ST4

SUPER TOUGH COAT

Super starke Beschichtung
Höhere Werkzeugstandzeit

Neue PVD-beschichtete Hartmetallsorte
für rostfreie Stähle
***wie* SUS304**

NTK
CUTTING TOOLS

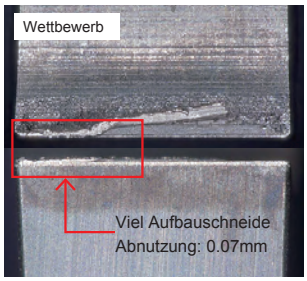
Stabile und kontinuierliche Bearbeitung von Edelstahl

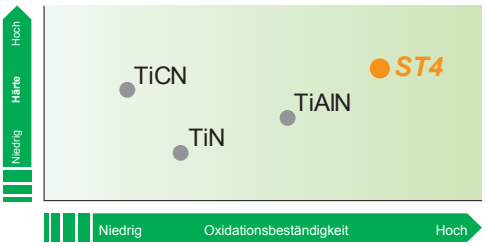
Niedrige Werkzeugstandzeiten und instabile Spanabfuhr sind Faktoren, die eine stabile Bearbeitung von Edelstahl verhindern.
Die neue PVD-beschichtete Hartmetallsorte ST4 löst diese Probleme bei der Bearbeitung von Edelstahl.

Größere Härte und Oxidationsbeständigkeit

Verlängerte Standzeit ermöglicht die Bearbeitung von Edelstahl mit hoher Geschwindigkeit.

NTK vs. Wettbewerber (Abstechen)
Material: SUS304(φ11) Vc=80m/min f=0.03mm nach 200 Stk. Abstechen.

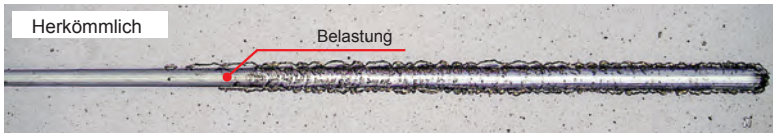




Stabile Bearbeitung
Hervorragendes Oberflächenfinish ⇒ Längere Standzeit

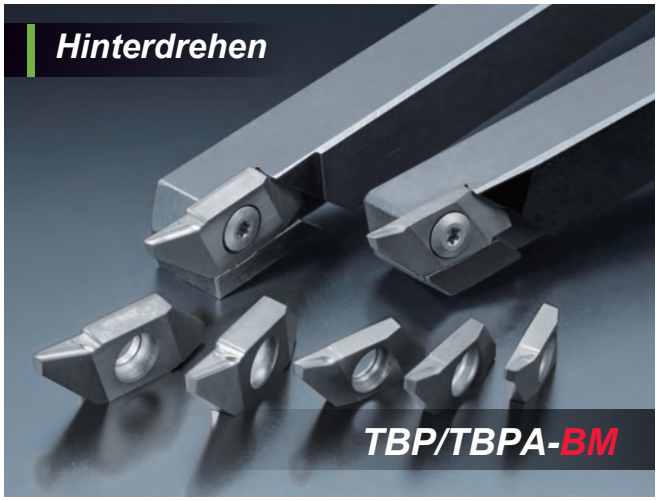
NTK's neue PVD-beschichtete Hartmetallsorte ST4 erzielt eine glatte Oberfläche.
Sie verhindert Aufbauschneiden bei der Edelstahlbearbeitung und erzielt einen stabilen Schnitt.

Kratzfeste Beschichtung



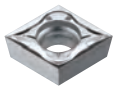
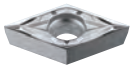
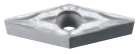
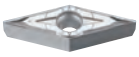
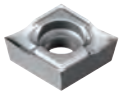
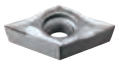
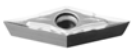
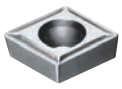
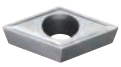
Super starke Beschichtung 「ST4」 × Spanbrecher für Edelstahl

Die neue Sorte "ST4" in Kombination mit einzigartigen Spanbrechern erfüllt jede Anforderung.

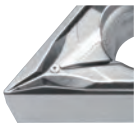
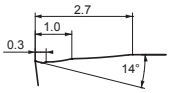
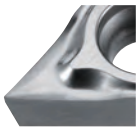
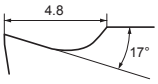
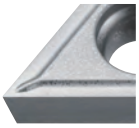
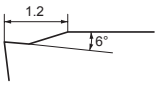
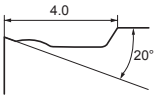


Spanbrecher zum Plandrehen

YL • CL • AM3 • UL

Form	Bezeichnung		Ecken radius	Standard ST4	Abmessungen (mm) I.C.	Abmessungen (mm) Dicke
	CCGT	09T301M YL	0.08	●	9.525	3.97
		09T302M YL	0.18	●		
		09T304M YL	0.38	●		
		09T308M YL	0.78	●		
	DCGT	11T301M YL	0.08	●	9.525	3.97
		11T302M YL	0.18	●		
		11T304M YL	0.38	●		
		11T308M YL	0.78	●		
	VCGT	110301M YL	0.08	●	6.35	3.18
		110302M YL	0.18	●		
		110304M YL	0.38	●		
	VBGT	160402FN YL	0.2	●	9.525	4.76
		160404FN YL	0.4	●		
		160408FN YL	0.8	●		
	CCGT	060201M CL	0.08	●	6.35	2.38
		060202M CL	0.18	●		
		09T301M CL	0.08	●	9.525	3.97
		09T302M CL	0.18	●		
		09T304M CL	0.38	●		
	DCGT	070201M CL	0.08	●	6.35	2.38
		070202M CL	0.18	●		
		070204M CL	0.38	●		
		11T301M CL	0.08	●	9.525	3.97
		11T302M CL	0.18	●		
		11T304M CL	0.38	●		
	VCGT	110301M CL	0.08	●	6.35	3.18
		110302M CL	0.18	●		
		110304M CL	0.38	●		
	CCGT	060201M FN AM3	0.08	●	6.35	2.38
		060202M FN AM3	0.18	●		
		060204M FN AM3	0.38	●		
		09T301M FN AM3	0.08	●	9.525	3.97
		09T302M FN AM3	0.18	●		
		09T304M FN AM3	0.38	●		
	DCGT	070201M FN AM3	0.08	●	6.35	2.38
		070202M FN AM3	0.18	●		
		070204M FN AM3	0.38	●		
		11T301M FN AM3	0.08	●	9.525	3.97
		11T302M FN AM3	0.18	●		
		11T304M FN AM3	0.38	●		
	VCGT	110301M FN AM3	0.08	●	6.35	3.18
		110302M FN AM3	0.18	●		
		110304M FN AM3	0.38	●		
	VPGT	110301M FN AM3	0.08	●	6.35	3.18
		110302M FN AM3	0.18	●		
	TNGG	160401M FN UL	0.08	●	9.525	4.76
		160402M FN UL	0.18	●		
		160404M FN UL	0.38	●		
		160408M FN UL	0.78	●		

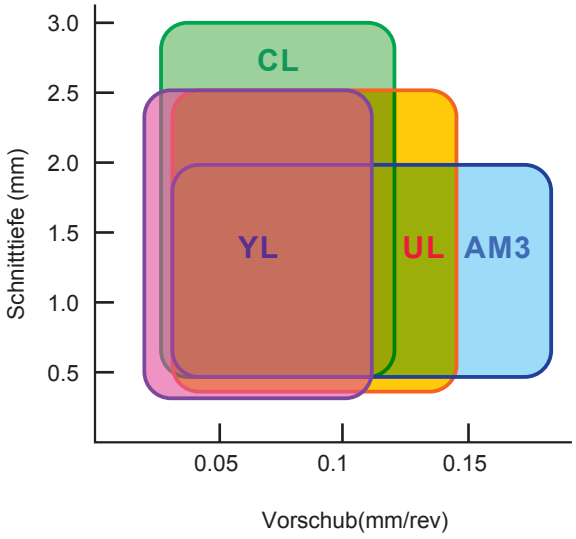
Eigenschaften

	Spanbrecher		Eigenschaften
YL		 ※DCGT11T302MYL	• Hervorragende Kombination aus Schärfe und Zähigkeit. • Extrem breites Spektrum • Ausgezeichnete Spankontrolle
CL		 ※DCGT11T302M	• Sehr scharf geformter Spanbrecher • Ausgezeichnete Spankontrolle • Weniger Werkzeugdruck
AM3		 ※DCGT11T302	• Allzweck Spanbrecher • Sehr scharfe Schneidkante
UL		 ※TNGG160401MFN	• Negative Platte mit positivem Spanbrecher • Reduziert Rattermarken • Verbesserte Endoberfläche • Kostenvorteil gegenüber positiven Platten

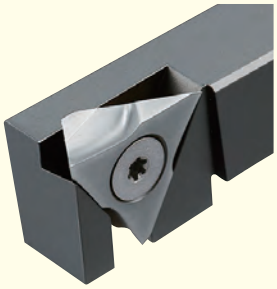
Halter

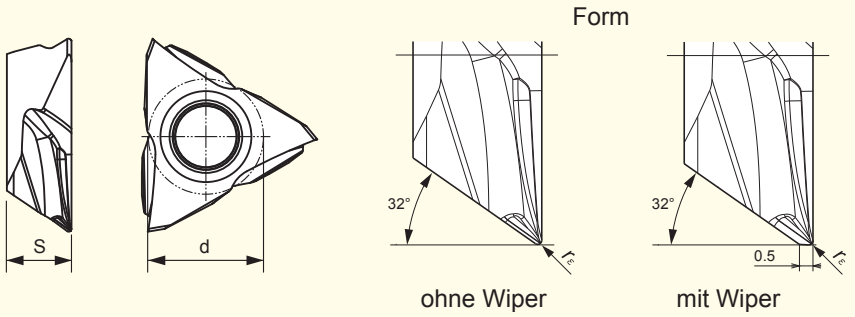
Halter	CCGT Serie	DCGT Serie	VCGT Serie	VPGT Serie	TNGG Serie

Spanbrecher



TFX



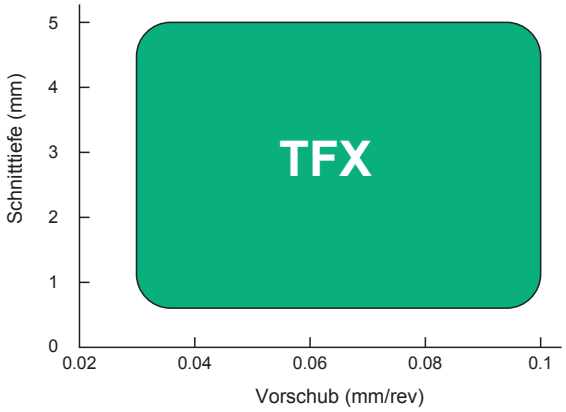


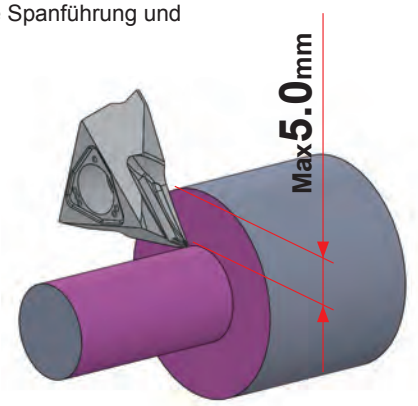
Wiper	Bezeichnung	r_ε (mm)	Standard ST4	Max. Schnitttiefe (mm)	Abmessungen (mm) d	Abmessungen (mm) s
Nein	TFX 3301MR	0.08	●	5.0	9.525	4.76
	3302MR	0.18	●			
	3304MR	0.38	●			
Ja	TFX 3301MRW	0.08	●	5.0	9.525	4.76
	3302MRW	0.18	●			
	3304MRW	0.38	●			

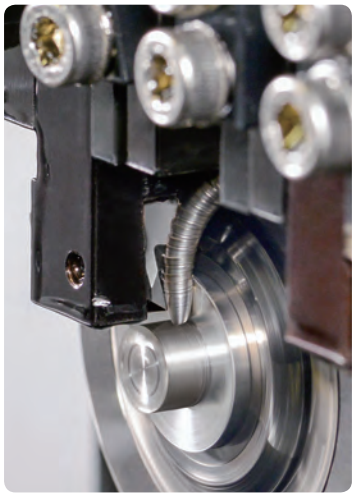
Eigenschaften

Der speziell entwickelte, sehr scharfe Spanbrecher ermöglicht eine Schnitttiefe bis zu 5 mm in nur einem Arbeitsdurchgang.

Reduziert die Schnittkraft und erzielt eine hervorragende Spanführung und eine sehr gute Oberfläche.

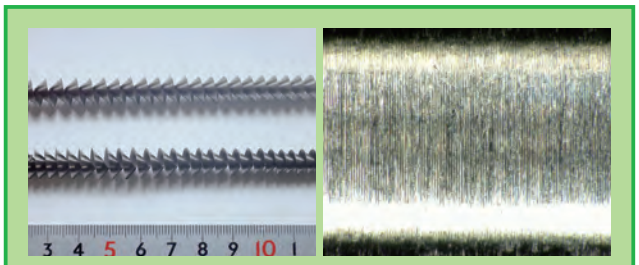






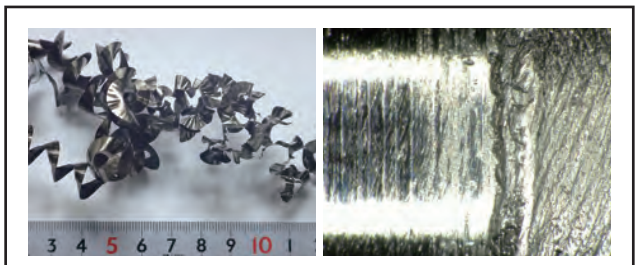
Schnittiefe **5.0mm** Material：SUS304 Schnittwerte：Vc=80m/min f=0.03mm/rev Nass

NTK Front Max



Gute Spankontrolle und exzellent bearbeitete Oberfläche

Wettbewerb

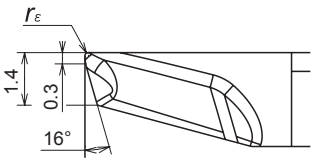


Raue Oberfläche

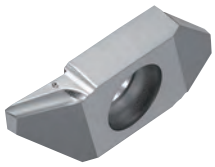
Neuer 3D-Spanbrecher zum Hinterdrehen

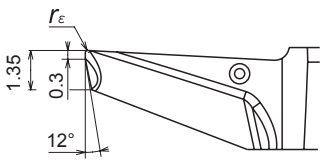
(TBP/TBPA-BM)

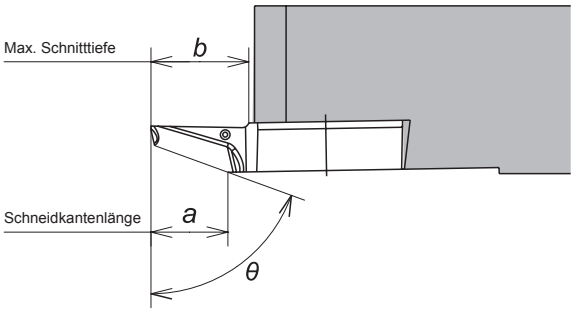
TBP-BM



TBPA-BM

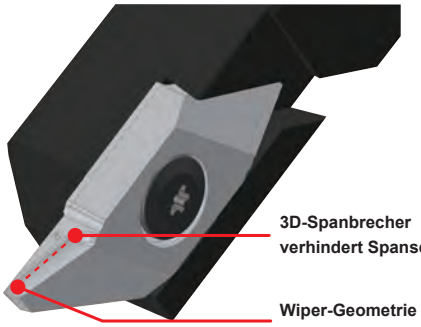






Bezeichnung	r_ε (mm)	Schneidkantenlänge a (mm)	Max. Schnitttiefe b (mm)	Eckenradius θ	Standard ST4
TBP 72FR05-BM	0.05	3.5	5.3	72°	●
72FR10M-BM	0.08	3.5	5.3	72°	●
72FR20M-BM	0.18	3.5	5.3	72°	●
TBPA 70FR05-BM	0.05	5.5	6.5	70°	●
70FR10M-BM	0.08	5.5	6.5	70°	●
70FR20M-BM	0.18	5.5	6.5	70°	●

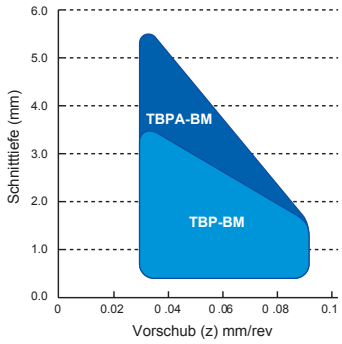
Eigenschaften



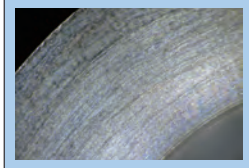
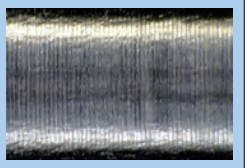
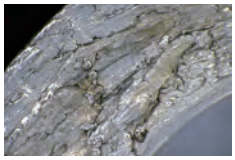
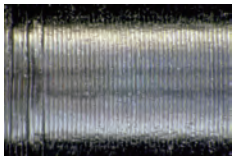
BM Spanbrecher	Wettbewerber
Gute Spankontrolle	Schlechte Spanbildung

Schnittwerte: Vc=80m/min Nass
Material: SUS304 φ16 Halter: TBPR12
Platte: TM4 TBP72FR10M-BM

Spankontrolle



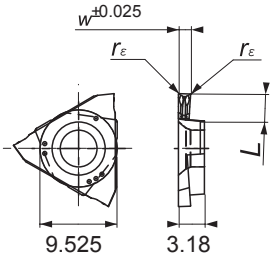
Beispiel

1 Durchgang	BM Spanbrecher		Wettbewerb	
	Oberfläche	Durchmesser	Oberfläche	Durchmesser
				
	Sehr gute Oberfläche	Ra：0.72μm Rz：4.46μm	Raue Oberfläche	Ra：1.65μm Rz：6.01μm

Schnittwerte: Vc=80m/min f(x)=0.02mm/rev f(z)=0.08mm/rev ap=3.0mm Nass
Material: SUS304 φ16 Halter: TBPR12 Platte: TM4 TBP72FR10M-BM

GX-Spanbrecher zum Stechen

(GTMH32-GX)

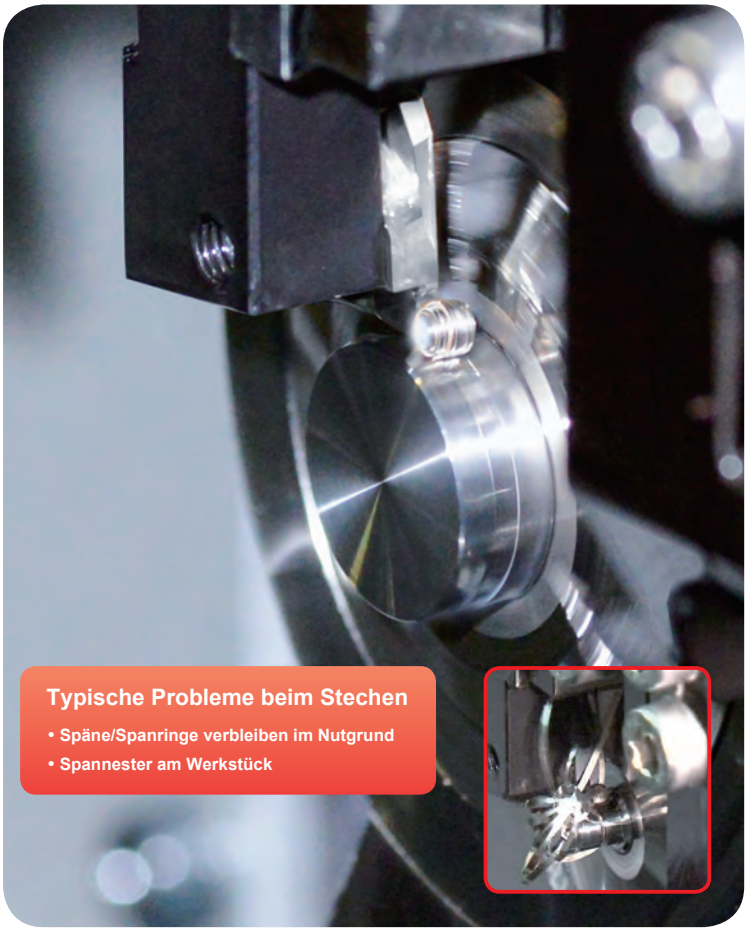


Breite: ～1.0

Breite : 1.5～

Bezeichnung	Abmessungen (mm)					Standard
	W	r_ε	*L*	Max. Stechtiefe (mm)	Max. Tiefe (mm) seitliches Drehen	ST4
GTMH32 033RGX	0.33	0.05	0.6	0.25	—	●
043RGX	0.43	0.05	1.2	0.9	—	●
050RGX	0.50	0.05	1.2	0.9	—	●
053RGX	0.53	0.05	1.2	0.9	—	●
075RGX	0.75	0.05	2.0	1.6	0.75	●
095RGX	0.95	0.05	2.0	1.6	1.5	●
100RGX	1.0	0.05	2.0	1.6	1.5	●
100RGX01	1.0	0.1	2.0	1.6	1.5	●
GTMH32 150RGX	1.5	0.05	3.0	2.7	2.0	●
150RGX01	1.5	0.1	3.0	2.7	2.0	●
150RGX02	1.5	0.2	3.0	2.7	2.0	●
200RGX	2.0	0.05	3.0	2.7	2.0	●
200RGX01	2.0	0.1	3.0	2.7	2.0	●
200RGX02	2.0	0.2	3.0	2.7	2.0	●
300RGX	3.0	0.05	3.0	2.7	2.0	●
300RGX02	3.0	0.2	3.0	2.7	2.0	●

Eigenschaften

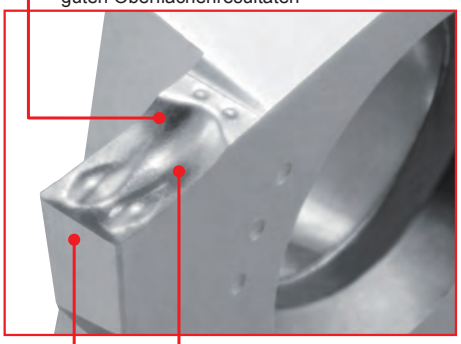


Typische Probleme beim Stechen

- Späne/Spanringe verbleiben im Nutgrund
- Spannester am Werkstück

Zentrischer Höcker mit speziellem Muldendesign

Dadurch verbesserte Spankontrolle mit sehr guten Oberflächenresultaten



Auch Stechdrehen ist möglich

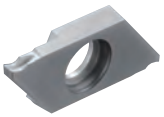
Seitliches Drehen bis max. ap=2mm ist ebenso möglich

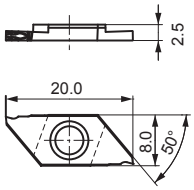
Polierte Außenflächen garantieren hervorragende Oberflächen

Vergleichbare Schärfe wie bei geschliffenen Spanleitern

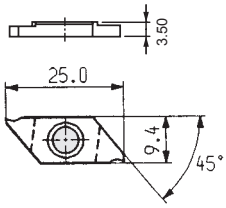
Spanbrecher zum Abstechen CTP/CTPA-CX

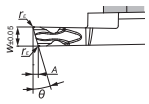
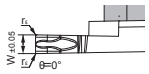
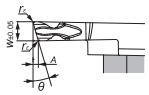
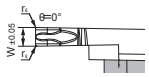
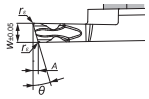
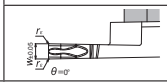
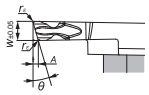
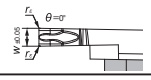
CTP-TH
(Max. Stechdurchmesser～φ12)





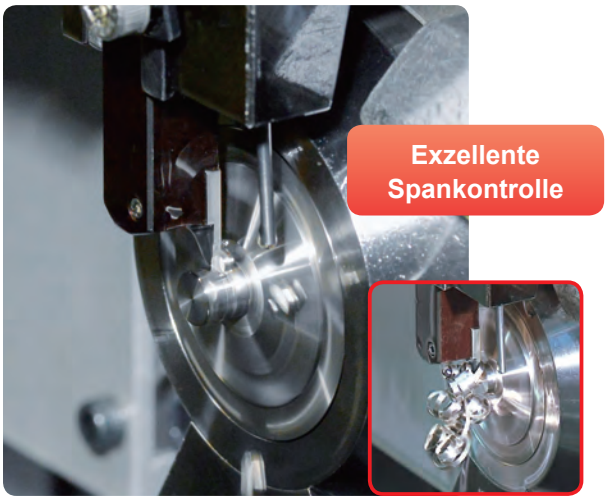
CTPA-TH
(Max. Stechdurchmesser～φ16)

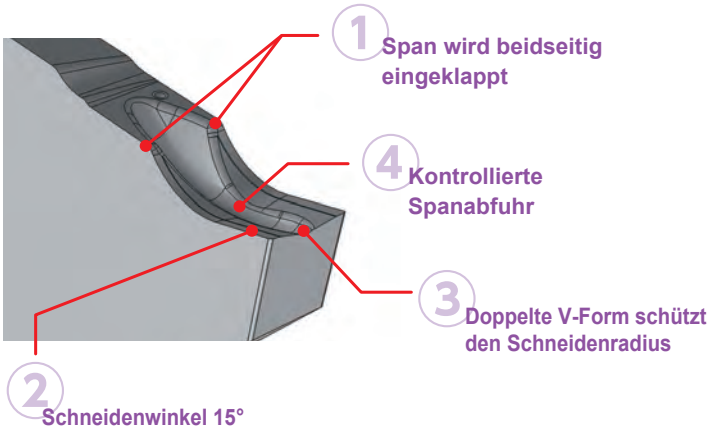


	Ausrichtung	Form	Bezeichnung	Max. Stech-durchmesser (mm)φD	Abmessungen(mm)				Standard
					w	*A*	*θ*	r_ε	ST4
CTP	R		CTP 10FR-CX	12.0	1.0	0.32	16°	0.05	●
			13FR-CX	12.0	1.3	0.40	16°	0.05	●
			15FR-CX	12.0	1.5	0.46	16°	0.05	●
			CTP 10FRN-CX	12.0	1.0	—	0°	0.05	●
			13FRN-CX	12.0	1.3	—	0°	0.05	●
			13FRN02-CX	12.0	1.3	—	0°	0.2	●
			15FRN-CX	12.0	1.5	—	0°	0.05	●
			15FRN02-CX	12.0	1.5	—	0°	0.2	●
	L		CTP 10FLK-CX	11.0	1.0	0.32	16°	0.05	●
			13FLK-CX	11.0	1.3	0.40	16°	0.05	●
			15FLK-CX	11.0	1.5	0.46	16°	0.05	●
			CTP 10FLN-CX	12.0	1.0	—	0°	0.05	●
			13FLN-CX	12.0	1.3	—	0°	0.05	●
			13FLN02-CX	12.0	1.3	—	0°	0.2	●
			15FLN-CX	12.0	1.5	—	0°	0.05	●
			15FLN02-CX	12.0	1.5	—	0°	0.2	●
CTPA	R		CTPA 15FR-CX	16.0	1.5	0.46	16°	0.05	●
			CTPA 15FRN-CX	16.0	1.5	—	0°	0.05	●
	L		CTPA 15FLK-CX	14.5	1.5	0.46	16°	0.05	●
			CTPA 15FLN-CX	16.0	1.5	—	0°	0.05	●

Eigenschaften

Sehr gute Oberflächen durch eine patentierte Falttechnik beim Spanbruch





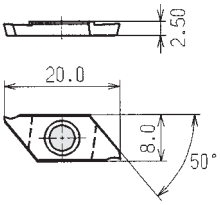
Halter

CTP	CTPA
G74～G75	G80～G81

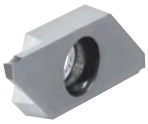
Spanbrecher zum Abstechen

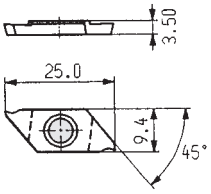
CTP/CTPA-TH

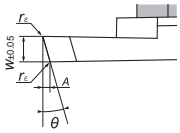
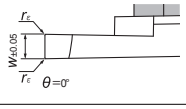
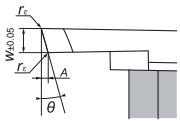
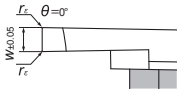
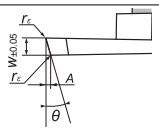
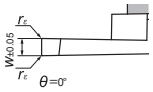
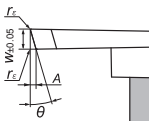
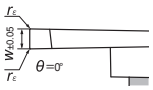
CTP-TH
(Max. Durchmesser ~φ12)



CTPA-TH
(Max. Durchmesser ~φ16)

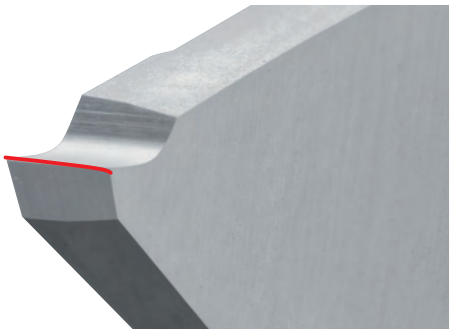


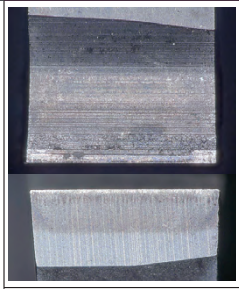
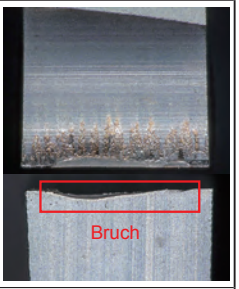


	Ausrichtung	Form	Beschreibung	Max. Durchmesser (mm)φD	Abmessungen (mm)				Standard
					w	A	θ	r_ε	ST4
CTP	R		CTP 10FR-TH	12.0	1.0	0.32	16°	0.05	●
			15FR-TH	12.0	1.5	0.46	16°	0.05	●
			20FR-TH	12.0	2.0	0.61	16°	0.05	●
			CTP 10FRN-TH	12.0	1.0	—	0°	0.05	●
			15FRN-TH	12.0	1.5	—	0°	0.05	●
			20FRN-TH	12.0	2.0	—	0°	0.05	●
	L		CTP 10FLK-TH	11.0	1.0	0.32	16°	0.05	●
			15FLK-TH	11.0	1.5	0.46	16°	0.05	●
			20FLK-TH	11.0	2.0	0.61	16°	0.05	●
			CTP 10FLN-TH	12.0	1.0	—	0°	0.05	●
			15FLN-TH	12.0	1.5	—	0°	0.05	●
			20FLN-TH	12.0	2.0	—	0°	0.05	●
CTPA	R		CTPA 15FR-TH	16.0	1.5	0.46	16°	0.05	●
			20FR-TH	16.0	2.0	0.61	16°	0.05	●
			CTPA 15FRN-TH	16.0	1.5	—	0°	0.05	●
			20FRN-TH	16.0	2.0	—	0°	0.05	●
	L		CTPA 15FLK-TH	14.5	1.5	0.46	16°	0.05	●
			20FLK-TH	14.5	2.0	0.61	16°	0.05	●
			CTPA 15FLN-TH	16.0	1.5	—	16°	0.05	●
			20FLN-TH	16.0	2.0	—	16°	0.05	●

Eigenschaften

「-TH」 bietet eine überlegene Bruchfestigkeit
Lange Standzeit beim Abstechen von Edelstahl



Beispiel	CTP-TH	Wettbewerb
Material: SUS304 φ11 Schnittwerte: Vc=80m/min f=0.03mm/rev Platte: CTP-TH 2.0mm Breite Halter: CTPR12		
	200pcs. bearbeitet	100pcs. bearbeitet

Halter

CTP	CTPA
G74 ~ G75	G80 ~ G81

Innendrehen F05 • F1 • FG Spanbrecher

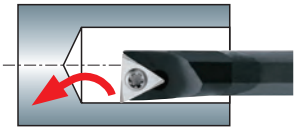
Form	Bezeichnung		Eckenradius R	Standard ST4	Abmessungen (mm) I.C.	Abmessungen (mm) Dicke
	TCGH	060101FR F05	0.1	●	3.97	1.59
		060102FR F05	0.2	●		
		060104FR F05	0.4	●		
	TPGH	090201FR F1	0.1	●	5.58	2.38
		090202FR F1	0.2	●		
		090204FR F1	0.4	●		
		090208FR F1	0.8	●		
		110302FR F1	0.2	●	6.35	3.18
		110304FR F1	0.4	●		
		110308FR F1	0.8	●		
	TPGH	090202R FG	0.2	●	5.56	2.38
		090204R FG	0.4	●		
		110302R FG	0.2	●	6.35	3.18
		110304R FG	0.4	●		
Winkel 75°	MBL	005FR F1	0.05	●	3.60	2.38
		015FR F1	0.15	●		
Winkel 75°	ERGHT	30101FR F1	0.1	●	3.97	1.59
		30102FR F1	0.2	●		
		30104FR F1	0.4	●		
	CPGH	040101FR F1	0.1	●	4.76	1.59
		040102FR F1	0.2	●		
		040104FR F1	0.4	●		
		060202FR F1	0.2	●	6.35	2.38
		060204FR F1	0.4	●		
	CCGT	060201FR F1	0.1	●	6.35	2.38
		060202FR F1	0.2	●		
		060204FR F1	0.4	●		
		09T302FR F1	0.2	●	9.525	3.97
		09T304FR F1	0.4	●		

Eigenschaften

- *Der F-Spanbrecher ermöglicht es, die Späne nach hinten abzuführen.*
- *Die Kombination von F-Spanbrecher und Mogul Bar bietet eine optimale Leistung*

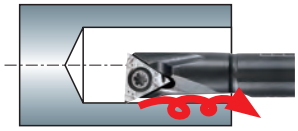
	Schnitttiefe (mm)	Vorschub (mm/rev) 0.05	Vorschub (mm/rev) 0.1
FG Spanbrecher ● Geeignet für das Schlichten ● Funktioniert gut bei geringen Schnitttiefen (0.5mm) ● Hoher Spanwinkel	0.1		
	0.3		
F1 • F05 Spanbrecher ● Für viele verschiedene Anwendungen ● Geschliffener Spanbrecher	0.5		
Hinweis: Ausrichtung beachten: rechte Platte => rechter Halter	**Material : SCM435 Halter : S10K–STUPR11D12–OH Platte : TPGH110304 Schnittbedingungen V_c=80m/min Bohrungsdurchmesser : φ12 Schnitttiefe : 20mm Externe Kühlung**		

Herkömmlich



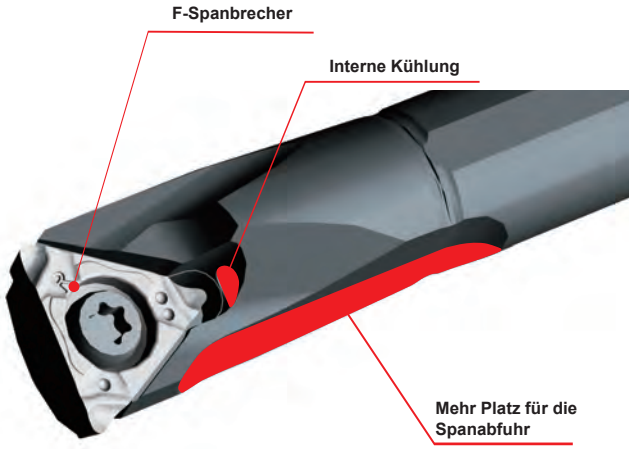
Drückt den Span direkt nach vorne und verursacht dadurch mögliche Schäden.

F05, F1, FG Spanbrecher



Führt den Span nach hinten ab und vermeidet dadurch Schäden.

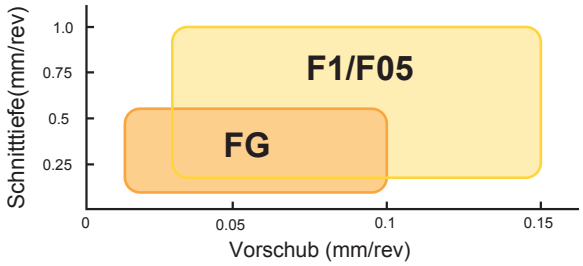
Eigenschaften



Halter

TCGH	TPGH	MBL	ERGHT	CPGH	CCGT
K30 ~ K31	K30 ~ K31	K24 ~ K25	K26 ~ K27	K28 ~ K29	K28

Spanführungsbereich



Schnittwerte

GTMH32-GX

Breite (mm)	Vorschub (mm/rev)				Schnittgeschwindigkeit (mm/min)		
	Stechen		Längsdrehen		SUS303	SUS304	SUS440C
	Bereich	SUS304	Bereich	SUS304			
0.33～0.53	0.01～0.03	0.02	Keine	Keine	60 100 150	50 70 100	30 80
0.75～1.0	0.02～0.05	0.03	0.015～0.04	0.02			
1.5～2.0	0.02～0.08	0.04	0.015～0.06	0.03			
3.0	0.03～0.10	0.05	0.025～0.08	0.04			

CTP/CTPA-CX

Breite (mm)	Vorschub (mm/rev)		Schnittgeschwindigkeit (mm/min)		
	Bereich	SUS304	SUS303	SUS304	SUS440C
1.0	0.02～0.04	0.02	60 100 150	50 70 100	30 60 80
1.3	0.02～0.05	0.03			
1.5	0.02～0.06	0.03			

CTP/CTPA-TH

Breite (mm)	Vorschub (mm/rev)		Schnittgeschwindigkeit (mm/min)		
	Bereich	SUS304	SUS303	SUS304	SUS440C
1.0	0.02～0.05	0.03	60 100 150	50 70 100	30 60 80
1.5	0.02～0.06	0.04			
2.0	0.02～0.07	0.04			