

# CUT DUO Series

Parting-off | CNC automatic lathe



**New**

Expanded lineup for **2.5 mm** width insert parting-off toolholders  
Internal coolant supply ensures efficient cutting edge cooling and extend tool life

*CERtainly* | but not only | *CERamics*  
Outstanding solutions for demanding applications

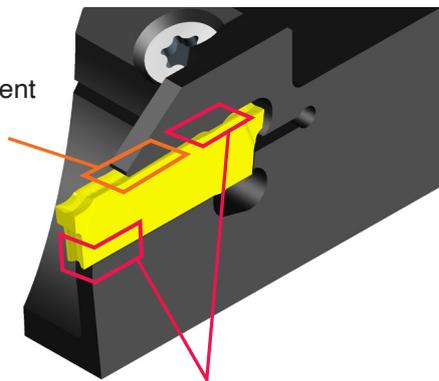


## | Features

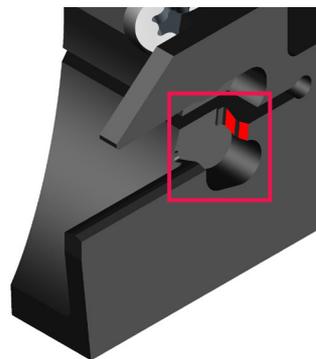
- Achieve stable machining with the combination of mold chipbreaker and high-rigidity toolholder
- Enhanced cutting performance with polished insert relief surfaces
- Extended tool life and improved chip control using internal coolant supply

## | Toolholder Design and Structure

Pull-in structure to prevent insert dislodgement

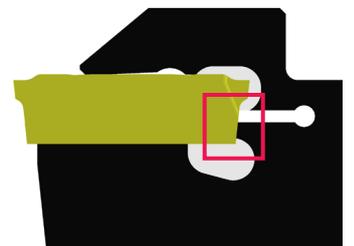


Effortless insertion with precision guide design



Reliable clamping for lead-angle inserts  
— thanks to convex-surface restraint!

Delivers stable performance even under high-feed conditions



# CUT DUO Series

Parting-off | CNC automatic lathe

## Expanded lineup

- Toolholder designed for a maximum parting-off diameter of  $\phi 25.4$  mm, offering two insert widths (2.0 / 2.5 mm)
- Optimized design delivers higher rigidity (maximum parting-off diameter  $\phi 34.0$  mm)

## Toolholder lineup expanded for insert width of 2.5mm

**New**



Max. Parting-off Dia.	$\phi 25.4$ mm		$\phi 34$ mm
Insert width	2.0mm	2.5mm	2.5mm
Shank			
16x16mm	●	●	●

## Chip control performance

- Chips are curled compactly to prevent chip problems

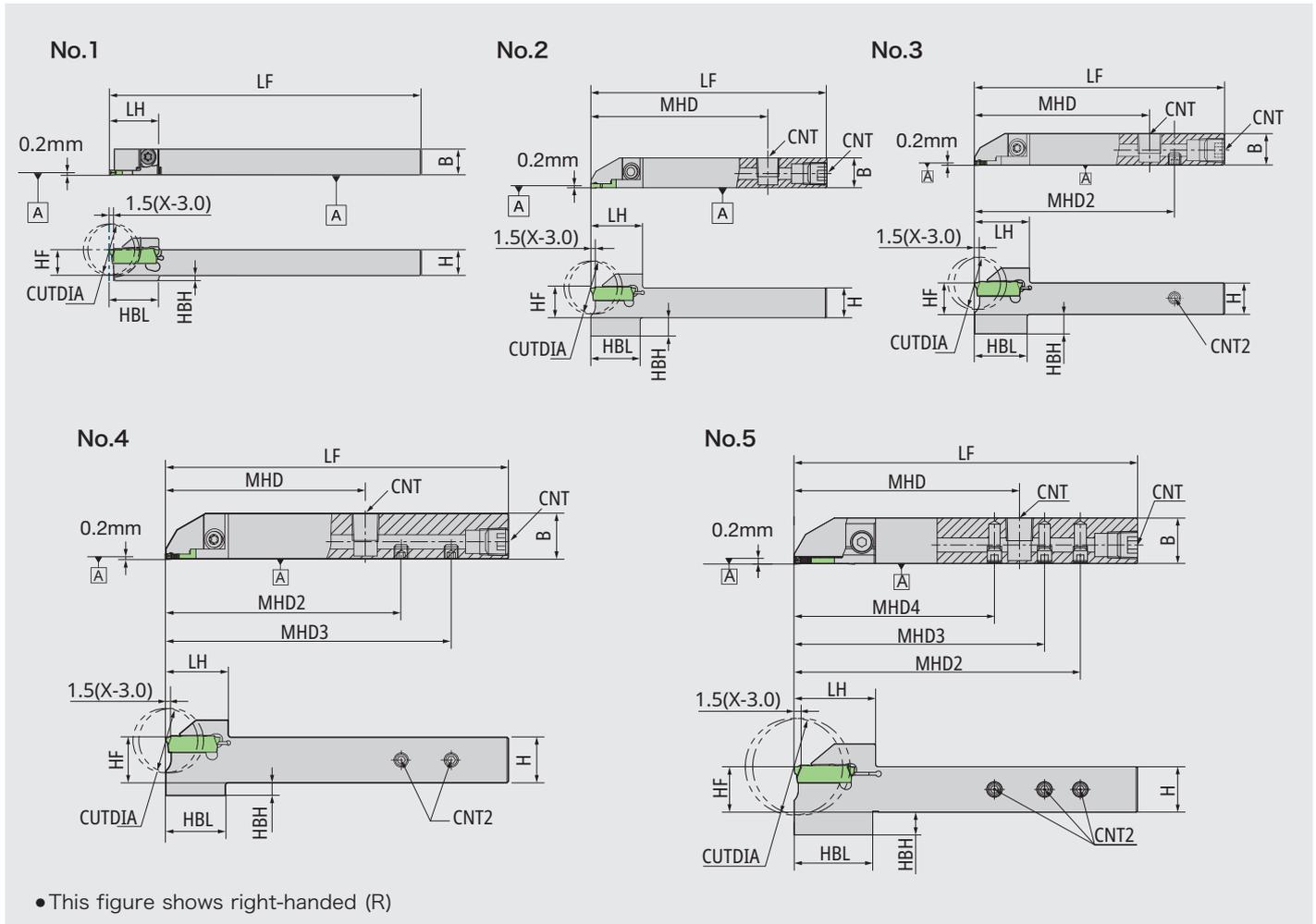
$v_c=80$ m/min

被削材 $f$	0.05mm/rev	0.08mm/rev	0.12mm/rev
<b>P</b> SCM435			
<b>M</b> SUS304			

## Recommended cutting condition

ISO Classification		<b>P</b>		<b>M</b>		<b>S</b>	
Workpiece material		Alloy steel	Carbon steel	Difficult-to-cut Stainless steel	Free-cutting Stainless steel	HRSA	Titanium (Alloy)
Representative workpiece material		SCM435 SCr420	S10C S45C	SUS316L 17-4PH SUS304	SUS303 SUS430F	Inco718 Hastelloy MP35N	Ti-6Al-4V
Grade	1st choice	<b>QM3</b>		<b>ST4</b>		<b>DM4</b>	
	2nd choice	<b>TM4</b>		<b>DM4</b>		<b>QM3</b>	
Cutting speed (m/min)		30 - <b>60</b> - 90		30 - <b>60</b> - 90		30 - <b>50</b> - 70	
Feed (mm/rev)		0.04 - <b>0.08</b> - 0.12		0.03 - <b>0.08</b> - 0.12		0.03 - <b>0.05</b> - 0.08	

# Lineup: Toolholder



Internal coolant NEW

Designation	Hand		CUTDIA mm	B mm	H mm	HF mm	LF mm	LH mm	HBH mm	HBL mm	CNT	CNT2	MHD mm	MHD2 mm	MHD3 mm	MHD4 mm	Insert	Figure	
	R	L																	
CTDP <sup>R</sup> <sub>L</sub> 10-20D20	●	●	20	10	10	10	120	19	2	19	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D20	●	●	20	12	12	12	120	19	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D25	●	●	25.4	12	12	12	120	22	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D25-OH	●	●	25.4	12	12	12	100	22	8.5	21	Rc1/8	-	75	-	-	-	-	CTDP20..	2
CTDP <sup>R</sup> <sub>L</sub> 12-20D25-OH2	●	●	25.4	12	12	12	100	22	8.5	21	Rc1/8	M5	70	80	-	-	-	CTDP20..	3
CTDP <sup>R</sup> <sub>L</sub> 16-20D25	●	●	25.4	16	16	16	120	22	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D25	●	●	25.4	16	16	15.5	120	28.5	-	-	-	-	-	-	-	-	-	CTDP25..	1
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH	●	●	25.4	16	16	16	100	22	4.5	21	Rc1/8	-	75	-	-	-	-	CTDP20..	2
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH2	●	●	25.4	16	16	16	120	22	4.5	21	Rc1/8	M5	70	82.5	100	-	-	CTDP20..	4
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH3	●	●	25.4	16	16	15.5	120	22	4.5	21	Rc1/8	M5	78.75	100	87.5	70	-	CTDP20..	5
CTDP <sup>R</sup> <sub>L</sub> 16-25D25-OH3	●	●	25.4	16	16	15.5	120	28.5	8	27.5	Rc1/8	M5	78.8	100	87.5	70	-	CTDP25..	5
CTDP <sup>R</sup> <sub>L</sub> 16-20D32A	●	●	32	16	16	16	120	27.5	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 2012-20D32A	●	●	32	12	20	20	120	29.5	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 20-20D32A	●	●	32	20	20	20	120	29.5	-	-	-	-	-	-	-	-	-	CTDP20..	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D34A	●	●	34	16	16	16	120	28.5	-	-	-	-	-	-	-	-	-	CTDP25..	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D34A-OH3	●	●	34	16	16	16	120	28.5	8	27.5	Rc1/8	M5	78.8	100	87.5	70	-	CTDP25..	5
CTDP <sup>R</sup> <sub>L</sub> 2012-25D34A	●	●	34	12	20	20	120	29.5	-	-	-	-	-	-	-	-	-	CTDP25..	1
CTDP <sup>R</sup> <sub>L</sub> 20-25D34A	●	●	34	20	20	20	120	29.5	-	-	-	-	-	-	-	-	-	CTDP25..	1
CTDP <sup>R</sup> <sub>L</sub> 20-25D34A-OH2	●	●	34	20	20	20	120	28.5	4	27.5	Rc1/8	M5	75	100	-	-	-	CTDP25..	3

Attention : Tightening the screw without the insert in place may deform the slit section, potentially preventing it from returning to its original shape even after the screw is properly fastened.

## Spare parts

Designation	Screw	Screw	Screw	Wrench	Wrench	Figure
CTDP <sup>R</sup> <sub>L</sub> 10-20D20	LRIS-4*12	-	-	LLR-25S	-	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D20	LRIS-4*12	-	-	LLR-25S	-	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D25	LRIS-4*12	-	-	LLR-25S	-	1
CTDP <sup>R</sup> <sub>L</sub> 12-20D25-OH	LRIS-4*12	SPR1/8	-	LLR-25S	-	2
CTDP <sup>R</sup> <sub>L</sub> 12-20D25-OH2	LRIS-4*12	SPR1/8	SS0505SC	LLR-25S	LW-2.5	3
CTDP <sup>R</sup> <sub>L</sub> 16-20D25	LRIS-4*12	-	-	LLR-25S	-	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D25	LRIS-5*10	-	-	LLR-28S	-	1
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH	LRIS-4*12	SPR1/8	-	LLR-25S	-	2
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH2	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5	4
CTDP <sup>R</sup> <sub>L</sub> 16-20D25-OH3	LRIS-4*12	SPR1/8L	SS0505SC	LLR-25S	LW-2.5	5
CTDP <sup>R</sup> <sub>L</sub> 16-25D25-OH3	LRIS-5*10	SPR1/8L	SS0505SC	LLR-28S	LW-2.5	5
CTDP <sup>R</sup> <sub>L</sub> 16-20D32A	LRIS-5*10	-	-	LLR-28S	-	1
CTDP <sup>R</sup> <sub>L</sub> 2012-20D32A	LRIS-5*10	-	-	LLR-28S	-	1
CTDP <sup>R</sup> <sub>L</sub> 20-20D32A	LRIS-5*10	-	-	LLR-28S	-	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D34A	CS0516LSH	-	-	LW-3	-	1
CTDP <sup>R</sup> <sub>L</sub> 16-25D34A-OH3	CS0516LSH	SPR1/8L	SS0505SC	LW-3	LW-2.5	5
CTDP <sup>R</sup> <sub>L</sub> 2012-25D34A	CS0516LSH	-	-	LW-3	-	1
CTDP <sup>R</sup> <sub>L</sub> 20-25D34A	CS0516LSH	-	-	LW-3	-	1
CTDP <sup>R</sup> <sub>L</sub> 20-25D34A-OH2	CS0516LSH	SPR1/8L	SS0505SC	LW-3	LW-2.5	3

## N-Swiss JOINT Modular Type

**New**

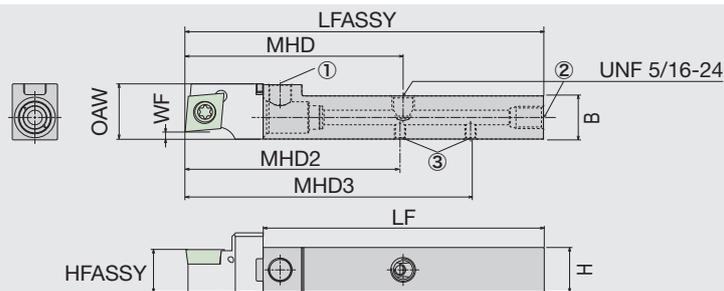
### Quick-change tool series for automatic lathes

Reduces tool change and set-up times.  
Easy-to-use mechanism for consistent repeatability.



## | Shanks

### QC-OH/OH2



Designation	Internal coolant	H	B	LF	OAW	WF <sup>(2)</sup>	MHD <sup>(2)</sup>	MHD2 <sup>(2)</sup>	MHD3 <sup>(2)</sup>	HFASSY <sup>(2)</sup>	LFASSY <sup>(2)</sup>	Torque <sup>(3)</sup>	Coupling size
QC-1212F-OH		12	12	65	15	( 2 )	( 67 )	—	—	( 12 )	( 86 )	3	QC12-..
QC-1212X-OH2 <sup>(1)</sup>		12	12	100	15	( 2 )	( 67 )	( 77 )	—	( 12 )	( 121 )	3	QC12-..
QC-1616X-OH2 <sup>(1)</sup>		16	16	99	20	( 2 )	( 71 )	( 69 )	( 94 )	( 16 )	( 120 )	8.5	QC16-..

<sup>(1)</sup> OH2 :Compatible with direct coolant supply from the machine's tool post to the tool.

<sup>(2)</sup> Dimensions with the QC...SCLCR09-F02-OH (LH=21mm) head installed are shown.

<sup>(3)</sup> Recommended clamping torque (N⊗m)

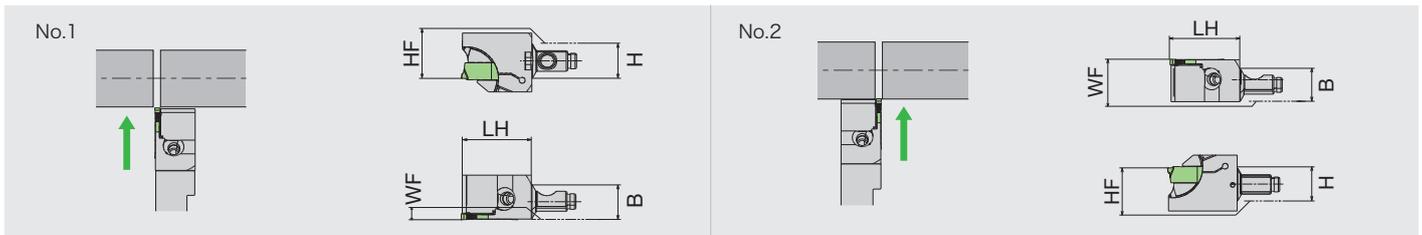
## Spare parts



Designation	Screw ①	Screw ②	Screw ③	Wrench ①	Wrench ②	Wrench ③
QC-1212F-OH	M6*0.5-TSC	5/16UNF-TSC	-	TR-3	TR-4	-
QC-1212X-OH2	M6*0.5-TSC	5/16UNF-TSC	SSM4*6-T	TR-3	TR-4	TR-2
QC-1616X-OH2	M8*0.5-TSC	5/16UNF-TSC	SSM4*6-T	TR-5	TR-4	TR-2

# Heads

## QC-CTDP-OH



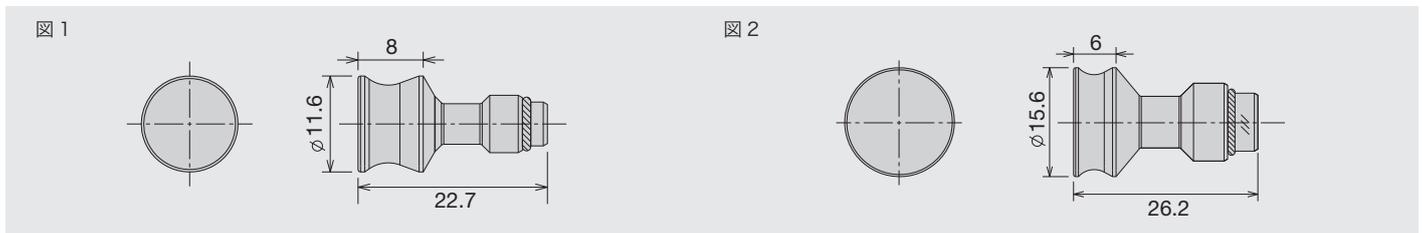
Designation	Internal coolant	CUTDIA mm	H mm	B mm	LH mm	HF mm	WF mm	Insert	Applicable shank size	Figure
QC12-CTDPR-20D20-OH		20	12	12	23.5	12	0.2	CTDP20..	QC-12..	1
QC12-CTDPL-20D20-OH		20	12	12	23.5	12	15.2	CTDP20..	QC-12..	2
QC16-CTDPR-20D32-OH		32	16	16	24.5	16	0.2	CTDP20..	QC-16..	1
QC16-CTDPL-20D32-OH		32	16	16	24.5	16	20.2	CTDP20..	QC-16..	2

### Spare parts



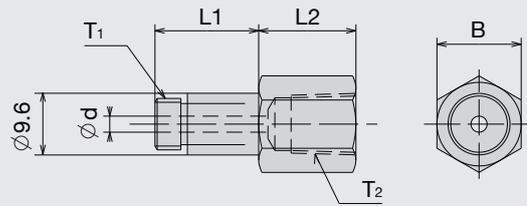
Item Number	O-Rings	Screw	Wrench
QC12-CTDPR-20D20-OH	OR-450*10	LRIS-4*12	LLR-25S
QC12-CTDPL-20D20-OH	OR-450*10	LRIS-4*12	LLR-25S
QC16-CTDPR-20D32-OH	OR-750*10	LRIS-4*12	LLR-25S
QC16-CTDPL-20D32-OH	OR-750*10	LRIS-4*12	LLR-25S

**Stopper** By attaching a stopper to the unused shank, the coupling part is protected, and coolant discharge from the shank is prevented.



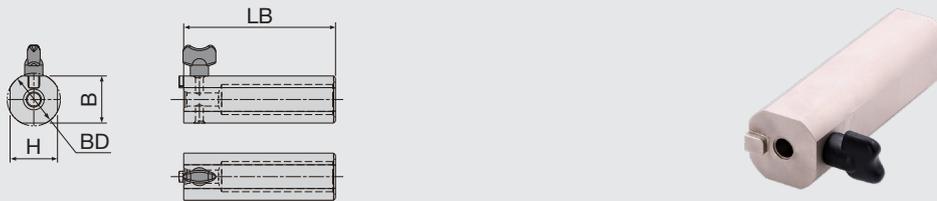
品番	O-Rings	Applicable shank size	Figure
QC12-STOPPER-PLUG	OR-450*10	QC12	1
QC16-STOPPER-PLUG	OR-750*10	QC16	2

**Thread conversion adapter** When using conventional hoses and fittings, please use a threaded adapter.



Designation	T <sub>1</sub> mm	T <sub>2</sub> mm	L1 mm	L2 mm	φd mm	B mm
SCJ-5/16-RC1/8-L	5/16-24UNF	Rc1/8	16.0	15.0	2.5	13.0

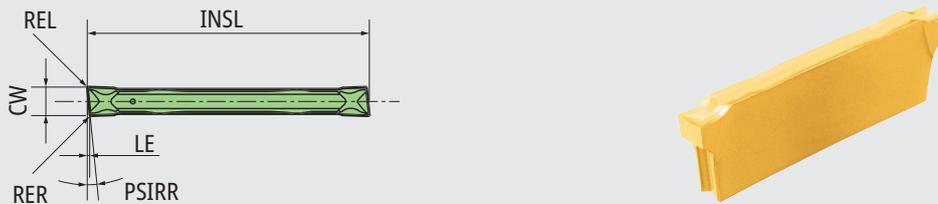
**Accessories** Dedicated accessory for easy replacement of inserts mounted on the modular head.



Designation	BD mm	LB mm	H mm	B mm	Screw	Coupling size
QC-12D28	28	80	25	25	TAB-5*10	QC12-..
QC-16D28	28	80	25	25	TAB-5*10	QC16-..

For more information on **N-Swiss JOINT**, please see the product brochure and website.

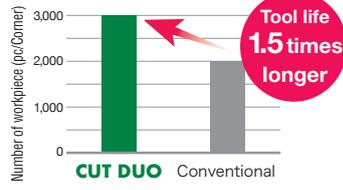
**Lineup: Insert**

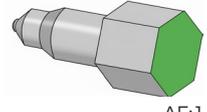


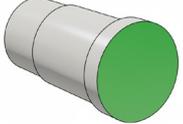
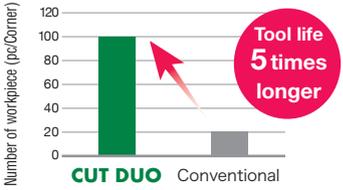
● NEW

Designation	Hand	CW mm	INSL mm	PSIRR °	LE mm	REL mm	RER mm	Carbide PVD Coated Carbide Grade			
								DM4	QM3	ST4	TM4
CTDP20N	N	2.0	19.1	0	0	0.05	0.05	●	●	●	●
CTDP20N02	N	2.0	19.1	0	0	0.20	0.20	●	●	●	●
CTDP20R6	R	2.0	19.1	6	0.24	0.05	0.05	●	●	●	●
CTDP20R15	R	2.0	19.1	15	0.57	0.05	0.05	●	●	●	●
CTDP25N	N	2.5	21.2	0	0	0.05	0.05	●	●	●	●
CTDP25N02	N	2.5	21.2	0	0	0.20	0.20	●	●	●	●
CTDP25R6	R	2.5	21.2	6	0.29	0.05	0.05	●	●	●	●
CTDP25R15	R	2.5	21.2	15	0.71	0.05	0.05	●	●	●	●

## Practical examples

		NTK	Conventional
Component		Electronic parts	
Insert		CTDP20R6	Width : 2.2mm
Grade		<b>QM3</b>	PVD Carbide
Workpiece		Alloy steel (SCM435)	
			 
			φ 12mm
Cutting conditions	Cutting speed (m/min)	75	
	Feed (mm/rev)	0.04	
	Coolant	WET	
Results		 <p>The conventional tool suffered from poor cutting performance, leading to burr formation and reduced tool life. In contrast, <b>CUT DUO</b> maintained sharpness and <b>achieved a 1.5x increase in tool life.</b></p>	

		NTK	Conventional
Component		Automotive parts	
Insert		CTDP20N02	Width : 2.0mm
Grade		<b>ST4</b>	PVD Carbide
Workpiece		SUS316	
			 
			AF:11.5mm
Cutting conditions	Cutting speed (m/min)	90	
	Feed (mm/rev)	0.08	
	Coolant	WET	
Results		 <p>The conventional tool lacked sharpness, causing burrs and early failure under interrupt cutting due to edge chipping. <b>CUT DUO</b> suppressed burrs and <b>doubled tool life.</b></p>	

		NTK	Conventional
Component		Fuel cell parts	
Insert		CTDP20N02	Width : 2.0mm
Grade		<b>DM4</b>	PVD Carbide
Workpiece		Inconel718	
			 
			φ 18mm
Cutting conditions	Cutting speed (m/min)	80	
	Feed (mm/rev)	0.03	
	Coolant	WET	
Results		 <p>The cutting edge of the conventional product wore out after machining 20 pieces, leading to poor machining surface and tool breakage. <b>CUT DUO</b> reduced cutting resistance and <b>achieved 5 times longer tool life.</b></p>	

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