cr4 37CrS4	35X
	SCr440	40Cr	5140	530M40 41Cr4	41Cr4 41CrS4	41Cr4 41CrS4	40X
	SCr445	45Cr 50Cr					45X
Chromium molybdenum steels	SCM415	15CrMo			15CrMo4		
	SCM418	20CrMo			18CrMo4 18CrMoS4		20XM
	SCM420			708M20	20CrMo5		20XM
	SCM421						
	SCM430	30CrMo 30CrMoA	4231				30XM 30XMA
	SCM432						
	SCM435	35CrMo	4137	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	35XM
	SCM440	42CrMo	4140 4142	708M40 709M40 42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	
	SCM445		4145 4147				
	SCM822						

Machine structural carbon steel

Grade	Japan	China	USA	UK	Germany	France	Russia
	JIS	GB	AISI/SAE	BS	DIN	NF	ГОСТ
Manganese steel	SMn420	20Mn2	1522	150M19	20Mn5		
	SMn433	30Mn2 35Mn2	1534	150M36	34Mn5		30Г2 35Г2
	SMn438	40Mn2	1541	150M36	36Mn5		35Г2 40Г2
	SMn443	45Mn2	1541				40Г2 45Г2
	SMnC420	15CrMn	5115		16MnCr5		
	SMnC443	40CrMn	5140				
Structural steel (H steel)	SMn420H		1522H				
	SMn433H						
	SMn438H		1541H				
	SMn443H		1541H				
	SMnC420H						
	SMnC433H						
	SCr415H	15CrH			17Cr3 17CrS3		15Х
	SCr420H	20Cr1H	5120H		17Cr3		20Х
	SCr430H		5130H 5132H	34Cr4 34CrS4	34Cr4 34CrS4	34Cr4 34CrS4	30Х
	SCr435H		5135H	37Cr4 37CrS4	37Cr4 37CrS4	37Cr4 37CrS4	35Х
	SCr440H	40CrH	5140H	41Cr4 41CrS4	41Cr4 41CrS4	41Cr4 41CrS4	40Х
	SCM415H	15CrMoH	4118H		15CrMo5		
	SCM418H				18CrMo4 18CrMoS4		
	SCM420H	20CrMoH	4118H	708H20	18CrMo4		
	SCM435H		4135H 4137H	34CrMo 34CrMoS4	34CrMo 34CrMoS4	34CrMo 34CrMoS4	
	SCM440H		4140H 4142H	42CrMo 42CrMoS4	42CrMo 42CrMoS4	42CrMo 34CrMoS4	
	SCM445H		4145H 4147H				
	SCM822H						
	SNC415H						
	SNC631H						
	SNC815H	12Cr2Ni4H		655H13	15NiCr13		
	SNCM220H	20CrNiMoH	8617H 8620H 8622H	805H17 805H20 805H22	21NiCrMo2	20N CD 2	
	SNCM420H	20CrNiMoH	4320H		20CrNiMoS6-4		

Stainless steel , Heat-resistant alloy

Grade	Japan	China	USA		UK	Germany	France	Russia
	JIS	GB	UNS	AISI	BS	DIN	NF	ГОСТ
Stainless steel	SUS201	1CrMn6Ni5N	S20100	201			Z12CMN17-07Az	
	SUS202	1CrMn8Ni5N	S20200	202	284S16			12Х17Г9АН4
	SUS301	1CrMn10Ni5Mo3N 1Cr17Ni7	S30100	301	301S21	X12CrNi17 7	Z11CN17-08	07Х16Н6
	SUS301L					X2CrNiN18-7		
	SUS301J1					X12CrN117 7		
	SUS302	1Cr18Ni9	S30200	302	302S25		Z12CN18-09	12Х18Н9
	SUS302B		S30215	302B				
	SUS303	Y1Cr18Ni9	S30300	303	303S21	X10CrNiS18 9	Z8CNF18-09	
	SUS303Se	Y1Cr18Ni9Se	S30323	303Se	303S41			12Х18Н10Е
	SUS304	0Cr18Ni9	S30400	304	304S31	X5CrNi18 10	Z7CN18-09	08Х18Н10
	SUS304L	00Cr18Ni10	S30403	304L	304S11	X2CrNiN19 11	Z3CN19-11	03Х18Н11
	SUS304N1	0Cr18Ni9N	S30451	304N			Z6CN19-09Az	
	SUS304N2	OCr19NiNbN	S30452					
	SUS304LN	OOCR18Ni10N	S30453	304LN		X2CrNiN18 10	Z3CN18-10Az	
	SUS304J1							
	SUS304J2							
	SUS304J3		S30431	30431				
	SUS305	1Cr18Ni12	S30500	305	305S19	X5CrNi18 12	Z8CN18-12	06Х18Н11
	SUS305J1							
	SUS309S	0Cr23Ni13	S30908	309S			Z10CN24-13	
	SUS310S	0Cr25Ni20	S31008	310S	310S31		Z8CN25-20	10Х23Н18
	SUS316	0Cr17Ni12Mo2	S31600	316	316S31	X5CrMo17 12 2 X5CrMo17 12 3	Z7CND17-12-02 Z6CND18-12-03	
	SUS316L	OOCR17Ni14Mo2	S31603	316L	316S11	X2CrNiMo17 13 2 X2CrNiMo17 13 2	Z3CND17-12-02 Z3CND17-12-03	03Х17Н14М3
	SUS316N	0Cr17Ni12Mo2N	S31651	316N				
	SUS316LN	00Cr17Ni13Mo2N	S31653	316LN		X2CrNiMoN17 12 2 X2CrNiMoN17 12 3	Z3CND17-11Az Z3CND17-11Az	
	SUS316Ti		S31635			X6CrNiMoTi17 12 2	Z6CNDT17-12	08Х17Н13М2Т
	SUS316J1	0Cr18Ni12Mo2Cu2						
	SUS316J1L	00Cr18Ni14Mo2Cu2						
	SUS317	OCr19NiMo3	S31700	317	317S16			
	SUS317L	00Cr19Ni13Mo3	S31703	317L	317LS12	X2CrNiMo18 16 4	Z3CND19-15-04	
	SUS317LN		S31753				Z3CND19-14Az	
	SUS317J1	0Cr18N116Mo5						
	SUS317J2							
	SUS317J3							
	SUS836L		N08367					
	SUS890L		N08904	N08904	904S14		Z2NCDU25-20	
	SUS321	1Cr18Ni9Ti 0Cr18Ni10Ti	S32100	321	321S31	X6CrNiTi18 10	Z6CNT18-10	08Х18Н10Т
	SUS347	0Cr18Ni11Nb	S34700	347	347S31	X6CrNiNb18 10	Z6CNNb18-10	08Х18Н12Б
	SUS384		S38400	384			Z6CN18-16	
	SUSXM7	0Cr18Ni9Cu3	S30430	304Cu	394S17		Z2CNU18-10	
	SUSXM15J1	0Cr18Ni13Si4	S38100				Z15CNS20-12	
	SUS329J1	0Cr26Ni5Mo2	S32900	329				
	SUS329J3L		S32924	S31803			Z3CNDU22-05Az	08Х21Н5М2Т
	SUS329J4L		S39275	S31260			Z3CNDU25-07 Az	
	SUS405	0Cr13AI 0Cr13	S40500	405	405S17	X6CrAl13	Z8CA12	
	SUS410L	00Cr12					Z3C14	
	SUS429		S42900	429				
	SUS430	1Cr17	S43000	430	430S17	X6Cr17	Z8C17	12Х17
	SUS430F	Y1Cr17	S43020	430F		X7CrMoS18	Z8CF17	
	SUS430LX		S43035			X6CrTi17	Z4CT17	
	SUS430J1L					X6CrNb17	Z4CNB17	

Stainless steel , Heat-resistant alloy

Grade	Japan	China	USA		UK	Germany	France	Russia
	JIS	GB	UNS	AISI	BS	DIN	NF	ГОСТ
Stainless steel	SUS434	1Cr17Mo	S43400	434	434S17	X6CrMo17 1	Z8CD17-01	
	SUS436L		S43600	436				
	SUS436J1L							
	SUS444		S44400	444			Z3CDT18-02	
	SUS447J1	00Cr30Mo2	S44700					
	SUSXM27	00Cr27Mo	S44627				Z1CD26-01	
	SUS403	1Cr12	S40300	403				
	SUS410	1Cr13	S41000	410	410S21	X10Cr13	Z13C13	
	SUS410S		S41008	410S	403S17	X6Cr13	Z8C12	08X13
	SUS410F2							
	SUS410J1	1Cr13Mo 1Cr12Mo	S41025			X12CrS13		
	SUS416	Y1Cr13	S41600	416	416S21		Z11CF13	
	SUS420J1	2Cr13	S42000	420	420S29	X20Cr13	Z20C13	20X13
	SUS420J2	3Cr13	S42000	420	420S37	X30Cr13	Z33C13	30X13
	SUS420F	Y3Cr13	S42020	420F			Z30CF13	
	SUS420F2							
	SUS429J1							
	SUS431	1Cr17Ni2	S43100	431	431S29	X20CrNi17 2	Z15CN16-02	20X17H2
	SUS440A	7Cr17	S44002	440A			Z70C15	
	SUS440B	8Cr17	S44003	440B				
	SUS440C	9Cr18 11Cr17 9Cr18Mo	S44004	440C			Z100CD17	95X18
	SUS440F	Y11Cr17	S44020	S44020				
	SUS630	0Cr17Ni4CuNb	S17400	S17400		X5CrNiCuNb16-4	Z6CNU17-04	
	SUS631	0Cr17Ni7AI	S17700	S17700		X7CrNiAI17-7	Z9CNA17-07	09X17H7 Ю
	SUS632J1							
Heat-resistant alloy	SUH31				331S42		Z35CNWS14-14	45X14H14B2M
	SUH35				349S52		Z52CMN21-09Az	
	SUH36	5Cr21Mn9Ni4N	S63008		349S54	X53CrMnNi21 9	Z55CMN21-09Az	55X20Г9АН4
	SUH37	2Cr21Ni12	S63017		381S34			
	SUH38							
	SUH309	2Cr23Ni13	S30900	309	309S24		Z15CN24-13	
	SUH310	2Cr25Ni20	S31000	310	310S24	CrNi2520	Z15CN25-20	20X25H20CX2
	SUH330	1Cr16Ni35	N08330	N08330			Z12NC35-16	
	SUH660	0Cr15Ni25Ti2MoAIVB	S66286				Z6NCTV25-20	
	SUH661		R30155					
	SUH21					CrAI1205		
	SUH409		S40900	409	409S19	X6CrTi12	Z6CT12	
	SUH409L						Z3CT12	
	SUH446	2Cr25N	S44600	446			Z12C25	15X28
	SUH1	4Cr9Si2	S65007		401S45	X45CrSi9 3	Z45CS9	
	SUH3	4Cr10Si2Mo					Z40CSD10	40X10C2M
	SUH4	8Cr20Si2Ni			443S65		Z80CSN20-02	
	SUH11							40X9C2
	SUH660	2Cr12MoVNbN						20X12ВНМБФР
	SUH616	2Cr12NiMoWV	S42200					

Tool steel

Grade	Japan	China	USA	UK	Germany	France	Russia
	JIS	GB	AISI/STM	BS	DIN	NF	ГОСТ
Carbon tool steel	SK140(SK1)	T13				C140E3U	Y13
	SK120(SK2)	T12	W1-1111/2			C120W3U	Y12
	Sk105(SK3)	T11	W1-10		C105W1	C105E2U	Y11
	SK95(SK4)	T10	W1-9			C90E2U	Y10
	SK85(SK5)	T8Mn T9	W1-8		C80W1	C90E2U C80E2U	Y8Г Y9
	SK75(SK6)	T8			C80W1	C80E2U C70E2U	Y8
	SK65(SK7)	T7			C70W2	C70E2U	Y7
High speed tool steel	SKH2	W18Cr4V	T1	BT1		HS18-0-1	P18
	SKH3	W18Cr4Co5	T4	BT4	S18-1-2-5	HS18-1-1-5	P18K5Ф2
	SKH4	W18Cr4V2Co8	T5	BT5		HS18-0-2-9	P18K5Ф
	SKH10	W12Cr4VCo5	T15	BT15	S12-1-4-5	HS12-1-5-5	
	SKH51	W6Mo5Cr4V2	M2	BM2	S6-5-2	H6-5-2	P6M5
	SKH52	CW6Mo5Cr4V2 W6Mo5Cr4V3	M3-1				P6M5Ф3
	SKH53	CW6Mo5Cr4V3	M3-2		S6-5-3	H6-5-3	P6M5Ф3
	SKH54		M4	BM4		HS6-5-4	
	SKH55	W6Mo5Cr4V2Co5 W7Mo5Cr4V2Co5	M35 M41	BM35	S6-5-2-5	HS6-5-2-5HC	P6M5K5
	SKH56	M36					
	SKH57			BT42	S10-4-3-10	HS10-4-3-10	
	SKH58	W2Mo9Cr4V2	M7			HS2-9-2	
	SKH59	W2Mo9Cr4VCo8	M42	BM42	S2-10-1-8	HS2-9-1-8	
Alloy tool steel	SKS11		F2				XB4
	SKS2				105WCr6	105WCr5	XBГ
	SKS21	W					
	SKS5						
	SKS51		L6				
	SKS7						
	SKS8	Cr06				C140E3UCr4	13X
	SKS4	5CrW2Si 6CrW2S1	S1				6XB2C 5XB2CФ
	SKS41	4CrW2Si	S1				4XB2C
	SKS43		W2-91/2	BW2		10V2	
	SKS44		W2-8				
	SKS3	9CrWMn					9XBФ
	SKS31	CrWMn			105WCr6	105WCr5	XBГ
	SKS93						
	SKS94						
	SKS95	8MnSi					
	SKD1	Cr12	D3	B03	X210Cr12	X200Cr12	X12
	SKD10	Cr12Mo1V1	D2		X153CrMoV12		X12M
	SKD11	Cr12MoV	D2	BD2	X153CrMoV12	X160CrMoV12	
	SKD12	Cr5Mo1V	A2	BA2		X100CrMoV5	
	SKD4					X32WCrV3	
	SKD5	3Cr2W8V	H21	BH21	X30WCrV9-3	X30WCrV9	
	SKD6	4Cr5MoSiV	H11	BH11	X38CrMoV51	X38CrMoV5	4X5MФC
	SKD61	4CrMoSiV1	H13	BH13	X40CrMoV51	X40CrMoV5	4X5MФ1C
	SKD62		H12	BH12		X35CrWMoV5	3X3M3Ф
	SKD7	4CrMo3SiV	H10	BH10	X32CrMoV33	32CrMoV12-18	
	SKD8		H19	BH19			
	SKT3					55CrNiMo9V4	
	SKT4	5CrNiMo		BH225/5	55NiCrMoV6	55NiCrMoV7	5XHM

Special application steel

Grade	Japan	China	USA	UK	Germany	France	Russia
	JIS	GB	AISI/STM	BS	DIN	NF	ГОСТ
Spring steel	SUP3		1075 1078				75 80 85
	SUP6	55Si2Mn			56SiCr7	60Si7	60C2
	SUP7	60Si2Mn 60Si2MnA	9260		61SiCr7	60Si7	60C2Г
	SUP9	55CrMnA	5155		55Cr3	55Cr3	
	SUP9A	60CrMnA	5160		55Cr3	60Cr3	
	SUP10	50CrVA	6150	735A51 735H51	50CrV4	51CrV4	ХФА50ХГФА
	SUP11	60CrMnBA	51B60		51CrV4		50ХГР
	SUP12		9254	685A57 685H57	54SiCr6	54SiCr6	
	SUP13	60CrMnMoA	4161	705A60 705H60	60CrMn3-2	60CrMo4	
Sulfur and Sulfur Composite Free-cutting Steel	SUM11		1110				
	SUM12	Y12	1108				
	SUM21		1212				
	SUM22	Y15	1213	(230M07)	9SMn28	S250	
	SUM22L	Y12Pb	12L13		9SMnPb28	S250Pb	
	SUM23		1215				
	SUM23L						
	SUM24L	Y15Pb	12L14		9SMnPb28	S250Pb	
	SUM25				9SMn36	S300	
	SUM31		1117		15S10		
	SUM31L						
	SUM32	Y20		210M15 210A15		(13MF4)	
	SUM41	Y30 Y35	1137			(35MF6)	
	SUM42	Y40Mn	1141			(45MF6.1)	
	SUM43		1141	(226M44)		(45MF6.3)	
High carbon chromium bearing steel	SUJ1	GCr4	51100				
	SUJ2	GCr5	52100		100Cr6	100Cr6	ЩХ15
	SUJ3	GCr15SiMn	ASTMA485 Grade1				
	SUJ4	GCr15SiMo					
	SUJ5	GCr18Mo					

Cast iron

Grade	Japan	China	USA	UK	Germany	France	Russia
	JIS	GB	AISI/SAE	BS	DIN	NF	ГОСТ
Gray cast iron	FC100	HT100	NO.20	100			cy10
	FC150	HT150	NO.30	150	GG15	GGL150	cy15
	FC200	HT200	NO.35	200	GG20	GGL200	cy20
	FC250	HT250	NO.45	250	GG25	GGL250	cy25
	FC300	HT300	NO.50	300	GG30	GGL300	cy30
	FC350	HT350	NO.60	350	GG35	GGL350	cy35
					GG40	GGL400	cy40
Ductile cast iron	FCD400	QT400-18	60-40-18	400/17	GGG40	FGS370-17	By40
	FCD450	QT450-10	65-45-12	420/12		FGS400-12	By45
	FCD500	QT500-7	70-50-05	500/7	GGG50	FGS500-7	By50
	FCD600	QT600-3	80-60-03	600/7	GGG60	FGS600-2	By60
	FCD700	QT700-2	100-70-03	700/2	GGG70	FGS700-2	By70
	FCD800	QT800-2	120-90-02	800/2	GGG80	FGS800-2	By80
		QT900-2		900/2			By100

Nonferrous metals

Grade	Japan	China	USA	UK	Germany	France	Russia
	JIS	GB	ASTM	BS	DIN	NF	ГОСТ
Aluminum alloy		1A99	1119		A199.99R		A99
		1A97			A199.98R		A97
		1A95					A95
	A1080	1A80		1080(1A)	A199.90	1080A	A8
	A1050	1A50	1050	1050(1B)	A199.50	1050A	A5
	A5052	5A02	5052	NS4	AlMg2.5	5052	Amg
		5A03		NS5			AMg3
	A5056	5A05	5056	NS6	AlMg5		AMg5V
	A5556	5A30	5456	NG61		5957	
	A2117	2A01	2036		AlCu2.5Mg0.5	2117	D18
	A2017	2A11		HF15	AlCuMg1	2017S	D1
	A2024	2A12	2124		AlCuMg2	2024	D16AVTV
		2B16	2319				
	A2N01	2A80					AK4
	A2018	2A90	2218				AK2
	A2014	2A14	2014		AlCuSiMn	2014	AK8
	A7075	7A09	7175		AlZnMgCu1.5	7075	V95P
Cast aluminum alloy	AC4C	ZAlSi7Mn	356.2	LM25	G-AlSi7Mg		
	AC3C	ZAlSi12	413.2	LM6	G-Al12	A-S12-Y4	AL2
		ZAlSi5Cu1Mg	355.2				AL5
		ZAlSi2Cu2Mg1	413		G-Al12(Cu)		
		ZAlCu5Mn					AL19
		ZAlCu5MnCdVA	201				
		ZAlMg10	520	LM10	G-AlMg10	AG11	AL8
		ZAlMg5Si			G-AlMg5Si		AL13

Swiss Machine List

Citizen

Cincom

Machine Model	Gang Station				Number of tools	Turret Station						Sleeve Station		Hand	Max. cutting dia.
	Inch		Metric			Inch		Metric		Number of tools		Inch	Metric		
	H×B	LF	H×B	LF		H×B	LF	H×B	LF	Turret	Station	"	mm		mm
A12	□3/8	4.75	□10	100	5			–	–	–	–	φ3/4	φ19.05/φ20	R	φ12
A16	□3/8	4.75	□10	100	5			–	–	–	–	φ3/4	φ19.05/φ20	R	φ16
A20	□1/2	4	□12(□13)	120	5-7			–	–	–	–	φ1	φ25.4	R	φ20
A25	□1/2	4	□12(□13)	120	5/6			–	–	–	–	φ1	φ25.4	R	φ25
A32	□5/8	4.75	□16	150	6			–	–	–	–	φ1	φ25.4	R	φ32
B12, B12E	□3/8	4.75	□10	100	5			–	–	–	–	φ3/4	φ19.05/φ20	R	φ12
B16E	□3/8	4.75	□10	10	5			–	–	–	–	φ3/4	φ19.05/φ20	R	φ16
B20	□1/2	4.75	□12(□13)	120	6			–	–	–	–	φ3/4	φ19.05/φ20	R	φ20
BL12	□3/8	4.75	□10	60-120	5			–	–	–	–	φ3/4	φ20(φ19.05)	R	φ12
BL20			□12(□13)	120	7			–	–	–	–	φ3/4	φ20(φ19.05)	R	φ20
BL25			□12(□13)	120	7			–	–	–	–	φ3/4	φ20(φ19.05)	R	φ25
C12	□3/8	4.75	□10	120	6			–	–	–	–	φ3/4	φ19.05	R	φ12
C16	□3/8	4.75	□10	120	6			–	–	–	–	φ3/4	φ19.05	R	φ16
C32	□5/8	4.75	□16	130	5			–	–	–	–	φ1	φ25.4	R	φ32
D25			□16(□19)	150	7	–	–	–	–	–	–	φ1	φ25.4	R	φ25
D25 VIII	□5/8		□16	–	10							φ1	φ25.4	R	φ25
E32			–	–	–			□16(19×13)	90	2	10/Turret	φ1	φ25.4	R	φ32
F10			–	–	–			□10	60	1	10	φ3/4	φ19.05	R	φ10
F12			–	–	–			□10	60	1	10	φ3/4	φ19.05	R	φ12
F16			–	–	–			□10	60	1	10	φ3/4	φ19.05	R	φ16
F20			–	–	–			□16(19×13)	90	1	10	φ1	φ25.4	R	φ20
F25			–	–	–			□16(19×13)	90	1	10	φ1	φ25.4	R	φ25
FL25			–	–	–			□16	90	1	12		φ16	R	φ25
FL42			–	–	–			□16	90	1	12		φ16	R	φ42
G10			–	–	–			□10	60	1	8	–	–	R	φ10
G16			–	–	–			□10	60	1	8	–	–	R	φ16
G32			–	–	–			□16(19×13)	90	1	10	–	–	R	φ32
K12, K12E	□3/8		□10	100	7			–	–	–	–		φ20	R	φ12
K16, K16E	□3/8		□12	100	6			–	–	–	–		φ20	R	φ16
L10			□8	100-130	5			–	–	–	–	φ5/8	φ15.875	R	φ10
L12	□3/8	4	□10	100	6			–	–	–	–	φ3/4	φ19.05	R	φ12
L12X(L12-2M10)			□10(□12)	110	7(6)	–	–	–	–	–	–	φ3/4	φ19.05	R	φ12
L16, L16E			□12(□10)	130	5			–	–	–	–	φ3/4	φ19.05	R	φ16
L20, L20E, L20X	□1/2	4.75	□12	130	5			–	–	–	–	φ3/4	φ19.05	R	φ20
L20XIIB5, L20VII			□12(□13/16)	130	6	–	–	–	–	–	–	φ3/4	φ19.05	R	φ20
L25	□5/8	4.75	□16	130	5			–	–	–	–	φ1	φ25.4	R	φ25
L32	□5/8	4.75	□16	130	5			–	–	–	–	φ1	φ25.4	R	φ32
$M_2$12, $M_3$12	□3/8		□10	120	5			□10	60	1	10	φ3/4	φ19.05	R	φ12
$M_2$16, $M_3$16, $M_4$16	□3/8		□10	120	5			□10	60	1	10	φ3/4	φ19.05	R	φ16
$M_2$20, $M_3$20	□5/8	4.75	□12	130	5	□3/4		□16	90	1	10	φ1	φ25.4	R	φ20
$M_2$32, $M_3$32, $M_4$32	□5/8	4.75	□16	130	5	□3/4		□16	90	1	10	φ1	φ25.4	R	φ32
M20	□1/2	4	□13(□12)	150	5	□1/2		□10	60	1	10	φ3/4	φ19.05	R	φ20
MSL12			□10	120	–			–	–	–	–	–	–	R	φ12
R04			□8	120	7			–	–	–	–	φ5/8	φ15.875	R	φ4
R07			□8	120	5			–	–	–	–	φ5/8	φ15.875	R	φ7
RL02			□16	60-150	Max 6			–	–	–	–		φ16/φ20	L	φ20
RL21			□10(□12)	90	–			–	–	–	–	φ3/4	φ19.05	R	φ20

*□ : H x B dimensions are the same

Miyano

Machine Model	Turret Station	Number of tools(Top/Bottom)	Hand	Sleeve dia.	Max. cutting dia.
ABX-51TH3	20×20×100	12+12/12	R	φ25	φ51
ABX-64TH3	20×20×100	12+12/12	R	φ25	φ64
ABX-51THY	20×20×100	12+12/12	R	φ20,2540	φ51
ABX-64THY	20×20×100	12+12/12	R	φ20,25,40	φ64
ABX-51SYY	20×20×100	12/12	R	φ20,25,40	φ51
ABX-64SYY	20×20×100	12/12	R	φ20,25,40	φ64
ANX-42SYY	20×20×100	12/12	R	φ25	φ42
ABX-51SY	20×20×100	12/12	R	φ25	φ51
ABX-64SY	20×20×100	12/12	R	φ25	φ64
BNA-34C	20×20×100	8(16)/-	R	φ25	φ34
BNA-42C	20×20×100	8(16)/-	R	φ25	φ42
BNA-34S	20×20×100	8(16)/-	R	φ25	φ34
BNA-42S	20×20×100	8(16)/-	R	φ25	φ42
BNA-34DHY	20×20×100	8(16)/6	R	φ25	φ34
BNA-42DHY	20×20×100	8(16)/6	R	φ25	φ42
BNA-34MSY	20×20×100	8(16)/-	R	φ25	φ34
BNA-42MSY	20×20×100	8(16)/-	R	φ25	φ42
BNA42CY	20×20×100	12/-	R	φ25	φ42
BNA42SY	20×20×100	12/-	R	φ25	φ42
BNA42GTY	Gang 20×20×125 Turret 20×20×100	Gang 3 Turret 8	R	φ25	φ42
BNC-34C5	20×20×100	8/-	R	φ25	φ34
BNC-34S6	20×20×100	8/-	R	φ25	φ34
BNC-42C5	20×20×100	8/-	R	φ25	φ42
BNC-42S6	20×20×100	8/-	R	φ25	φ42
BNC-42C7	20×20×100	8(16)/-	R	φ25/φ32	φ42
BND-51C2/S2/SY2	20×20×100	12/-	R	φ25	φ51
BNE-34S5/SY5	20×20×100	12/12	R	φ25	φ34
BNE-42S6/SY6	20×20×100	12/12	R	φ25	φ42
BNE-51S5/SY5	20×20×100	12/12	R	φ25	φ51
BNE-51S6/SY6	20×20×100	12/12	R	φ25	φ51
BNE-51MSY	20×20×100	12/12	R	φ25	φ42
BNJ-34S3/SY3	20×20×100	12/6	R	φ25	φ34
BNJ-42S3/SY3	20×20×100	12/6	R	φ25	φ42
BNJ-51SY3	20×20×100	12/6	R	φ25	φ51
BNX-42SY	20×20×100	12/-	R	φ25	φ42
BX-20S	16×16×100	8/-	R	φ20	φ20
BX-26S	16×16×100	10/-	R	φ20	φ26
BX-26T	16×16×100	8/-	R	φ20	φ26

On the sub-spindle side, the left-hand byte can be used as the reverse byte.

Ocean Cincom

Machine Model	Gang Station	Number of tools	Hand	Sleeve dia.	Max. cutting dia.
RL01	10×10×60-120	4※1	L	φ16/φ20	φ12
RL03	10×10×100※2 12×12×100 16×16×100	max5	L	φ20	Collet chuck Stationary type φ35 Pull Type φ40
GN-3200	10×10×100※2 12×12×100 16×16×100	max5	L	φ20	Collet chuck Stationary type φ35 Pull Type φ40
GN-3200W	10×10×100※2 12×12×100 16×16×100	max10	L	φ20	Collet chuck Stationary type φ35 Pull Type φ40
GN-4200	10×10×100※2 12×12×100 16×16×100	max6	L	φ20	Collet chuck Stationary type φ35 Pull Type φ40

※1: Total number of sleeves
※2: Shank size is selectable

STAR

Machine Model	Gang Station					Turret Station					Sleeve Station				Max. cutting dia.
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric	Hand	DS-Sleeve item number	
	H×B	LF	H×B	LF		H×B	LF			Turret Station	"	mm			mm
ECAS-12			□10	95-150	6							φ22	R	SS-DSU-L23 SS-DSU-SK	φ13
ECAS-20			□12(16)	80-144	6							φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
ECAS-20T								□12(16)	80	3 8/Turret		φ22	R	SS-DSU-B8D34	φ20
ECAS-32T			□16	80-120	4			□16	60-78	2 10/Turret		φ22/32	R	SS-DSU-SK	φ32
JNC-10								□8	65	1 6		-	L	–	φ10
JNC-16								□10	80	1 6		-	L	–	φ16
JNC-25/32								□16	78-120	1 10		φ22	R	–	φ25/φ32
KJR-16B/25B								□16	78	1 12/16		φ22	R	–	φ16/φ25
KNC-16/20								□16	68	1 16		φ22	R	–	φ16/φ20
KNC-25II/32II								□16	78	1 20		φ22/32	R	–	φ25/φ32
RNC-10/16			□10	80-120	5							φ22	R	–	φ10/φ16
RNC-16II/16BII			□10	80-120	5							φ22	R	–	φ16
SA-16R			□10	95-120	6							φ22	R	–	φ16
SB-12II/12R/16II	□1/2 (3/8)		□12(10)	95-130	6(7)							φ22	R	SS-DSU-L23 SS-DSU-SK	φ12/φ13/φ16
SB-16/16R	□1/2 (3/8)		□12(10)	95-130	6(7)							φ22	R	SS-DSU-L23 SS-DSU-SK	φ16
SB-20/20R	□1/2 (3/8)		□12(10)	95-130	6(7)							φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SC-20			□12	95-130	6							φ22	R	–	φ20
SE-12/12B, 16/16B			□10	95-120	5							φ22	R	–	φ13/φ16
SF-25								□16	73-98	1 10		φ22/32	R	–	φ25
SG-42								□16(20)	84-88	1 10		φ22/32	R	–	φ42
SH-12/16			□10	95-120	5							φ22	R	–	φ13/φ16
SH-7			□8	95-120	5							φ22	R	–	φ7
SI-12/12C			□10	80-130	6							φ22	R	–	φ13
SR-10J	□5/16		□8	67-110	6							φ22	R	SS-DSU-L23 SS-DSU-SK	φ10
SR-16/20			□12	95-120	5							φ22	R	–	φ16/φ20
SR-20J	□1/2		□12	100-135	6							φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SR-20R/20RII/20RIII			□12	100-135	6							φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SR-20RIV	□1/2		□12	100-130	7							φ22	R	SS-DSU-B8L23	φ20
SR-25J/32J	□5/8		□16	95-155	6							φ22/32	R	SS-DSU-L23 SS-DSU-SK	φ25/φ32
SR-32, SR-32J, SR-38			□16	100-135	6							φ22	R	–	φ32
SR32JII	□5/8		□16		6							φ22	R	SS-DSU-B8L23 SS-DSU-B8D34	φ32
SR-32JIII	□5/8		□16	100-135	6							φ22	R	SS-DSU-B8L23	φ32
SST-16			□12	95-115	5							φ22	R	–	φ16
ST-20								□12(16)	70-78	3 8/Turret		φ22	R	–	φ20
ST-38								□16(20)	85	3 10/Turret		φ22/32	R	–	φ38
SV-12/20			□12	95-135	4			□12	70-78	1 8		φ22	R	–	φ13/φ20
	□1/2		□12/□16	95-135	5			□16	65-70	1 8		φ22	R	–	φ13/φ20
SV-32			□16	95-135	4			□16	80-88	1 10		φ22/32	R	–	φ32
SV-32J/32JII			□16	95-135	4			□16	65-70	1 8		φ22/32	R	–	φ32
SV-38R			□16+□20 (Cut-off)	95-135	5			□16(20)	84-88	1 10		φ22/32	R	SS-DSU-B8D34	φ38
SW-12RII			□10	80-115	6							φ16	R	SS-DSU-B8L23	φ13
SW-20	□1/2 (5/8)		□12(16)	80-144	6							φ22	R	SS-DSU-B8L23	φ20
SW-7			□8	80-120	4							–	R	–	φ7
SX-38			□16+□20	95-135	3+1			□16(□20)	84-88	10		φ22/32	R	SS-DSU-B8D34	φ38

*□ : H x B dimensions are the same

TSUGAMI

Machine Model	Gang Station					Turret Station					Sleeve Station		Hand	Max. cutting dia.
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric		
	H×B	LF	H×B	LF		H×B	LF	H×B	LF	Turret Station	"	mm		mm
P013H/P014H			□8	100-120	6			–	–	– –		φ16	R	φ1
P033H/P034H			□8	100-120	6			–	–	– –		φ16	R	φ3
B007-III	–	–	□7(□8/□10)	85	8			–	–	– –		φ25	R	φ7
B073-II	–	–	□8	85	9							φ20	R	φ7
B074/B07-V	–	–	□8	85	9			–	–	– –		φ20	R	φ7
B074-II	–	–	□8	85	6			–	–	– –		φ20	R	φ7
B0123/B0124/B0125/B0126	–	–	□12	85	9			–	–	– –		φ20	R	φ12
B012F/B012-V/BE12-V	–	–	□12	85	9			–	–	– –		φ20	R	φ12
B0123-II/B0124-II/B0125-II/ B0126-II	–	–	□12	85	9			–	–	– –		φ20	R	φ12
B016MF	–	–	□12	85	9			–	–	– –		φ20	R	φ16
B018-III	–	–	□12	85	9			–	–	– –		φ20	R	φ18
B0203/B0204/B0205/B025-II/ B0205-III/B0206-II	–	–	□12	85	9			–	–	– –		φ20	R	φ20
B0203-II/B0204-II/B0206-II	–	–	□12	85	9			–	–	– –		φ20	R	φ20
B020F/B020-V/BE20-V	–	–	□12	85	9			–	–	– –		φ20	R	φ20
B026-V	–	–	□12(□16)	85	6			–	–	– –		φ25	R	φ26
B0265-II/B0266-II	–	–	□16	100	12							φ25	R	φ26
B0325-II/B0326-II	–	–	□16	100	12							φ25	R	φ32
B0385/B0385L	–	–	□16	125	8			–	–	– –		φ32	R	φ38
B038T	–	–	□16	125	3			□20	125	1 8		φ25/φ32	R	φ38
BA20-III			□12	85	6			–	–	– –		φ25	R	φ20
BA26-III			□12(□16)	85	6			–	–	– –		φ25	R	φ26
BC18	□1/2		□12	85	10			–	–	– –		φ25	R	φ18
BC25	□1/2		□12	85	10			–	–	– –		φ10/φ25	R	φ25
BE18	□1/2		□12	85	9			–	–	– –		φ20	R	φ18
BH20/BH20Z	□1/2		□12	85	4			□12	85	1 12		φ25/φ32	R	φ20
BH38	□5/8		□16	125	7			□20	125	1 12		φ25/φ32	R	φ38
BM07			□8	85	9			–	–	– –		φ20	R	φ7
BM163/BM164/BM165	□1/2		□12	85	9			–	–	– –		φ20	R	φ16
BM20-V	□1/2		□12	85	9			–	–	– –		φ20	R	φ20
BN12-III			□12	85	7			–	–	– –		φ20	R	φ12
BN20-III			□12(□16)	85	7			–	–	– –		φ20	R	φ20
BS12-V	□1/2		□12	85	8(12)			–	–	– –		φ20/φ25	R	φ12
BS18-III	□1/2		□12	85	7(10)			–	–	– –		φ14/φ25	R	φ18
BS20-V	□1/2		□12	85	8(12)			–	–	– –		φ20/φ25	R	φ20
BS26(ABC)-V	□5/8		□16	100	7(10)			–	–	– –		φ16/φ25	R	φ26
BS32C-V	□5/8		□16	100	6			–	–	– –		φ16/φ25	R	φ32
BU12			□12	85	4			□12	80	1 8		φ20	R	φ51
BU20			□12	85	4			□12	80	1 8		φ20	R	φ20
BU26			□16	100	7			□20	80	1 8		φ20/φ32	R	φ26
BU38	□1/2		□16	100	7			□20	80	1 8		φ20/φ32	R	φ38
BW07-III	□1/2		□12	85	7			–	–	– –		φ20	R	φ7
BW12-III/BW129Z	□1/2		□12	85	7			–	–	– –		φ20	R	φ12
BW20-III/BW209Z	□1/2		□12(□16)	85	7			–	–	– –		φ20	R	φ20
BW269Z/ZJ	□5/8		□16	100	7	–	–	–	–	– –		φ25	R	φ26
BW329Z/ZJ	□5/8		□16	100	7	–	–	–	–	– –		φ25	R	φ32
C004-III			□13	60-100	6-8			–	–	– –		-φ10	R/L	φ120
C150	–	–	□10	60-100	4-6			–	–	– –		-φ8	R/L	φ80
C180	–	–	□12	60-100	4-6			–	–	– –		-φ10	R/L	φ120
C220	–	–	□13	60-100	6-8			–	–	– –		-φ10	R/L	φ120
C300-III	–	–	□16	100-130	6-10			–	–	– –		-φ14	R/L	φ170
CH154			□12	60-100	-16			–	–	– –		-φ10	R/L	φ15
M34J			–	–	–			□20	125	1 12		φ20/φ32	R	φ34
M42J/M42D/M42SD			–	–	–			□20	125	1 12		φ25/φ32	R	φ42
M50SY-III			–	–	–			□20	100	1 12		φ32	R	φ51
M50J			–	–	–			□20	100	1 12		φ20/φ32	R	φ51
MB25			–	–	–			□20	80	2 8/Turret		φ20/φ32	R	φ25
MB35-III			–	–	–			□20	80	2 8/Turret		φ20/φ32	R	φ35
MB38-III			–	–	–			□20	80	2 8/Turret		φ20/φ32	R*	φ38
MB50-III			–	–	–			□20	80	2 8/Turret		φ20/φ32	R	φ50
MU26			–	–	–			□20	80	2 8/Turret		φ20/φ32	R	φ26
MU38			–	–	–			□20	80	2 8/Turret		φ20/φ32	R	φ38
NU50-III			–	–	–			□20	100	1 12		φ20/φ32	R	φ51
B020M-II/SS20M/SS20M-5AX			□10 Can be mounted on the spindle	46	–			BT15 spindle		24		φ20	R	φ20
S205/S206	□1/2		□12(□16)	100	8			–	–	– –		φ20/φ22	R	φ20

Machine Model	Gang Station				Turret Station					Sleeve Station			Max. cutting dia.
	Inch	Metric		Number of tools	Inch	Metric	Number of tools			Inch	Metric	Hand	
	H×B LF	H×B	LF		H×B LF	H×B	LF	Turret	Station	"	mm		mm
SS20	□1/2	□16	100	8		–	–	–	–		φ20/φ22	R	φ20
SS207/SS207-5AX	□1/2	□12(□16)	100	8		–	–	–	–		φ20/φ22	R	φ20
SS26	□5/8	□16	100	7		–	–	–	–		φ20/φ22	R	φ26
SS267/SS267-5AX	□5/8	□16	100	8							φ25	R	φ26
SS32/SS32L	□5/8	□16	100	7		–	–	–	–		φ20/φ22	R	φ32
SS327/SS327-5AX	□5/8	□16	100	8							φ25	R	φ32
TMB2		–	–	–		□20	125	1	16		φ32	R	φ51
TMU1		–	–	–		□20	125	1	16		φ32	R	φ38
TMA8-IV/TMA8J		□20 Can be mounted on the spindle	100			KM40 spindle			30			R	φ220
M06J						□25	150	1	8		φ32/φ40	R	φ260
M06SY						□25	150	1	12		φ32/φ40	R	φ260
M06JC						□20	125	1	8		φ32/φ40	R	φ260
M08J						□25	150	1	8		φ32/φ40	R	φ280
M08SY/M08D/M08SD						□25	150	1	12		φ32/φ40	R	φ280

*□ : H x B dimensions are the same

DMG MORI

Machine Model	Gang Station				Number of tools	Sleeve Station		Hand	Max. cutting dia
	Inch		Metric			Inch	Metric		
	H×B	LF	H×B	LF		"	mm		mm
Sprint 20/5			□12		6		φ20	R	φ20
Sprint 20/8			□12		6		φ20	R	φ20
Sprint 32/5			□16		6		φ20	R	φ32
Sprint 32/8			□16		6		φ20	R	φ32

*□ : H x B dimensions are the same

NOMURA

Machine Model	Gang Station				Number of tools	Sleeve Station		Hand	Max. cutting dia
	Inch		Metric			Inch	Metric		
	H×B	LF	H×B	LF		"	mm		mm
NS-P1053A			□9.5	130	5	—	—	R	φ10
NN-10C			□10	130	6		φ17	R	φ10
NN-10E			□10	130	6		φ16	R	φ10
NN-10C2			□10	130	6		φ17	R	φ10
NN-10CS			□10	130	6		φ17	R	φ10
NN-10CS (No live tools)			□10	130	5		φ17	R	φ10
NN-10SII			□10	130	5		φ23	R	φ10
NN-10T			□10	130	7		φ23	R	φ10
NN-10SB5			□10	130	5		φ23	R	φ16
NN-16SB5			□10	130	5		φ23	R	φ16
NN-16SB6 Type1	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type2	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type2.5	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type3	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB7	□1/2	5.12	□12.7		5(7)		φ16	R	φ16
NN-16HIII			□12	130	6		φ23	R	φ16
NN-20HIII			□12	130	6		φ23	R	φ20
NN-16UIII			□12	130	5		φ23	R	φ16
NN-20UIII			□12	130	5		φ23	R	φ20
NN-20CS	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-20U5	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-16UB5			□12	130	5		φ23	R	φ16
NN-20UB5			□12	130	5		φ23	R	φ20
NN-20UB7			□12	130	6		φ23	R	φ20
NN-20UB8	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-20YB			□12	130	8		φ23	R	φ20
NN-25UB8	□1/2	5.12	□12		5		φ22	R	φ25
NN-32UB8	□1/2	5.12	□16		5		φ22	R	φ32
NN-38UB8	□3/4		□20		5		φ22/φ32	R	φ38
NN-25YB/32YB			□16	130	8		φ22/φ32	R	φ25
NN-32YB2			□16	130	5		φ23/φ32	R	φ32
NN-32YB3	□5/8		□16		5		φ22/φ32	R	φ32
NN-32YB3XB	□5/8		□16		6		φ22/φ32	R	φ32
NN-16J	□1/2	5.12	□12.7	130	6		φ23	R	φ16
NN-20J	□1/2	5.12	□12.7	130	6		φ23	R	φ20
NN-20J2	□1/2	5.12	□12.7	130	6		φ22	R	φ20
NN-20J3	□1/2	5.12	□12.7		6		φ23	R	φ20
NN-20J3XB	□1/2	5.12	□12.7		5		φ23	R	φ20

*□ : H x B dimensions are the same

TORNOS

Machine Model	Gang Station					Turret Station					Sleeve Station			Max. cutting dia.
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric	Hand	
	H×B	LF	H×B	LF		H×B	LF	H×B	LF		"	mm		mm
EvoDECO 10/10	□5/16		□8		8							φ20/φ25	R	φ10
EvoDECO 10/8	□5/16		□8		8							φ20/φ25	R	φ10
EvoDECO 16/10	□1/2		□12		10							φ20/φ25	R	φ16
EvoDECO 16/8	□1/2		□12		10							φ20/φ25	R	φ16
EvoDECO 20	□5/8		□16		10							φ20/φ25	R	φ25.4
EvoDECO 32	□5/8		□16		10							φ20/φ25	R	φ32
Swiss ST 26	□1/2		□12		17							φ20/φ22/φ25	R	φ25.4
Sigma 20/6	□5/8		□16		14						φ1	φ20	R	φ25.4
Sigma 32/6	□5/8		□16		14						φ1.26	φ32	R	φ32
SwissNano	□5/16		□8		7							φ12/φ16	R	φ4
Delta 12/4	□1/2		□12	85	5							φ20	R	φ12
Delta 12/5	□1/2		□12	85	5							φ20	R	φ12
Delta 20/4	□1/2		□12	85	5							φ20	R	φ20
Delta 20/5	□1/2		□12	85	5							φ20	R	φ20
Delta 38/5B			□20	125	8							φ25/φ32	R	φ38
Delta 38/5BL			□20	125	8							φ25/φ32	R	φ38
Gamma 20/5			□16	100	8							φ20/φ22	R	φ20
Gamma 20/6			□16	100	8							φ20/φ22	R	φ20
CT20	□1/2		□12	100	5								R	φ20
MultiSwiss 6X16								□16		6		φ25		
MultiSwiss 8X26								□16		8		φ25		
MultiSwiss 6X32								□16		8		φ25		
Swiss GT13			□12		8							φ20/φ22		13
Swiss GT26			□16		9							φ20/φ22		26
Swiss GT26B			□16		8							φ20/φ22		26
Swiss GT32			□16		9							φ20/φ22		32
Swiss GT32B			□16		8							φ20/φ22		32
SwissDeco 26-G			□16		8							φ20/φ25		26
SwissDeco 26-T			□16					□16		8		φ20/φ25		26
SwissDeco 26-TB			□16					□16		8		φ20/φ25		26
SwissDeco 32-G			□16		8							φ20/φ25		32
SwissDeco 26-T			□16					□16		8		φ20/φ25		32
SwissDeco 26-TB			□16					□16		8		φ20/φ25		32

*□ : H x B dimensions are the same

Hanwha Machinery

Machine Model	Gang Station					Turret Station					Sleeve Station			Max.
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric	Hand	cutting dia.
	H×B	LF	H×B	LF		H×B	LF	H×B	LF		"	mm		mm
XD 03			□8		6							φ15.875	R	φ3
XD 07			□8		6							φ15.875	R	φ7
XD 12			□12		5							φ20	R	φ12
XD 16			□12		5							φ20	R	φ16
XD 20 / 20V			□12		6							φ25	R	φ20
XDI20			□12		6							φ25	R	φ20
XD 26			□16		5							φ25	R	φ26
XD32			□16		5							φ32	R	φ32
XD 38			□16		5							φ32	R	φ38
XD 42			□20		5							φ32	R	φ42
XE 12			□12		6							φ20	R	φ12
XE 16			□12		6							φ20	R	φ16
XE 20			□12		6							φ25	R	φ20
XE 26			□16		5							φ25	R	φ26
XE 35			□16		5							φ32	R	φ35
XP 12 /12S			□12		6							φ20	R	φ12
XP 16 /16S			□12		6							φ20	R	φ16
XP 20			□12		6							φ25	R	φ20
XP 26 / 26S			□16		5							φ25	R	φ26
STL38H			□16		5			□16				φ32	R	φ38

*□ : H x B dimensions are the same

Index

Index

Alphabetical

Item number	Page number	Description
Number		
2*8AW	E52	Parts
2.5*8AW	E52	Parts
A		
ACH-W..	Q15,Q27,Q47,Q54	Parts
ACN422	E5,E7-8	Parts
ACN423	E5,G3	Parts
ADN423	E14-16,G9	Parts
AMS-5T	I8	Parts
AMS-6T	I10	Parts
AOB-5*14	T26	Parts
AOB-5*16	T26	Parts
AOB-5C	F15,F19	Parts
AOB-5S-T25	I8	Parts
AOB-6C	F15-16,F27	Parts
AOB-6S-T30	I10	Parts
AOS-5*16	S26	Parts
AOS-5*20	T17,T24	Parts
AOS-5*25	T17-18,T23,R21-22	Parts
AOS-5*26W	E36	Parts
AOS-6*26W	G3,G9,G19	Parts
AOS-6*30	F6,T24	Parts
AOS-6*30W	G3,G9,G14,G19	Parts
APCW	I23	Insert
ARN42	E47-48	Parts
ASG-5	F5-6,F15,F19,R21-22	Parts
ASG-6	F6,F15-16,F27	Parts
ASGL4	E57	Parts
ASGL5	E57	Parts
ASGL5-D	E36	Parts
ASGL6-D	E5,E14-16,E21,E32-33,G3,G9,G14,G19	Parts
ASN423	E21-27,I12,I15,I18	Parts
ASN522	E58	Parts
ATN323	E36-39	Parts
AVN323	E32-33	Parts
AWN423-W	E45,G19	Parts
AZT659D	E58	Parts
B		
BG	T32,V44	Toolholder
BS0520	E52,S35	Parts
BS0620	S34-35	Parts
BS0625	E52,S35	Parts
BS0829W	E7,E23-26	Parts
BS0835W	E5,E7-8,E22-27	Parts
B-STZC-N	R44,V42	Toolholder
B-STZP-N	R40,V36	Toolholder
BT30	I32	others
C		
C11	E25	Toolholder
C12	E23	Toolholder
C13	E24	Toolholder
C14	E23	Toolholder
C15	E25	Toolholder
C16	E26	Toolholder
C17	E26	Toolholder
C21	E37	Toolholder
C22	E37	Toolholder
C23	E39	Toolholder
C24	E39	Toolholder
C25	E38	Toolholder
C31	E7	Toolholder
C54	E48	Toolholder
C55	E48	Toolholder
CC..	D37-38,Q18-19,V31-32	Insert
CC08M	E5,E7-8,E22-27,E47-48	Parts
CC08MS	E23,E25-26,E37-39	Parts
CCBN	E8	Toolholder
CCGW	D22,D38,Q20,V32-33	Insert
CCKN	E8	Toolholder
CCLN	E5	Toolholder
CCM.	D34,Q21,V33	Insert
CDH	D8,E51	Insert
CH-FGV	T34	Toolholder
CH-GTT	R28,T16	Toolholder
CH-LBM	V7	Toolholder
CH-SDUC	Q29	Toolholder
CH-STUC	Q50	Toolholder
CH-SVUC	Q38	Toolholder
CH-SVUP	Q48	Toolholder
CH-SVXC	R31	Toolholder
CH-TBPA	R17	Toolholder
CH-TTP	U19	Toolholder
CLH04	H8-9,X8	Insert
CLH05	H10	Insert
CLR-13S	Y4	Parts
CLR-15S	Y4	Parts
C-MBR	V24-25	Toolholder
C-MBR-OH	V23-24	Toolholder
C-MSBR	R39,V25	Toolholder
CNGA	D8,D23,E10,E12,G5,G7,Q61	Insert
CNGA-W	D23,E12,G7,Q61	Insert
CNGA-WL	D9,E10,G5	Insert
CNGG-AG	D9,E11,G6	Insert
CNGN	D10,E9,G4	Insert
CNGX	D10,E11,G6	Insert
CNM.	D34,G8,Q60,Q62	Insert
CN.G	D39,E13,G8,Q60	Insert
COUP	O9,O11	Parts
CP..	D39,V29	Insert
CPL5	F6,T24	Parts
CPL5S	F5-6,R21,T23-24	Parts
CPL6	F6,T24	Parts
CPR5	F6,T24	Parts
CPR5S	F5,R21,T23	Parts
CPR6	F6,T24	Parts
CRDCN	E52	Toolholder
CRDNN	E47	Toolholder
CRGN	E47	Toolholder
CRXC	E57	Toolholder
CS0309-TW	U33	Parts
CS0310	U34	Parts
CS0410	U35	Parts
CS04148S	U34	Parts
CS0420	O38	Parts
CS0425	E57,O38	Parts
CS0510A	I28,I30-31	Parts
CS0510T	I30-31	Parts
CS0512T	I30-31	Parts
CS0515	E53-54,F21-24,U34	Parts
CS0516LSH	S28,S30	Parts

Alphabetical

Item number	Page number	Description
CS0520	O37,U34	Parts
CS0520W	F9	Parts
CS0525	E57	Parts
CS0620	U35	Parts
CS0623LSHW	S32	Parts
CS0625	E51	Parts
CS0625W	F9	Parts
CS1040A	I28,I30-31	Parts
C-SCLC-OH	V30	Toolholder
C-SCLP-N	V29	Toolholder
C-SCLP-OH	V28	Toolholder
CSDNN	E22	Toolholder
C-SEXR-OH	V26-27	Toolholder
CSHN	E27	Toolholder
CSSN	E22	Toolholder
C-STUC-N	V41	Toolholder
C-STUC-OH	V40	Toolholder
C-STUP-N	V35	Toolholder
C-STUP-OH	V34	Toolholder
C-STZC-OH	R44,V42	Toolholder
C-STZP-OH	R40,V36	Toolholder
CSV	Q9,R6,S6,T6,U12	Toolholder
CSVB-V	R8	Insert
CSVB-VB	R8	Insert
CSVB-VX	R8	Insert
CSVC-V	S8	Insert
CSVC-VB	S8	Insert
CSVF-V	Q11	Insert
CSVF-VB	Q11	Insert
CSVF-VX	Q11	Insert
CSVG	T8	Insert
CSV-NC	Q10,R7,S7,T7,U13	Toolholder
CSV-NC-F	Q10,R7,S7,T7,U13	Toolholder
CSVT-A	U14	Insert
CSVT-B	U14	Insert
CTDP	S30	Toolholder
CTDP20/25	S31	Insert
CTDP-OH	S29	Toolholder
CTDP-OH3	S28	Toolholder
CTDP-OH2	S28	Toolholder
CTP	S12	Toolholder
CTPA	R16,S20	Toolholder
CTPA-FL	S23	Insert
CTPA-FLK	S23	Insert
CTPA-FLN	S23	Insert
CTPA-FR	S22	Insert
CTPA-FRN	S22	Insert
CTPAL-SUB	S21	Toolholder
CTPA-OH	R16,S19	Toolholder
CTPA-OH2	R15,S19	Toolholder
CTPAR-SUB	S20	Toolholder
CTP-FL	S18	Insert
CTP-FLK	S17	Insert
CTP-FLN	S18	Insert
CTP-FR	S15	Insert
CTP-FRK	S16	Insert
CTP-FRN	S16	Insert
CTPL-SUB-OH3	S13	Toolholder
CTPL-SUB	S14	Toolholder
CTPR-SUB-OH3	S13	Toolholder
CTPR-SUB	S14	Toolholder
CTP-OH	S11	Toolholder
CTP-OH2	S11	Toolholder
CTPS	R9,S9,T9,U15	Toolholder
CTPS-FR	S9	Insert
CTPS-001	S10	Insert
CTPS-SUB04	S10	Toolholder
CTPW	S24	Toolholder
CTPW25-R	S25	Insert
CTPW25-L	S25	Insert
CTV	S34	Toolholder
CTV-K2	S26	Toolholder
CTV-A/B	S36	Insert
CTV-R/N/L	S36	Insert
CTV-S	S27	Insert
CTV-M(B)	S35	Toolholder
CTV-N038	S36	Insert
CTVN-K2	S26	Toolholder
CTV-X	S35	Toolholder
CTWP	S32	Toolholder
CTWP-003	S32	Toolholder
CVL3N	F15	Parts
CVL3SN	F19	Parts
CVL4N	F16	Parts
CVL4SN	F15	Parts
CVL6	F15-16,F27	Parts
CVL8	F15	Parts
CVR3N	F15	Parts
CVR3SN	F15	Parts
CVR4N	F15-16	Parts
CVR4SN	F15	Parts
CVR6	F15-16,F27	Parts
CVR8	F15	Parts
CZH-070	X7	Insert
CZH-140/141	X7	Insert
CZH-BL	X7	Insert
CZH-C45	X7	Insert
D		
DC5TN	E36	Parts
DC6CN	E5,E45,G3,G14	Parts
DC6DN	E14,G9	Parts
DC6VN	E32-33	Parts
DC..	D40-42,Q32-34	Insert
DCGT-WP	D41-42,Q33	Insert
DCGW	D24,D42,Q34,Q35	Insert
DCM.	D35,D40,Q36	Insert
DNGA	D11,D25,E17,E19,G10,G12,Q64-65	Insert
DNGG-AG	D11,E18,G11	Insert
DNGN	D12,E17,G10	Insert
DNGX	D12,E18,G11	Insert
DNMX	D35,E20,G13,Q65	Insert
DN.G	D43,Q64	Insert
DS-FGV	T35	Toolholder
DS-GTT	R28,T16	Toolholder
DS-LBMB	V7	Toolholder
DS-PTX	Q54	Toolholder
DS-PTX-ACH	Q54	Toolholder
DS-SCL	Q16	Toolholder
DS-SCL-ACH	Q15	Toolholder
DS-SDU	Q28	Toolholder

Alphabetical

Item number	Page number	Description
DS-SDU-ACH	Q27	Toolholder
DS-SDX	Q30	Toolholder
DS-STT	U22	Toolholder
DS-SVVPN	Q48	Toolholder
DS-SVVPN-ACH	Q47	Toolholder
DS-SVX	Q42	Toolholder
DS-SVXP	Q46	Toolholder
DS-TBP	R13	Toolholder
DS-TTP	U19	Toolholder
E		
ENGN	D12	Insert
ER..	D43,V27	Insert
F		
FBV	T36	Insert
FDX-45	I20	Insert
FDX-75	I14	Insert
FDX-88	I17	Insert
FGV	T34	Toolholder
FGV-D6	T36	Insert
FSI01-2.5*5	H9-10	Parts
FSI02-2.2*4.0	X5	Parts
FSI02-2.2*4.3	X5-6	Parts
FSI0306A	I29	Parts
FSI0307A	I30	Parts
FSI035104A	I30-31	Parts
FSI04-2.0*4.3	H8	Parts
FSI17-2.2*6.0	U33	Parts
FSI21-5.0*12.45	I24,I26	Parts
FSI22-4.0*11	I22	Parts
FSI23-4.0*7	I22	Parts
FSI24-2.2*7.9	U33	Parts
FSI26-4.0*12-LH	I11	Parts
FSI28-6.0*18	E55,F13,F25	Parts
FSS10-5.0*14	F18,F20	Parts
FSS15-3.0*12	E5,E14-16,E21,E32-33	Parts
FSS16-3.0*8	G3,G9,G14,G19	Parts
FSS25-5.0*10	F18	Parts
G		
GBRL	E53-54	Blade
GBRR	E53-54	Blade
GBVL	F11-12	Blade
GBVR	F11-12	Blade
GBWPFL	F22-23	Blade
GBWPFR	F21,F24	Blade
GEV	F17,F19	Insert
GFV-N	F28	Insert
GFV-6	F27	Toolholder
GKV	F16	Toolholder
GKV-3	F19	Toolholder
GKWP	F9	Toolholder
GKWP-H	E55,F13,F25	Toolholder
GSV-6	F27	Toolholder
GTG	T33,V45	Insert
GTG-005	T33,V45	Insert
GTMA43-R	F7,T25	Insert
GTMH32-E	T20	Insert
GTMH32-GX	T19	Insert
GTMH32-RE	T22	Insert
GTMH32-SSH	T20	Insert
GTMH32-VT	T21	Insert

Item number	Page number	Description
GTMT43	F7,T25	Insert
GTMX32-LS	T21	Insert
GTMX32-SS	T21	Insert
GTMX32-T	T19	Insert
GTMX32-V90	T22	Insert
GTPA	T11	Insert
GTPAR	T10	Toolholder
GTPA-OH	T10	Toolholder
GTPS	T9	Insert
GTT	R25,T13	Toolholder
GTT-OH	R24,T13	Toolholder
GTT-OH2	R23,T12	Toolholder
GTT-OH3	R23,T12	Toolholder
GTV	F15	Toolholder
GTV	F17	Insert
GTWP	F8,T26	Toolholder
GTWP-H	E55,F13,F25	Toolholder
GWPFM	F26,S33	Insert
GWPG(M)-GW	F10,T27	Insert
GWPG-GV	F10,T27	Insert
H		
HAL	I31	Insert
HAN	I31	Insert
HAT	I31	Insert
HC59TS-4	E58	Parts
HC60TS-4	E58	Parts
HC6CN	E5,G3,G14	Parts
HC6DN	E14-16,G9	Parts
HC6SN	E21	Parts
HC6VN	E32-33	Parts
HCLN	E5	Toolholder
HDA	I29	Insert
HDHN	E15	Toolholder
HDJN	E14	Toolholder
HDNNN	E16	Toolholder
HFT	I28	Insert
HLA	I31	Insert
HLR-13S	Y4	Parts
HLR-15S	Y4	Parts
HLR-20S	Y4	Parts
HLR-25S	Y4	Parts
HLW175	I12,I15,I18	Parts
HLW177	I12	Parts
HLW179	I28	Parts
HN	U27,V46	Toolholder
HN-ATS	E58	Toolholder
HN-BTS	E58	Toolholder
HOSE-AN	O11	Parts
HOSE-CN	O8	Parts
HOSE-R1/8	O8	Parts
HOSE-ST	O11	Parts
HRCD	E51	Toolholder
HRL	I31	Insert
HRT	I31	Insert
HSDNN	E21	Toolholder
HSSN	E21	Toolholder
HVJN	E32	Toolholder
HVPN	E32	Toolholder
HVVNN	E33	Toolholder
HY-NBH	V11,W6	Toolholder

Alphabetical

Item number	Page number	Description
HY-NBH-OH	V9,W4	Toolholder
J		
JFDX	I12,I15,I18	Cutter
JHF	I28	Cutter
JOINT-AN	O9	Parts
JOINT-ST	O9	Parts
JQTE	I22	Cutter
JQTS	I22	Cutter
JRNMW	I10	Cutter
JRPMW	I8	Cutter
JSDW	I24,I26	Cutter
JWNXM	I11	Cutter
JXTM	I21	Cutter
L		
LBM	V8	Insert
LBMA	V6	Toolholder
LBMA-F	V6	Toolholder
LBMA-S	V6	Toolholder
LBMD-S	V8	Insert
LCL3	Q55	Parts
LCL33N	Q52-54	Parts
LCL4	Q59,Q63	Parts
LCS3	Q55	Parts
LCS33	Q52-54	Parts
LCS4	E15,E22,E24,Q59,Q63	Parts
LCS4CA	E6,E14,Q59,Q63	Parts
LLR-13S	Y4	Parts
LLR-15S	Y4	Parts
LLR-20S	Y4	Parts
LLR-25S	Y4	Parts
LLR-25S-20*65	Y4	Parts
LLR-28S	Y4	Parts
LLR-T10	E5,E7,E14-16,E21,E32-33,E36,G3,G9,G14,G19	Parts
LLR-T15	E36,I11	Parts
LLR-T20	E5,E7,E14-16,E21,E32-33,G3,G9,G14,G19	Parts
LLR-T25	I8,I12	Parts
LLR-T30	I10	Parts
LNM	D13	Insert
LNX	I21	Insert
LRIS-2*6	Y5	Parts
LRIS-2.2*6	Y5	Parts
LRIS-2.5*5	Y5	Parts
LRIS-2.5*7	Y5	Parts
LRIS-3*6	Y5	Parts
LRIS-3*8	Y5	Parts
LRIS-4*10	Y5	Parts
LRIS-4*10PW	Y5	Parts
LRIS-4*12	Y5	Parts
LRIS-4*12PW	Y5	Parts
LRIS-4*5	Y5	Parts
LRIS-4*6	Y5	Parts
LRIS-4*8	Y5	Parts
LRIS-5*10	Y5	Parts
LR-S-2*3.5	Y5	Parts
LR-S-2*3.7	Y5	Parts
LR-S-2*4.4	Y5	Parts
LR-S-2*5.5	Y5	Parts
LR-S-2.5*4.8	Y5	Parts
LR-S-2.5*5.5	Y5	Parts
LR-S-2.5*6	Y5	Parts
LR-S-2.5*6.8	Y5	Parts
LR-S-3*5.8	Y5	Parts
LR-S-3*6.2	Y5	Parts
LR-S-3*7.8	Y5	Parts
LR-S-3.5*10.6	Y5	Parts
LR-S-4*10PW	Y5	Parts
LR-S-4*5.8	Y5	Parts
LR-S-4*9	Y5	Parts
LSC42	E6,Q59	Parts
LSD42	E14-15,Q63	Parts
LSP3	E38,Q55	Parts
LSP4	E14-15,Q59,Q63	Parts
LSS42	E22,E24	Parts
LST317	E38,Q55	Parts
LW-2	Q53,V10,V12,V15,V17	Parts
LW-2.5	E51,I28,O37-38,R21-22,T17-18,T23-24	Parts
LW-2.5S	S26	Parts
LW-3	E6,E14-15,E52,O38,S28,S30,S32,S35,V10	Parts
LW-3S	T26	Parts
LW-4	E5,E7-8,E47-48,E57,O37,S34-35	Parts
LW-4*104	V10,V12	Parts
LW-5	E46,F9,S30	Parts
M		
M2*8	E57	Parts
M3*12	E5,M7-8,E22-27,E37-39,E47-48	Parts
M3*8	E57-58,I12,I15,I18	Parts
M4*5.5	E58	Parts
MBC-M12	I28,I30-31	Parts
MBC-M16	I30-31	Parts
MBL	R39,V25	Insert
N		
NBH	R36-37,T29-30,T37,U24-25,V14,V16,W8,W10	Toolholder
NC5	I32	others
NGTA-32	T18	Toolholder
NGTA-43	F6,T24	Toolholder
NGTB-32	T17	Toolholder
NGTB-43	F5,T23	Toolholder
NGTN-32	T17	Toolholder
NGTN-43	F5,T23	Toolholder
NTTB	U21	Toolholder
P		
PCLN	E6,Q59	Toolholder
PCLN-N	E6,Q59	Toolholder
PDJN	E14,Q63	Toolholder
PDJN-N	E14,Q63	Toolholder
PLUG	O9	Parts
POLY-V	F29-32	Toolholder
PSBN	E24	Toolholder
PSDNN	E22	Toolholder
PTAN-N	Q55	Toolholder
PTLN	E38,Q55	Toolholder
PTM	F29-32	Insert
PTXN-OH3	Q52	Toolholder
PTXN-OH2	Q52	Toolholder
PTXN-N	Q53	Toolholder
R		
RA	I30	Cutter
RA06P03NC	I30-31	Parts
RA-K	I30	Cutter
RBGX	D13,D26	Insert

Alphabetical

Item number	Page number	Description
RCE-H4	H5	Endmill
RCE-J6	H5	Endmill
RCGX	D14,E56	Insert
RCGY	D14,E57	Insert
RCL-020	H10	Endmill
RCL-021	H10	Endmill
RCL-050	H9	Endmill
RCL-059	H9	Endmill
RCL-066	H8	Endmill
RCS-H4	H6	Endmill
RCS-J6	H6	Endmill
RCS-J8	H7	Endmill
RD	I29	Cutter
REL-2R	X8	Endmill
REZ-1R	X5	Endmill
REZ-2R	X5-6	Endmill
REZ-3R	X6	Endmill
RLR-20S	Y4	Parts
RNGN	D15,D26,E49-50,I10	Insert
RNMN	D26,E50	Insert
RPGN	D15,I9	Insert
RPGX	D16,E56	Insert
RWEM	X4	Endmill
	S	
S..-H	V48	others
SBB	R38,V20	Insert
SBB-S	R38,V20	Insert
SBFB-F	V18	Insert
SBFS-H	V19	Insert
SBFS-S	V18	Insert
SBG	T31,V21	Insert
S-BG	T32,V44	Toolholder
SBG-S	T31,V21	Insert
SBT-R	U26,V22	Insert
SBT-RB	U26,V22	Insert
SCAC-N	Q17	Toolholder
SCGW	D26	Insert
SCJ	O9,O11	Parts
SCJ-L	O9,O11	Parts
SCLC	Q15	Toolholder
SCLC-N	Q14	Toolholder
SCLC-N-F	Q14	Toolholder
SCLC-N-OH	Q13	Toolholder
SCLC-N-OH3	Q12	Toolholder
SCLC-N-OH2	Q12	Toolholder
SDCW	D16,I25,I27	Insert
SDCW-AE	I27	Insert
SDCW-EE	I25	Insert
SDEW	D44	Insert
SDJC	Q25	Toolholder
SDJC-N	Q24	Toolholder
SDJC-N-F	Q25	Toolholder
SDJC-N-OH	Q23	Toolholder
SDJC-N-OH3	Q22	Toolholder
SDJC-N-OH2	Q22	Toolholder
SDNCN	Q31	Toolholder
SDQC	Q30	Toolholder
SDW-45	I27	Insert
SDW-75	I25	Insert
SDXC-N	Q29	Toolholder
SFG	T38,V22	Insert
S-HCLN	G3	Toolholder
S-HDUN	G9	Toolholder
SHFB-F	V13	Insert
SHFS-H	V13	Insert
SHFS-S	V13	Insert
S-HSKN	G14	Toolholder
S-MBR-OH	V23	Toolholder
SNEN-ZN	I17	Insert
SNGA	D16,D27,E29-30,G16-17	Insert
SNGF	I13,I16,I19	Insert
SNGN	D17,E28,G15,I13,I16,I19	Insert
SNGN-AN	I20	Insert
SNGN-EN	I14	Insert
SNGX	D18,E29,G16	Insert
SNMG	D44,E31,G18	Insert
SNMN	D27,E30,G17	Insert
SPGN	D18,D28	Insert
SPR1/8	Q6,R10,S28,T12,U16	Parts
SR08	E7-8,E22-27,E47-48	Parts
SS0403F	V15,V17	Parts
SS04045FS	V10,V12,W5,W7	Parts
SS0404F	V12,V15,V17	Parts
SS0406F	V10,V12,V15	Parts
SS0408F	V15,V17	Parts
SS0506	O37-38	Parts
SS0515	O37	Parts
SS0605SC	V10	Parts
SS0806F	V10	Parts
SS0806F-OH	V10	Parts
SS0808F	V12	Parts
SS0811R-OH	V10	Parts
SS0812R	V12	Parts
S-SCLC-OH	V30	Toolholder
S-SCLP-OH	V28	Toolholder
SS-DSU-B8D34	O38	others
SS-DSU-B8L23	O38	others
SS-DSU-L23	O37	others
SS-DSU-SK	O37	others
S-SEXR-OH	V26	Toolholder
SSP-H	W3	Insert
SSP-S	W3	Insert
SSP-T	W3	Insert
S-STUC-OH	V40	Toolholder
S-STUP-OH	V34	Toolholder
STAC-N	Q50	Toolholder
S-TCLN	G3	Toolholder
S-TSKN	G14	Toolholder
STTN	U21	Toolholder
S-TWG	F20	Toolholder
STXN-N	Q53	Toolholder
SVAC	Q40	Toolholder
SVAC-N	Q39	Toolholder
SVAC-N-1L	Q39	Toolholder
SVAC-NW	Q40,R34	Toolholder
SVAC-W	Q41,R34	Toolholder
SVJC-N	Q37	Toolholder
SVJC-OH	Q37	Toolholder
SVQC	Q43	Toolholder
SVQP-N	Q47	Toolholder

Alphabetical

Item number	Page number	Description
SVVCN	Q43	Toolholder
SVVC-N	Q42	Toolholder
SVXC-N	Q41	Toolholder
SVXP-N	Q46	Toolholder
S-WCLN	G3	Toolholder
S-WDUN	G9	Toolholder
S-WSKN	G14	Toolholder
S-WWLN	G19	Toolholder
S-WWLN-2	G19	Toolholder
T		
T-06	H8	Parts
T-07	U33	Parts
T-15A	I12,I15,I18,I22	Parts
T-20	I24,I26	Parts
TB	R22	Insert
TBDP	R20	Insert
TBDPR/L	R19	Toolholder
TB-F	R22	Toolholder
TBGN	D18,D28	Insert
TBMH	R29	Insert
TB-N	R21	Toolholder
TBP	R14	Insert
TBP	R11	Toolholder
TBPA	R18	Insert
TBPA-BM	R18	Insert
TBPA-OH	R15	Toolholder
TBPA-V	R18	Insert
TBP-BM	R14	Insert
TBP-OH	R11	Toolholder
TBP-OH3	R10	Toolholder
TBP-OH2	R10	Toolholder
TBP-P	R14	Insert
TBPS	R9	Insert
TBPS-V	R9	Insert
TBP-V	R14	Insert
TBT	R21	Toolholder
TBVC..	R30	Insert
TBVCR	R30	Toolholder
TBVC-F	R30	Toolholder
TC..	D45,Q51,R45,V43	Insert
TC..-WP	D45,Q51	Insert
TC5TN	E36	Parts
TC6CN	E5,E7,E21,G3,G14	Parts
TCBN	E7	Toolholder
TCLN	E5	Toolholder
TF..	Q8	Insert
TFT	Q7	Toolholder
TFT-OH3	Q6	Toolholder
TFT-OH2	Q6	Toolholder
TFX..	Q8	Insert
TGC	U27,V46	Toolholder
TMN	U28,V47	Insert
TNGA	D19,D29,E41-42,Q57	Insert
TNGG-AG	D19,E41	Insert
TNGN	D20,E40	Insert
TNMG	D36,D46,E43,Q56	Insert
TNMN	D29,E42	Insert
TNMX	D35,E43,Q58	Insert
TN.G	D46,Q56,Q58	Insert
TPGH	D47,R41,V37	Insert
TPGN	D20,D30	Insert
TPGW	D31,R42,V38	Insert
TPM.	D36,R43,V39	Insert
TSDNN	E21	Toolholder
TSN	E59	Insert
TSSN	E21	Toolholder
TTFN	E36	Toolholder
TTGN	E36	Toolholder
TTMH	U23	Insert
TTP	U17	Toolholder
TTP-F	U18	Toolholder
TTP-K(M)	U18	Toolholder
TTP-L	U20	Insert
TTP-OH2	U16	Toolholder
TTP-OH3	U16	Toolholder
TTP-R	U20	Insert
TTPS	U15	Insert
TW5835	U36	Insert
TWC	U34-35	TW cutter
TWG	F18,T28	Insert
TWG-K	F18	Toolholder
TWG-X	F18,T28	Toolholder
V		
VBGT	D47	Insert
VBGW	D32	Insert
VCGW	D33,D48,Q44-45,R32-33	Insert
VC..	D48,Q44,R32	Insert
VC..-WP	D48,Q44,R32	Insert
VC..2M	D48,Q44,R35	Insert
VCMW	D36,Q45,R33	Insert
VGW	F14	Insert
VGW-R	F14	Insert
VNGA	D21,D33,E34-35	Insert
VN.G	D49	Insert
VP.T	D48,Q49	Insert
W		
W110	E51	Parts
W120	E51	Parts
WCBN	E7	Toolholder
WCLN	E5	Toolholder
WDHN	E15	Toolholder
WDJN	E14	Toolholder
WDNNN	E16	Toolholder
WNGA	D21,E46,G20	Insert
WN.G	D50,E46,G20	Insert
WNX	I11	Insert
WS0512	I28	Parts
WS0616-T15	I12,I15,I18	Parts
WS0620	E58	Parts
WS0816-T25	I12	Parts
WS-4	E57	Parts
WS-5	E52,E57	Parts
WS-6	E52	Parts
WSDNN	E21	Toolholder
WSSN	E21	Toolholder
WTFN	E36	Toolholder
WTGN	E36	Toolholder
WVJN	E32	Toolholder
WVPN	E32	Toolholder
WVVNN	E33	Toolholder

Alphabetical

Item number	Page number	Description
WWLN	E45	Toolholder
WWLN-2	E45	Toolholder
	X	
XX2815-04	Y4	Parts
XX2815-04-13S	Y4	Parts
XX2815-04-15S	Y4	Parts
XX2815-04-20S	Y4	Parts
XX2815-04-25S	Y4	Parts
	Y	
Y-GTPA	T11	Toolholder
Y-GTPA-OH	T10	Toolholder
Y-GTT	R27,T15	Toolholder
Y-GTT-OH	R27,T15	Toolholder
Y-SDJC	Q27	Toolholder
Y-SDJC-OH	Q26	Toolholder
Y-SDJC-OH2	Q26	Toolholder
Y-SDNCN	Q31	Toolholder
Y-SVJC-OH	Q38	Toolholder
Y-SVXC	Q41	Toolholder
Y-TBDP	R19	Toolholder
Y-TBP	R12	Toolholder
Y-TBP-OH	R12	Toolholder

Worldwide Network

TUNGALOY - NTK

Sales Channels

Tungaloy-NTK America, Inc.
3726 N. Ventura Drive
Arlington Heights
IL 60004, U.S.A.
Phone: +1-888-554-8394
Fax: +1-888-554-8392
www.tungaloy.com/us
www.ntkcuttingtools.com/us

Tungaloy-NTK de Mexico S.A.
C/ Los Arellano 113
Parque Industrial Siglo XXI
Aguascalientes, AGS
Mexico 20290
Phone: +52-449-929-5410
Fax: +52-449-929-5411
www.tungaloy.com/mx
www.ntkcuttingtools.com/mx

Tungaloy-NTK do Brasil Ltda.
Avd. Independencia N4158
Residencial Flora
13280-000 Vinhedo
São Paulo, Brazil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.com/br
www.ntkcuttingtools.com/br

Tungaloy-NTK Germany GmbH
Katzbergstrasse 3a
D-40764 Langenfeld
Phone: +49-2173-90420-0
Fax: +49-2173-90420-19
www.tungaloy-ntk.de
www.ntk-cuttingtools.de

Tungaloy-NTK U.K. Ltd
Gallan Park, Watling Street,
Cannock, WS110XG, UK
Phone: +44 121 4000 231
Fax: +44 121 270 9694
www.tungaloy.com/uk
www.ntkcuttingtools.com/uk

Tungaloy-NTK Cutting Tools (Thailand) Co.,Ltd.
Interlink tower 4th Fl.
1858/5-7 Bangna-Trad Road
km.5 Bangna, Bangna, Bangkok 10260
Thailand
Phone: +66-2-751-5711
Fax: +66-2-751-5715
www.tungaloy.com/th
www.ntkcuttingtools.com/th

Tungaloy Canada
432 Elgin St. Unit 3, Brantford
Ontario N3S 7P7, Canada
Phone: +1-519-758-5779
Fax: +1-519-758-5791
www.tungaloy.com/ca

Tungaloy France S.A.S.
ZA Courtaboeuf - Le Rio
1 rue de la Terre de feu
F-91952 Courtaboeuf Cedex, France
Phone: +33-1-6486-4300
Fax: +33-1-6907-7817
www.tungaloy.com/fr

Tungaloy Italia S.r.l.
Via E. Andolfato 10
I-20126 Milano, Italy
Phone: +39-02-252012-1
Fax: +39-02-252012-65
www.tungaloy.com/it

Tungaloy Czech s.r.o
Turanka 115
CZ-627 00 Brno, Czech Republic
Phone: +420-532 123 391
Fax: +420-532 123 392
www.tungaloy.com/cz

Tungaloy Ibérica S.L.
C/Miquel Servet, 43B, Nau 7
Pol. Ind. Bufalvent
ES-08243 Manresa (BCN), Spain
Phone: +34 93 113 1360
Fax: +34 93 876 2798
www.tungaloy.com/es

Tungaloy Scandinavia AB
Bultgatan 38, 442 40
Kungälv, Sweden
Phone: +46-462119200
Fax: +46-462119207
www.tungaloy.com/se

Tungaloy Polska Sp. z o.o.
Ul. Irysowa 1, 55-040 Bielany
Wrocławskie, Poland
Phone: +48 607 907 237
www.tungaloy.com/pl

Tungaloy Hungary Kft
Erzsébet királyné útja 125
H-1142 Budapest, Hungary
Phone: +36 1 781-6846
Fax: +36 1 781-6866
www.tungaloy.com/hu

Tungaloy Turkey
Serifali Mah.bayraktar
Bulvari Kule Sk. No:26
34775 Umraniye / Istanbul / Turkey
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.tungaloy.com/tr

Tungaloy Benelux b.v.
Tjalk 70
NL-2411 NZ Bodegraven Netherlands
Phone: +31 172 630 420
Fax: +31 172 630 429
www.tungaloy.com/nl

Tungaloy Croatia
Ulica bana Josipa Jelačića 87,
10430 Samobor, Croatia
Phone: +385 1 3326 604
Fax: +385 1 3327 683
www.tungaloy.com/hr

NTK CUTTING TOOLS

Head Office &
Production Facilities in Japan

NTK CUTTING TOOLS Co., Ltd.
Headquarters, Komaki plant
2808 Iwasaki Komaki City, Aichi Prefecture, 485-8510
www.ntkcuttingtools.com/jp-en
Phone: +81-568-76-1270

Kamioka plant
1100, Azumo, Kamioka-cho, Hida-shi, Gifu 506-1147
www.kamiokaceramic.jp

TUNGALOY FZE(UAE)
Sharjah Airport International Free Zone
Warehouse no. Q3-187,Sharjah, United Arab Emirates.
www.tungaloy.com/ae
info@tungaloyfze.com

Tungaloy India Pvt. Ltd.
Indiabulls Finance Centre,
Unit # 902-A, 9th Floor,
Tower 1, Senapati Bapat Marg,
Elphinstone Road (West),
Mumbai -400013, India
Phone: +91-22-6124-8804
Fax: +91-22-6124-8899
www.tungaloy.com/in

Tungaloy Korea Co., Ltd
#1312, Byucksan Digital Valley 5-cha
Beotkkot-ro 244, Geumcheon-gu
153-788 Seoul, Korea
Phone: +82-2-2621-6161
Fax: +82-2-6393-8952
www.tungaloy.com/kr

Tungaloy Cutting Tool (Shanghai) Co.,Ltd.
Rm No 401 No.88 Zhabei
Jiangchang No.3 Rd
Shanghai 200436, China
Phone: +86-21-3632-1880
Fax: +86-21-3621-1918
www.tungaloy.com/cn

Tungaloy Cutting Tools (Taiwan) Co.,Ltd.
9F. No.293, Zhongyang Rd,
Xinzhuang Dist, New Taipei City,
24251 Taiwan
Phone: +886-2-8521-9986
Fax: +886-2-8521-8935
www.tungaloy.com/tw

Tungaloy Singapore (Pte.), Ltd.
62 Ubi Road 1
#06-11 Oxley BizHub 2
Singapore 408734
Phone: +65-6391-1833
Fax: +65-6299-4557
www.tungaloy.com/sg

Tungaloy Vietnam
LE 04-38, Lexington Residence
67 Mai Chi Tho, Dist. 2,
Ho Chi Minh City, Vietnam
Phone: +84-2837406660
www.tungaloy.com/sg

Tungaloy Malaysia Sdn Bhd
50 K-2, Kelana Mall, Jalan
SS6/14, Kelana Jaya, 47301
Petaling Jaya, Selangor Darul Ehsan
Malaysia
Phone: +603-7805-3222
Fax: +603-7804-8563
www.tungaloy.com/my

PT. Tungaloy Indonesia
Kompleks Grand Wisata Block AA-10
No.3-5 Cibitung
Bekasi 17510, Indonesia
Phone: +62-21-8261-5808
Fax: +62-21-8261-5809
www.tungaloy.com/id

Tungaloy Australia Pty Ltd
Unit 68 1470 Ferntree Gully Road
Knoxfield 3180 Victoria, Australia
Phone: +61-3-9755-8147
Fax: +61-3-9755-6070
www.tungaloy.com/au

Member IMC Group

NTK CUTTING TOOLS

NTK CUTTING TOOLS JAPAN

Iwasaki, Komaki, Aichi 485-8510, Japan

CONTACT	www.ntkcuttingtools.com/jp/contact/	
	Sample request	
YouTube Channel	www.youtube.com/NTKCUTTINGTOOLS	
LINE Technical consultation	@ntktech	

Specifications in this catalog are subject to change due to improvements.

003-2307D-1(EN)