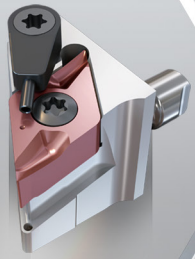
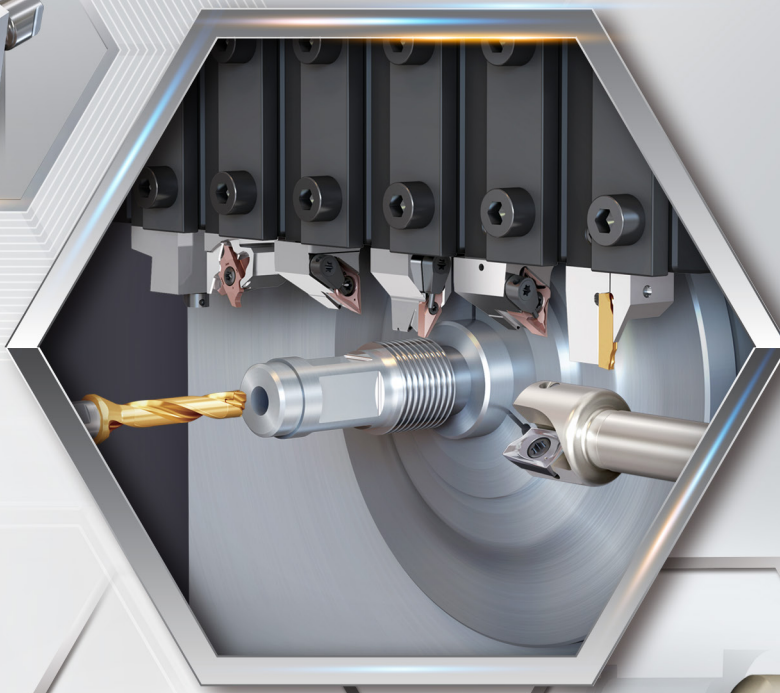
MINIATURE

Small Parts Machining

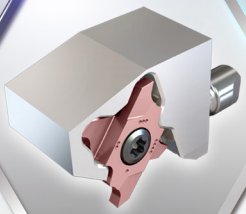








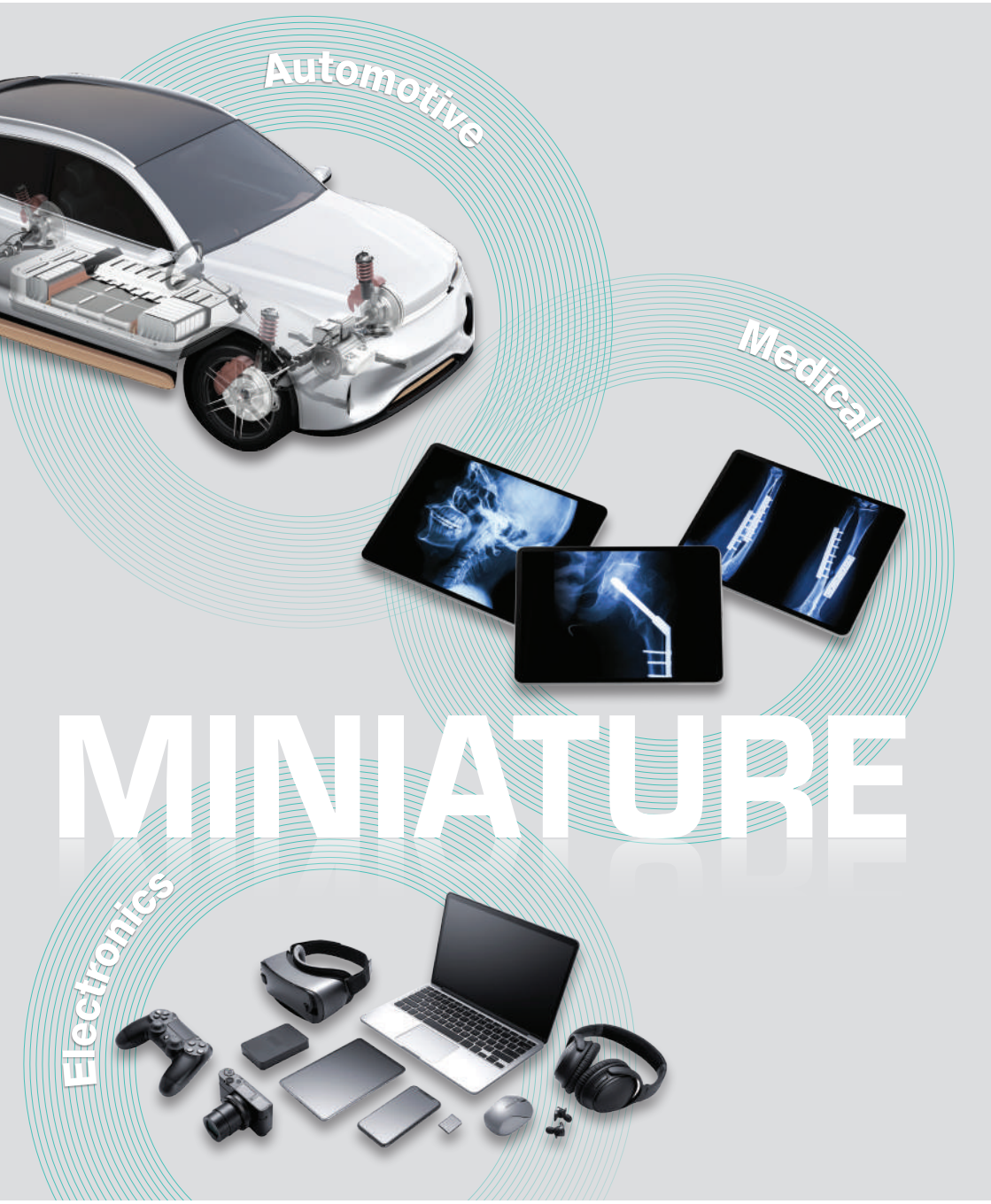




TaeguTec

Member IMC Group

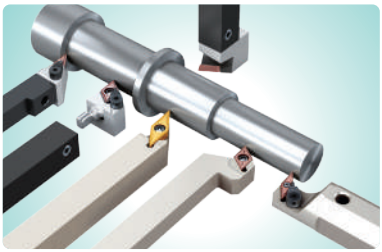
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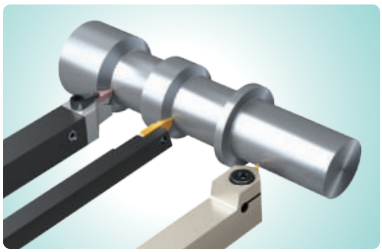
01	Turning	01-1	External Turning	7
		01-2	Back Turning	35
		01-3	Internal Turning	45
		01-4	Turning Inserts	68
02	Parting & Grooving	02-1	Parting & Grooving	117
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Application overview

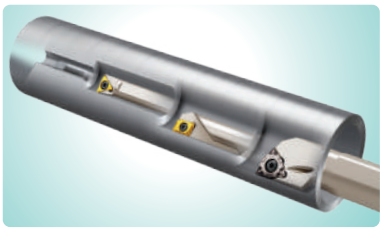
Turning



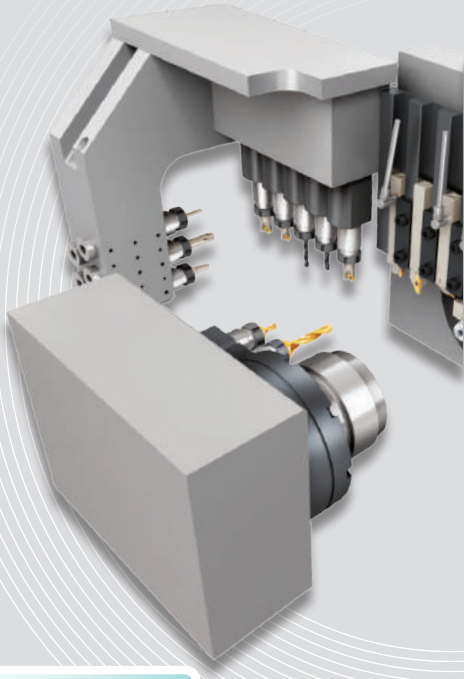
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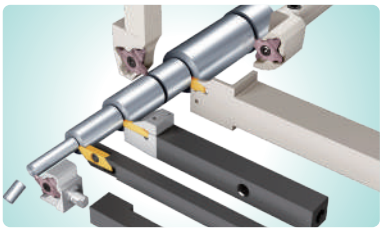
Back Turning



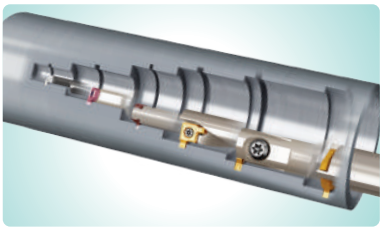
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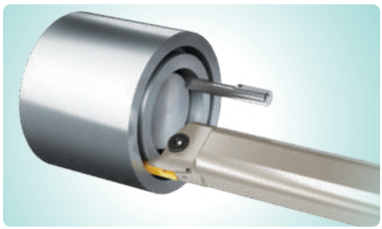
Parting and Grooving



External

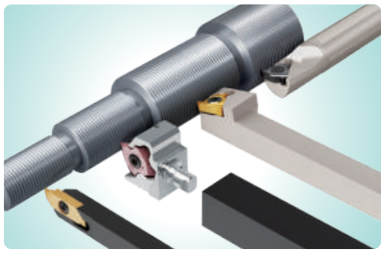


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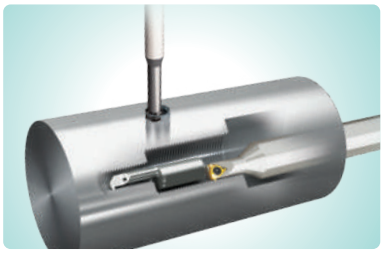


Face Grooving

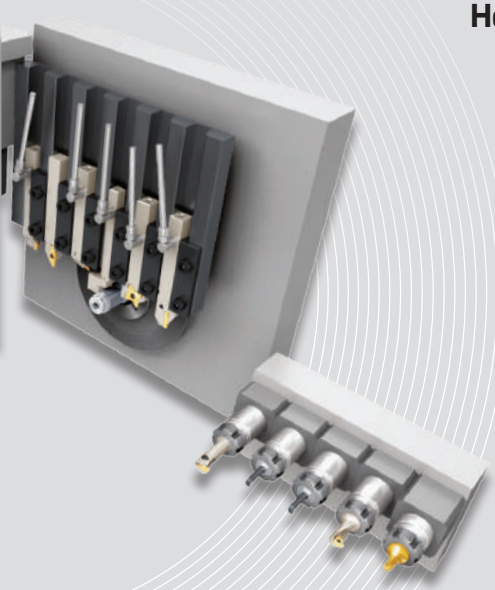
Threading



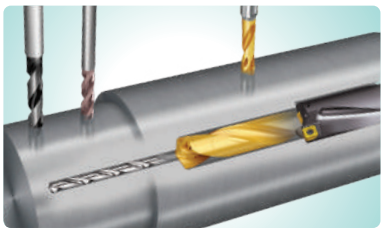
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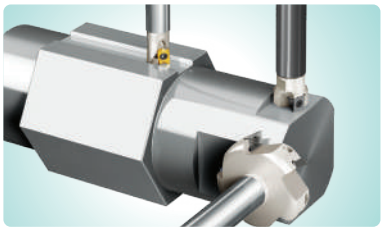


Holemaking



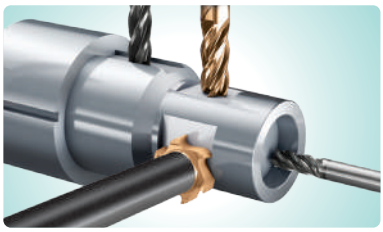
Drilling

Milling



Mill Machining

Solid End Mills



Solid End Mill Machining



MINIATURE

01

Turning

01-1

External Turning

Tool Selection Guide 8

Holders

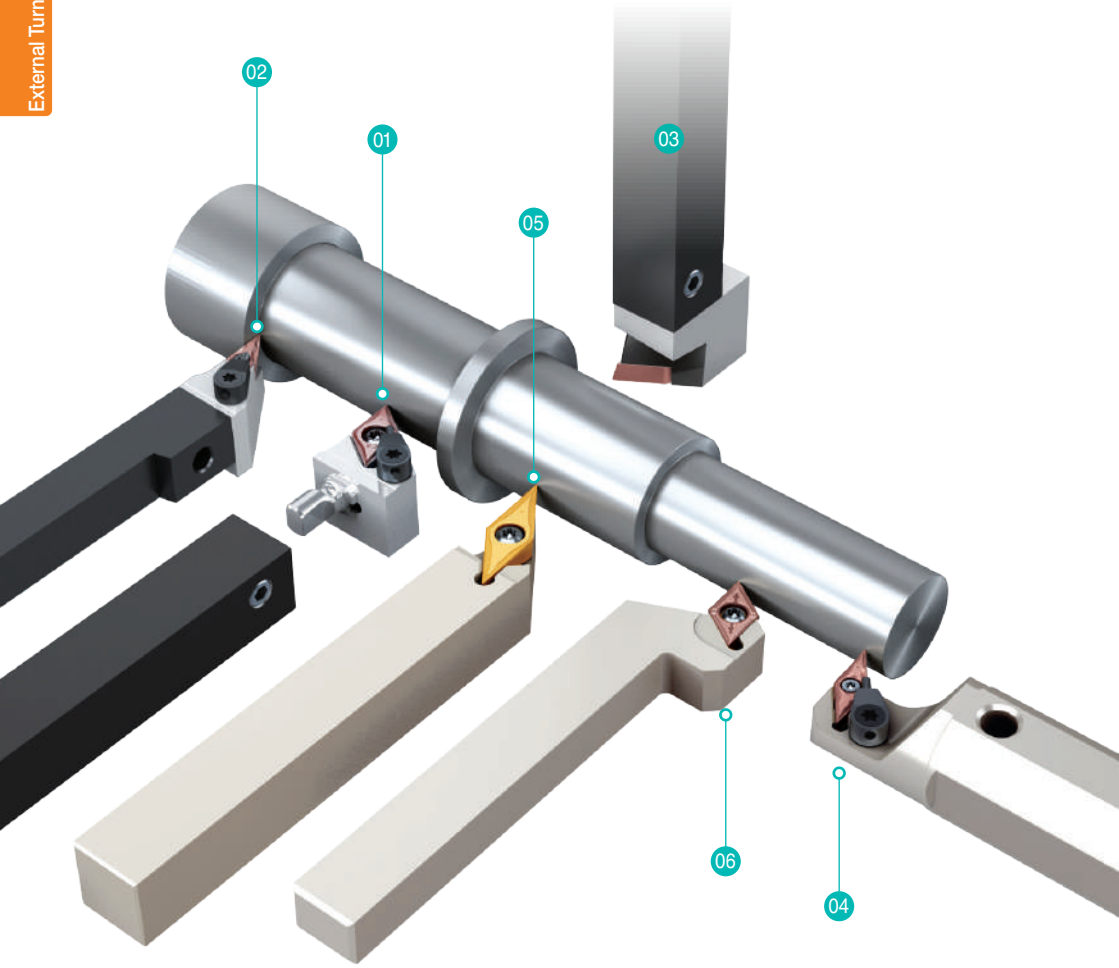
- RHINO-M-TURN 14
- RHINO-TURN 18
- TOP-MINI 21
- MULTI-L-TURN 33
- TOP-CUT 34

WinSwiss


DC...11

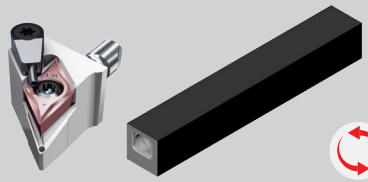

DN...13

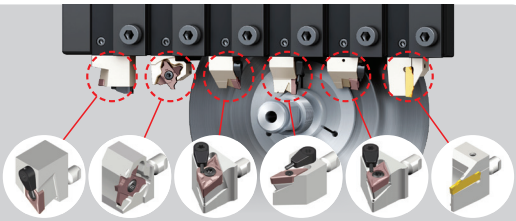

DN...08



Modular Head

01 WinSwiss



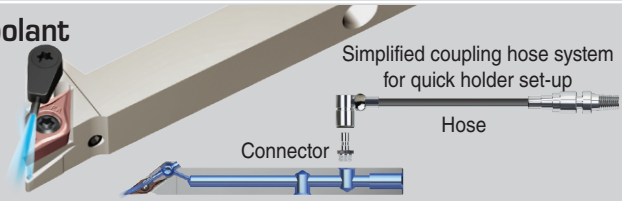


Head change: within **25** seconds

Head-Changeable Saving Calculator

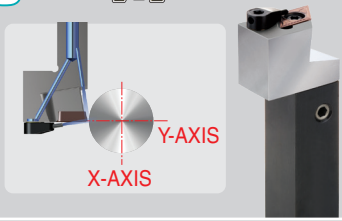
High-pressure Internal Coolant

02 CoolBurst



Y-axis Turning

03 TopMini (TMY holder)



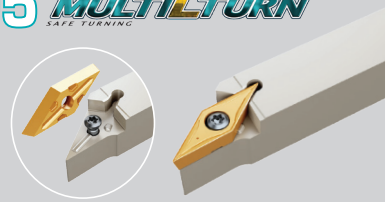
Sub Turning

04 TopMini (TMS holder)



Stable Turning

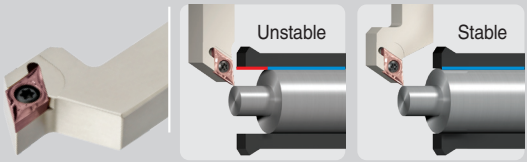
05 MultiLTurn



Rigid clamping

Shift Turning

06 TopMini (TMZ holder)

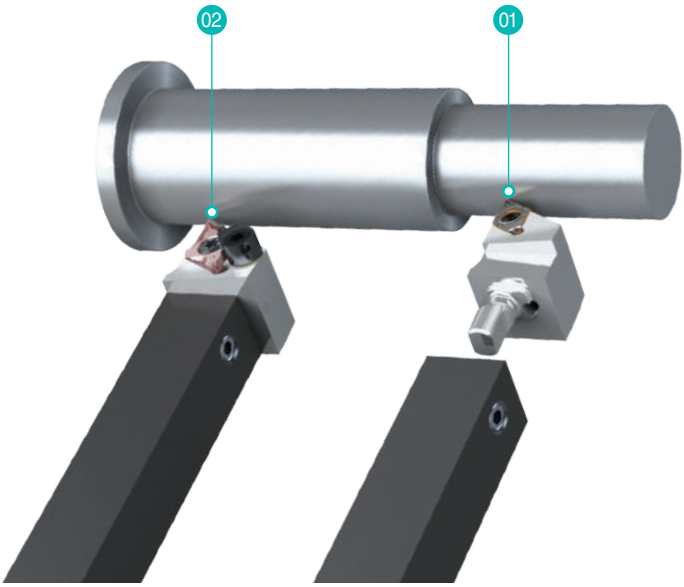


Standard holder TMZ holder

Inserts

TopMini



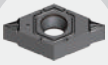


Modular Head

01 RHINOMTURN
MINI LINE

Double-sided mini size inserts and holders

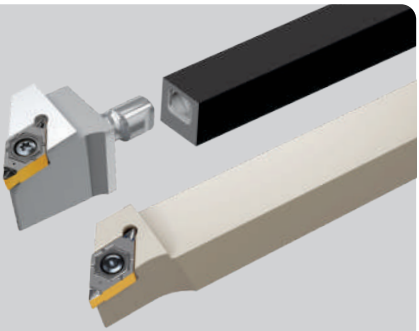

CNMX 07


DNG(M)X 08


WNMX 04

4 edges

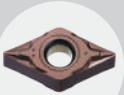
6 edges



02 RHINOTURN
ECO TURNING LINE

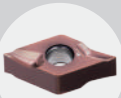
Economical double-sided inserts and holders

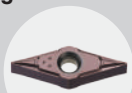

CNGG 09


DNGG 13

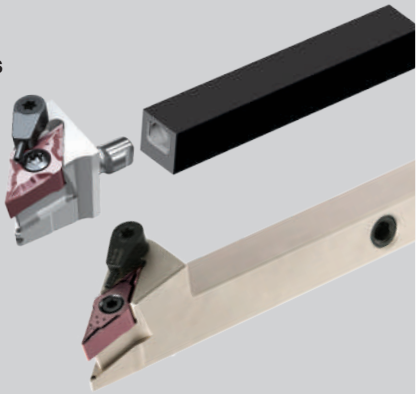
4 edges

6 edges


DNGX 13


VNGX 13


TNGG 13

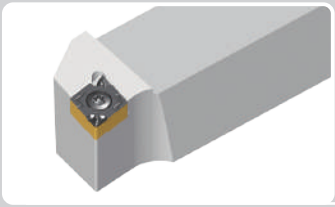


Tool Selection Guide

External turning

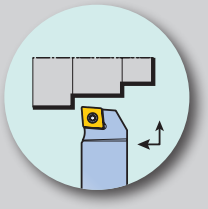
Insert Type

C	D	T	V	W
				



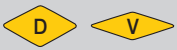
External Holder

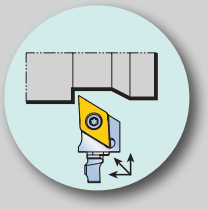






Modular Head

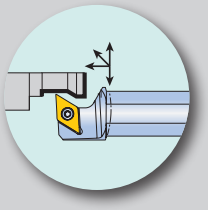


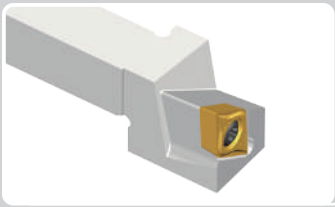




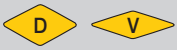
Sleeve Holder

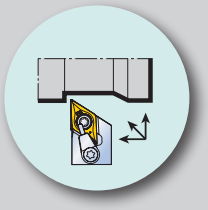


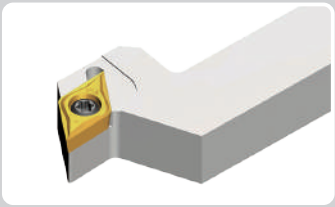




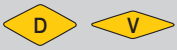
Y-axis Holder

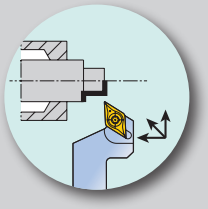






Shift Holder

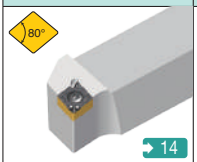
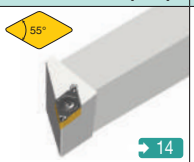
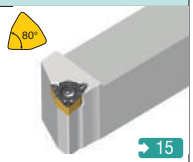




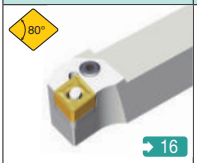
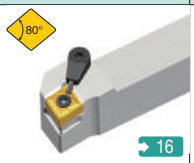
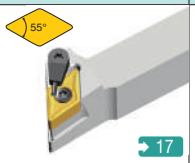
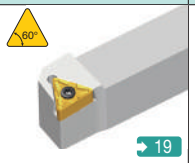
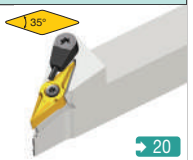
Tool Selection Guide

External turning holders

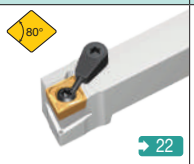
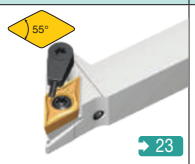
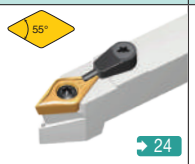
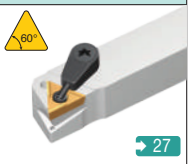
External Turning Holders (for double-sided mini inserts)

RHINOMTURN		
SCLNR/L-RS	**SDJNR/L-RS(-TB)**	**SWLNR/L-RS**
		
Insert : CNMX 0703	DN..X 0803	WNMX...0403
Shank : 12-16	12-16	12-16

External Turning Holders (for double-sided inserts)

RHINOTURN				
HCLNR/L-RS	**SCLNR-RS(-TB)**	**SDJNR-RS(-TB)**	**STGNR-RS**	**SVJNR-RS(-TB)**
				
Insert : CN... 0904	CN... 0904	DN... 1305	TN... 1304	VN..X 1304, YNMG 1304
Shank : 12-16	12-20	12-20	12-20	12-20

External Turning Holders (for single-sided inserts)

TOPMINI				
SCACR/L-SH	**SCLCR/L-SH(-TB)**	**SDJCR/L-SH(-TB)**	**SDNCN-SH(-TB)**	**STGCR/L-SH(-TB)**
				
Insert : CC...T 06/09	CC...T 06/09	DC...T 07/11	DC...T 07/11	TC...T 08/11
Shank : 10-16	08-16	08-20	08-16	08-16

External Turning Holders (for single-sided inserts)

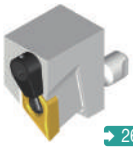


			TOPMINI	MULTILTURN
SVJBR/L-SH(-TB)	**SVJCR/L-SH(-TB)**	**SVVBN-SH(-TB)**	**SVPPR-SH**	**LVJBR-SH**
				
Insert : VB... 1103	VC... 1103	VB... 1103	VP...T 1103	VBMX 16
Shank : 10-16	10-20	10-16	10-16	16

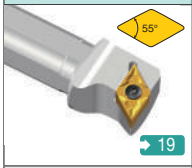
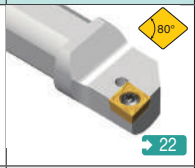
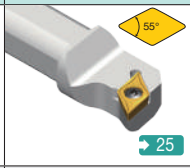
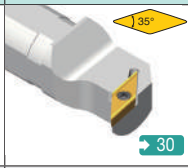
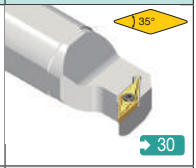
Tool Selection Guide

External turning holders

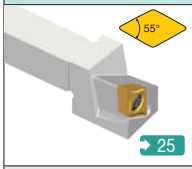
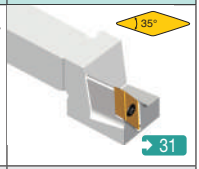
Modular Head Type Holders

WinSwiss				
QE1 SDJNR(-TB)	**QE1 SDJCR(-TB)**	**QE1 SVJBR(-TB)**	**QE1 SVJCR(-TB)**	**QE1Y SDJCR(-TB)**
 18	 24	 28	 32	 26
Insert : DN... 0803	DC... 11T3	VB... 1103	VC... 1103	DC... 11T3
Shank: 12-16	12-16	12-16	12-16	12-16

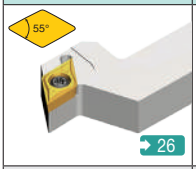
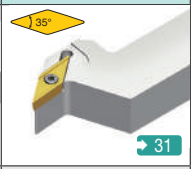
Sleeve Holders (TMS)

RhinoTurn	TopMini			
TMS-SDUNL(-TB)	**TMS-SCLCL**	**TMS-SDUCR/L(-TB)**	**TMS-SVUBR/L(-TB)**	**TMS-SVUCL**
 19	 22	 25	 30	 30
Insert : DN... 1305	CC... 09T3	DC... 11T3	VB...1103	VC...1103
Shank: Ø16-Ø25	Ø19.05-Ø25	Ø16-Ø25.4	Ø16-Ø25	Ø19.05-Ø25.4

Y-axis Holders (TMY)

TopMini	
TMY-SDJCR(-TB)	**TMY-SVJBR(-TB)**
 25	 31
Insert : DC... 11T3	VB.. 1103
Shank: 12-16	12-16

Shift Holders (TMZ)

TopMini	
TMZ-SDJCR	**TMZ-SVLBR**
 26	 31
Insert : DC... 11T3	VB.. 1103
Shank: 12-16	12-16

External Turning Holders

TopCut
TTVER/L
 34
Insert : TVER/L, TVRR/L
Shank : 10-25

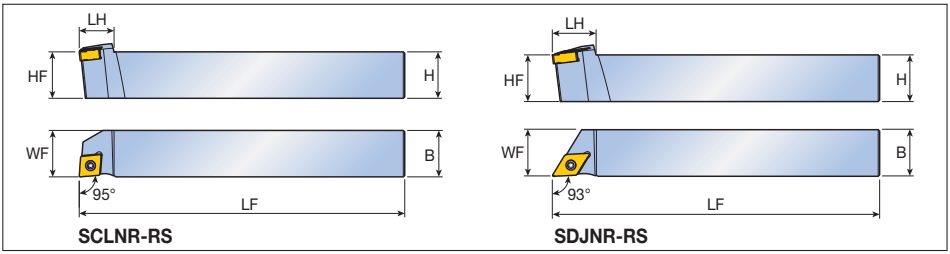
Accessories

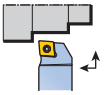
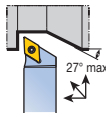
CoolBurst
S-TB Hose
 44
Coupling hose

SCLNR/L-RS SDJNR/L-RS

RHINOMTURN MINI LINE

Screw type holders

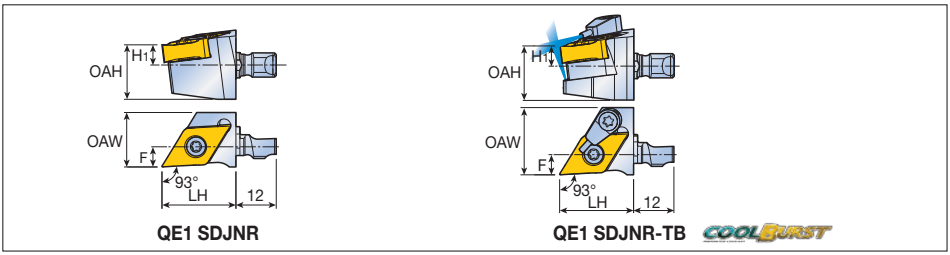


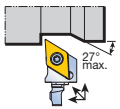
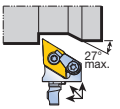
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
95°	SCLNR/L 1212 K0703-RS	12	12	12	125	12	12	CNMX 0703...
	1616 K0703-RS	16	16	16	125	12	16	78
93°	SDJNR/L 1212 K0803-RS	12	12	12	125	15	12	DN...X 0803...
	1616 K0803-RS	16	16	16	125	15	16	78

QE1 SDJNR QE1 SDJNR-TB

RHINOMTURN - WINSWISS

Screw type modular heads for external turning

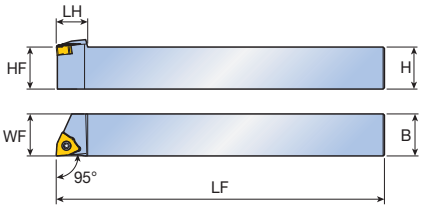


Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H_1	F		
93°	QE1 SDJNR 0803	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB 42	DN...X 0803... RHINOMTURN 78
								
93°	QE1 SDJNR 0803-TB	16.2	22.0	16.2	6.0	7.0		DN...X 0803... RHINOMTURN 78
								

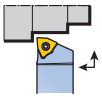
▸ Please refer to 44 page for COOL-BURST accessories

SWLNR/L-RS

Screw type holders



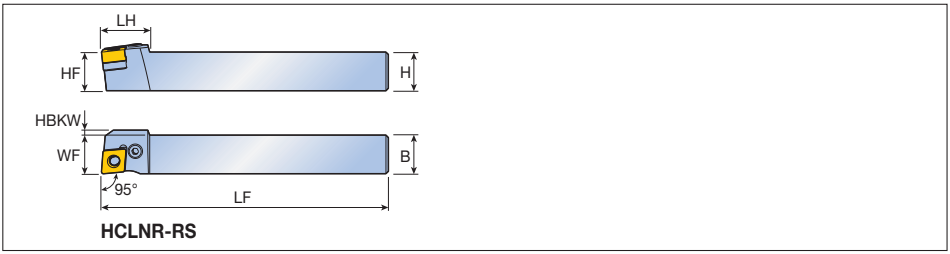
SWLNR-RS

Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95°	**SWLNR/L**	**1212 K0403-RS**	12	12	12	125	12	12	WNMX 0403...
		**1616 K0403-RS**	16	16	16	125	12	16	79

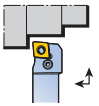
HCLNR/L-RS

RHINOTURN

Hook lever type holders



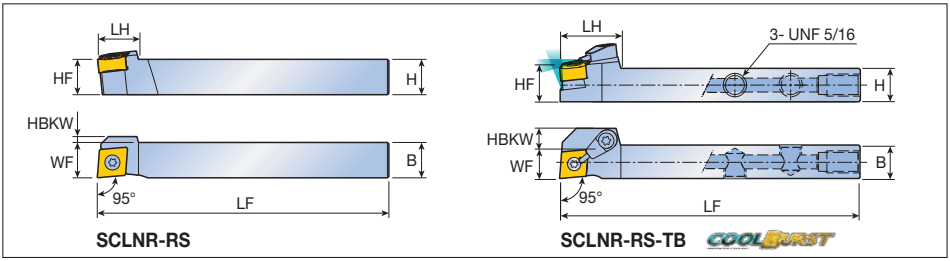
HCLNR-RS

Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
95°	HCLNR/L	1212 K0904-RS	12	12	16	125	18	12	2	CN... 0904...
		1616 K0904-RS	16	16	16	125	20	16	-	80

SCLNR-RS SCLNR-RS-TB

RHINOTURN

Screw type holders



SCLNR-RS

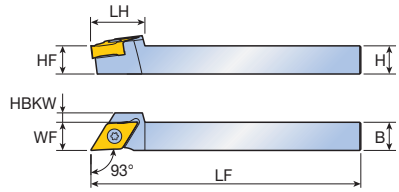
SCLNR-RS-TB COOLBURST

Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
95°	SCLNR	1212 K0904-RS	12	12	12	125	14	12	2	CN... 0904
		1616 K0904-RS	16	16	16	125	14	16	-	80
		2020 K0904-RS	20	20	20	125	14	20	-	
95°	SCLNR	1212 K0904-RS-TB	12	12	12	125	22	12	19	
		1616 K0904-RS-TB	16	16	16	125	22	16	18	
		2020 K0904-RS-TB	20	20	20	125	22	20	-	

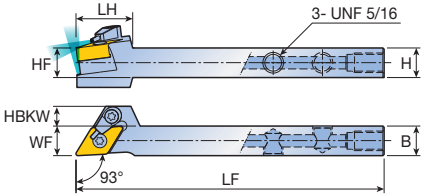
▸ Please refer to 44 page for COOL-BURST accessories

SDJNR-RS SDJNR-RS-TB

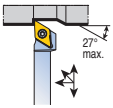
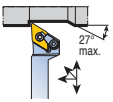
Screw type holders



SDJNR-RS



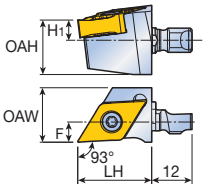
SDJNR-RS-TB COOL BURST

Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
93°	SDJNR	1212 K1305-RS	12	12	12	125	23	12	4	DN... 1305...
		1616 K1305-RS	16	16	16	125	23	16	-	81
		2020 K1305-RS	20	20	20	125	23	20	-	
93°	SDJNR	1212 K1305-RS-TB	12	12	12	125	23	12	8	
		1616 K1305-RS-TB	16	16	16	125	23	16	4	

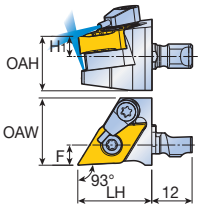
▸ Please refer to 44 page for COOL-BURST accessories

QE1 SDJNR QE1 SDJNR-TB

Screw type modular heads for external turning

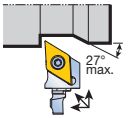


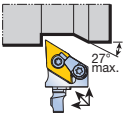
QE1 SDJNR



QE1 SDJNR-TB COOLBURST

Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H1	F		
93°	QE1 SDJNR 1305	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB 42	DN…1305… 81
93°	QE1 SDJNR 1305-TB	16.2	22.0	20.0	6.0	7.0		DN…1305… 81



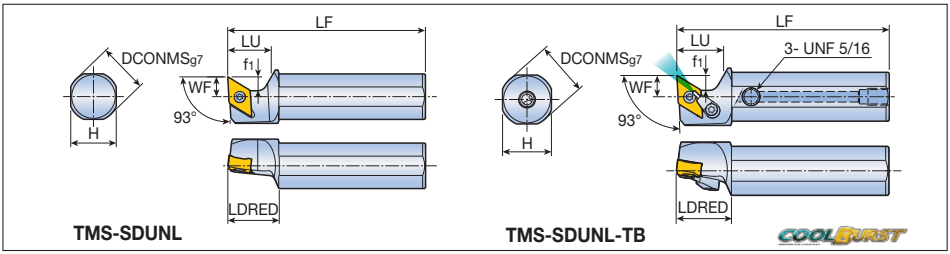


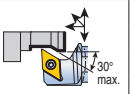
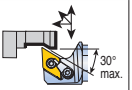
▸ Please refer to 44 page for COOL-BURST accessories

TMS-SDUNL TMS-SDUNL-TB

RHINOTURN

Sleeve holders



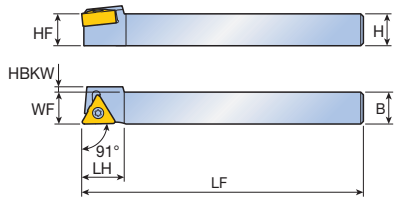
Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	f1	LU	LDRED	WF	
93°	TMS- 16X SDUNL 1305	16	15	85	7	22	26	10	DN... 1305...
	19.05H SDUNL 1305	19.05	17	100	7	22	26	10	81
	20H SDUNL 1305	20	18	100	7	22	26	10	
	22H SDUNL 1305	22	20	100	7	22	26	10	
	25H SDUNL 1305	25	23	100	7	22	26	10	
93°	TMS- 25H SDUNL 1305-TB	25	23	100	7	22	26	10	
									

▸ Please refer to 44 page for COOL-BURST accessories

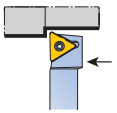
STGNR-RS

RHINOTURN

Screw type holders



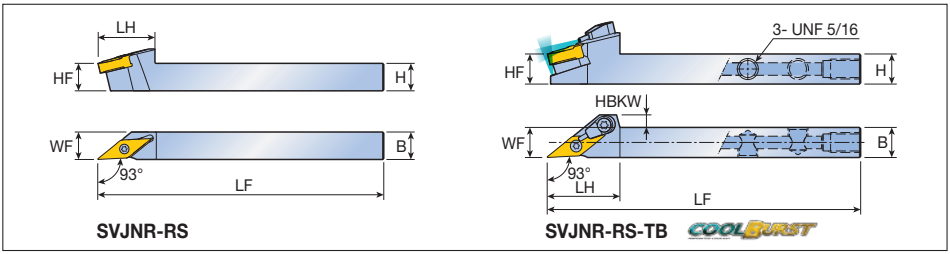
STGNR-RS

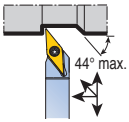
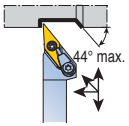
Approach angle	Designation	Dimension (mm)							Insert
		H	HF	B	LF	LH	WF	HBKW	
91°	STGNR 1212 K1304-RS	12	12	12	125	16	12	2	TN... 1304...
	1616 K1304-RS	16	16	16	125	16	16	-	82
	2020 K1304-RS	20	20	20	125	16	20	-	

SVJNR-RS SVJNR-RS-TB

RHINOTURN

Screw type holders



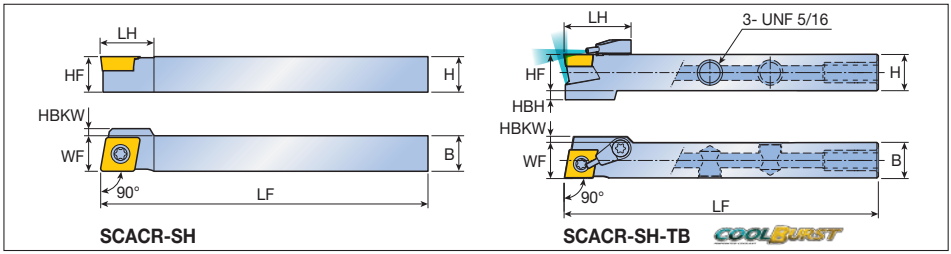
Approach angle	Designation	Dimension (mm)							Insert
		H	HF	B	LF	LH	WF	HBKW	
93°	**SVJNR 1212 K1304-RS**	12	12	12	125	25	12	-	VN...X 1304... YNMG 1304...
	**1616 K1304-RS**	16	16	16	125	25	16	-	83
	2020 K1304-RS	20	20	20	125	25	20	-	
93°	**SVJNR 1212 K1305-RS-TB**	12	12	12	125	29	12	5	
	**1616 K1305-RS-TB**	16	16	16	125	29	16	1	

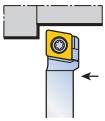
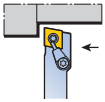
▸ Please refer to 44 page for COOL-BURST accessories

SCACR/L-SH SCACR/L-SH-TB

TOPMINI

Screw type holders



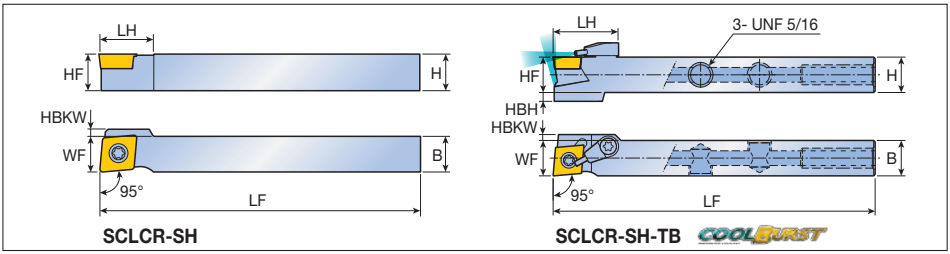
Approach angle	Designation		Dimension (mm)								Insert
			H	HF	HBH	B	LF	LH	WF	HBKW	
90°	SCACR/L	1010 K06-SH	10	10	-	10	125	10	10	-	CC...T 0602...
		1010 K09-SH	10	10	-	10	125	15	10	2	CC...T 09T3...
		1212 K09-SH	12	12	-	12	125	15	12	-	84-88
		1616 K09-SH	16	16	-	16	125	16	16	-	
90°	SCACR/L	1212 K09-SH-TB	12	12	3	12	125	23	12	2	
		1616 K09-SH-TB	16	16	-	16	125	23	16	-	

▸ Please refer to 44 page for COOL-BURST accessories

SCLCR/L-SH SCLCR/L-SH-TB

TOPMINI

Screw type holders



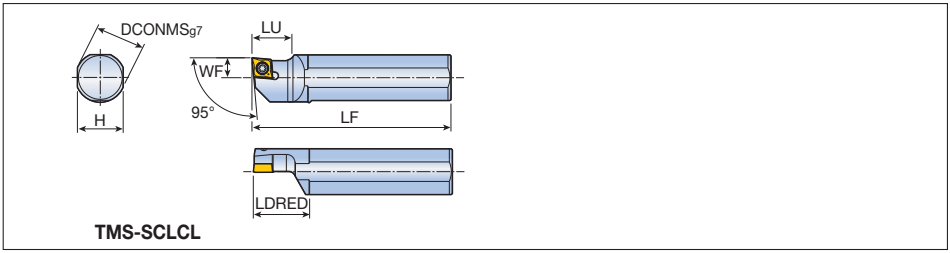
Approach angle	Designation	Dimension (mm)								Insert
		H	HF	HBH	B	LF	LH	WF	HBKW	
95°	SCLCR/L 0808 K06-SH	8	8	-	8	125	8	8	-	CC... 0602...
	1010 K06-SH	10	10	-	10	125	10	10	-	
	1010 K09-SH	10	10	-	10	125	15	10	2	CC... 09T3...
	1212 K09-SH	12	12	-	12	125	15	12	-	84-88
	1616 K09-SH	16	16	-	16	125	16	16	-	
95°	SCLCR/L 1212 K09-SH-TB	12	12	3	12	125	23	12	2	
	1616 K09-SH-TB	16	16	-	16	125	23	16	-	

▸ Please refer to 44 page for COOL-BURST accessories

TMS-SCLCL

TOPMINI

Sleeve holders

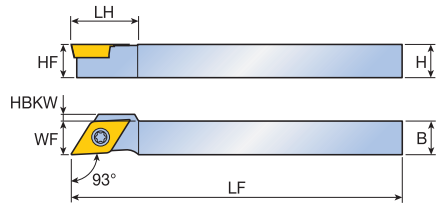


Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LU	LDRED	WF	
95°	TMS- 19.05H SCLCL 09	19.05	17	100	20	28	10	CC... 09T3...
	20H SCLCL 09	20	18	100	20	28	10	84-88
	22H SCLCL 09	22	20	100	20	28	10	
	25H SCLCL 09	25	23	100	20	28	10	

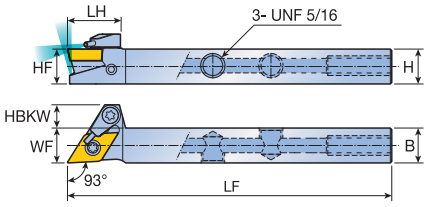
SDJCR/L-SH SDJCR/L-SH-TB

TOPMINI

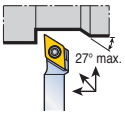
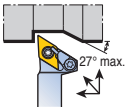
Screw type holders



SDJCR-SH



SDJCR-SH-TB COOL BURST

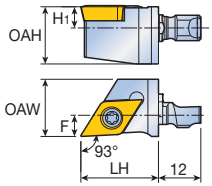
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
93°	SDJCR/L	0808 K07-SH	8	8	8	125	12.7	8	-	DC... 0702...
		1010 K07-SH	10	10	10	125	15	10	-	
		1010 K11-SH	10	10	10	125	20	10	2	DC... 11T3...
		1212 K11-SH	12	12	12	125	20	12	-	90-94
		1616 K11-SH	16	16	16	125	20	16	-	
		2020 K11-SH	20	20	20	125	20	20	-	
93°	SDJCR/L	1212 K11-SH-TB	12	12	12	125	19	12	8	
		1616 K11-SH-TB	16	16	16	125	19	16	4	
		2020 K11-SH-TB	20	20	20	125	20	20	-	

▸ Please refer to 44 page for COOL-BURST accessories

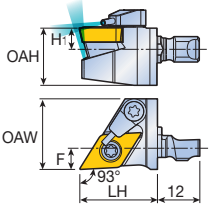
QE1 SDJCR QE1 SDJCR-TB

TOPMINI - WINSWISS

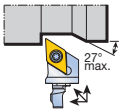
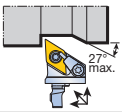
Screw type modular heads for external turning



QE1 SDJNR



QE1 SDJNR-TB COOL BURST

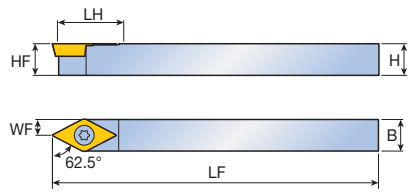
Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H1	F		
93°	**QE1 SDJCR 11**	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB 42	DC... 11T3... 90-94
								
93°	**QE1 SDJCR 11-TB**	16.2	22.0	20.0	6.0	7.0		
								

▸ Please refer to 44 page for COOL-BURST accessories

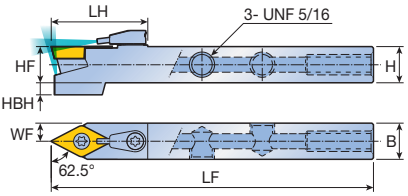
SDNCN-SH SDNCN-SH-TB

TOPMINI

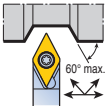
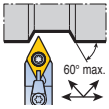
Screw type holders



SDNCN-SH



SDNCN-SH-TB COOL BURST

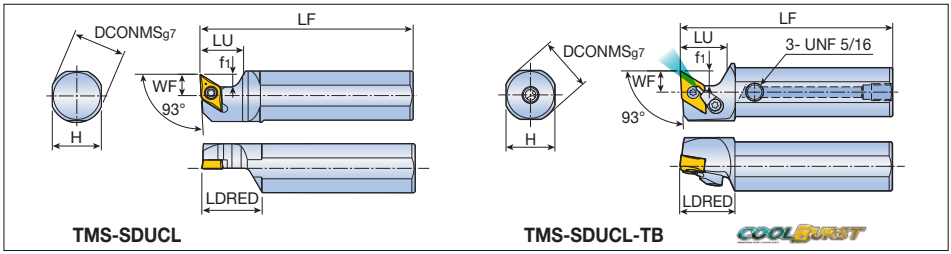
Approach angle	Designation	Dimension (mm)							Insert
		H	HF	HBH	B	LF	LH	WF	
62.5°	**SDNCN 0808 K07-SH**	8	8	-	8	125	15	4	DC... 0702...
	**1010 K07-SH**	10	10	-	10	125	15	5	
	1010 K11-SH	10	10	-	10	125	22	5	DC... 11T3...
	1212 K11-SH	12	12	-	12	125	22	6	90-94
	1616 K11-SH	16	16	-	16	125	22	8	
62.5°	**SDNCN 1212 K11-SH-TB**	12	12	4	12	125	32	6	
	**1616 K11-SH-TB**	16	16	-	16	125	32	8	

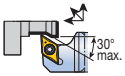
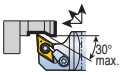
▸ Please refer to 44 page for COOL-BURST accessories

TMS-SDUCL TMS-SDUCR/L-TB

TOPMINI

Sleeve holders



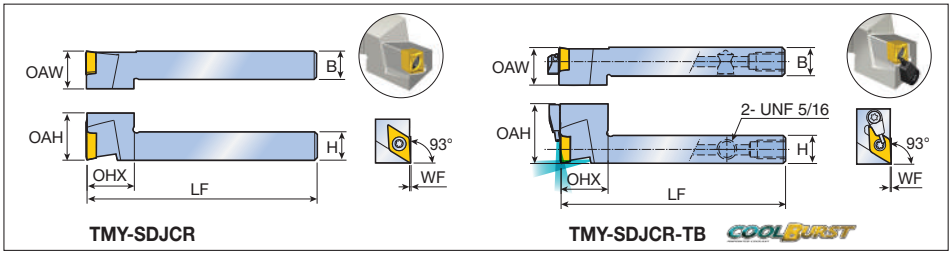
Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	f1	LU	LDRED	WF	
93°	TMS - 16X SDUCL 11	16	15	85	6	20	28	10	DC... 11T3...
	19.05H SDUCL 11	19.05	17	100	6	20	28	10	90-94
	20H SDUCL 11	20	18	100	6	20	28	10	
	22H SDUCL 11	22	20	100	6	20	28	10	
	25H SDUCL 11	25	23	100	6	20	28	10	
	25.4H SDUCL 11	25.4	23.4	100	6	20	28	10	
93°	TMS - 16X SDUCR 11- TB	16	15	85	6	20	28	10	
	19.05H SDUCL 11-TB	19.05	17	100	6	20	28	10	
	20H SDUCL 11-TB	20	18	100	6	20	28	10	
	22H SDUCL 11-TB	22	20	100	6	20	28	10	
	25H SDUCL 11-TB	25	23	100	6	20	28	10	

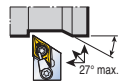
▸ Please refer to 44 page for COOL-BURST accessories

TMY-SDJCR TMY-SDJCR-TB

TOPMINI

Y-axis holders



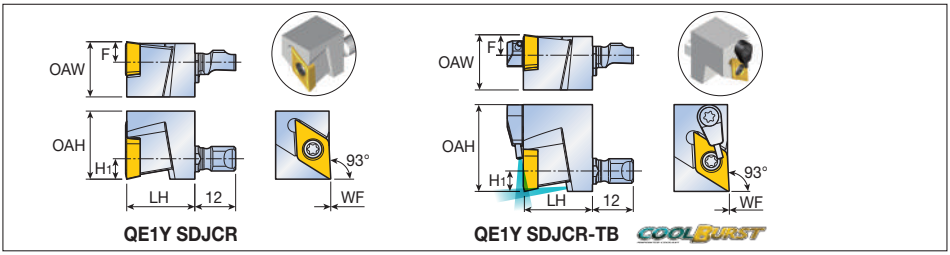
Approach angle	Designation	Dimension (mm)							Insert
		H	B	LF	OHX	OAH	OAW	WF	
93°	TMY- SDJCR 1212 K11	12	12	125	21	20	16	0	DC... 11T3...
	SDJCR 1616 K11	16	16	125	21	20	16	0	90-94
93°	TMY- SDJCR 1212 K11-TB	12	12	125	21	25.5	16	0	
	SDJCR 1616 K11-TB	16	16	125	21	25.5	16	0	

▸ Please refer to 44 page for COOL-BURST accessories

QE1Y SDJCR QE1Y SDJCR-TB

TOPMINI - WINSWISS

Screw type Y-axis modular heads



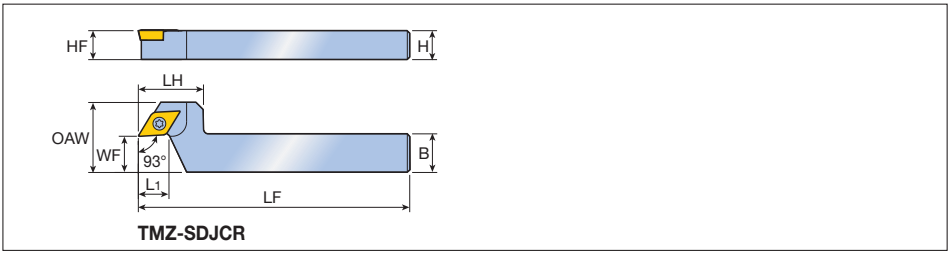
Approach angle	Designation	Dimension (mm)						Shank	Insert
		OAW	OAH	LH	WF	H1	F		
93°	QE1Y SDJCR 11	16.2	20.0	20.0	0.0	6.0	7.0	QE1 12N-TB QE1 16L-TB 42	DC.. 11T3.. 90-94
93°	QE1Y SDJCR 11-TB	16.2	25.5	20.0	0.0	6.0	7.0	QE1 12N-TB QE1 16L-TB	

▸ Please refer to 44 page for COOL-BURST accessories

TMZ-SDJCR

TOPMINI

Shift holders

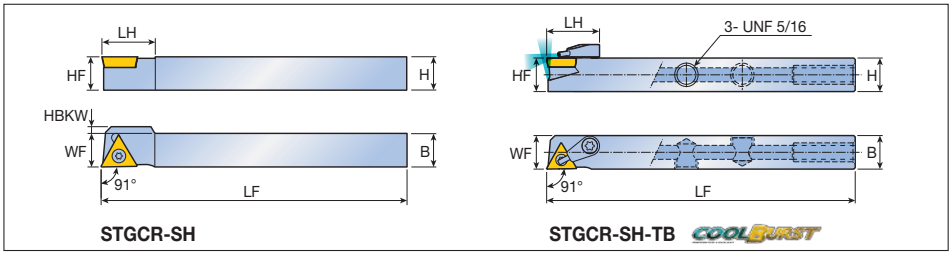


Approach angle	Designation	Dimension (mm)								Insert
		H	HF	B	LF	L1	OAW	LH	WF	
93°	TMZ- SDJCR 1216 K11-F15	12	12	16	125	12.5	29	27	15	DC... 11T3...
	SDJCR 1620 K11-F15	16	16	20	125	16.3	29	30	15	90-94

STGCR/L-SH STGCR/L-SH-TB

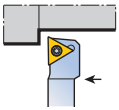
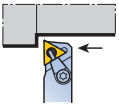
TOPMINI

Screw type holders



STGCR-SH

STGCR-SH-TB COOL BURST

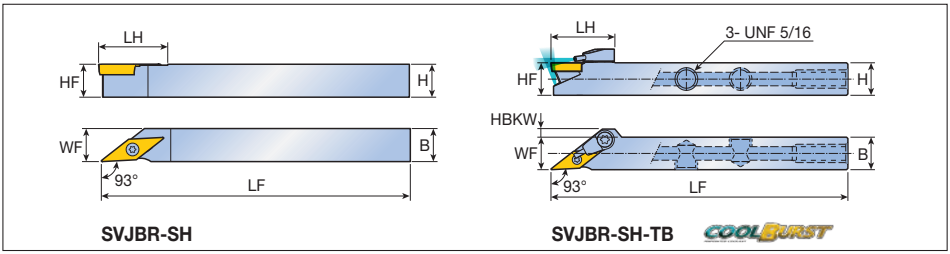
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
91°	STGCR/L	0808 E08-SH	8	8	8	70	11	8	2	TC...T 0802...
		1010 F08-SH	10	10	10	80	11	10	-	
		1010 K11-SH	10	10	10	125	16	10	2	TC... 1103...
		1212 K11-SH	12	12	12	125	16	12	-	96-101
		1616 K11-SH	16	16	16	125	16	16	-	
91°	STGCR	1212 K11-SH-TB	12	12	12	125	20	12	-	
		1616 K11-SH-TB	16	16	16	125	20	16	-	

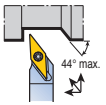
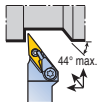
▸ Please refer to 44 page for COOL-BURST accessories

SVJBR/L-SH SVJBR/L-SH-TB

TOPMINI

Screw type holders



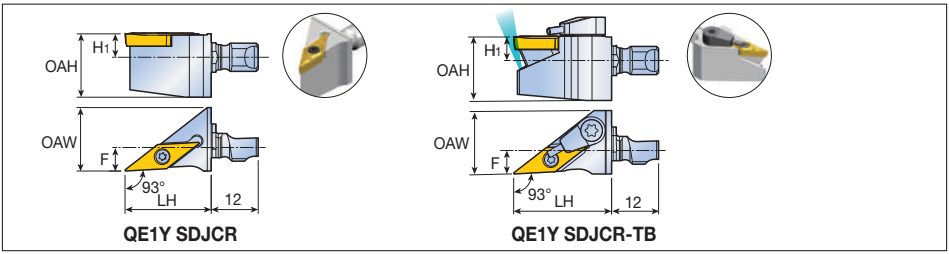
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
93°	SVJBR/L	1010 K11-SH	10	10	10	125	21	10	-	VB... 1103...
		1212 K11-SH	12	12	12	125	21	12	-	102-103
		1616 K11-SH	16	16	16	125	21	16	-	
93°	SVJBR/L	1212 K11-SH-TB	12	12	12	125	23.6	12	3	
		1616 K11-SH-TB	16	16	16	125	23.6	16	-	

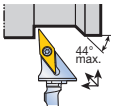
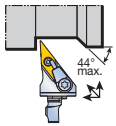
▸ Please refer to 44 page for COOL-BURST accessories

QE1 SVJBR QE1 SVJBR-TB

TOPMINI - WINSWISS

Screw type modular heads for external turning



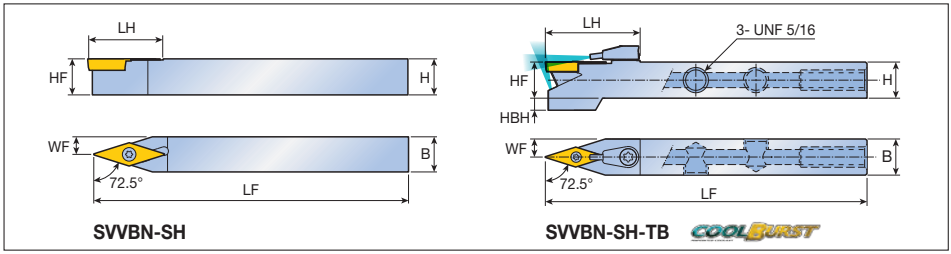
Approach angle	Designation		Dimension (mm)					Shank	Insert
			OAH	LH	OAW	H_1	F		
93°	QE1 SVJBR 11		16.2	22.0	16.2	6.0	7.0	QE1 12N-TB	VB.. 1103..
								QE1 16R-TB	102-103
								42	
93°	QE1 SVJBR 11-TB		16.2	25.0	16.2	6.0	7.0		
									

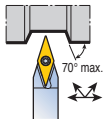
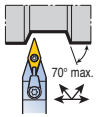
▸ Please refer to 44 page for COOL-BURST accessories

SVVBN-SH SVVBN-SH-TB

TOPMINI

Screw type holders



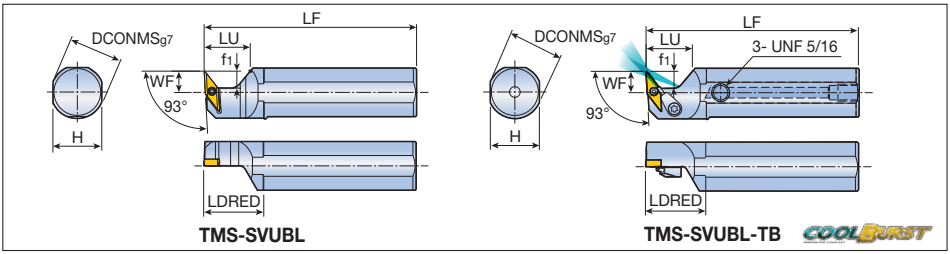
Approach angle	Designation	Dimension (mm)							Insert
		H	HF	HBH	B	LF	LH	WF	
72.5°	SVVBN **1010 K11-SH**	10	10	-	10	125	22	5	VB... 1103...
	**1212 K11-SH**	12	12	-	12	125	22	6	102-103
	1616 K11-SH	16	16	-	16	125	22	8	
72.5°	SVVBN **1212 K11-SH-TB**	12	12	2	12	125	31.5	6	
	**1616 K11-SH-TB**	16	16	-	16	125	31.5	8	

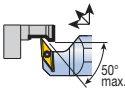
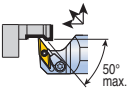
▸ Please refer to 44 page for COOL-BURST accessories

TMS-SVUB(C)L TMS-SVUBR/L-TB

TOPMINI

Sleeve holders



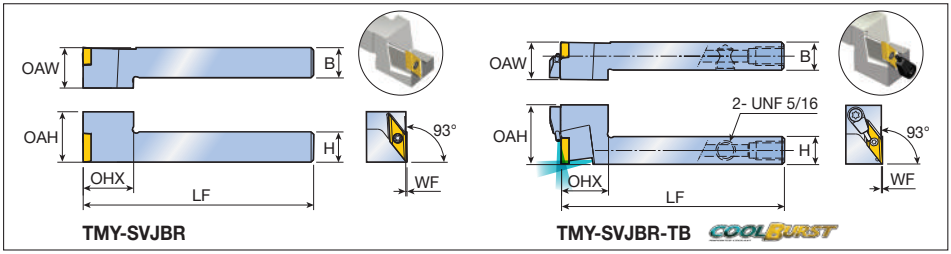
Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	f1	LU	LDRED	WF	
93°	**TMS- 19.05H SVUBL 11**	19.05	17	100	8	21	25	10	VB... 1103...
	**20H SVUBL 11**	20	18	100	8	21	25	10	102-103
	22H SVUBL 11	22	20	100	8	21	25	10	
	25H SVUBL 11	25	23	100	8	21	25	10	
	TMS- 19.05H SVUCL 11	19.05	17	100	8	21	25	10	VC... 1103...
	22H SVUCL 11	22	20	100	8	21	25	10	104-105
	25.4H SVUCL 11	25.4	23.4	100	8	21	28	10	
	25H SVUCL 11	25	23	100	8	21	28	10	
93°	**TMS- 16X SVUBR 11-TB**	16	15	85	8	21	25	10	VB... 1103...
	**19.05H SVUBL 11-TB**	19.05	17	100	8	21	25	10	102-103
	20H SVUBL 11-TB	20	18	100	8	21	25	10	
	22H SVUBL 11-TB	22	20	100	8	21	25	10	
	25H SVUBL 11-TB	25	23	100	8	21	25	10	

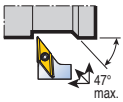
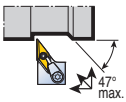
▸ Please refer to 44 page for COOL-BURST accessories

TMY-SVJBR TMY-SVJBR-TB

TOPMINI

Y-axis holders



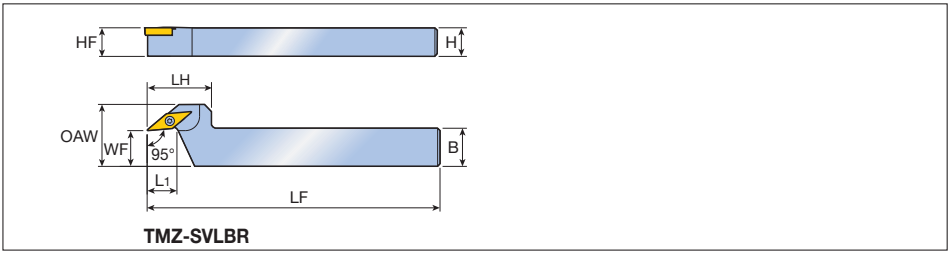
Approach angle	Designation		Dimension (mm)							Insert
			H	B	LF	OHX	OAH	OAW	WF	
93°	TMY-	SVJBR 1212 K11	12	12	125	21	20	16	0	VB... 1103...
		SVJBR 1616 K11	16	16	125	21	20	16	0	102-103
93°	TMY-	SVJBR 1212 K11-TB	12	12	125	21	25.5	16	0	
		SVJBR 1616 K11-TB	16	16	125	21	25.5	16	0	

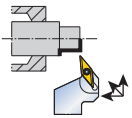
▸ Please refer to 44 page for COOL-BURST accessories

TMZ-SVLBR

TOPMINI

Shift holders

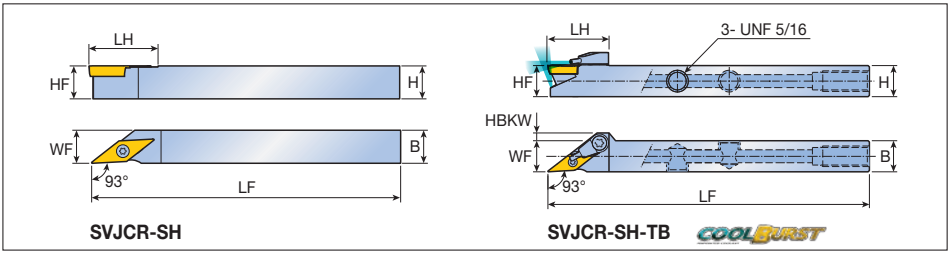


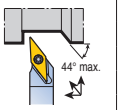
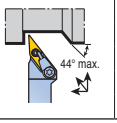
Approach angle	Designation		Dimension (mm)								Insert
			H	HF	B	LF	L1	OAW	LH	WF	
95°	TMZ-	SVLBR 1216 K11-F15	12	12	16	125	12.3	26	27	15	VB... 1103...
		SVLBR 1620 K11-F15	16	16	20	125	16.2	26	30	15	102-103

SVJCR/L-SH SVJCR/L-SH-TB

TOPMINI

Screw type holders



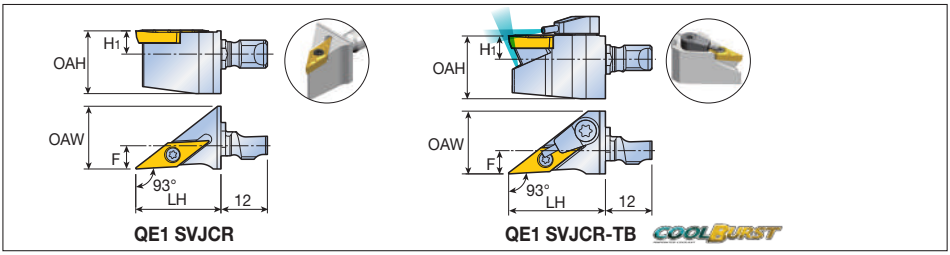
Approach angle	Designation	Dimension (mm)							Insert
		H	HF	B	LF	LH	WF	HBKW	
93°	**SVJCR/L 1010 K11-SH**	10	10	10	125	21	10	-	VC... 1103...
	**1212 K11-SH**	12	12	12	125	21	12	-	104-105
	1616 K11-SH	16	16	16	125	21	16	-	
	2020 K11-SH	20	20	20	125	21	20	-	
93°	**SVJCR/L 1212 K11-SH-TB**	12	12	12	125	23.6	12	3	
	**1616 K11-SH-TB**	16	16	16	125	23.6	16	-	
	2020 K11-SH-TB	20	20	20	125	23.6	20	-	

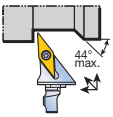
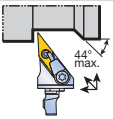
▸ Please refer to 44 page for COOL-BURST accessories

QE1 SVJCR QE1 SVJCR-TB

TOPMINI - WINSWISS

Screw type modular heads for external turning



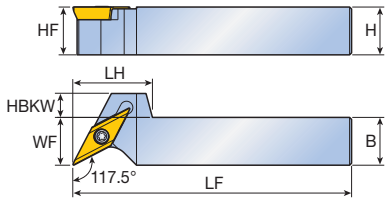
Approach angle	Designation	Dimension (mm)					Holder	Insert
		OAH	LH	OAW	H1	F		
93°	**QE1 SVJCR 11**	16.2	22.0	16.2	6.0	7.0	QE1 12N-TB QE1 16R-TB 42	VC... 1103... 104-105
								
93°	**QE1 SVJCR 11-TB**	16.2	25.0	16.2	6.0	7.0	QE1 12N-TB QE1 16R-TB 42	VC... 1103... 104-105
								

▸ Please refer to 44 page for COOL-BURST accessories

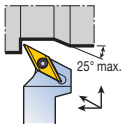
SVPPR/L-SH

TOPMINI

Screw type holders



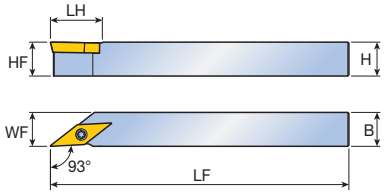
SVPPR/L-SH

Approach angle	Designation	Dimension (mm)							Insert
		H	HF	B	LF	LH	WF	HBKW	
117.5°	SVPPR/L 1010 K11-SH	10	10	10	125	20	10	8	VP...T 1103...
	1212 K11-SH	12	12	12	125	20	12	6	106
	1616 K11-SH	16	16	16	125	16	16	-	

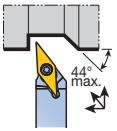
LVJBR-SH

MULTILTURN

Screw type holders



LVJBR-SH

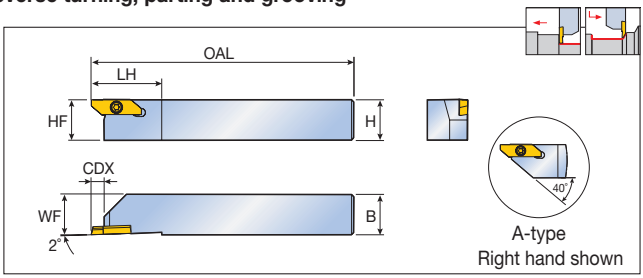
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
93°	LVJBR- 1616 K16-SH	16	16	16	125	24.5	16	VBMX 1604...
								103

TTVER/L

TOPCUT

Holders for general turning & reverse turning, parting and grooving





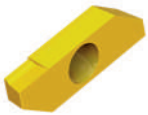
Designation	Dimension (mm)							Insert
	H	HF	B	OAL	LH	WF	CDX	
TTVER/L 1010-4-A	10	10	10	125	29	9.9	6.7	TVER/L TVRR/L
1212-4-A	12	12	12	125	29	11.9	6.7	
1616-4	16	16	16	125	29	15.9	6.5	
2020-4	20	20	20	125	29	19.9	6.5	
2525-4	25	25	25	125	29	24.9	6.5	

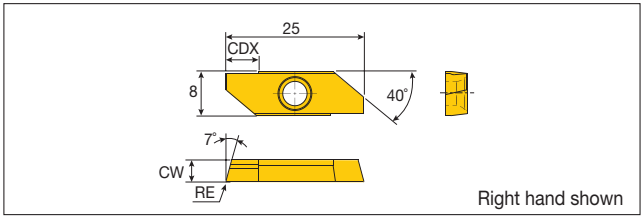
▸ Please keep in your mind selecting right insert

TVER/L

TOPCUT

General turning inserts





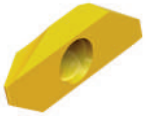
Designation	ap (mm)	Feed (mm/rev)	Dimension (mm)			Grade (TT9010)	
			CW	RE	CDX	R	L
TVER/L 40003	0.1-5.5	0.01-0.15	3.97	0.03	5.5	●	
40010	0.1-5.5	0.01-0.15	3.97	0.10	5.5	●	

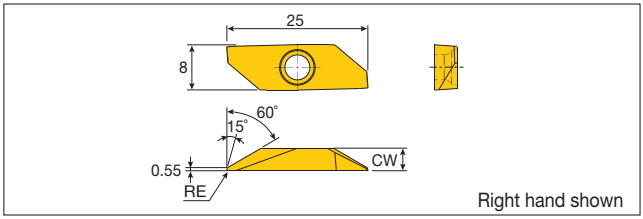
●: Standard items

TVRR/L

TOPCUT

Reverse turning inserts





Designation	ap (mm)	Feed (mm/rev)	Dimension (mm)			Grade (TT9010)	
			CW	RE	CDX	R	L
TVRR/L 40003-60	0.1-5.5	0.01-0.15	3.97	0.03	5.5	●	
40010-60	0.1-5.5	0.01-0.15	3.97	0.10	5.5	●	

●: Standard items

01 Turning

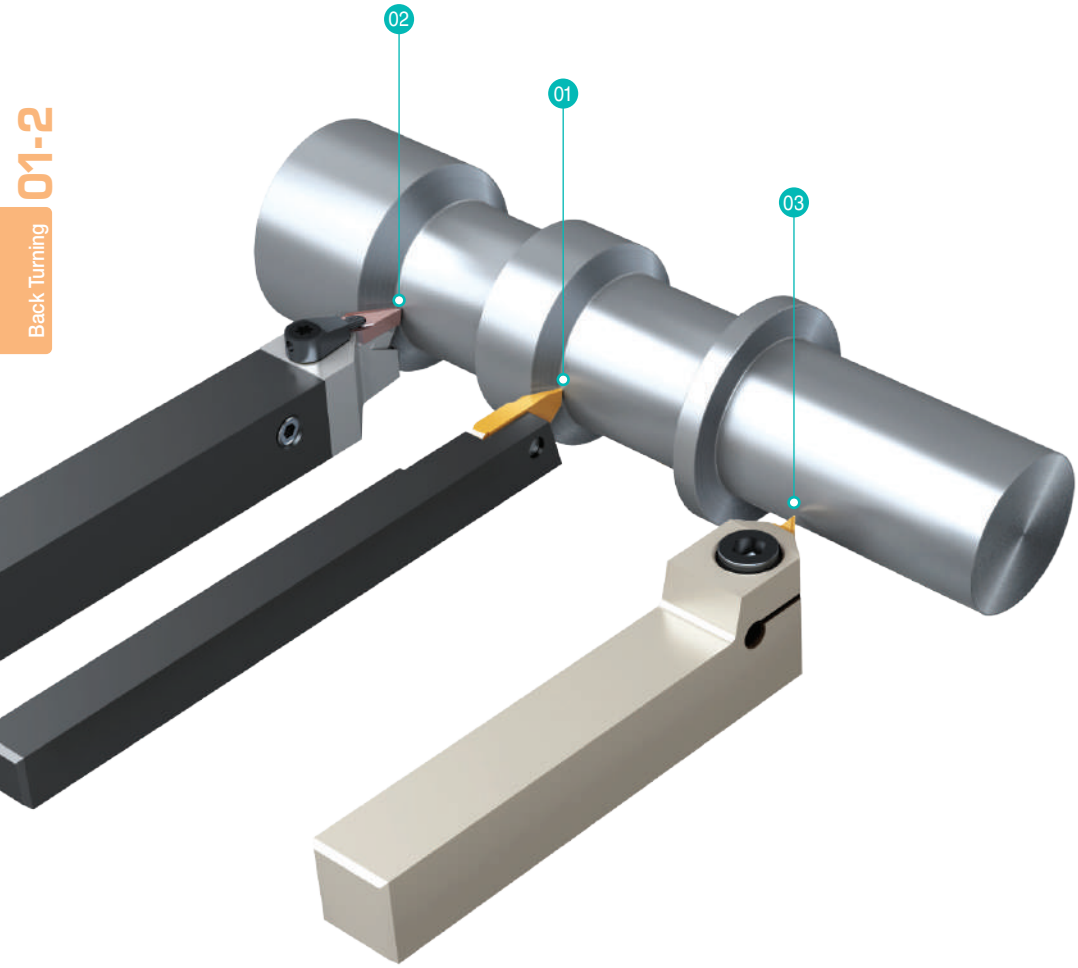
01-2

Back Turning

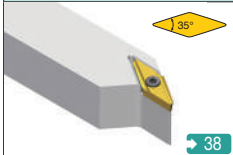
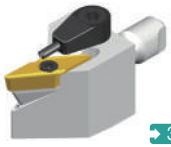
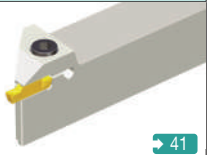
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Holders & Inserts

- TOP-MINI 38
- TOP-CUT 40
- VT-CLAMP 41



Back Turning Holders

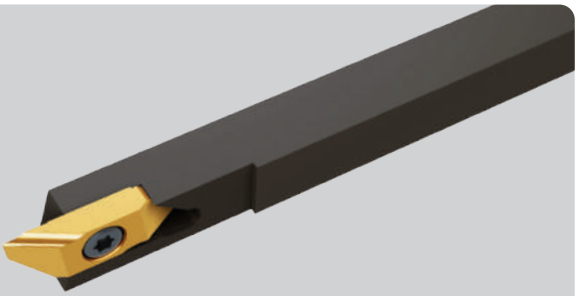
TOPMINI	WINSWISS	TOPCUT	VT-CLAMP
TMB-SVXCR(-TB)	QE1B SVXCR(-TB)	TTVBR/L	TGFR/L
 38	 38	 40	 41
Insert : BTVC 1103	BTVC 1103	TVBR/L	TDMV
Shank : 12-16	12-16	10-25	10-25

Back Turning

01 TOPCUT



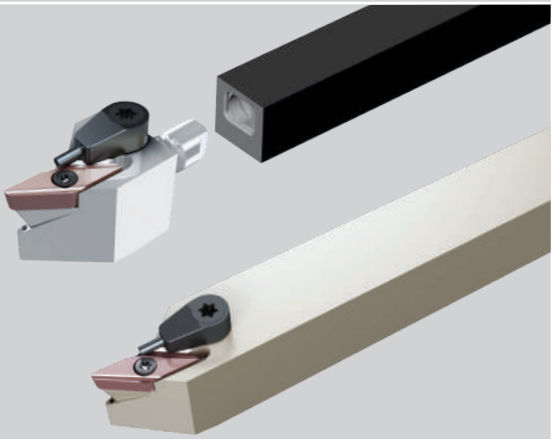
TVBR

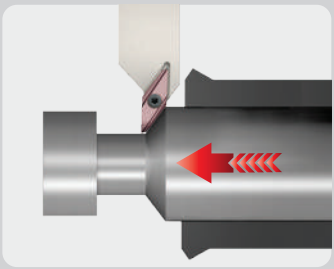


02 TOPMINI



BTVC

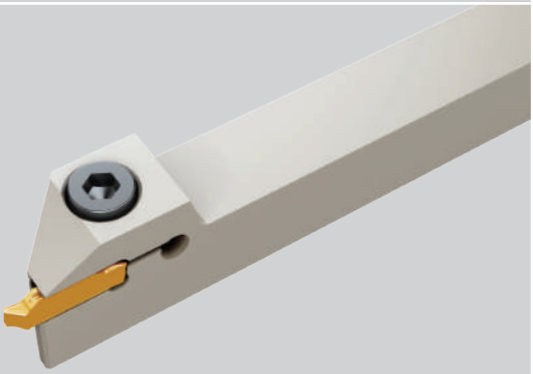


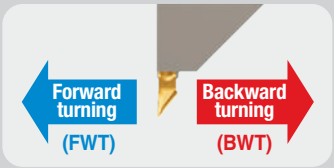


03 VT-CLAMP



TDMV

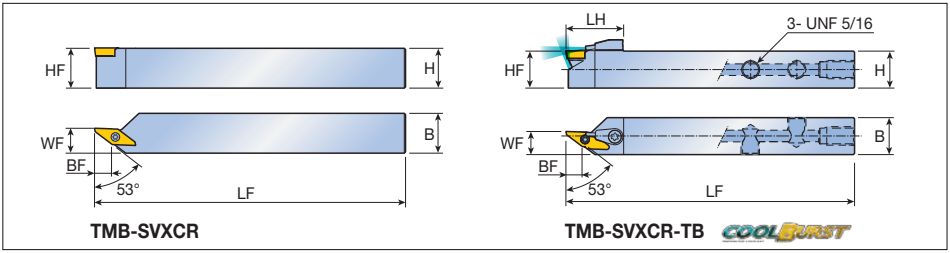




TMB-SVXCR TMB-SVXCR-TB

TOPMINI

Screw type back turning holders



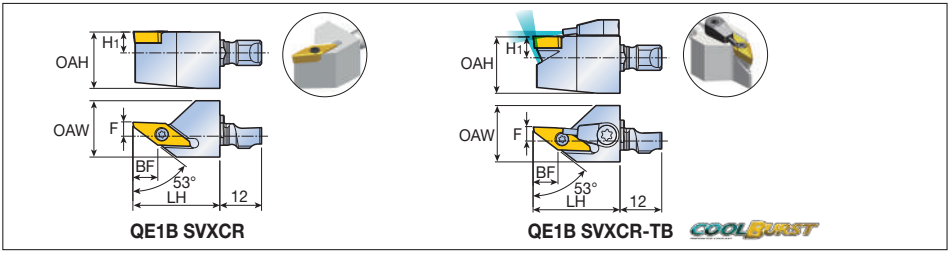
TMB-SVXCR TMB-SVXCR-TB COOLBURST

Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	BF	
53°	TMB-SVXCR	1212 K11	12	12	12	125	-	10	7.2	BTVC 1103...
		1616 K11	16	16	16	125	-	10	7.2	39
53°	TMB-SVXCR	1212 K11-TB	12	12	12	125	25	10	7.2	
		1616 K11-TB	16	16	16	125	25	10	7.2	

QE1B SVXCR QE1B SVXCR-TB

TOPMINI - WINSWISS

Screw type modular heads for external back turning



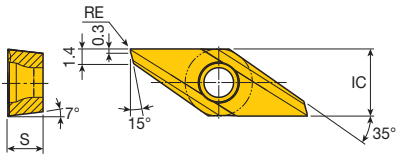
QE1B SVXCR QE1B SVXCR-TB COOLBURST

Approach angle	Designation		Dimension (mm)						Holder	Insert
			OAH	LH	OAW	BF	H1	F		
93°	QE1B	SVXCR 11	16.2	25.0	16.2	7.2	6.0	3.0	QE1 12N-TB QE1 16R-TB 42	BTVC 1103.. 39
93°	QE1B	SVXCR 11-TB	16.2	25.0	16.2	7.2	6.0	3.0		

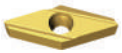
BTVC

TOPMINI

Positive 7° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0-0.2

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Back turning	**BTVC 110300R-F**	0.03-3.5	0.01-0.12										●		
	110301MR-F	0.05-3.5	0.01-0.15										●		
	110302MR-F	0.10-3.5	0.01-0.15										●		

▸ -F: Sharp edge

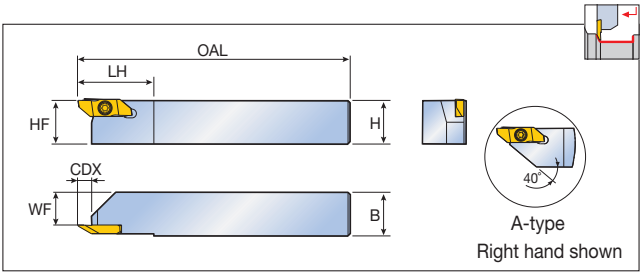
●: Standard items

TTVBR/L

TOPCUT

Holders for back turning





Designation		Dimension (mm)							Insert
		H	HF	B	OAL	LH	WF	CDX	
TTVBR/L	**1010-4-A**	10	10	10	125	29	5.7	6.7	TVBR/L
	1212-4-A	12	12	12	125	29	7.7	6.7	
	1616-4	16	16	16	125	29	11.7	6.4	
	2020-4	20	20	20	125	29	15.7	6.4	
	2525-4	25	25	25	125	29	20.7	6.4	

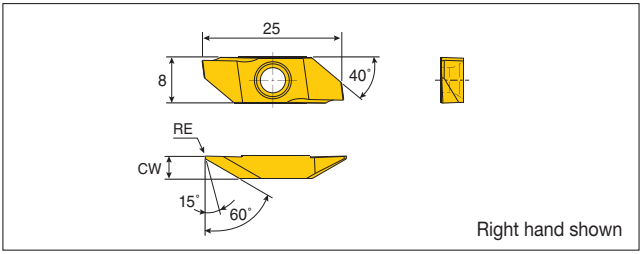
▸ Please keep in your mind selecting right insert

TVBR/L

TOPCUT

Back turning inserts





Designation		ap (mm)	Feed (mm/rev)	Dimension (mm)			Grade (TT9010)	
				CW	RE	CDX	R	L
TVBR/L	**40003**	0.1-5.5	0.01-0.15	3.97	0.03	5.5	●	●
	40005	0.1-5.5	0.01-0.15	3.97	0.05	5.5	●	●
	40010	0.1-5.5	0.01-0.15	3.97	0.10	5.5	●	●
	40015	0.1-5.5	0.01-0.15	3.97	0.15	5.5	●	●
	40005-H(1)	0.1-5.5	0.01-0.15	3.97	0.05	5.5	●	●
	40010-H(1)	0.1-5.5	0.01-0.15	3.97	0.10	5.5	●	●
	40015-H(1)	0.1-5.5	0.01-0.15	3.97	0.15	5.5	●	●

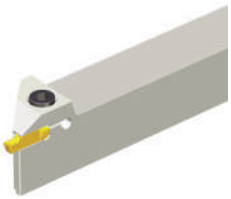
▸ (1) With honed egdes

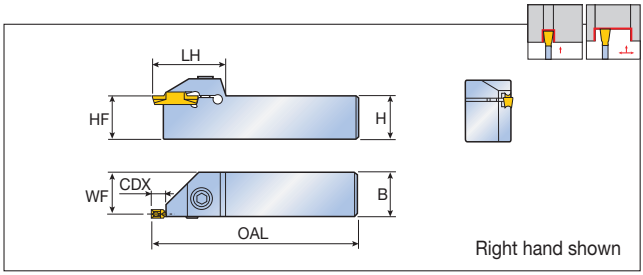
●: Standard items

TGFR/L

T-CLAMP

Holders for back turning





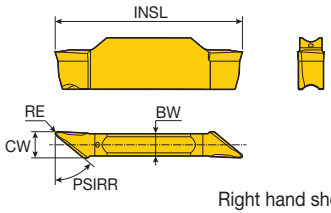
Designation		Insert seat size	Dimension (mm)						Insert
			H(HF)	B	OAL	LH	WF	CDX	
TGFR/L	**1616-4**	2, 3, 4	16	16	110	33	14.5	4.8	TDMV
	2020-4	2, 3, 4	20	20	125	33	18.5	4.8	
	2525-4	2, 3, 4	25	25	150	33	23.5	4.8	

▸ External turning & grooving is available depending on the insert type

TDMV

VT-CLAMP

Double-ended inserts for turning and back turning with V-type shape



Right hand shown

Size	Dimension (mm)				
	CW	RE	PSIRR/L	BW	INSL
2.8E-0.2	2.8	0.2	50	2.4	20
2.8E-0.4	2.8	0.4	50	2.4	20

Insert	Designation		Insert seat size	BWT		FWT		Grade
				ap (mm)	Feed (mm/rev)	ap (mm)	Feed (mm/rev)	TT9080
	**TDMV**	**2.8E-0.2-R/L**	3	0.2-2.5	0.05-0.18	0.3-1.5	0.03-0.15	●
		2.8E-0.4-R/L	3	0.4-2.5	0.08-0.25	0.4-1.5	0.05-0.18	●

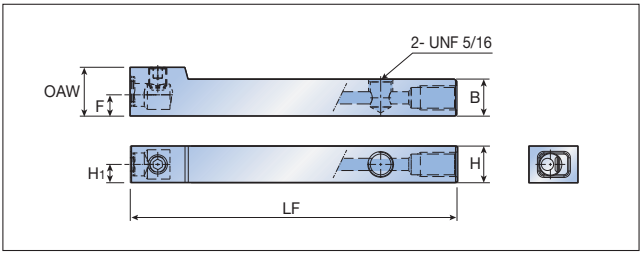
●: Standard items

QE1 S12N-TB

WINSWISS

High pressure coolant shanks for WIN-SWISS modular head





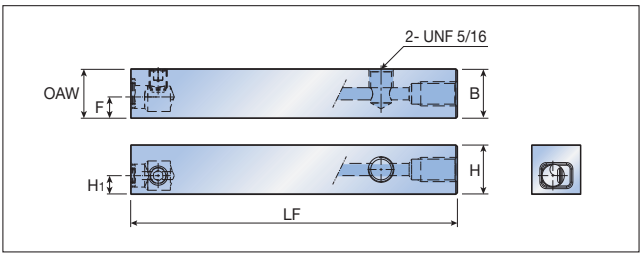
Designation	Dimension (mm)						Modular head
	H	H1	B	LF	OAW	F	
QE1 S12N-TB	12	6	12	107	16	7	QE1...R/L(-TB) QE1B...R(-TB) QE1Y...R(-TB)

QE1 S16R/L-TB

WINSWISS

High pressure coolant shanks for WIN-SWISS modular head



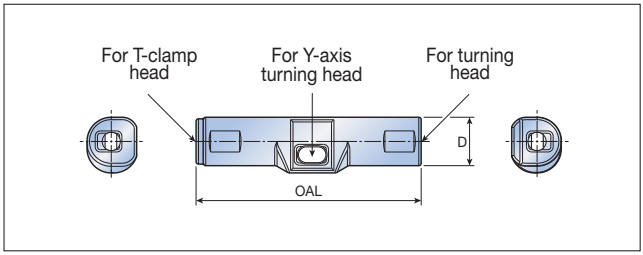


Designation	Dimension (mm)						Modular head
	H	H1	B	LF	OAW	F	
QE1 S16R-TB	16	6	16	107	16	7	QE1...R/L(-TB) QE1B...R(-TB)
S16L-TB	16	6	16	107	16	7	QE1Y...R(-TB)

QE1 FIX-20100

Insert replacement fixture





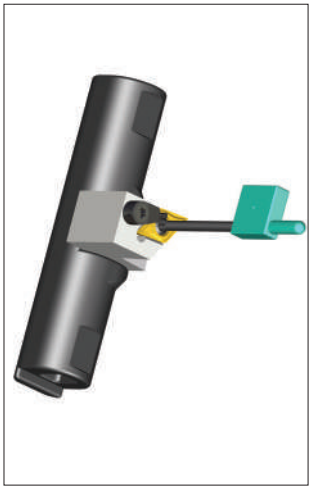
Designation	Dimension (mm)	
	OAL	D
QE1 FIX-20100	93.0	20.0

▸ Fixture ordered seperately

Insert replacement

▸ Due to the WIN-SWISS' small head sizes, replacing the inserts could be difficult.
Please use the fixture to facilitate insert replacement.

▸ Y-axis turning head



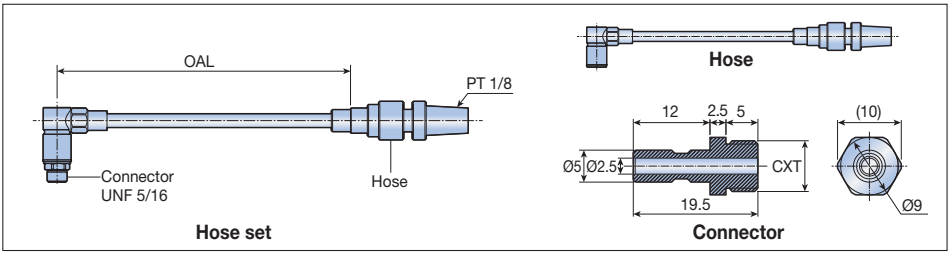
▸ T-clamp head



▸ Turning head



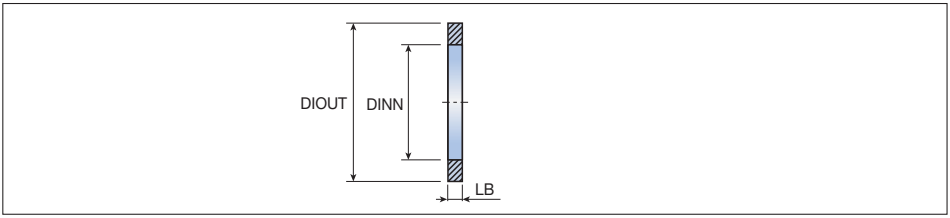
Coupling System



Components	Designation		Dimension (mm)		
			OAL (mm)	CXT	Maximum pressure (Bar)
Hose set	**S-TB HOSE**	**R1/8-COUPLE-100**	100	-	140
		R1/8-COUPLE-200	200	-	140
		R1/8-COUPLE-300	300	-	140
Hose	**TB HOSE**	**R1/8-COUPLE-200**	200	-	140
		R1/8-COUPLE-300	300	-	140
Connector	**TB CONECTOR**	**5/16-COUPLE**	-	5/16"-24 UNF	-
		G1/8-COUPLE	-	G1/8"-28 BSPP	-
		R1/8-COUPLE	-	PT 1/8"	-

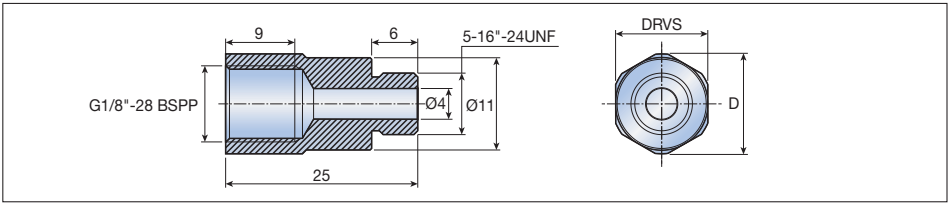
- Hose set (Hose+Connector)
- Hose set included TB HOSE + TB CONECTOR 5/16-COUPLE
- Hose and connector are ordered separately

Seal washer



Designation		Dimension (mm)		
		DIOUT	DINN	LB
TB COPPER	**SEAL 1/8"**	15	10	1
	SEAL 5/16"	12	8	1

Connector



Designation		Dimension (mm)	
		D	DRVS
TB CONECTOR	**5/16"-G1/8"**	13	12
	5/16"-G1/8"-12	12	11

01 Turning

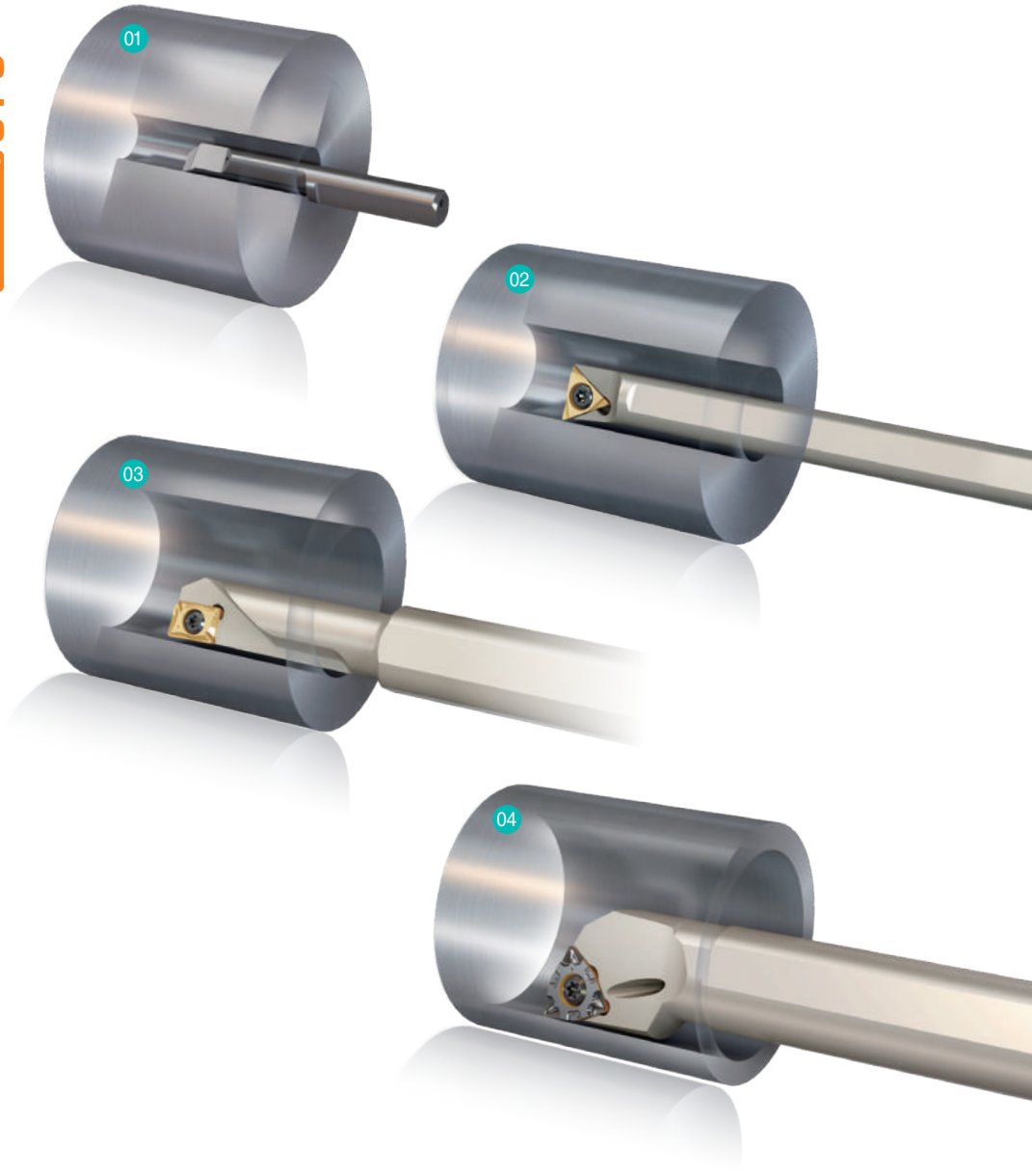
01-3

Internal Turning

Tool Selection Guide 46

Hoders

- TOP-MICRO 50
- TOP-MINI 55
- TOP-CAP 63
- RHINO-M-TURN 66


01
02
03
04

Internal Turning

01 TOPMICRO

Dmin: 0.6 mm

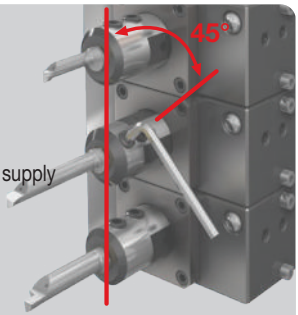


MINS...-L100C
Sleeve for direct connection of coolant supply

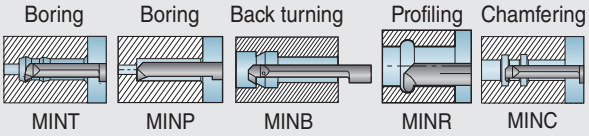




MINSL
Two-directional clamping sleeve



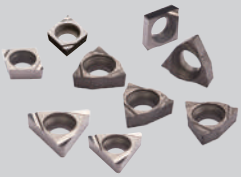
Applications



Angular clamping design avoids interference with the other sleeves at the tool post

02 TOPMINI

Dmin: 5 mm



Various standard insert lines



Carbide shank



Steel shank

03 TOPCAP

Dmin: 6 mm

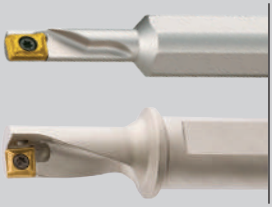


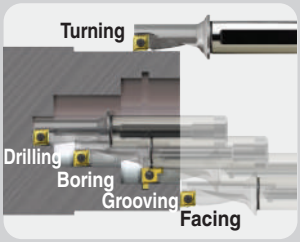
XCMT-TC



XCMT-TA

For non-ferrous





Multifunctional tool

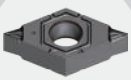
04 RHINOMTURN

Economical double-sided mini size inserts

Dmin: 16 mm



CNMX



DNG(M)X



WNMX

4 edges

6 edges



Internal boring / Back turning / Chamfering / Profiling

TOPMICRO

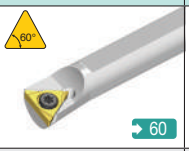
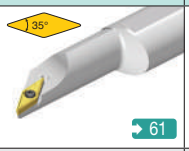
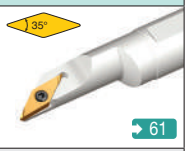
MINT R/L 04/07	MINP R 04/07	MINC R 07	MINR R 07	MINBR R 04/07
 51	 53	 53	 54	 54
Min. D : Ø0.6-Ø7	Ø2.8-Ø5	Ø5-Ø6.8	Ø5-Ø6.8	Ø3-Ø7
Shank : Ø4-Ø7	Ø4-Ø7	Ø7	Ø7	Ø4-Ø7
Sleeve : Ø12-Ø25	Ø12-Ø25	Ø12-Ø25	Ø12-Ø25	Ø12-Ø25

Internal boring holders (for single-sided inserts)

TOPMINI

SCLCR/L	SCLPR/L	SDQCR/L	SDUCR/L	SDZCR/L
 55	 57	 58	 58	 58
Min. D : Ø5-Ø25	Ø11-Ø25	Ø13-Ø32	Ø13-Ø40	Ø22-Ø40
Insert : CP...T 03-09	CP...T 06/08/09	DC...07/11	DC...07/11	DC...T 07/11
Shank : Ø4-Ø20	Ø08-Ø20	Ø10-Ø25	Ø10-Ø32	Ø16-Ø32

TOPMINI

STFCR/L	STFPR/L	STUBR/L	SVJCR/L	SVJPR/L
 59	 59	 60	 61	 61
Min. D : Ø8-Ø25	Ø11-Ø20	Ø8	Ø16-Ø20	Ø16
Insert : TC...T 06/09/11	TP...T(X) 09/11	TB...T 0601	VC...T 08	VP...T 08
Shank : Ø6-Ø20	Ø08-Ø16	Ø6	Ø12-Ø16	Ø12

TOPMINI

SVPCR/L	SVUCR/L	SWUBR/L
 61	 62	 62
Min. D : Ø16-Ø20	Ø16-Ø25	Ø6-Ø8
Insert : VC...T 08/11	VC...T 08/11	WB...T 0601
Shank : Ø10-Ø12	Ø12-Ø20	Ø5-Ø10

Tool Selection Guide

Internal turning

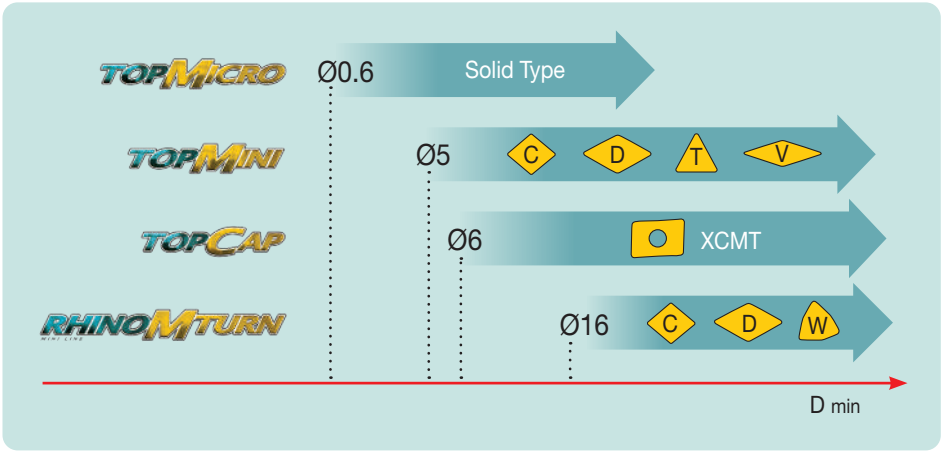
Internal boring holders (Multi-function)

TOPCAP	
S...SXUCR/L	**TCAP...**
 63	 63
Min. D : Ø6-Ø10	Ø12-Ø36.5
Insert : XCM(G)T	XCM(G)T
Shank : Ø10	Ø12-Ø40

Internal boring holders (for double-sided inserts)

RHINOMTURN		
SCLNR/L	**SDUNR/L**	**SWLNR/L**
 66	 66	 66
Min. D : Ø16-Ø20	Ø16-Ø20	Ø16-Ø20
Insert : CNMX 0703	DN...0803	WNMX 0403
Shank : Ø12-Ø16	Ø12-Ø16	Ø12-Ø16

Internal Boring Range

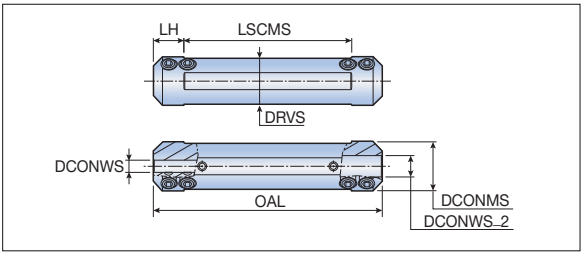


MINSL

TOPMICRO

Sleeves





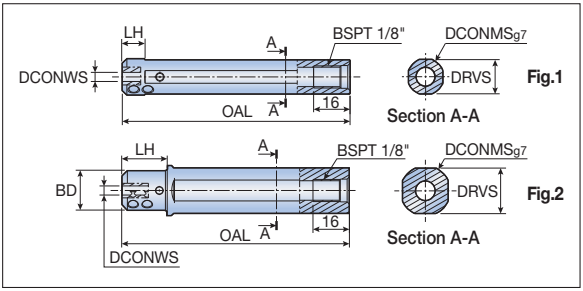
Designation		Dimension (mm)						
		DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	DRVS
MINSL	**12-4-4**	12	4	4	75	13	49	10.3
	14-4-4	14	4	4	75	13	49	12
	16-4-7	16	4	7	75	10	55	15
	19-4-7	19.05	4	7	89	10	69	17.2
	20-4-7	20	4	7	90	10	70	18
	22-4-7	22	4	7	90	10	70	20
	25-4-7	25	4	7	90	10	70	23.4

MINS ...-L100C

TOPMICRO

Sleeves for direct connection for coolant





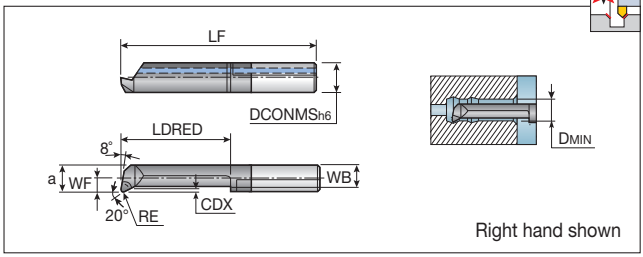
Designation		Dimension (mm)						Fig.
		DCONMS	DCONWS	BD	OAL	LH	DRVS	
MINS	**16-4-L100C**	16	4	-	100	10	15	1
	16-7-L100C	16	7	-	100	10	15	1
	20-4-L100C	20	4	17.5	100	20	18	2
	20-7-L100C	20	7	17.5	100	20	18	2
	22-4-L100C	22	4	17.5	100	20	20	2
	22-7-L100C	22	7	17.5	100	20	20	2
	25-4-L100C	25	4	18	100	23	23	2
	25-7-L100C	25	7	18	100	23	23	2

MINT R/L 04

TOPMICRO

Mini carbide bars for internal turning and chamfering





Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	LF	LDRED	RE	CDX	DMIN		TT9030
MINTR04 - 020004D006*	4.00	-	0.50	0.35	18.50	3.50	0.04	0.08	0.60	R	●
030004D006*	4.00	-	0.50	0.35	19.50	4.50	0.04	0.08	0.60	R	●
045005D010	4.00	-	0.90	0.70	21.00	6.00	0.05	0.10	1.00	R	●
065005D010	4.00	-	0.90	0.70	23.00	8.00	0.05	0.10	1.00	R	●
040005D020	4.00	-	1.70	1.45	20.50	5.50	0.05	0.10	2.00	R	●
090005D020	4.00	-	1.70	1.45	25.50	10.50	0.05	0.10	2.00	R	●
140005D020	4.00	-	1.70	1.45	30.50	15.50	0.05	0.10	2.00	R	●
090010D028	4.00	0.90	2.60	2.20	25.50	10.50	0.10	0.20	2.80	R	●
150010D028	4.00	0.90	2.60	2.20	31.50	16.50	0.10	0.20	2.80	R	●
190010D028	4.00	0.90	2.60	2.20	35.50	20.50	0.10	0.20	2.80	R	●
090010D040	4.00	1.50	3.50	2.90	25.50	10.50	0.10	0.30	4.00	R	●
150010D040	4.00	1.50	3.50	2.90	31.50	16.50	0.10	0.30	4.00	R	●
190010D040	4.00	1.50	3.50	2.90	35.50	20.50	0.10	0.30	4.00	R	●
230010D040	4.00	1.50	3.50	2.90	39.50	24.50	0.10	0.30	4.00	R	●
270010D040	4.00	1.50	3.50	2.90	43.50	28.50	0.10	0.30	4.00	R	●
MINTL04 - 090010D028	4.00	0.90	2.60	2.20	25.50	10.50	0.10	0.20	2.80	L	●
150010D028	4.00	0.90	2.60	2.20	31.50	16.50	0.10	0.20	2.80	L	●
190010D028	4.00	0.90	2.60	2.20	35.50	20.50	0.10	0.20	2.80	L	●
090010D040	4.00	1.50	3.50	2.90	25.50	10.50	0.10	0.30	4.00	L	●
150010D040	4.00	1.50	3.50	2.90	31.50	16.50	0.10	0.30	4.00	L	●
190010D040	4.00	1.50	3.50	2.90	35.50	20.50	0.10	0.30	4.00	L	●

▸ *: Max D.O.C: 0.01 - 0.03, max feed 0.01mm/rev

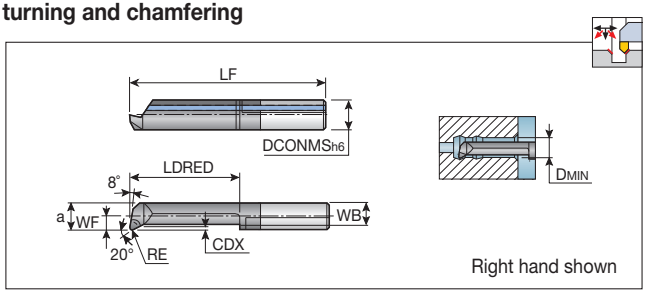
●: Standard items

MINT R/L 07

TOPMICRO

Mini carbide bars for internal turning and chamfering





Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	LF	LDRED	RE	CDX	DMIN		TT9030
MINTR07- 090015D050	7.00	0.90	4.40	3.65	25.00	10.00	0.15	0.50	5.00	R	●
140015D050	7.00	0.90	4.40	3.65	30.00	15.00	0.15	0.50	5.00	R	●
190015D050	7.00	0.90	4.40	3.65	35.00	20.00	0.15	0.50	5.00	R	●
240015D050	7.00	0.90	4.40	3.65	40.00	25.00	0.15	0.50	5.00	R	●
290015D050	7.00	0.90	4.40	3.65	45.00	30.00	0.15	0.50	5.00	R	●
340015D050	7.00	0.90	4.40	3.65	50.00	35.00	0.15	0.50	5.00	R	●
140015D060	7.00	1.80	5.30	4.40	30.00	15.00	0.15	0.50	6.00	R	●
210015D060	7.00	1.80	5.30	4.40	37.00	22.00	0.15	0.50	6.00	R	●
240015D060	7.00	1.80	5.30	4.40	40.00	25.00	0.15	0.50	6.00	R	●
290015D060	7.00	1.80	5.30	4.40	45.00	30.00	0.15	0.50	6.00	R	●
340015D060	7.00	1.80	5.30	4.40	50.00	35.00	0.15	0.50	6.00	R	●
410015D060	7.00	1.80	5.30	4.40	57.00	42.00	0.15	0.50	6.00	R	●
190015D068	7.00	2.80	6.30	5.40	35.00	20.00	0.15	0.60	6.80	R	●
240015D068	7.00	2.80	6.30	5.40	40.00	25.00	0.15	0.60	6.80	R	●
290015D068	7.00	2.80	6.30	5.40	45.00	30.00	0.15	0.60	6.80	R	●
340015D070	7.00	2.80	6.30	5.40	50.00	35.00	0.15	0.60	7.00	R	●
390015D070	7.00	2.80	6.30	5.40	55.00	40.00	0.15	0.60	7.00	R	●
440015D070	7.00	2.80	6.30	5.40	60.00	45.00	0.15	0.60	7.00	R	●
490015D070	7.00	2.80	6.30	5.40	65.00	50.00	0.15	0.60	7.00	R	●
MINTL07- 090015D050	7.00	0.90	4.40	3.65	25.00	10.00	0.15	0.50	5.00	L	●
140015D050	7.00	0.90	4.40	3.65	30.00	15.00	0.15	0.50	5.00	L	●
190015D050	7.00	0.90	4.40	3.65	35.00	20.00	0.15	0.50	5.00	L	●
240015D050	7.00	0.90	4.40	3.65	40.00	25.00	0.15	0.50	5.00	L	●
290015D050	7.00	0.90	4.40	3.65	45.00	30.00	0.15	0.50	5.00	L	●
140015D060	7.00	1.80	5.30	4.40	30.00	15.00	0.15	0.50	6.00	L	●
210015D060	7.00	1.80	5.30	4.40	37.00	22.00	0.15	0.50	6.00	L	●
240015D060	7.00	1.80	5.30	4.40	40.00	25.00	0.15	0.50	6.00	L	●
290015D060	7.00	1.80	5.30	4.40	45.00	30.00	0.15	0.50	6.00	L	●
190015D068	7.00	2.80	6.30	5.40	35.00	20.00	0.15	0.60	6.80	L	●
290015D068	7.00	2.80	6.30	5.40	45.00	30.00	0.15	0.60	6.80	L	●
340015D070	7.00	2.80	6.30	5.40	50.00	35.00	0.15	0.60	7.00	L	●

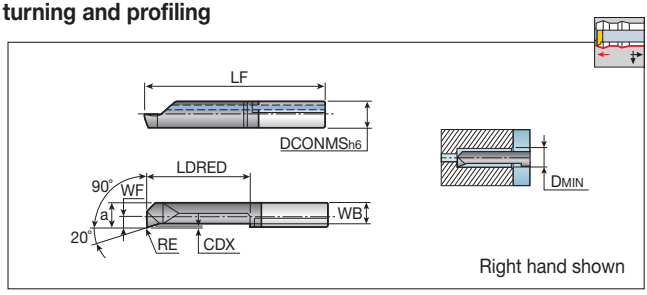
●: Standard items

MINP R 04/07

TOPMICRO

Mini carbide bars for internal turning and profiling





Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	LF	LDRED	RE	CDX	DMIN		TT9030
MINPR04- 090010D028	4.00	0.90	2.60	2.20	25.50	10.50	0.10	0.20	2.80	R	●
150010D028	4.00	0.90	2.60	2.20	31.50	16.50	0.10	0.20	2.80	R	●
090010D040	4.00	1.50	3.50	2.90	25.50	10.50	0.10	0.30	4.00	R	●
150010D040	4.00	1.50	3.50	2.90	31.50	16.50	0.10	0.30	4.00	R	●
MINPR07- 140015D050	7.00	0.90	4.40	3.65	30.00	15.00	0.15	0.50	5.00	R	●
190015D050	7.00	0.90	4.40	3.65	35.00	20.00	0.15	0.50	5.00	R	●

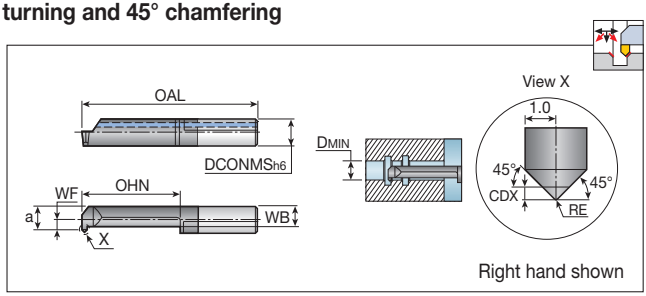
●: Standard items

MINC R 07

TOPMICRO

Mini carbide bars for internal turning and 45° chamfering





Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	OAL	OHN	RE	CDX	DMIN		TT9030
MINCR07- 140020D050	7.00	0.90	4.40	3.20	30.00	15.00	0.20	0.70	5.00	R	●
190020D050	7.00	0.90	4.40	3.20	35.00	20.00	0.20	0.70	5.00	R	●
190020D068	7.00	2.80	6.30	3.80	35.00	20.00	0.20	0.70	6.80	R	●

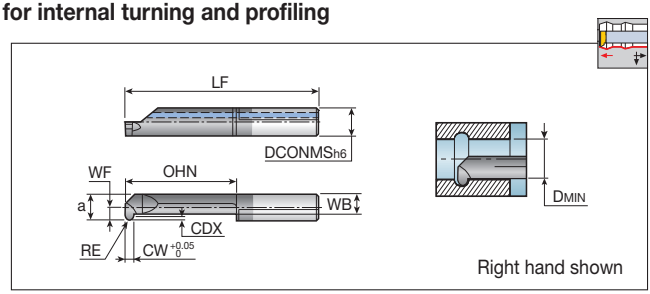
●: Standard items

MINR R 07

TOPMICRO

Mini carbide bars, full radius for internal turning and profiling





Designation	Dimension (mm)										R/L	Grade
	DCONMS	CW	WF	a	WB	RE	LF	OHN	CDX	DMIN		TT9030
MINRR07-190050D050	7.00	1.00	0.90	4.40	3.10	0.50	35.00	20.00	1.00	5.00	R	●
240050D060	7.00	1.00	1.80	5.30	3.20	0.50	40.00	25.00	1.80	6.00	R	●
290050D068	7.00	1.00	2.80	6.30	3.55	0.50	45.00	30.00	2.50	6.80	R	●

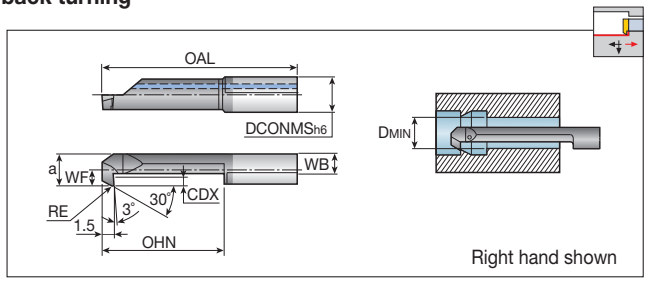
●: Standard items

MINB R 04/07

TOPMICRO

Mini carbide bars for internal back turning





Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	OAL	OHN	RE	CDX	DMIN		TT9030
MINBR04-140020D030	4.00	0.60	2.60	1.80	30.00	15.00	0.20	0.50	3.00	R	●
190020D030	4.00	0.60	2.60	1.80	35.00	20.00	0.20	0.50	3.00	R	●
140015D040	4.00	1.50	3.50	2.40	30.00	15.00	0.15	0.80	4.00	R	●
240015D040	4.00	1.50	3.50	2.40	40.00	25.00	0.15	0.80	4.00	R	●
MINBR07-190020D050	7.00	0.90	4.40	3.10	35.00	20.00	0.20	1.00	5.00	R	●
290020D050	7.00	0.90	4.40	3.10	45.00	30.00	0.20	1.00	5.00	R	●
190020D060	7.00	1.80	5.30	3.20	35.00	20.00	0.20	1.80	6.00	R	●
290020D060	7.00	1.80	5.30	3.20	45.00	30.00	0.20	1.80	6.00	R	●
190020D070	7.00	2.80	6.30	3.50	35.00	20.00	0.20	2.50	7.00	R	●
290020D070	7.00	2.80	6.30	3.50	45.00	30.00	0.20	2.50	7.00	R	●

●: Standard items

S-SCLCR/L

Screw type boring bars

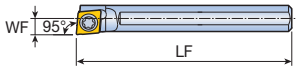


Fig.1

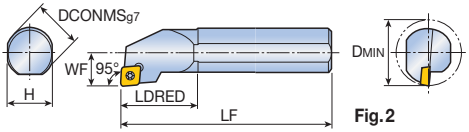


Fig.2

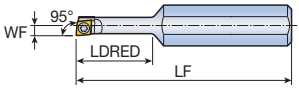


Fig.3

S-SCLCR

Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
95°	**S04F SCLCR/L 03-D05**	4	3.75	80	-	2.5	5	1	CC...T 0301...
	S05G SCLCR/L 03-D06	5	4.75	90	-	3	6	1	
	S10H SCLCR/L 03-D05	10	9	100	15	2.5	5	3	
	S06H SCLCR/L 04-D07	6	5.5	100	-	3.5	7	1	CC...T 0401...
	S07J SCLCR/L 04-D08	7	6.5	110	-	4	8	1	
	S08K SCLCR/L 06	8	7	125	18	6	11	2	CC... 0602...
	S10K SCLCR/L 06	10	9	125	20	7	13	2	
	S12M SCLCR/L 06	12	11	150	25	9	16	2	
	S16R SCLCR/L 06	16	15	200	30	11	20	2	
	S12M SCLCR/L 09	12	11	150	23	9	16	2	CC... 09T3...
	S16R SCLCR/L 09	16	15	200	30	11	20	2	84-88
	S20S SCLCR/L 09	20	18	250	32	13	25	2	

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Screw type boring bars

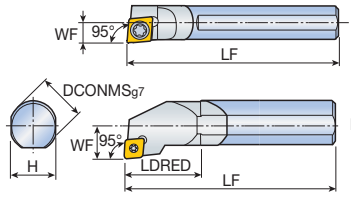


Fig.1

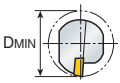
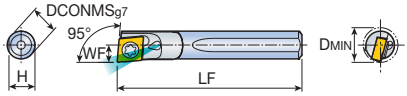
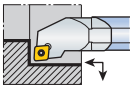
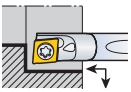


Fig.2

C-SCLCR



E-SCLCR

Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
95°	**C04G SCLCR/L 03-D05**	4	3.75	90	-	2.5	5	1	CC...T 0301...
	**C05H SCLCR/L 03-D06**	5	4.75	100	-	3	6	1	
	C06J SCLCR/L 04-D07	6	5.5	110	-	3.5	7	1	CC...T 0401...
	C07K SCLCR/L 04-D08	7	6.5	125	-	4	8	1	
	C08K SCLCR/L 06	8	7	125	15	6	11	2	CC... 0602...
	C10K SCLCR/L 06	10	9	125	15	7	13	2	
	C12M SCLCR/L 06	12	11	150	20	9	16	2	
	C12M SCLCR/L 09	12	11	150	20	9	16	2	CC... 09T3...
	C16R SCLCR/L 09	16	15	200	25	11	20	2	
	C20S SCLCR/L 09	20	18	250	25	13	25	2	
95°	**E04G SCLCR/L 03-D05**	4	3.75	90	-	2.5	5	1	CC...T 0301...
	**E05H SCLCR/L 03-D06**	5	4.75	100	-	3	6	1	
	E06J SCLCR/L 04-D07	6	5.5	110	-	3.5	7	1	CC...T 0401...
	E07K SCLCR/L 04-D08	7	6.5	125	-	4	8	1	

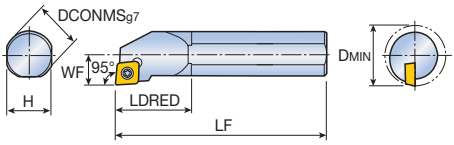
84-88

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

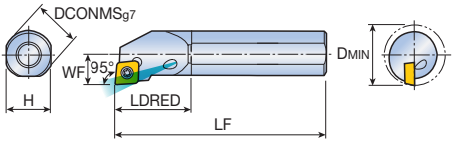
S-SCLPR/L A-SCLPR/L

TOPMINI

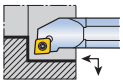
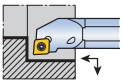
Screw type boring bars



S-SCLPR



A-SCLPR

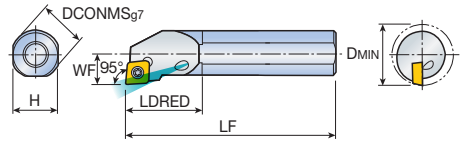
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S10K SCLPR/L 08**	10	9	125	20	6	12	CP...T 0802...
	**S12M SCLPR/L 08**	12	11	150	23	8	16	
	S16R SCLPR/L 09	16	15	200	30	10	20	CP...T 0903...
	S20S SCLPR/L 09	20	18	250	32	12.5	25	
95°	**A08H SCLPR/L 06**	8	7	100	15	6	11	CP...T 0602...
	**A10K SCLPR/L 06**	10	9	125	15	7	13	
	A12M SCLPR/L 0903	12	11	150	19	9	16	CP...T 0903...
	A16Q SCLPR/L 0903	16	15	180	21.5	11	20	
	A20R SCLPR/L 0903	20	18	200	22	13	25	
	A12M SCLPR/L 09T3	12	11	150	19	9	16	CP...T 09T3...
	A16Q SCLPR/L 09T3	16	15	180	20	11	20	89
	A20R SCLPR/L 09T3	20	18	200	22	13	25	

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

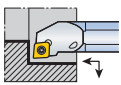
E-SCLPR/L

TOPMINI

Screw type boring bars



E-SCLPR

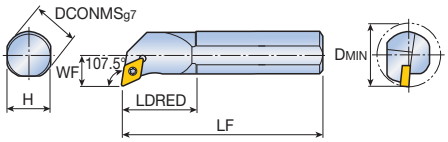
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**E08K SCLPR/L 06**	8	7	125	15	6	11	CP...T 0602...
	**E10K SCLPR/L 06**	10	9	125	15	7	13	
	E12M SCLPR/L 0903	12	11	150	19	9	16	CP...T 0903...
	E16R SCLPR/L 0903	16	15	200	21.7	11	20	
	E12M SCLPR/L 09T3	12	11	150	19	9	16	CP...T 09T3...
								89

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

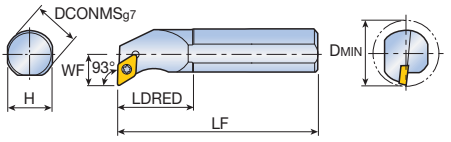
S-SDQCR/L S-SDUCR/L

TOPMINI

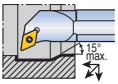
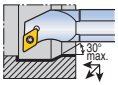
Screw type boring bars



S-SDQCR



S-SDUCR

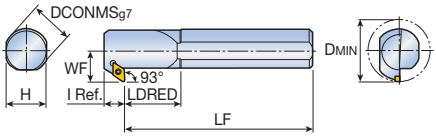
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
107.5°	**S10K SDQCR/L 07**	10	9	125	20	7	13	DC... 0702...
	**S12M SDQCR/L 07**	12	11	150	22	9	16	
	S16R SDQCR/L 07	16	15	200	27	11	20	
	S20S SDQCR/L 11	20	18	250	40	13	25	DC... 11T3...
	S25T SDQCR/L 11	25	23	300	50	17	32	
93°	**S10K SDUCR/L 07**	10	9	125	20	7	13	DC... 0702...
	**S12M SDUCR/L 07**	12	11	150	23	9	16	
	S16R SDUCR/L 07	16	15	200	30	11	20	
	S16R SDUCR/L 11	16	15	200	27	11	20	DC... 11T3...
	S20S SDUCR/L 11	20	18	250	32	13	25	91-94
	S25T SDUCR/L 11	25	23	300	42	17	32	
	S32T SDUCR/L 11	32	30	300	55	22	40	

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

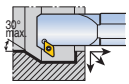
S-SDZCR/L

TOPMINI

Screw type back boring bars



S-SDZCR

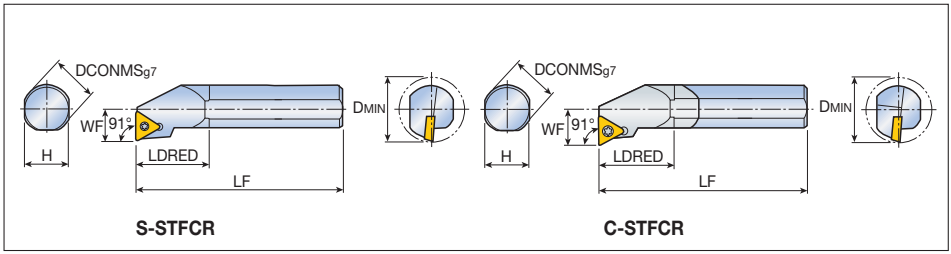
Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	LDRED	WF	l	DMIN	
93°	**S16R SDZCR/L 07**	16	15	200	23	13	12	22	DC... 0702...
	**S20S SDZCR/L 07**	20	18	250	28	15	12	30	
	S25T SDZCR/L 07	25	23	300	33	18	12	33	
	S20S SDZCR/L 11	20	18	250	24	15	16	27	DC... 11T3...
	S32T SDZCR/L 11	32	30	300	34	22	16	40	91-94
For back boring									

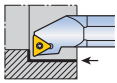
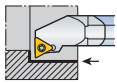
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

S-STFCR/L C-STFCR/L

TOPMINI

Screw type boring bars



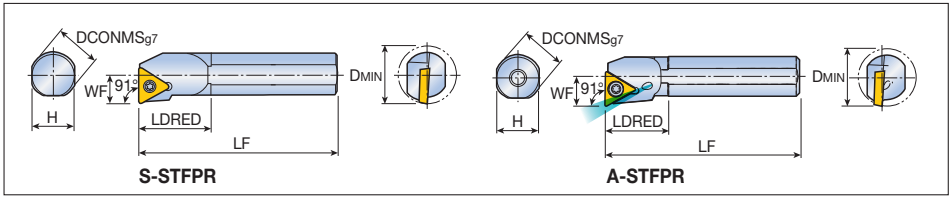
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S06H STFCR/L 06T1**	6	5.4	100	12	4.5	8	TC...T 06T1...
	**S08K STFCR/L 09**	8	7	125	20	6	11	TC... 0902...
	S10K STFCR/L 09	10	9	125	22.5	7	13	
	S12M STFCR/L 09	12	11	150	30	9	16	
	S16R STFCR/L 09	16	15	200	35	11	20	
	S12M STFCR/L 11	12	11	150	25	9	16	TC... 1102...
	S16R STFCR/L 11	16	15	200	35	11	20	
	S20S STFCR/L 11	20	18	250	36	13	25	
91°	**C10K STFCR/L 09**	10	9	125	15	7	13	TC... 0902...
	**C10K STFCR/L 11**	10	9	125	15	7	13	TC... 1102...
	C12M STFCR/L 11	12	11	150	20	9	16	96-101
	C16R STFCR/L 11	16	15	200	25	11	20	

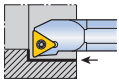
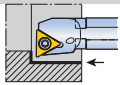
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

S-STFPR/L A-STFPR/L

TOPMINI

Screw type boring bars



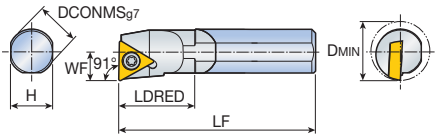
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S08K STFPR/L 09-X01**	8	7	125	15	6	11	TPGX 0902...
	**S08K STFPR/L 09**	8	7	125	14	6	11	TP...T 0902...
	S10K STFPR/L 1103	10	9	125	25	6	12	TP...1103...
	S12M STFPR/L 1103	12	11	150	30	8	16	
	S16R STFPR/L 1103	16	15	200	35	10	20	
	S16Q STFPR/L 1103	16	15	180	30	10	20	
91°	**A08H STFPR/L 09**	8	7	100	16.7	6	11	TP...T 0902...
	**A10K STFPR/L 1102**	10	9	125	16.4	7	13	TP...T1102...
	A12M STFPR/L 1102	12	11	150	19	9	16	
	A16Q STFPR/L 1102	16	15	180	20	11	20	
	A12M STFPR/L 1103	12	11	150	19	9	16	TP...1103...
	A16Q STFPR/L 1103	16	15	180	20.5	11	20	98-101

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

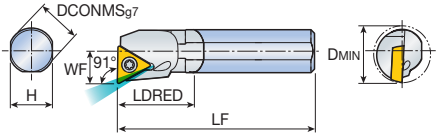
C-STFPR/L E-STFPR/L

TOPMINI

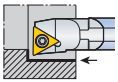
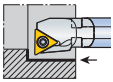
Screw type boring bars



C-STFPR



E-STFPR

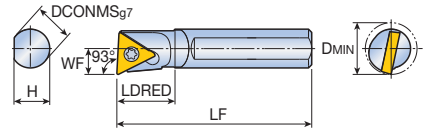
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**C10K STFPR/L 11**	10	9	125	15	6	12	TPGT 1103...
	**C12M STFPR/L 11**	12	11	150	20	8	16	98-101
91°	**E08K STFPR/L 09**	8	7	125	15	6	11	TP...T 0902...
	**E10K STFPR/L 1102**	10	9	125	15	7	13	TP...T 1102...
	E12M STFPR/L 1102	12	11	150	18	9	16	
	E16R STFPR/L 1102	16	15	200	21.5	11	20	
	E12M STFPR/L 1103	12	11	150	18	9	16	TP...T 1103...
	E16R STFPR/L 1103	16	15	200	22	11	20	

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

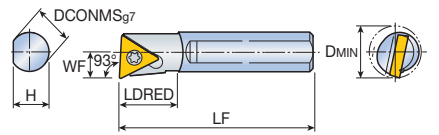
S-STUBR/L C-STUBR/L

TOPMINI

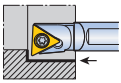
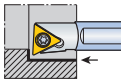
Screw type boring bars



S-STUBR



C-STUBR

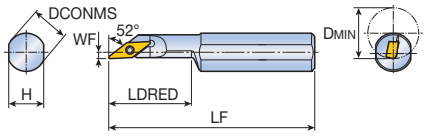
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S06H STUBR/L 06-D08**	6	5.5	100	8.6	4	8	TB...T 0601...
								96
93°	**C06J STUBR/L 06-D08**	6	5.5	110	8.6	4	8	
								

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

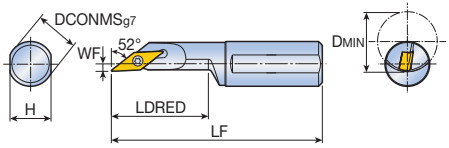
S-SVJCR/L S-SVJPR/L

TOPMINI

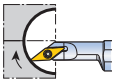
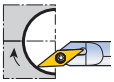
Screw type boring bars



S-SVJCR



S-SVJPR

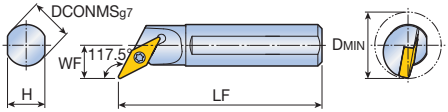
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
52°	**S12M SVJCR/L 08-D16**	12	11	150	26	2	16	VC... 0802...
	**S16Q SVJCR/L 08-D20**	16	15	180	36	2	20	105
52°	**S12M SVJPR/L 08-D16**	12	11	150	26	2	16	VP...T 0802...
								106

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

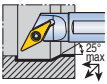
S-SVPCR/L

TOPMINI

Screw type boring bars



S-SVPCR

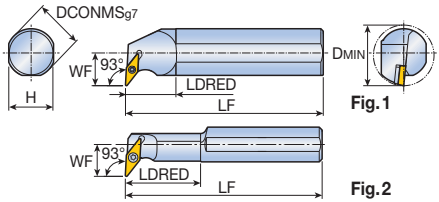
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
117.5°	**S10K SVPCR/L 08-D16**	10	9	125	16	8	16	VC...T 0802...
	**S12M SVPCR/L 11-D20**	12	11	150	19	10	20	VC...T 1103...
								104-105

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

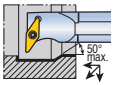
S-SVUCR/L

TOPMINI

Screw type boring bars



S-SVUCR

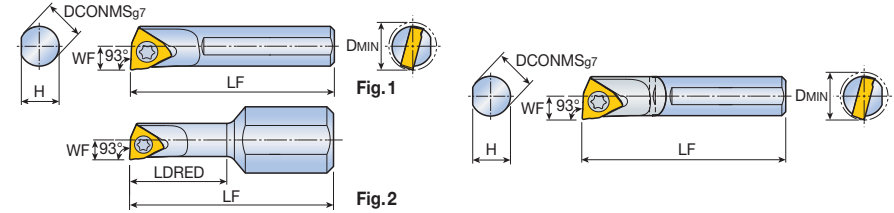
Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
93°	**S12M SVUCR/L 08-D16**	12	11	150	26	11	16	2	VC...T 0802...
	**S16Q SVUCR/L 11-D20**	16	15	180	32	15.5	20	2	VC...T 1103...
	S20R SVUCR/L 11-D25	20	18	200	40	17.5	25	2	104-105

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

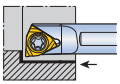
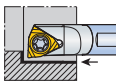
S-SWUBR/L C-SWUBR/L

TOPMINI

Screw type boring bars



S-SWUBR C-SWUBR

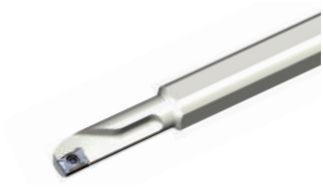
Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
93°	**S05G SWUBR/L 06-D06**	5	4.75	90	-	3	6	1	WB...T 0601...
	**S06H SWUBR/L 06-D07**	6	5.5	100	-	3.5	7	1	107
	S07J SWUBR/L 06-D08	7	6.5	110	-	4	8	1	
	S10H SWUBR/L 06-D06	10	9	100	18	3	6	2	
93°	**C05H SWUBR/L 06-D06**	5	4.75	100	-	3	6		
	**C06J SWUBR/L 06-D07**	6	5.5	110	-	3.5	7		
	C07K SWUBR/L 06-D08	7	6.5	125	-	4	8		

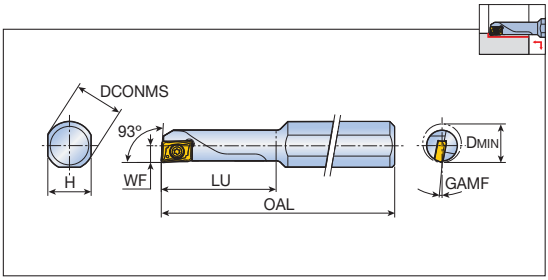
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

S...SXUCR/L

TOPCAP

Boring bars with TOP-CAP inserts





- For boring
- External coolant

Designation	Dimension (mm)							Insert
	DCONMS	H	OAL	LU	WF	DMIN	GAMF	
S10H SXUCR/L 04-06 (1)	10	9	100	20	3.0	6	9°	XCMT 04...R/L TC
S10J SXUCR/L 04-07 (1)	10	9	110	23	3.5	7	5°	64-65
S10J SXUCR/L 04-08 (1)	10	9	110	27	4.0	8	2°	
S10K SXUCR/L 05-10	10	9	125	34	5.0	10	2°	XCMT 05..TC
								64

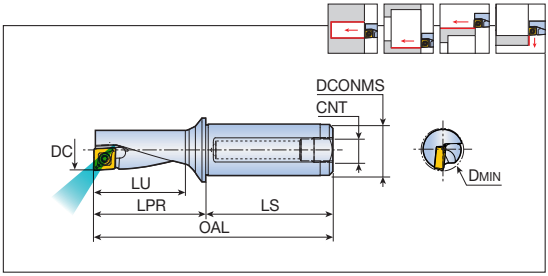
▸ (1) Right hand Insert should be used in right hand boring bar

TCAP...-2.25DN

TOPCAP

Multi-function toolholders - 2.25xD





- Internal coolant

Designation	Dimension (mm)							Insert
	DC	DCONMS	LU	LPR	LS	DMIN	CNT	For drilling, boring, turning
TCAP 08R/L-2.25DN	8	12	18.0	22.5	42	-	G 1/16	XCM(G)T 04...TC/TA
10R/L-2.25DN-GV	10	12	22.5	27.5	42	12.0	G 1/16	XCM(G)T 05...TC/TA
12R/L-2.25DN-GV	12	16	27.0	33.0	45	14.5	G 1/8	XCM(G)T 06...TC/TA
14R/L-2.25DN-GV	14	16	31.5	38.5	45	16.5	G 1/8	XCM(G)T 07...TC/TA
16R/L-2.25DN-GV	16	20	36.0	44.0	50	19.0	G 1/8	XCM(G)T 08...TC/TA
20R/L-2.25DN-GV	20	25	45.0	55.0	56	23.5	G 1/8	XCM(G)T 10...TC/TA
25R/L-2.25DN-GV	25	32	56.2	69.0	61	29.0	G 1/8	XCM(G)T 13...TC/TA
32R/L-2.25DN-GV	32	40	72.0	86.0	74	36.5	G 1/8	XCM(G)T 17...TC/TA
								64-65

▸ OAL = LPR+LS

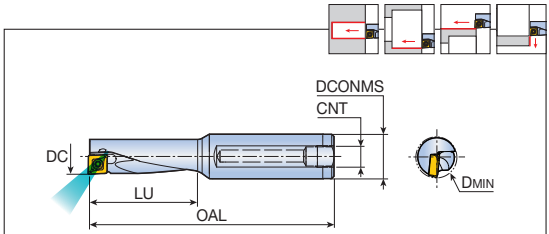
TCAP...-3.0DN

TOPCAP

Multi-function toolholders - 3.0xD



• Internal coolant



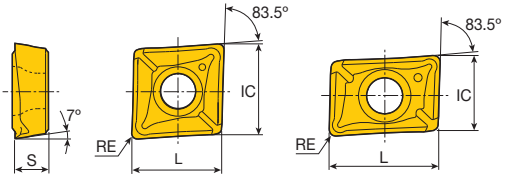
Right hand shown

Designation	Dimension (mm)						Insert
	DC	DCONMS	LU	OAL	DMIN	CNT	For drilling, boring, turning
TCAP 08R/L-3.0DN12	8	12	24	80	-	G 1/16	XCM(G)T 04...TC/TA
10R/L-3.0DN-GV	10	12	30	85	12.0	G 1/16	XCM(G)T 05...TC/TA
12R/L-3.0DN-GV	12	16	36	95	14.5	G 1/8	XCM(G)T 06...TC/TA
14R/L-3.0DN-GV	14	16	42	100	16.5	G 1/8	XCM(G)T 07...TC/TA
16R/L-3.0DN-GV	16	20	48	110	19.0	G 1/8	XCM(G)T 08...TC/TA
20R/L-3.0DN-GV	20	25	60	130	23.5	G 1/8	XCM(G)T 10...TC/TA
25R/L-3.0DN-GV	25	32	75	150	29.0	G 1/8	XCM(G)T 13...TC/TA
32R/L-3.0DN-GV	32	40	96	185	36.5	G 1/8	XCM(G)T 17...TC/TA

XCMT...TC

TOPCAP

Inserts



XCMT 0401

• For drilling, boring and turning

Size	Dimension (mm)			
	IC	L	S	RE
04	4.4	6.4	1.70	0.4
05	5.6	5.6	2.10	0.4
06	6.4	6.4	2.38	0.4
07	7.5	7.5	3.18	0.4
08	8.4	8.4	3.18	0.4
10	10.5	10.5	3.97	0.4/0.8
13	13.4	13.4	4.76	0.4/0.8
17	17.4	17.4	5.56	0.8

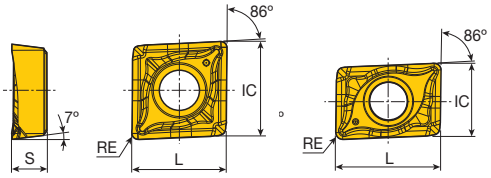
Insert	Designation	Turning		Drilling	Coated						Uncoated		
		ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10		
 Right hand shown (XCMT 0401) 	**XCMT 040104R TC**	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●					
	040104L TC	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●					
	050204 TC	0.2-2.2	0.03-0.18	0.02-0.11	●	●		●					
	060204 TC	0.3-2.5	0.03-0.20	0.03-0.12	●	●		●					
	070304 TC	0.4-2.8	0.05-0.22	0.03-0.13	●	●		●					
	080304 TC	0.4-3.2	0.06-0.25	0.03-0.13	●	●		●					
	10T304 TC	0.5-3.5	0.06-0.30	0.03-0.13	●	●		●					
	10T308 TC	0.5-3.5	0.06-0.30	0.03-0.13	●	●		●					
	130404 TC	0.6-4.3	0.08-0.33	0.03-0.13	●	●		●					
	130408 TC	0.6-4.3	0.08-0.33	0.03-0.13	●	●		●					
	170508 TC	0.7-5.3	0.10-0.38	0.03-0.13	●	●		●					

●: Standard items

XCGT...TA

TOPCAP

Inserts



XCGT 0401

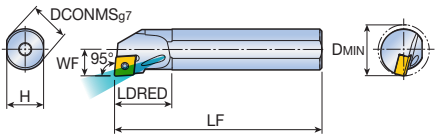
Size	Dimension (mm)			
	IC	L	S	RE
04	4.4	6.4	1.70	0.4
05	5.6	5.6	2.10	0.4
06	6.4	6.4	2.38	0.4
07	7.5	7.5	3.18	0.4
08	8.4	8.4	3.18	0.4
10	10.5	10.5	3.97	0.4
13	13.4	13.4	4.76	0.4
17	17.5	17.5	5.56	0.8

Insert	Designation	Turning		Drilling	Coated						Uncoated
		ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10
 Right hand shown (XCGT 0401) 	**XCGT 040104R TA**	0.2-1.8	0.02-0.15	0.02-0.09							●
	040104L TA	0.2-1.8	0.02-0.15	0.02-0.09							●
	050204 TA	0.2-2.2	0.03-0.18	0.02-0.11							●
	060204 TA	0.3-2.5	0.03-0.20	0.03-0.12							●
	070304 TA	0.4-2.8	0.05-0.22	0.03-0.13							●
	080304 TA	0.4-3.2	0.06-0.25	0.03-0.13							●
	10T304 TA	0.5-3.5	0.06-0.30	0.03-0.13							●
	130404 TA	0.6-4.3	0.08-0.33	0.03-0.13							●
	170508 TA	0.7-5.3	0.10-0.38	0.03-0.13							●

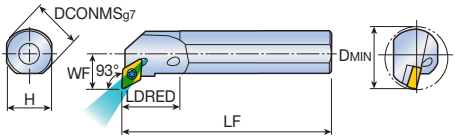
●: Standard items

A-SCLNR/L A-SDUNR/L

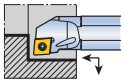
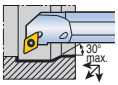
Screw type boring bars



A-SCLNR



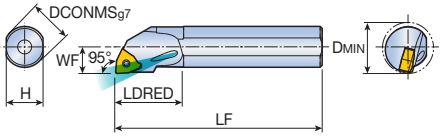
A-SDUNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**A12M SCLNR/L 0703**	12	11	150	21.5	9	16	CNMX 0703...
	**A16Q SCLNR/L 0703**	16	15	180	24.5	11	20	78
93°	**A12M SDUNR/L 0803**	12	11	150	21.5	9	16	DN...X 0803...
	**A16Q SDUNR/L 0803**	16	15	180	24.5	11	20	78

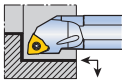
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

A-SWLNR/L

Screw type boring bars



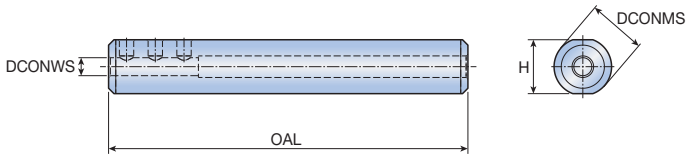
A-SWLNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**A12M SWLNR/L 0403**	12	11	150	21.5	9	16	WNMX 0403...
	**A16Q SWLNR/L 0403**	16	15	180	24.5	11	20	
	A16Q SWLNR/L 0604	16	15	180	30	11	20	WNMX 0604...
	A20Q SWLNR/L 0604	20	18	180	33	13	25	79

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

TSL

Sleeve



TSL

Designation		Dimension (mm)			
		DCONWS	H	OAL	DCONMS
TSL	**16-04**	4	15	100	16
	16-05	5	15	100	16
	16-06	6	15	100	16
	16-07	7	15	100	16

01 Turning

01-4

Turning Inserts

Tool Selection Guide 69

Grades 72

Designation System 76

Negative Inserts

- ▸ **RHINO-M-TURN** 78
- ▸ **RHINO-TURN** 80

Positive Inserts

- ▸ **TOP-MINI** 84
- ▸ **T-TURN** 87

Recommended Cutting Conditions 108

Insert Selection Guide

RHINOMTURN Double-sided mini inserts

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
CNMX	78	 FGP		

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
DNGX	78		 SM	
DNMX	78	 FGP		

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
WNMX	79	 FGP		

RHINOTURN Double-sided inserts

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
CNGG	80			 ML
CNMG	80	 EA  FS		 MM  MT

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
DNGG (X)	81		 FU	 ML  ST
DNMG	81	 EA  FS		 MM  MT

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
TNGG	82		 R/L	
TNMG	82	 EA  FS		 MM  MT

Insert	Page	Finishing	Finishing-Medium	Medium
		← Chip control →		
VNGX	83	 FS		 ML
VNMX (YNMG)	83	 FS		 MT

TOPMINI Positive type pressed inserts

Insert	Page	Finishing ← Chip control → Medium	Finishing-Medium	Medium	Non-ferous(N)	Hard Material(H)
CCG(E)T	84-87	SL, FF	SM, SA, GF, GW (wiper)	SH	FL, LN, CB, CF (PCD)	LS (CBN)

Insert	Page	Finishing ← Chip control → Medium	Finishing-Medium	Medium	Non-ferous(N)	Hard Material(H)
DCG(E)T	90-93	SL, FF	SM, SA, GF, GW (wiper)	SH, ST-F	FL, LN, CB, CF (PCD)	LS (CBN)
DPG(E)T	95	FF	GF			

Insert	Page	Finishing ← Chip control → Medium	Finishing-Medium	Medium	Non-ferous(N)	Hard Material(H)
TCG(E)T	96-99		SA, GF		FL, CB, LN (PCD)	LS (CBN)
TBGT	96	FF				
TPG(E)T	98-100	FF	GF, C		LN (PCD)	LS (CBN)

Insert	Page	Finishing ← Chip control → Medium	Finishing-Medium	Medium	Non-ferous(N)	Hard Material(H)
VBG(E)T	102-103	SL, FF	SM, SA, GF, GW (wiper)			LS (CBN)
VCGT	104-105	SL	SM, SA	SH-F	FL, CB (PCD)	
VPG(E)T	106	FF	GF			

Insert	Page	Finishing ← Chip control → Medium	Finishing-Medium	Medium	Non-ferous(N)	Hard Material(H)
WBGT	107	FF				

Insert Selection Guide

T-TURN Positive type pressed inserts

Insert	Page	Finishing ← Chip control → Medium	
CCMT	88	 FA FG	 FM MT
CPMT	89	 FG	 FM

Insert	Page	Finishing ← Chip control → Medium	
DCMT	94	 FA FG	 FM MT

Insert	Page	Finishing ← Chip control → Medium	
TCMT	97	 FA FG	 FM MT
TPMT	99	 FA FG	 FM

Insert	Page	Finishing ← Chip control → Medium	
VBMT	103	 FA	 FM
VCMT	105		 FM

Insert	Page	Finishing ← Chip control → Medium
WBMT	107	 C

MULTI-TURN

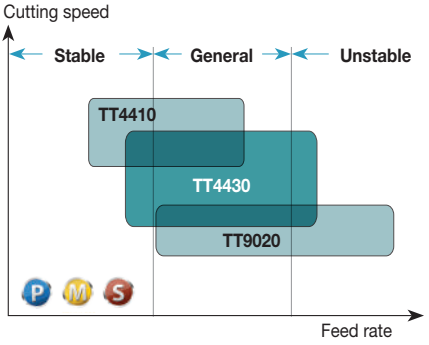
Insert	Page	Finishing ← Chip control → Medium
VBMX	103	 FG

Grades

Selection guide for turning grades

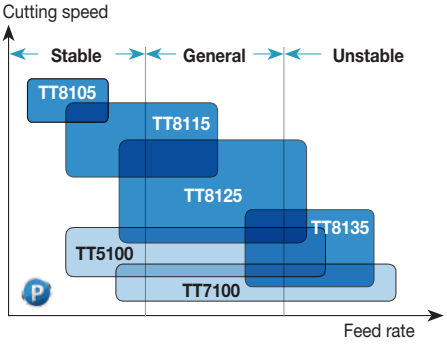
G-tolerance turning inserts

For small parts machining (PVD coated)



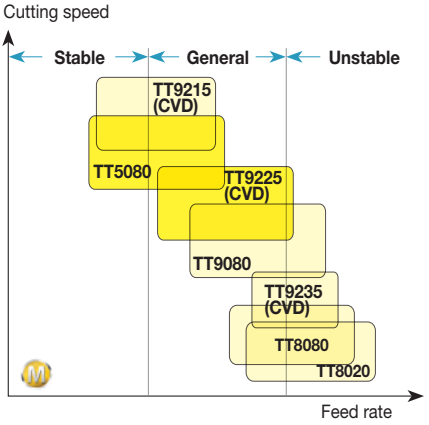
M-tolerance turning inserts

For steel (SFEEDRUSH - CVD coated)



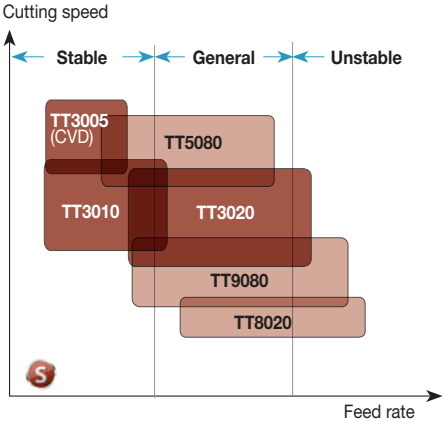
M-tolerance turning inserts

For stainless steel (CVD coated & PVD coated)



M-tolerance turning inserts

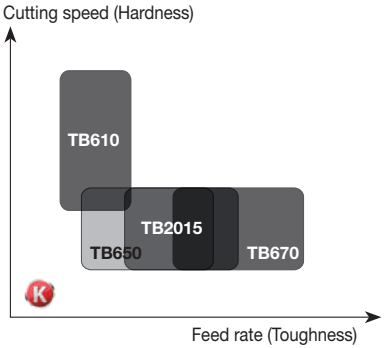
For super alloys (CVD & PVD coated)



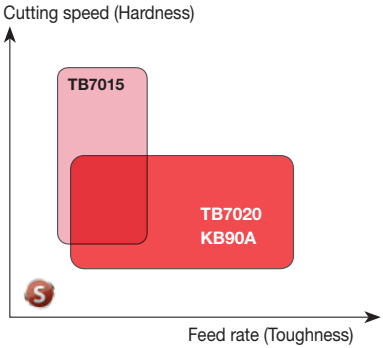
Grades

Selection guide for CBN and PCD grades

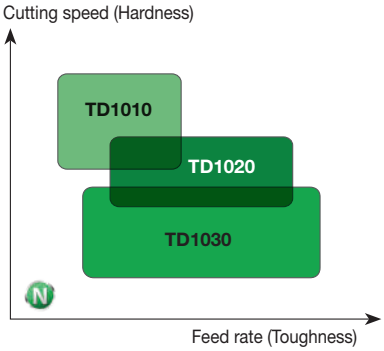
For hardened steel (HRc ≥ 50, CBN)



For cast iron (CBN)



For non-ferrous material (PCD)



Information of CBN type

LS	Brazed small size CBN Tip, 1 corner
LS2	Brazed small size CBN Tip, 2 corners
LN	Brazed large size CBN Tip, 1 corner
LN2	Brazed large size CBN Tip, 2 corners
SD	Solid type
FT	Full Top type
DA	Dimple type
WZ	Wiper geometry

Edge preparations for CBN inserts

Symbol	Width(mm) x angle	Symbol	Width(mm) x angle
TL	0.13X15°	SL	0.13X15°+ honed
TM	0.13X25°	SM	0.13X25°+ honed
TH	0.13X35°	SH	0.13X35°+ honed

▸ Edge preparations of non symbol items depends on grades

TB610, TB2015, TB650, TB670 : 0.13x20°+ honed
TB730, TB7015 : 0.13x20°+ no honed
TB7020 : 0.20x20°+ honed

Grades

Carbide grades

Grades		ISO	Characteristics & applications
PVD coated	**TT4410** PVD coated	M05 – M25 P05 – P25 S05 – S25	• High speed turning of small parts for stainless steel, steel and titanium alloys in continuous conditions
	TT4430 PVD coated	M20 – M40 P20 – P40 S20 – S40	• General turning of small parts for stainless steel, steel and titanum alloy
	TT9020 PVD coated	P20 – P40 M20 – M40	• General turning of small parts for steel and stainless steel
	TT5080 PVD coated	M05 – M25 S05 – S25	• Wide range of turning for stainless steel and heat resistant super alloy
	TT9080 PVD coated	M20 – M40 P20 – P40 S20 – S40	• General turning of stainless steel, steel and heat resistant super alloy
	TT8020 PVD coated	M30 – M50 P30 – P50 S30 – S50	• Low speed turning of stainless steel, heat reisitant super alloys and low carbon steel
	TT3010 PVD coated	S05 – S20	• High speed turning of heat resistant super alloys in continuous conditions
	TT3020 PVD coated	S10 – S30	• General turning of heat resistant super alloy
CVD coated	**TT7005** CVD coated	K05 – K15	• High speed turning of gray cast iron in continuous conditions
	TT7015 CVD coated	K10 – K25	• General turning of gray and ductile cast iron in continuous and interrupted conditions
	TT8105B CVD coated	P01 – P15	• High speed turning of steel in continuous conditions
	TT3005 CVD coated	S05 – S15	• Finish turning of heat resistant super alloys in high speed and low depth of conditions
	TT8115B CVD coated	P05 – P20	• General turning of steel in high speed conditions
	TT9215 CVD coated	M05 – M20 S05 – S20	• High speed turning of stainless steel and heat resistant super alloys in continuous conditions
	TT8125B CVD coated	P15 – P30	• General turning of steel in wide range of conditions
	TT5100 CVD coated	P20 – P35 M20 – M35	• Wide range of turning for mild steel, low carbon steel, low carbon alloy steel and stainless steel
	TT9225 CVD coated	M15 – M30 S15 – S30	• General turning of stainless steel and heat resistant super alloy
	TT8135B CVD coated	P25 – P40	• Interrupted turning of steel in low speed conditions
	TT7100 CVD coated	P30 – P45	• Heavy intrrupted turning of steel
	TT9235 CVD coated	M25 – M40 S25 – S40	• Interrupted turning of stainless steel and heat resistant super alloy in low speed conditions

Grades

Carbide, Cermet, PCD and CBN grades

Grades		ISO	Characteristics & applications
Uncoated	**K10** Carbide	K05 – K15 N05 – N15 S05 – S15	• General turning of cast iron, non-ferrous materials of aluminum and titanum alloy
Cermet	**PV3010** PVD coated cermet	P05 – P20 M05 – M20 K05 – K20	• Good surface finish turning of steel, stainless steel and cast iron in high speed conditions
	CT3000 Carbide	P10 – P20 M10 – M20 K10 – K20	• Excellent surface finish turning of steel, stainless steel and cast iron
PCD	**TD1010** PCD	N05 – N15	• General turning of non-ferrous materials and finish turning of carbide roll
	TD1020 PCD	N10 – N25	• Bi-modal composition for high speed turning of non-ferrous materials, high Si aluminum alloy, ceramic and sintered tungsten carbide
	TD1030 PCD	N20 – N35	• Low Si aluminum alloys and composite plastics (CFRP, GFRP)
CBN	**TB610** CBN	H05 – H10	• High speed continuous turning of hardened steel
	TB2015 CBN	H10 – H20	• Light interrupted turning of hardened steel
	TB650 CBN	H10 – H20	• General turning of hardened steel
	TB670 CBN	H20 – H30	• Medium interrupted turning of hardened steel
	TB7015 CBN	H25 – H35 K10 – K20	• High speed turning of cast iron and general turning of carbide roll
	TB7020 Solid CBN	K10 – K25	• High speed and light interrupted turning of cast iron. Solid CBN insert
	TB730 CBN	K05 – K10 P10 – P20	• General turning of sintered or powder metals

Insert Designation System

D	C	G	T
1	2	3	4

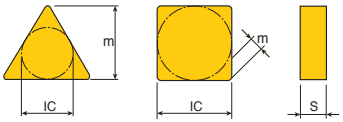
1 Shape

										
C	D	E	H	K	R	S	T	V	W	Y

2 Clearance angle

			
N	B	C	P

3 Tolerance



Class	m	S	IC
A	±0.005	±0.025	±0.025
F	±0.005	±0.025	±0.013
C	±0.013	±0.025	±0.025
H	±0.013	±0.025	±0.013
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	±0.08~±0.18	±0.13	±0.05~±0.13
U	±0.13~±0.38	±0.13	±0.08~±0.25

Diameter of IC	Tolerance			
	m		IC	
	Class M	Class U	Class M	Class U
6.35	±0.08	±0.13	±0.05	±0.08
9.52	±0.08	±0.13	±0.05	±0.08
12.70	±0.13	±0.20	±0.08	±0.13
15.88	±0.15	±0.27	±0.10	±0.18
19.05	±0.15	±0.27	±0.10	±0.18
25.40	±0.18	±0.38	±0.13	±0.25
31.75	±0.18	±0.38	±0.13	±0.25

4 Type

					
A	G	M	R	B, W	T, H

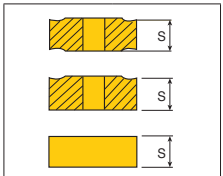
Insert Designation System

11	T3	02M*	(R)	SH-F*
5	6	7	8	9

5 Cutting edge length

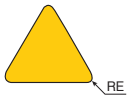
I.C(mm)	C	D	E	R	S	T	V, Y	W	K	H
3.97	03	04			03	06		02		
4.76	04	05			04	08	08			
5.56	05	06			05	09	09	03		
6.35	06	07			06	11	11			
7.94	08	09			07	13	13	05		
8.0				08						
9.52	09	11		09	09	16	16	06	16	
10.0				10						
11.11		13								
12.0				12						
12.7	12	15	13		12	22	22	08		05
15.88	16	19		15	15	27	27	10		
16.0				16						
19.05	19	23		19	19	33	33	13		10
20.0				20						
25.0				25						
25.4	25	31		25	25	44	44	17		
31.75	32	38			31	54	54	21		
32.0				32						

6 Thickness



01	1.59mm
T1	1.98mm
02	2.38mm
T2	2.78mm
03	3.18mm
T3	3.97mm
04	4.76mm
05	5.56mm
06	6.35mm
07	7.94mm
09	9.52mm

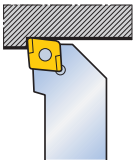
7 Corner radius



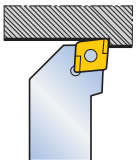
01	0.1mm
02	0.2mm
04	0.4mm
05	0.5mm
08	0.8mm
12	1.2mm
16	1.6mm
20	2.0mm
24	2.4mm
32	3.2mm

- -R: Right hand insert
- -E: Micro honing edge
- -M: Corner radius minus tolerance

8 Hand of insert



R: Right hand



L: Left hand

9 Chip breaker

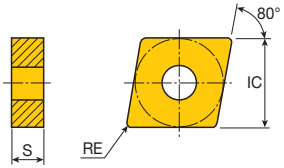
Please refer to pages 69-71

- -F: Sharp edge

CNMX

RHINO MTURN

Double-sided 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	7.0	3.18	0.4-0.8

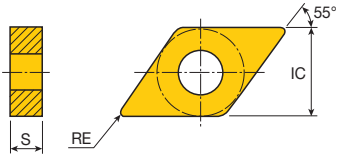
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**CNMX**	**070304 FGP**	0.3-2.0	0.05-0.25	●							●	●							●			●			
		070308 FGP	0.4-2.0	0.08-0.25	●							●	●							●			●			

●: Standard items

DNGX

RHINO MTURN

Double-sided 55° rhombic inserts



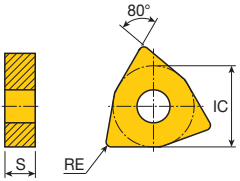
Size	Dimension (mm)		
	IC	S	RE
08	7.0	3.18	0.1-0.4

Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT9080	TT3020	TT9020	TT4410	TT4430	K10
 Finishing-Medium	**DNGX**	**080302M SM-F**	0.2-1.2	0.02-0.12																			●	●		
		080302M SM-F	0.2-1.2	0.02-0.12																			●	●		
		080304M SM-F	0.2-1.5	0.02-0.15																			●	●		
 Finishing	**DNMX**	**080304 FGP**	0.3-2.0	0.05-0.25	●							●	●							●						

●: Standard items

RHINO MTURN MINI LINE

Double-sided 80° trigon inserts



Size	Dimension (mm)		
	IC	S	RE
04	7	3.18	0.4-0.8

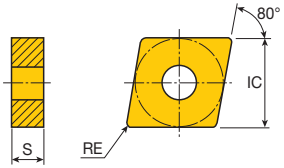
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**WNMX 040304 FGP**	0.3-2.0	0.05-0.25	●						●	●								●				●		
	040308 FGP	0.4-2.0	0.08-0.25	●						●	●								●				●		

●: Standard items

CNGG CNMG

RHINOTURN

Double-sided 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.1-1.2

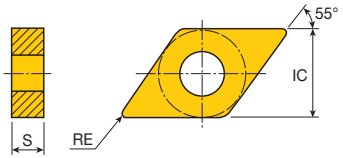
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**CNGG 090401 ML**	0.1-1.0	0.03-0.10																●						●
	090402 ML	0.2-1.2	0.05-0.15																●						●
	090404 ML	0.5-1.5	0.05-0.20																●						●
	090408 ML	0.5-1.5	0.08-0.25																●						●
 Finishing	**CNMG 090404 EA**	0.20-1.5	0.05-0.30											●	●	●			●		●				
	090408 EA	0.30-1.5	0.07-0.40											●	●	●			●		●				
 Finishing	**CNMG 090402 FS**	0.2-1.5	0.05-0.25	●	●						●	●													
	090404 FS	0.25-1.5	0.07-0.30	●	●						●	●													
	090408 FS	0.5-1.5	0.10-0.30	●	●						●	●													
 Medium	**CNMG 090404 MM**	0.4-3.0	0.15-0.45								●	●	●	●	●	●	●				●				
	090408 MM	0.5-3.0	0.20-0.50								●	●	●	●	●	●	●				●				
	090412 MM	0.7-3.0	0.23-0.50								●	●	●	●	●	●	●				●				
 Medium	**CNMG 090404 MT**	0.8-3.0	0.10-0.35							●	●	●	●				●								
	090408 MT	1.0-3.0	0.15-0.45							●	●	●	●				●		●		●				
	090412 MT	1.2-3.0	0.20-0.55							●	●	●	●				●								

●: Standard items

DNGG DNMG

RHINOTURN

Double-sided 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	11.11	5.56	0.1-1.2

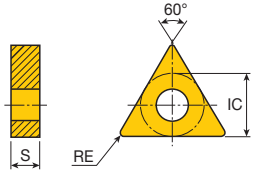
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT9080	TT3020	TT9020	TT4410	TT4430	K10
 Finishing-Medium	**DNGG 130501M FU-F**	0.2-2.5	0.03-0.12																			●	●	
	130502M FU-F	0.2-2.5	0.04-0.12																			●	●	
	130504M FU-F	0.4-2.5	0.05-0.12																			●	●	
 Medium	**DNGG 130501 ML**	0.1-1.0	0.03-0.10																●					●
	130502 ML	0.2-1.2	0.05-0.15																●					●
	130504 ML	0.5-1.5	0.05-0.20																●					●
	130508 ML	0.5-1.5	0.08-0.25																●					●
 Medium	**DNGX 130501M ST-R-E**	0.3-5.0	0.03-0.08																				●	
	130502M ST-R-E	0.5-5.0	0.03-0.10																				●	
	130504M ST-R-E	0.7-5.0	0.05-0.12																				●	
	130501M ST-R-F	0.3-5.0	0.03-0.08																			●	●	
	130502M ST-R-F	0.5-5.0	0.03-0.10																			●	●	
	130504M ST-R-F	0.7-5.0	0.05-0.12																			●	●	
	130504M ST-R-H	0.7-5.0	0.05-0.12																				●	
 Finishing	**DNMG 130504 EA**	0.20-1.5	0.05-0.30											●	●	●				●				
	130508 EA	0.30-1.5	0.07-0.40											●	●	●								
 Finishing	**DNMG 130502 FS**	0.2-2.0	0.05-0.25								●	●					●							
	130504 FS	0.25-2.0	0.07-0.30								●	●					●							
	130508 FS	0.5-2.0	0.10-0.30								●	●					●							
 Medium	**DNMG 130504 MM**	0.4-4.0	0.15-0.45								●	●	●	●	●	●	●		●	●				
	130508 MM	0.5-4.0	0.20-0.50								●	●	●	●	●	●	●							
	130512 MM	0.7-4.0	0.23-0.50								●	●	●	●	●	●	●							
 Medium	**DNMG 130504 MT**	0.8-4.0	0.10-0.35							●	●	●	●				●							
	130508 MT	1.0-4.0	0.15-0.45							●	●	●	●				●							
	130512 MT	1.2-4.0	0.20-0.55							●	●	●	●				●							

▸ M: Corner radius minus tolerance ▸ -R: Right hand insert ●: Standard items
▸ -E: Micro honing edge insert ▸ -F: Sharp edge ▸ -H: Honing edge

TNGG TNMG

RHINOTURN

Double-sided triangular inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.2-1.2

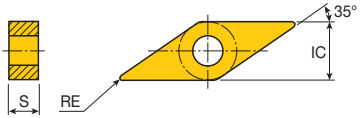
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Left hand Medium	**TNGG 130402 L**	0.8-3.5	0.10-0.30		●																				
	130402 R	0.8-3.5	0.10-0.30		●																				
	130404 L	1.0-3.5	0.12-0.30		●																				
	130408 R	1.3-3.5	0.15-0.35		●																				
	130408 L	1.3-3.5	0.15-0.35		●																				
	130408 R	1.3-3.5	0.15-0.35		●																				
 Finishing	**TNMG 130404 EA**	0.2-1.5	0.05-0.30											●	●	●			●		●				
	130408 EA	0.3-1.5	0.07-0.40											●	●	●			●		●				
 Finishing	**TNMG 130402 FS**	0.2-1.0	0.05-0.25	●	●						●	●													
	130404 FS	0.25-1.0	0.07-0.30	●	●						●	●													
	130408 FS	0.5-1.0	0.10-0.30	●	●						●	●													
 Medium	**TNMG 130404 MM**	0.4-3.0	0.15-0.45								●	●	●	●	●	●	●				●				
	130408 MM	0.5-3.0	0.20-0.50								●	●	●	●	●	●	●				●				
	130412 MM	0.7-3.0	0.23-0.50								●	●	●	●	●	●	●				●				
 Medium	**TNMG 130404 MT**	0.8-3.0	0.10-0.35							●	●	●	●				●								
	130408 MT	1.0-3.0	0.15-0.45							●	●	●	●				●								
	130412 MT	1.2-3.0	0.20-0.55							●	●	●	●				●								

●: Standard items

VNGX VNMX

RHINOTURN

Double-sided 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.1-1.2

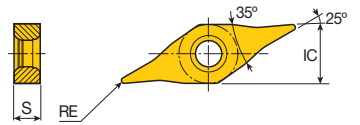
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3020	TT9020	TT4410	TT4430	K10
 Finishing	**VNGX 130401M FS-F**	0.2-1.0	0.03-0.12																			●	●	
	130402M FS-F	0.2-1.0	0.04-0.12																			●	●	
 Medium	**VNGX 130401 ML**	0.1-1.0	0.03-0.10															●						●
	130402 ML	0.2-1.2	0.05-0.15															●						
	130404 ML	0.5-1.5	0.05-0.20															●						
 Finishing	**VNMX 130402 FS**	0.2-1.0	0.05-0.20	●	●					●	●													
	130404 FS	0.25-1.0	0.07-0.20	●	●					●	●													
	130408 FS	0.5-1.0	0.10-0.23	●	●					●	●													
 Medium	**VNMX 130404 MT**	0.8-3.0	0.15-0.36						●	●	●	●				●		●		●				
	130408 MT	1.0-3.0	0.17-0.36				●	●	●	●	●	●				●		●		●				
	130412 MT	1.5-3.0	0.20-0.40				●	●	●	●	●	●				●		●		●				

●: Standard items

YNMG

RHINOTURN

Double-sided 25° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.4-0.8

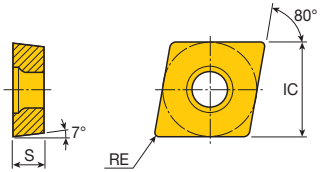
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**YNMG 130404 FS**	0.3-1.0	0.08-0.20	●	●						●								●		●				
	130408 FS	0.5-1.5	0.08-0.25	●	●						●								●						

●: Standard items

CCET

TOPMINI

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
06	6.35	2.38	0.03-0.8
09	9.52	3.97	0.03-0.8

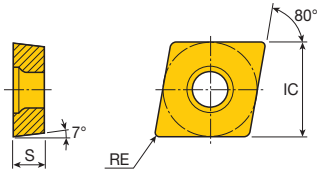
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing-Medium	**CCET 0602003 L-GF**	0.1-1.5	0.02-0.15								●				
	0602003 R-GF	0.1-1.5	0.02-0.15								●				
	060201 L-GF	0.2-1.5	0.02-0.15								●				
	060201 R-GF	0.2-1.5	0.02-0.15								●				
	060202 L-GF	0.3-1.5	0.03-0.17								●				
	060202 R-GF	0.3-1.5	0.03-0.17								●				
	060204 L-GF	0.3-1.5	0.05-0.20								●				
	060204 R-GF	0.3-1.5	0.05-0.20								●				
	060208 L-GF	0.4-1.5	0.07-0.22								●				
	060208 R-GF	0.4-1.5	0.07-0.22								●				
	09T3003 L-GF	0.1-2.5	0.02-0.15								●				
	09T3003 R-GF	0.1-2.5	0.02-0.15								●				
	09T301 L-GF	0.2-2.5	0.02-0.15								●				
	09T301 R-GF	0.2-2.5	0.0 2-0.15								●				
	09T302 L-GF	0.3-2.5	0.03-0.17								●				
	09T302 R-GF	0.3-2.5	0.03-0.17								●				
	09T304 L-GF	0.3-2.5	0.05-0.20								●				
	09T304 R-GF	0.3-2.5	0.05-0.20								●				
	09T308 L-GF	0.4-2.5	0.07-0.22								●				
	09T308 R-GF	0.4-2.5	0.07-0.22								●				
wiper  Right hand Finishing	**CCET 0602003 L-GW***	0.1-1.5	0.02-0.15								●				
	0602003 R-GW*	0.1-1.5	0.02-0.15								●				
	09T3003 L-GW*	0.1-2.5	0.02-0.15								●				
	09T3003 R-GW*	0.1-2.5	0.02-0.15								●				

▸ *: Wiper inserts should be applied to ☐CLCR/L...

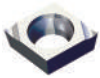
●: Standard items

CCGT

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
03	3.5	1.4	0.03-0.4
04	4.3	1.8	0.03-0.4
06	6.35	2.38	0.2-0.4
09	9.52	3.97	0.1-0.4

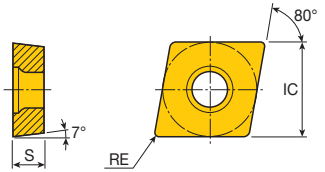
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**CCGT 0301003 L-FF**	0.05-0.3	0.03-0.10								●				
	0301003 R-FF	0.05-0.3	0.03-0.10								●				
	030101 L-FF	0.08-0.4	0.03-0.12								●				
	030101 R-FF	0.08-0.4	0.03-0.12								●				
	030102 L-FF	0.1-0.4	0.03-0.15								●				
	030102 R-FF	0.1-0.4	0.03-0.15								●				
	030104 L-FF	0.1-0.4	0.05-0.20								●				
	030104 R-FF	0.1-0.4	0.05-0.20								●				
	0401003 L-FF	0.05-0.4	0.03-0.10								●				
	0401003 R-FF	0.05-0.4	0.03-0.10								●				
	040101 L-FF	0.1-0.5	0.03-0.12								●				
	040101 R-FF	0.1-0.5	0.03-0.12								●				
	040102 L-FF	0.1-0.5	0.03-0.15								●				
	040102 R-FF	0.1-0.5	0.03-0.15								●				
	040104 L-FF	0.1-0.5	0.05-0.20								●				
	040104 R-FF	0.1-0.5	0.05-0.20								●				
 Finishing	**CCGT 060202M SL-F**	0.02-0.2	0.02-0.10									●	●		
	09T301M SL-F	0.02-0.2	0.015-0.10									●	●		
	09T302M SL-F	0.02-0.2	0.02-0.10									●	●		
 Finishing-Medium	**CCGT 060204M SM-F**	0.3-1.5	0.03-0.12									●	●		
	09T301M SM-F	0.2-1.5	0.02-0.12									●	●		
	09T302M SM-F	0.2-1.5	0.02-0.12									●	●		
	09T304M SM-F	0.3-1.5	0.03-0.12									●	●		

●: Standard items

CCGT

TOPMINI

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
06	6.35	2.38	0.1-0.4
09	9.52	3.97	0.1-0.8
12	12.7	4.76	0.2-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Finishing-Medium	**CCGT 060201 SA**	0.1-1.5	0.02-0.15			●					●				
	060202 SA	0.1-1.5	0.02-0.15			●					●				
	060204 SA	0.1-2.4	0.03-0.20			●					●				
	09T301 SA	0.1-2.5	0.02-0.15			●					●				
	09T302 SA	0.1-2.5	0.02-0.15			●					●				
	09T304 SA	0.1-2.5	0.03-0.20			●		●			●				
	09T308 SA	0.1-2.5	0.03-0.25			●					●				
 Medium	**CCGT 09T304M SH-F**	0.7-3.5	0.07-0.17									●	●		
 Medium For aluminum	**CCGT 060202 FL**	0.5-2.0	0.10-0.20												●
	060204 FL	0.5-2.0	0.10-0.25												●
	09T301 FL	0.5-2.5	0.10-0.25												●
	09T302 FL	0.5-2.5	0.10-0.25												●
	09T304 FL	0.5-2.5	0.10-0.25												●
	09T308 FL	0.8-3.0	0.10-0.30												●
	120402 FL	0.5-2.5	0.10-0.25												●
	120404 FL	0.5-2.5	0.10-0.25												●
	120408 FL	1.0-3.5	0.10-0.30												●

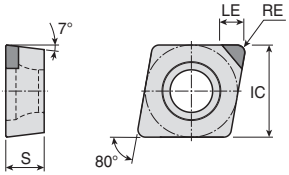
▸ M: Corner radius minus tolerance
▸ -F: Sharp edge

●: Standard items

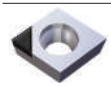
CCGW CCGT-CB CCGT-CF

T-TURN

Positive 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
06	6.35	2.38	0.2-0.8
09	9.52	3.97	0.2-0.8
12	12.7	4.76	0.4-0.8

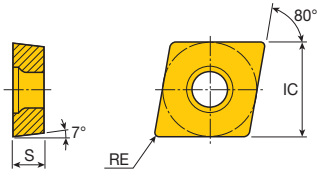
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
						TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**CCGW**	**060202 LS**	2.4	0.05-0.5	0.05-0.30		●			●				
		060202 LS2	2.2	0.05-0.5	0.05-0.30			●	●					
		060204 LS	2.4	0.05-0.5	0.05-0.30		●			●				
		060204 LS2	2.1	0.05-0.5	0.05-0.30	●		●	●					
		060208 LS2	2.1	0.05-0.5	0.05-0.30	●		●	●					
		09T304 LS	2.4	0.05-0.5	0.05-0.30		●			●				
		09T304 LS2	2.4	0.05-0.5	0.05-0.30	●	●	●	●	●				
		09T304 WZ-LS	2.8	0.05-0.5	0.05-0.30		●							
		09T304 WZ-LS2	2.4	0.05-0.5	0.05-0.30			●	●					
		09T308 LS	2.3	0.05-0.5	0.05-0.30		●			●				
		09T308 LS2	2.3	0.05-0.5	0.05-0.30	●		●	●					
		09T308 WZ-LS	2.3	0.05-0.5	0.05-0.30		●							
		09T308 WZ-LS2	2.3	0.05-0.5	0.05-0.30		●		●					
		120404 LS2	2.1	0.05-0.5	0.05-0.30				●					
		120408 LS	2.5	0.05-0.5	0.05-0.30					●				
		120408 LS2	2.1	0.05-0.5	0.05-0.30				●					
 	**CCGW**	**060202 LN-7**	3.1	0.08-3.0	0.05-0.30							●	●	●
		060204 LN-7	3.1	0.08-3.0	0.05-0.30							●	●	●
		09T304 LN-7	4.0	0.1-3.0	0.05-0.30							●	●	●
		09T308 LN-7	3.9	0.1-3.0	0.05-0.30							●	●	
		120404 LN-7	4.0	0.1-3.0	0.05-0.30							●	●	●
		120408 LN-7	3.9	0.1-3.0	0.05-0.30							●	●	
 PCD chip breaker	**CCGT**	**060204 CB**	3.1	0.5-1.5	0.10-0.50								●	
		09T302 CB	4.15	0.5-2.0	0.10-0.50								●	
		09T304 CB	4.1	0.5-2.0	0.10-0.50								●	
		09T308 CB	4.0	0.5-2.0	0.10-0.50								●	
		120404 CB	4.1	0.5-2.0	0.10-0.50								●	
		120408 CB	4.0	0.5-2.0	0.10-0.50								●	
 PCD chip breaker	**CCGT**	**09T302 CF**	4.15	0.1-1.0	0.05-0.20								●	
		09T304 CF	4.1	0.1-1.0	0.05-0.20								●	
		120404 CF	4.1	0.1-1.0	0.05-0.20								●	
		120408 CF	4.0	0.1-1.0	0.05-0.20								●	

●: Standard items

CCMT

TOPMINI

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
06	6.35	2.38	0.2-0.8
09	9.52	3.18-3.97	0.2-0.8
12	12.7	4.76	0.4-1.2

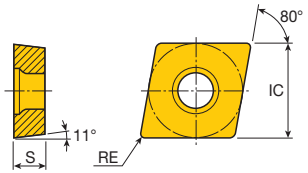
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**CCMT 060202 FA**	0.1-1.5	0.03-0.15	●	●										●		●		●		●				
	060204 FA	0.2-1.5	0.05-0.15	●	●							●					●		●	●					
	09T302 FA	0.1-2.0	0.03-0.15	●	●										●		●		●		●				
	09T304 FA	0.2-2.0	0.05-0.20	●	●							●							●	●					
	09T308 FA	0.3-2.0	0.08-0.25	●	●							●					●		●						
 Type B Finishing	**CCMT 060204 FG**	0.3-1.5	0.05-0.15	●	●		●	●			●	●			●	●	●		●	●	●	●	●		
	09T304 FG	0.4-2.0	0.07-0.20	●	●	●	●	●			●	●			●	●	●		●	●	●	●	●		
	09T308 FG	0.6-2.0	0.10-0.25	●	●	●	●				●	●			●	●	●		●	●		●	●		
	120408 FG ✓	0.6-2.0	0.10-0.25	●								●					●		●						
 Medium	**CCMT 060202 FM**	0.5-1.5	0.07-0.15								●	●					●		●						
	060204 FM	0.5-1.5	0.08-0.15								●	●					●		●	●					
	09T302 FM	0.5-2.0	0.07-0.20								●	●					●		●	●					
	09T304 FM	0.5-2.5	0.08-0.25								●	●					●		●	●					
	09T308 FM	0.8-2.5	0.10-0.25								●	●					●		●	●					
 Type B Medium	**CCMT 060204 MT** ✓	0.5-2.0	0.07-0.20	●	●		●	●		●	●	●	●		●	●	●		●	●					●
	060208 MT ✓	0.7-2.0	0.13-0.30	●	●		●	●			●	●	●				●		●		●				
	09T304 MT	0.7-3.5	0.10-0.25	●	●		●	●	●		●	●			●	●	●		●	●					
	09T308 MT	1.0-3.5	0.13-0.30		●		●	●	●		●	●	●	●	●	●	●		●	●					
	120404 MT ✓	1.0-5.0	0.10-0.25	●	●		●	●			●	●					●			●					
	120408 MT	1.3-5.0	0.13-0.30		●		●	●	●		●	●	●		●	●	●		●	●					
	120412 MT	1.5-5.0	0.17-0.35				●				●	●					●								

▸ ✓ Marked: Old type chip breaker

●: Standard items

CPMT

Positive 11° clearance 80° rhombic inserts



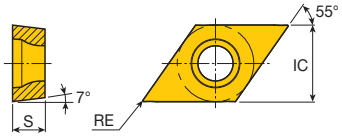
Size	Dimension (mm)		
	IC	S	RE
08	7.94	2.38	0.4-0.8
09	9.52	3.18-3.97	0.4-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**CPMT 080204 FG**	0.4-1.5	0.07-0.20	●								●					●								
	080208 FG	0.6-1.5	0.10-0.25	●								●					●								
	090304 FG	0.4-2.0	0.07-0.20	●								●					●								
	090308 FG	0.6-2.0	0.10-0.25	●							●	●					●								
 Medium	**CPMT 080204 FM**	0.5-2.0	0.08-0.20								●	●					●		●	●					
	080208 FM	0.8-2.0	0.10-0.20								●	●					●		●	●					
	090304 FM	0.5-2.5	0.08-0.25								●	●					●		●	●					
	090308 FM	0.8-2.5	0.10-0.25								●	●					●		●	●					
 Medium	**CPMT 060204 PC**	0.5-2.0	0.08-0.20				●	●						●	●		●		●						
	060208 PC	0.8-2.0	0.10-0.20					●						●	●		●		●						
	090304 PC	0.5-2.5	0.08-0.25									●		●	●		●		●						
	090308 PC	0.8-2.5	0.10-0.25									●		●	●		●		●						
	09T304 PC	0.45-3.0	0.08-0.25								●	●					●				●				
	09T308 PC	0.6-3.0	0.10-0.30				●	●				●		●	●		●		●						

●: Standard items

DCET

Positive 7° clearance 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.03-0.8
11	9.52	3.97	0.03-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing-Medium	**DCET 0702003 L-GF**	0.2-1.5	0.01-0.15								●				
	0702003 R-GF	0.2-1.5	0.01-0.15								●				
	070201 L-GF	0.2-1.5	0.02-0.15								●				
	070201 R-GF	0.2-1.5	0.02-0.15								●				
	070202 L-GF	0.3-1.5	0.03-0.17								●				
	070202 R-GF	0.3-1.5	0.03-0.17								●				
	070204 L-GF	0.3-1.5	0.05-0.20								●				
	070204 R-GF	0.3-1.5	0.05-0.20								●				
	070208 L-GF	0.3-1.5	0.05-0.20								●				
	070208 R-GF	0.3-1.5	0.05-0.20								●				
	11T3003 L-GF	0.2-2.5	0.02-0.15								●				
	11T3003 R-GF	0.2-2.5	0.02-0.15								●				
	11T301 L-GF	0.2-2.5	0.02-0.15								●				
	11T301 R-GF	0.2-2.5	0.02-0.15					●			●				
	11T302 L-GF	0.3-2.5	0.03-0.17								●				
	11T302 R-GF	0.3-2.5	0.03-0.17					●			●				
	11T304 L-GF	0.3-2.5	0.05-0.20					●			●				
	11T304 R-GF	0.3-2.5	0.05-0.20				●	●			●				
	11T308 L-GF	0.3-2.5	0.05-0.20								●				
	11T308 R-GF	0.3-2.5	0.05-0.20								●				
wiper  Right hand Finishing	**DCET 0702003 L-GW***	0.1-1.5	0.02-0.15								●				
	0702003 R-GW*	0.1-1.5	0.02-0.15								●				
	11T3003 L-GW*	0.1-1.5	0.02-0.15								●				
	11T3003 R-GW*	0.1-1.5	0.02-0.15								●				

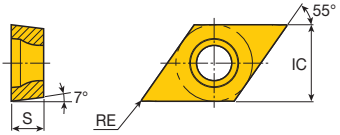
▸ *: Wiper inserts should be applied to ☐DJCR/L..., ☐DUCR/L..., ☐DZCR/L...

●: Standard items

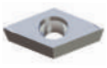
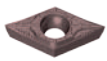
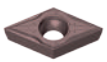
DCGT

TOPMINI

Positive 7° clearance 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.03-0.4
11	9.52	3.97	0.03-0.4

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**DCGT 0702003 L-FF**	0.05-0.3	0.03-0.10								●				
	0702003 R-FF	0.05-0.3	0.03-0.10								●				
	070201 L-FF	0.08-0.4	0.03-0.12								●				
	070201 R-FF	0.08-0.4	0.03-0.12								●				
	070202 L-FF	0.1-0.4	0.03-0.15								●				
	070202 R-FF	0.1-0.4	0.03-0.15								●				
	070204 L-FF	0.1-0.4	0.05-0.20								●				
	070204 R-FF	0.1-0.4	0.05-0.20								●				
	11T3003 L-FF	0.05-0.4	0.03-0.10								●				
	11T3003 R-FF	0.05-0.4	0.03-0.10								●				
	11T301 L-FF	0.1-0.5	0.03-0.12								●				
	11T301 R-FF	0.1-0.5	0.03-0.12								●				
	11T302 L-FF	0.1-0.5	0.03-0.15								●				
	11T302 R-FF	0.1-0.5	0.03-0.15								●				
	11T304 L-FF	0.1-0.5	0.05-0.20								●				
	11T304 R-FF	0.1-0.5	0.05-0.20								●				
 Finishing	**DCGT 070201M SL-F**	0.02-0.25	0.015-0.10									●	●		
	070202M SL-F	0.02-0.25	0.02-0.10									●	●		
	11T301M SL-F	0.02-0.25	0.015-0.10									●	●		
	11T302M SL-F	0.02-0.25	0.02-0.10									●	●		
 Finishing-Medium	**DCGT 070201M SM-F**	0.2-1.5	0.02-0.12									●	●		
	070202M SM-F	0.2-1.5	0.02-0.12									●	●		
	070204M SM-F	0.3-1.5	0.03-0.12									●	●		
	11T301M SM-F	0.2-1.5	0.02-0.12									●	●		
	11T302M SM-F	0.2-1.5	0.02-0.12									●	●		
	11T304M SM-F	0.3-1.5	0.03-0.12									●	●		

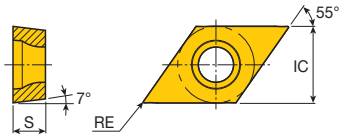
▸ –F: Sharp edge

●: Standard items

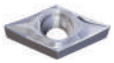
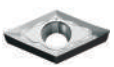
DCGT

TOPMINI

Positive 7° clearance 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.1-0.4
11	9.52	3.97	0.1-0.8

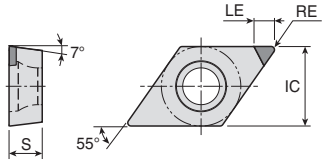
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Finishing-Medium	**DCGT 070201 SA**	0.1-1.5	0.02-0.15			●					●				
	070202 SA	0.1-1.5	0.02-0.15			●					●				
	070204 SA	0.1-1.5	0.03-0.20			●					●				
	11T301 SA	0.1-2.5	0.01-0.05			●					●				
	11T302 SA	0.1-2.5	0.02-0.15			●					●				
	11T304 SA	0.1-2.5	0.03-0.20			●					●				
	11T308 SA	0.1-2.5	0.03-0.20			●					●				
 Medium	**DCGT 11T302M SH-E**	0.7-3.5	0.05-0.15										●		
	11T302M SH-F	0.7-3.5	0.05-0.15									●	●		
	11T304M SH-F	0.7-3.5	0.07-0.17									●	●		
 Medium	**DCGT 11T301M ST-E**	0.3-5.0	0.03-0.08										●		
	11T302M ST-E	0.5-5.0	0.03-0.10										●		
	11T304M ST-E	0.7-5.0	0.05-0.12										●		
	11T301M ST-F	0.3-5.0	0.03-0.08							●			●		
	11T302M ST-F	0.5-5.0	0.03-0.10							●			●		
	11T304M ST-F	0.7-5.0	0.05-0.12							●			●		
 Medium For aluminum	**DCGT 070202 FL**	0.5-2.0	0.05-0.20												●
	070204 FL	0.5-2.5	0.05-0.25												●
	11T302 FL	0.5-2.5	0.05-0.25												●
	11T304 FL	0.5-2.5	0.05-0.25												●
	11T308 FL	0.8-3.0	0.08-0.30												●

▸ -M: Corner radius minus tolerance
▸ -F: Sharp edge
▸ -E: Micro honing edge
●: Standard items

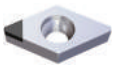
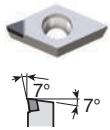
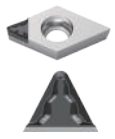
DCGW DCGT-CB DCGT-CF

T-TURN

Positive 55° rhombic inserts



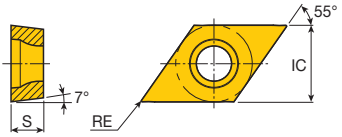
Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.2-0.8
11	9.52	3.97	0.2-0.8

Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
					TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**DCGW 070202 LS**	2.6	0.05-0.5	0.05-0.30		●							
	070202 LS2	2.6	0.05-0.5	0.05-0.30	●		●	●					
	070204 LS	2.4	0.05-0.5	0.05-0.30		●			●				
	070204 LS2	2.4	0.05-0.5	0.05-0.30	●		●	●					
	070208 LS2	2.6	0.05-0.5	0.05-0.30				●					
	11T304 LS	2.6	0.05-0.5	0.05-0.30		●			●				
	11T304 LS2	3.4	0.05-0.5	0.05-0.30	●		●	●					
	11T308 LS	2.2	0.05-0.5	0.05-0.30		●			●				
	11T308 LS2	2.2	0.05-0.5	0.05-0.30	●		●	●					
	**DCGW 070202 LN-7**	3.4	0.1-2.0	0.05-0.30							●	●	
	070204 LN-7	3.3	0.1-2.0	0.05-0.30							●	●	
	11T302 LN-7	3.9	0.1-2.0	0.05-0.30							●	●	●
	11T304 LN-7	3.7	0.1-2.0	0.05-0.30							●	●	●
	11T308 LN-7	3.3	0.1-2.0	0.05-0.30							●	●	●
 PCD chip breaker	**DCGT 070202 CB**	3.4	0.5-1.5	0.10-0.50								●	
	070204 CB	3.3	0.5-1.5	0.10-0.50								●	
	11T302 CB	4.9	0.5-2.5	0.10-0.50								●	
	11T304 CB	4.7	0.5-2.5	0.10-0.50								●	
	11T308 CB	4.6	0.5-2.5	0.10-0.50								●	
 PCD chip breaker	**DCGT 070202 CF**	3.4	0.1-1.0	0.05-0.20								●	
	070204 CF	3.3	0.1-1.0	0.05-0.20								●	
	11T302 CF	4.9	0.1-1.5	0.05-0.20								●	
	11T304 CF	4.7	0.1-1.5	0.05-0.20								●	
	11T308 CF	4.6	0.1-1.5	0.05-0.20								●	

●: Standard items

DCMT

Positive 7° clearance 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.2-0.8
11	9.52	3.97	0.2-1.2

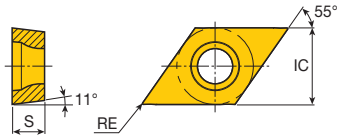
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**DCMT 070202 FA**	0.1-1.5	0.03-0.15	●	●												●		●		●				
	070204 FA	0.2-1.5	0.05-0.20	●	●						●	●							●	●					
	11T302 FA	0.1-2.0	0.03-0.15	●	●									●			●		●		●				
	11T304 FA	0.2-2.0	0.05-0.20	●	●						●	●					●		●	●					
	11T308 FA	0.3-2.0	0.08-0.25	●	●						●	●					●		●	●					
 Finishing	**DCMT 070204 FG**	0.4-1.5	0.07-0.20	●	●					●	●	●			●	●	●		●	●	●				
	070208 FG	0.4-2.0	0.07-0.20	●	●						●	●			●		●			●					
	11T304 FG	0.6-1.5	0.10-0.25	●	●	●	●	●			●	●		●	●	●	●		●	●	●	●	●		
	11T308 FG	0.6-2.0	0.10-0.25	●	●	●	●	●		●	●	●			●	●	●		●		●	●	●		
 Medium	**DCMT 070202 FM**	0.5-1.5	0.07-0.20								●	●					●		●	●					
	070204 FM	0.5-1.5	0.08-0.20								●	●			●	●	●		●	●	●				
	070208 FM	0.8-1.5	0.10-0.20								●	●					●		●	●					
	11T302 FM	0.5-2.0	0.07-0.20								●	●					●		●	●					
	11T304 FM	0.5-2.0	0.08-0.20								●	●					●		●	●					
	11T308 FM	0.8-2.5	0.10-0.25								●	●					●		●	●					
 Medium	**DCMT 11T304 MT**	0.7-3.0	0.10-0.25	●	●		●	●		●	●	●	●		●	●	●		●	●					
	11T308 MT	1.0-3.0	0.13-0.30		●		●	●	●	●	●	●			●	●	●		●	●	●				
	11T312 MT	1.5-3.0	0.17-0.35		●		●	●			●						●		●		●				

●: Standard items

DPET DPGT

TOPMINI

Positive 11° clearance 55° rhombic inserts

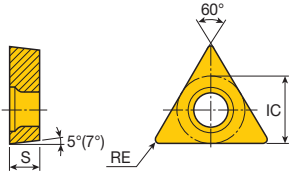


Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.03-0.2
11	9.52	3.97	0.03-0.2

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**DPET 070201 R-GF**	0.2-1.5	0.02-0.15								●				
	070202 L-GF	0.3-1.5	0.03-0.17								●				
	070202 R-GF	0.3-1.5	0.03-0.17								●				
	11T3003 L-GF	0.2-2.5	0.02-0.15								●				
	11T301 L-GF	0.2-2.5	0.02-0.15								●				
	11T301 R-GF	0.2-2.5	0.02-0.15								●				
	11T302 L-GF	0.3-2.5	0.03-0.17								●				
	11T302 R-GF	0.3-2.5	0.03-0.17								●				
 Right hand Finishing	**DPGT 0702003 R-FF**	0.05-0.3	0.03-0.10								●				
	070202 L-FF	0.1-0.4	0.03-0.15								●				
	070202 R-FF	0.1-0.4	0.03-0.15								●				
	11T3003 R-FF	0.05-0.4	0.03-0.10								●				
	11T301 R-FF	0.1-0.5	0.03-0.12								●				
	11T302 L-FF	0.1-0.5	0.03-0.15								●				
	11T302 R-FF	0.1-0.5	0.03-0.15								●				

●: Standard items

Positive 5° & 7° clearance triangular inserts



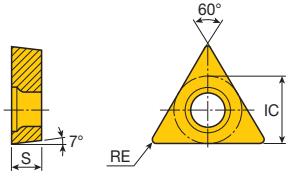
Size	Dimension (mm)		
	IC	S	RE
06	3.97	1.59	0.03-0.4
08	4.76	2.38	0.1-0.2
09	5.56	2.36	0.4
11	6.35	2.38-3.18	0.1-0.4

Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**TBGT**	**0601003 R-FF**	0.05-0.3	0.03-0.10								●				
		0601003 L-FF	0.05-0.3	0.03-0.10								●				
		060101 R-FF	0.08-0.4	0.03-0.12								●				
		060101 L-FF	0.08-0.4	0.03-0.12								●				
		060102 R-FF	0.1-0.4	0.03-0.15								●				
		060102 L-FF	0.1-0.4	0.03-0.15								●				
		060104 R-FF	0.1-0.4	0.05-0.20								●				
		060104 L-FF	0.1-0.4	0.05-0.20								●				
 Right hand Finishing-Medium	**TCET**	**080201 R-GF**	0.2-1.5	0.02-0.15								●				
		080202 L-GF	0.3-1.5	0.03-0.17								●				
		080202 R-GF	0.3-1.5	0.03-0.17								●				
		110301 L-GF	0.2-1.5	0.02-0.15								●				
		110301 R-GF	0.2-1.5	0.02-0.15								●				
		110302 L-GF	0.3-1.5	0.03-0.17								●				
		110302 R-GF	0.3-1.5	0.03-0.17								●				
		110304 L-GF	0.5-1.5	0.05-0.20								●				
		110304 R-GF	0.5-1.5	0.05-0.20								●				
 Medium For aluminum	**TCGT**	**090204 FL**	0.2-2.5	0.05-0.25												●
		110204 FL	0.2-3.0	0.05-0.30												●
 Finishing-Medium	**TCGT**	**110201 SA**	0.1-2.5	0.01-0.05			●					●				
		110202 SA	0.2-2.5	0.02-0.15			●					●				
		110204 SA	0.2-2.5	0.03-0.20			●					●				

●: Standard items

TCMT

Positive 7° clearance triangular inserts



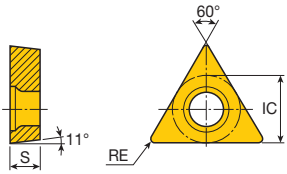
Size	Dimension (mm)		
	IC	S	RE
06	3.97	1.98	0.2
09	5.56	2.38	0.2-0.8
11	6.35	2.38	0.2-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**TCMT 06T102 FA**	0.4-1.2	0.03-0.15		●												●							
	110202 FA	0.1-1.5	0.03-0.15		●							●							●		●				
	110204 FA	0.1-1.5	0.05-0.15	●	●							●					●								
 Finishing	**TCMT 090208 FG**	0.6-1.5	0.10-0.25	●	●						●	●					●								
	110204 FG	0.4-1.5	0.07-0.20	●	●							●			●	●	●			●	●				
	110208 FG	0.6-1.5	0.10-0.25	●	●		●	●			●	●			●	●	●		●						
 Medium	**TCMT 090202 FM**	0.5-1.5	0.07-0.20								●	●					●		●	●					
	090204 FM	0.5-1.5	0.08-0.20								●	●					●		●	●					
	110202 FM	0.5-1.5	0.07-0.20								●	●					●		●	●					
	110204 FM	0.5-1.5	0.08-0.20								●	●					●		●	●					
	110208 FM	0.8-1.5	0.10-0.20								●	●					●		●	●					
 Type B Medium	**TCMT 090204 MT** ✓	0.6-2.0	0.10-0.25	●	●		●	●			●	●			●	●	●		●	●					
	090208 MT ✓	0.8-2.0	0.13-0.30		●		●	●			●	●					●								
	110204 MT ✓	0.6-3.0	0.10-0.25		●		●	●			●	●			●	●	●		●	●					●
	110208 MT ✓	0.8-3.0	0.13-0.30	●	●		●	●			●	●			●	●	●		●	●					

▸ ✓ Marked: Old type chip breaker

●: Standard items

Positive 11° clearance triangular inserts



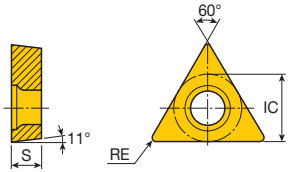
Size	Dimension (mm)		
	IC	S	RE
08	4.76	2.38	0.03-0.2
09	5.56	2.38	0.2-0.4
11	6.35	3.18	0.03-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing-Medium	**TPET 080201 L-GF**	0.2-1.5	0.02-0.15								●				
	080201 R-GF	0.2-1.5	0.02-0.15								●				
	080202 L-GF	0.3-1.5	0.03-0.17								●				
	080202 R-GF	0.3-1.5	0.03-0.17								●				
	110301 L-GF	0.2-1.5	0.02-0.15								●				
	110302 L-GF	0.3-1.5	0.03-0.17								●				
	110302 R-GF	0.3-1.5	0.03-0.17								●				
 Right hand Finishing	**TPGT 0802003 L-FF**	0.05-0.3	0.03-0.10								●				
	0802003 R-FF	0.05-0.3	0.03-0.10								●				
	080201 L-FF	0.08-0.4	0.03-0.12								●				
	080201 R-FF	0.08-0.4	0.03-0.12								●				
	080202 L-FF	0.1-0.4	0.03-0.15								●				
	080202 R-FF	0.1-0.4	0.03-0.15								●				
	1103003 L-FF	0.05-0.4	0.03-0.10								●				
	1103003 R-FF	0.05-0.4	0.03-0.10								●				
	110301 L-FF	0.1-0.5	0.03-0.12								●				
	110301 R-FF	0.1-0.5	0.03-0.12								●				
	110302 L-FF	0.1-0.5	0.03-0.15								●				
	110302 R-FF	0.1-0.5	0.03-0.15								●				
 Right hand	**TPGT 090204 L-C**	0.3-1.5	0.05-0.20		●										
	110304 L-C	0.5-2.0	0.05-0.20		●										●
	110304 R-C	0.5-2.0	0.05-0.20		●										
	110308 L-C	0.5-2.0	0.07-0.25		●										
 Right hand Finishing	**TPGX 090202 L**	0.4-1.5	0.05-0.15		●										●
	090204 L	0.6-1.5	0.08-0.20		●										●
	110302 L	0.5-1.5	0.08-0.20		●										
	110302 R	0.5-1.5	0.08-0.20		●										
	110304 L	0.6-2.0	0.08-0.20		●										●
	110304 R	0.6-2.0	0.08-0.20		●										

●: Standard items

TPMT

Positive 11° clearance triangular inserts



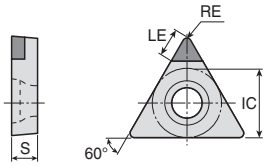
Size	Dimension (mm)		
	IC	S	RE
09	5.56	2.38	0.2-0.4
11	6.35	2.38-3.18	0.2-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated										PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**TPMT 090202 FA**	0.1-1.2	0.03-0.15	●	●						●	●					●		●	●					
	090204 FA	0.2-1.2	0.05-0.20	●	●						●	●							●	●					
	110302 FA	0.1-1.5	0.03-0.15	●	●						●	●					●		●	●					
	110304 FA	0.2-1.5	0.05-0.20	●	●						●	●					●		●	●					
	110308 FA	0.3-1.5	0.08-0.25	●	●						●	●					●		●	●	●				
 Finishing	**TPMT 110304 FG**	0.4-1.5	0.07-0.20	●	●		●				●	●					●			●					
 Medium	**TPMT 090202 FM**	0.5-1.5	0.07-0.20								●	●					●		●	●					
	090204 FM	0.5-1.5	0.08-0.20								●	●					●		●	●					
	110302 FM	0.5-1.5	0.07-0.20								●	●					●		●	●					
	110304 FM	0.5-1.5	0.08-0.20								●	●					●		●	●					
	110308 FM	0.8-1.5	0.10-0.20								●	●					●		●	●					

●: Standard items

TCGW TPGN TPGW

Positive triangular inserts



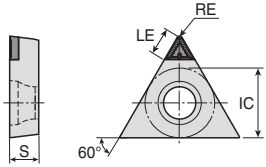
Size	Dimension (mm)		
	IC	S	RE
08	4.76	2.38	0.4
09	5.56	2.38	0.4-0.8
11	6.35	2.38-3.18	0.2-0.8

Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
					TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**TCGW 090204 LS3**	2.3	0.05-0.5	0.05-0.30			●	●					
	110204 LS	2.3	0.05-0.5	0.05-0.30		●			●				
	110204 LS3	2.3	0.05-0.5	0.05-0.30	●		●	●					
	110208 LS	2.1	0.05-0.5	0.05-0.30		●			●				
	110208 LS3	2.1	0.05-0.5	0.05-0.30			●	●					
	**TPGN 090204 LS3**	2.3	0.05-0.5	0.05-0.30	●								
	110302 LS3	2.8	0.05-0.5	0.05-0.30				●					
	110304 LS	2.6	0.05-0.5	0.05-0.30		●			●				
	110304 LS3	2.6	0.05-0.5	0.05-0.30				●					
	110308 LS3	2.3	0.05-0.5	0.05-0.30	●		●						
	**TPGW 080204 LS3**	2.1	0.05-0.5	0.05-0.30			●						
	090204 LS3	2.3	0.05-0.5	0.05-0.30			●	●					
	090208 LS3	2.0	0.05-0.5	0.05-0.30			●						
	110302 LS3	2.8	0.05-0.5	0.05-0.30	●								
	110304 LS	2.6	0.05-0.5	0.05-0.30		●	●						
	110304 LS3	2.6	0.05-0.5	0.05-0.30	●			●					
	110308 LS3	2.3	0.05-0.5	0.05-0.30	●		●						

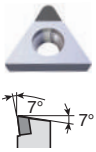
●: Standard items

TCGW TPGN TCGT-CB

Positive triangular inserts



Size	Dimension (mm)		
	IC	S	RE
09	5.56	2.38	0.4-0.8
11	6.35	2.38-3.18	0.2-0.4

Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
						TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**TCGW**	**090204 LN-7**	3.3	0.1-2.0	0.05-0.30								●	
		090208 LN-7	3.0	0.1-2.0	0.05-0.30								●	
		110204 LN-7	3.8	0.1-2.0	0.05-0.30							●	●	●
	TPGN	**110302 LN-7**	3.9	0.1-2.0	0.05-0.30								●	
		110304 LN-7	3.8	0.1-2.0	0.05-0.30								●	
	TCGT	**090204 CB**	2.8	0.5-1.5	0.10-0.50								●	
		110204 CB	3.8	0.5-2.0	0.10-0.50								●	

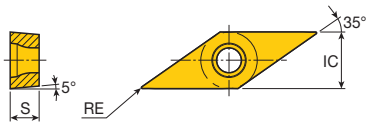
PCD chip breaker

●: Standard items

VBET VBGT

TOPMINI

Positive 5° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.03-0.4

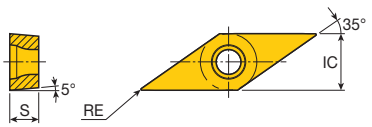
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing-Medium	**VBET 110301 L-GF**	0.2-1.5	0.02-0.15								●				
	110301 R-GF	0.2-1.5	0.02-0.15								●				
	110302 L-GF	0.3-1.5	0.03-0.17								●				
	110302 R-GF	0.3-1.5	0.03-0.17								●				
	110304 L-GF	0.3-1.5	0.05-0.20								●				
	110304 R-GF	0.3-1.5	0.05-0.20								●				
wiper  Right hand Finishing	**VBET 1103003 L-GW***	0.1-1.5	0.02-0.15								●				
	1103003 R-GW*	0.1-1.5	0.02-0.15								●				
 Left hand Finishing	**VBGT 1103003 L-FF**	0.05-0.4	0.03-0.10								●				
	1103003 R-FF	0.05-0.4	0.03-0.10								●				
	110301 L-FF	0.1-0.5	0.03-0.12								●				
	110301 R-FF	0.1-0.5	0.03-0.12								●				
	110302 L-FF	0.1-0.5	0.03-0.15								●				
	110302 R-FF	0.1-0.5	0.03-0.15								●				
 Finishing	**VBGT 110302M SL-F**	0.02-0.20	0.02-0.10									●	●		
 Finishing-Medium	**VBGT 110301M SM-F**	0.2-1.5	0.02-0.12									●	●		
	110302M SM-F	0.2-1.5	0.02-0.12									●	●		
	110304M SM-F	0.3-1.5	0.03-0.12									●	●		
 Finishing-Medium	**VBGT 110301 SA**	0.1-1.5	0.01-0.20			●					●				
	110302 SA	0.2-1.5	0.02-0.20			●					●				
	110304 SA	0.2-1.5	0.05-0.20			●					●				

▸ *: Wiper inserts should be applied to □VJBR/L...
●: Standard items
▸ M: Corner radius minus tolerance
▸ -F: Sharp edge

VBMT VBMX

TOPMINI MULTILTURN

Positive 5° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.4-0.8
16	9.52	4.76	0.2-0.8

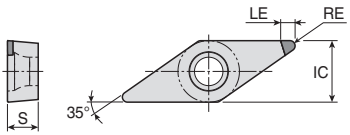
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**VBMT 110304 FA**	0.2-1.5	0.05-0.20	●	●						●	●					●		●	●					
 Medium	**VBMT 110304 FM**	0.5-1.5	0.08-0.20								●	●					●		●	●					
	110308 FM	0.5-1.5	0.10-0.20								●	●					●		●	●					
 Finishing	**VBMX 160402 FG**	0.3-1.5	0.05-0.20		●						●								●						
	160404 FG	0.5-1.5	0.07-0.20		●						●								●						
	160408 FG	0.7-2.0	0.10-0.25		●						●								●				●		
MULTILTURN																									

●: Standard items

VBGW

TOPMINI

Positive 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.4

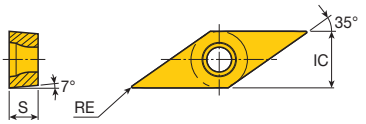
Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
					TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD810	KP300	TD830
	**VBGW 110304 LS2**	3.2	0.05-0.50	0.05-0.30			●							

●: Standard items

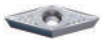
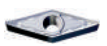
VCGT

TOPMINI

Positive 5° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.08-0.4

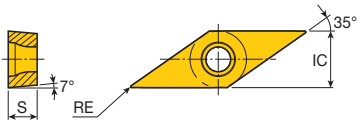
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Finishing	**VCGT 110302M SL-F**	0.02-0.25	0.02-0.10									●	●		
 Finishing	**VCGT 110301M SM-F**	0.2-1.5	0.02-0.12									●	●		
	110302M SM-F	0.2-1.5	0.02-0.12									●	●		
	110304M SM-F	0.3-1.5	0.03-0.12									●	●		
 Medium	**VCGT 1103008 SH-F**	0.5-2.5	0.05-0.15								●				
	110301 SH-F	0.5-2.5	0.05-0.15								●				
	110302 SH-F	0.5-2.5	0.05-0.15								●				
 Finishing-Medium	**VCGT 110301 SA**	0.1-1.5	0.01-0.20			●					●				
	110302 SA	0.2-1.5	0.02-0.20			●					●				
	110304 SA	0.2-1.5	0.05-0.20			●					●				
 Medium For aluminum	**VCGT 110302 FL**	0.2-2.5	0.05-0.20												●
	110304 FL	0.5-3.0	0.05-0.25												●

●: Standard items

VCMT

T-TURN

Positive 7° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
08	4.76	2.38	0.2-0.4
11	6.35	3.18	0.4

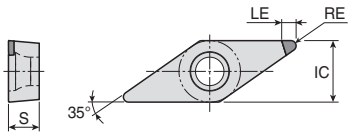
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**VCMT**	**080202 FM**	0.5-1.5	0.07-0.15								●	●					●		●	●					
		080204 FM	0.5-1.5	0.08-0.15								●	●					●		●	●					
		110304 FM	0.5-1.5	0.08-0.20								●	●					●		●	●					

●: Standard items

VCGT-CB

TOPMINI

Positive 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.2-0.4

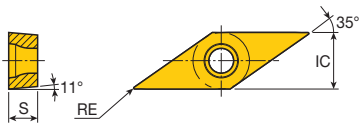
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
						TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD1010	TD1020	TD1030
 PCD chip breaker 	**VCGT**	**110302 CB**	4.7	0.50-2.00	0.10-0.50									●	
		110304 CB	5.0	0.50-2.00	0.10-0.50									●	

●: Standard items

VPET VPGT

TOPMINI

Positive 11° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
08	4.76	2.38	0.1-0.2
11	6.35	3.18	0.03-0.2

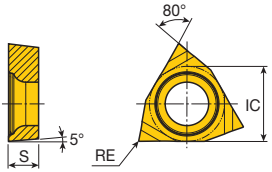
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing-Medium	**VPET 080201 L-GF**	0.2-1.5	0.02-0.15								●				
	080201 R-GF	0.2-1.5	0.02-0.15								●				
	080202 L-GF	0.3-1.5	0.03-0.17								●				
	080202 R-GF	0.3-1.5	0.03-0.17								●				
	1103003 L-GF	0.2-1.5	0.02-0.12								●				
	1103003 R-GF	0.2-1.5	0.02-0.12								●				
	110301 L-GF	0.2-1.5	0.02-0.15								●				
	110301 R-GF	0.2-1.5	0.02-0.15								●				
	110302 L-GF	0.3-1.5	0.03-0.17								●				
	110302 R-GF	0.3-1.5	0.03-0.17								●				
 Left hand Finishing	**VPGT 080201 L-FF**	0.08-0.4	0.03-0.12								●				
	080201 R-FF	0.08-0.4	0.03-0.12								●				
	080202 L-FF	0.1-0.4	0.03-0.15								●				
	080202 R-FF	0.1-0.4	0.03-0.15								●				
	1103003 L-FF	0.05-0.4	0.03-0.10								●				
	1103003 R-FF	0.05-0.4	0.03-0.10								●				
	110301 L-FF	0.1-0.5	0.03-0.12								●				
	110301 R-FF	0.1-0.5	0.03-0.12								●				
	110302 L-FF	0.1-0.5	0.03-0.15								●				
	110302 R-FF	0.1-0.5	0.03-0.15								●				

●: Standard items

WBGT WBMT

TOPMINI

Positive 5° clearance 80° trigon inserts



Size	Dimension (mm)		
	IC	S	RE
06	3.97	1.59	0.03-0.4

Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Left hand Finishing	**WBGT**	**0601003 R-FF**	0.05-0.3	0.03-0.10								●				
		0601003 L-FF	0.05-0.3	0.03-0.10								●				
		060101 R-FF	0.08-0.4	0.03-0.12								●				
		060101 L-FF	0.08-0.4	0.03-0.12								●				
		060102 R-FF	0.1-0.4	0.03-0.15								●				
		060102 L-FF	0.1-0.4	0.03-0.15								●				
		060104 R-FF	0.1-0.4	0.05-0.20								●				
		060104 L-FF	0.1-0.4	0.05-0.20			●					●				
	WBMT	**060102 R-C**	0.1-0.4	0.03-0.15		●										
		060102 L-C	0.1-0.4	0.03-0.15		●										

●: Standard items

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material		Condition	Tensile strength (N/mm^2)	Hardness HB	Material No.
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		>=0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		>=0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloy steel, cast steel and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
M	Stainless steel and cast steel		Ferritic / martensitic	680	200	12
			Martensitic	820	240	13
			Austenitic	600	180	14
K	Gray cast iron (GG)		Ferritic		160	15
			Pearlitic		250	16
	Cast iron nodular (GGG)		Ferritic		180	17
			Pearlitic		260	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum - wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temp.		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics		70 Shore D	29
			Hard rubber		55 Shore D	30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium, Ti alloys		Pure	Rm 400	190	36
			Alpha+beta alloys, hardened	Rm 1050	310	37
H	Hardened steel		Hardened		55HRC	38
			Hardened		60HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron nodular		Hardened		55HRC	41

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

Cutting speed Vc(m/min)										
Coated										
TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100
			310-580	280-530	230-480	190-400				200-450
			270-530	240-480	200-420	170-360				170-390
			230-490	200-440	160-380	130-320				130-350
			250-500	220-450	190-400	160-340				160-370
			210-470	180-420	150-350	120-300				120-320
			230-550	200-500	170-400	130-280				140-370
			180-330	150-280	140-250	80-170				110-220
			160-300	130-250	120-230	70-150				90-200
			150-280	120-230	110-200	60-140				80-170
			210-420	190-380	140-280	100-220				110-250
			100-200	90-180	70-130	45-100				40-100
							160-250	120-200	110-170	
							150-230	110-180	100-150	
							130-220	100-170	90-150	
300-550	290-450	280-400								
300-430	250-360	200-320								
160-400	150-350	140-300								
140-350	130-300	120-280								
200-460	250-390	230-350								
180-350	200-320	180-300								
							40-80	30-70	30-60	
							30-70	20-60	20-50	
							35-70	25-60	25-50	
							30-70	20-60	20-50	
							30-70	20-60	20-50	

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material		Condition	Tensile strength (N/mm²)	Hardness HB	Material No.
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		>=0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		>=0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloy steel, cast steel and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
M	Stainless steel and cast steel		Ferritic / martensitic	680	200	12
			Martensitic	820	240	13
			Austenitic	600	180	14
K	Gray cast iron (GG)		Ferritic		160	15
			Pearlitic		250	16
	Cast iron nodular (GGG)		Ferritic		180	17
			Pearlitic		260	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum - wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temp.		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics		70 Shore D	29
			Hard rubber		55 Shore D	30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium, Ti alloys		Pure	Rm 400	190	36
			Alpha+beta alloys, hardened	Rm 1050	310	37
H	Hardened steel		Hardened		55HRC	38
			Hardened		60HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron nodular		Hardened		55HRC	41

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

Cutting speed Vc(m/min)										
Coated										
TT7100	TT3005	TT5080	TT4410	TT3010	TT3020	TT9080	TT4430	TT9020	TT8080	TT8020
170-380			170-380				160-370	150-350	110-310	100-300
150-340			170-340				160-340	150-320	110-280	100-270
110-300			150-270				140-270	130-250	90-210	80-200
140-320			170-270				160-270	140-260	100-220	90-210
100-280			150-250				140-250	130-230	90-190	80-180
110-260			150-270				140-270	130-250	90-210	80-200
60-150			60-130				60-130	50-130	40-120	40-120
50-120			50-100				50-100	40-100	40-90	40-90
40-120			30-100				30-100	30-100	30-90	30-90
80-200			60-180				60-180	60-180	60-160	60-160
40-90			40-80				40-80	40-80	40-80	40-80
		160-390	150-380			120-290	120-270	120-270	110-260	100-250
		160-280	150-270			120-270	120-250	120-250	110-240	100-230
		100-250	90-240			90-240	90-220	90-220	80-200	80-200
	60-200	50-180	40-170	50-170	40-165	40-160	40-160		30-80	20-70
	50-180	40-160	40-150	40-150	30-145	30-130	30-130		20-60	10-50
	55-120	45-100	45-90	45-90	35-85	35-80	35-80		20-50	10-40
	45-110	35-90	30-80	35-80	30-75	30-70	30-70		20-40	10-30
	40-100	30-80	30-80	30-70	30-65	30-60	30-60		20-30	10-20
	120-220	110-200	110-190	110-190	100-185	90-180	90-180		80-160	70-150
	60-120	50-100	50-90	50-90	40-85	40-80	40-80		30-50	20-40

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material		Condition	Tensile strength (N/mm^2)	Hardness HB	Material No.
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		>=0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		>=0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloy steel, cast steel and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
M	Stainless steel and cast steel		Ferritic / martensitic	680	200	12
			Martensitic	820	240	13
			Austenitic	600	180	14
K	Gray cast iron (GG)		Ferritic		160	15
			Pearlitic		250	16
	Cast iron nodular (GGG)		Ferritic		180	17
			Pearlitic		260	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum - wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temp.		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics		70 Shore D	29
			Hard rubber		55 Shore D	30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium, Ti alloys		Pure	Rm 400	190	36
			Alpha+beta alloys, hardened	Rm 1050	310	37
H	Hardened steel		Hardened		55HRC	38
			Hardened		60HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron nodular		Hardened		55HRC	41

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

Cutting speed Vc(m/min)					
Uncoated	Cermet		PCD		
K10	PV3010	CT3000	TD1010	TD1020	TD1030
	350-650	300-570			
	270-520	250-500			
	240-480	220-460			
	260-500	240-470			
	240-460	220-440			
	240-540	220-520			
	190-330	170-300			
	170-300	150-270			
	140-270	130-250			
	260-405	250-395			
	140-205	130-195			
	200-300	180-270			
	200-270	170-250			
	170-260	150-240			
110-180	230-330	220-320			
95-140	215-290	205-280			
95-135	145-220	135-200			
90-125	105-150	95-140			
110-140	170-265	160-255			
90-125	180-240	170-230			
200-1000			300-2500	300-2300	300-2000
200-1000			300-2500	300-2300	300-2000
50-400			200-1500	200-1400	200-1300
50-500			200-1500	200-1400	200-1300
40-350			80-1000	80-900	80-800
50-500			60-600	60-550	60-500
50-500			60-600	60-550	60-500
30-300			30-400	30-380	30-360
50-300			100-1000	100-900	100-800
50-150			100-600	100-550	100-500
55-85					
40-65					
32-55					
21-40					
16-26					
50-75					
45-70					

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material		Condition	Tensile strength (N/mm^2)	Hardness HB	Material No.
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		>=0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		>=0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloy steel, cast steel and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
M	Stainless steel and cast steel		Ferritic / martensitic	680	200	12
			Martensitic	820	240	13
			Austenitic	600	180	14
K	Gray cast iron (GG)		Ferritic		160	15
			Pearlitic		250	16
	Cast iron nodular (GGG)		Ferritic		180	17
			Pearlitic		260	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum - wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temp.		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics		70 Shore D	29
			Hard rubber		55 Shore D	30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium, Ti alloys		Pure	Rm 400	190	36
			Alpha+beta alloys, hardened	Rm 1050	310	37
H	Hardened steel		Hardened		55HRC	38
			Hardened		60HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron nodular		Hardened		55HRC	41

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

Cutting speed Vc(m/min)						
CBN						
TB610	TB2015	TB650	TB670	TB730	TB7015	TB7020
				300-1200	300-1200	300-800
				200-1000	200-1000	500-1000
90-280	80-230	80-230	70-180	80-130		
80-250	70-200	70-200	60-150	60-120		
			100-200	120-180	120-180	120-180
				100-140	100-140	100-140

TAEGUTEC

02

Parting & Grooving

02-1

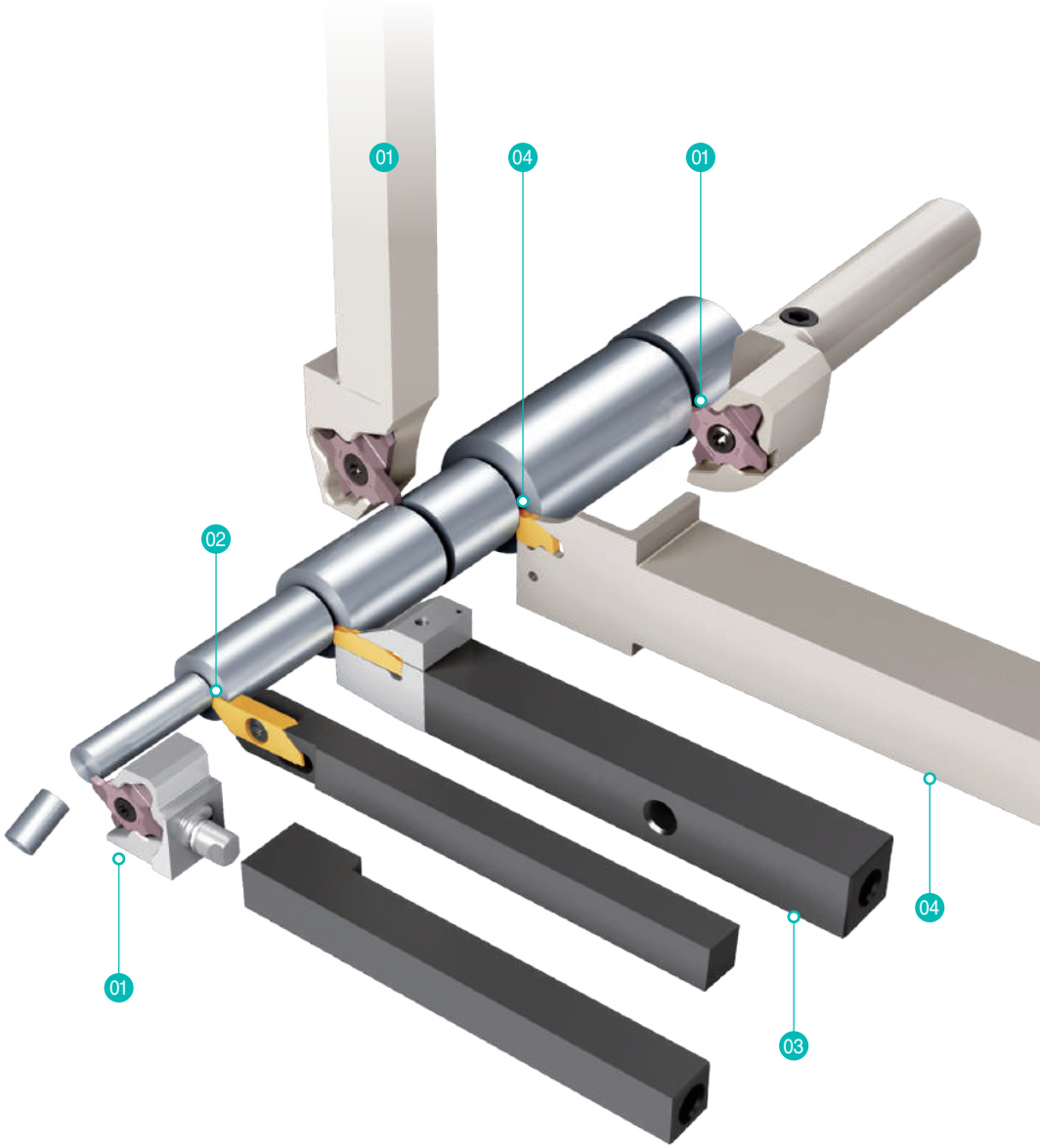
External Holders

Tool Selection Guide 118

Grade 122

Holders & Inserts

- QUAD-RUSH 123
- QUAD-I-RUSH 128
- TOP-CUT 130
- T-CLAMP 131
- RHINO-GROOVE 147
- CUT-SFEED 151


01
04
01
02
01
04
03

External Parting and Grooving

01 QUADRUSH

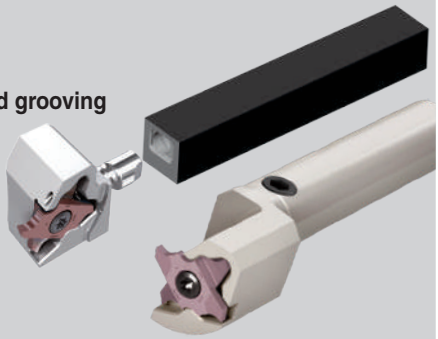
4-cutting edge inserts for shallow parting and grooving

Dmax: Ø10 mm

Cutting width: 0.5-3.0 mm


TQS


TQJ

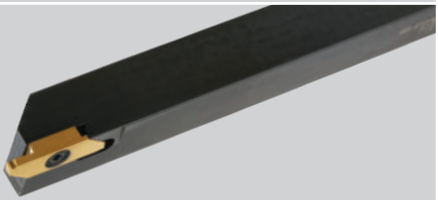


02 TOPCUT

Dmax: Ø13 mm

Cutting width: 0.7-2.0 mm


TVPR/L



03 T-CLAMP

Double-ended inserts for parting and deep grooving

Dmax: Ø45 mm

Cutting width: 1.4-3.0 mm


TDCT

Turning & Grooving


TDUF


TDV


TDJ


TDC

Best — Chip control — Good



04 CUTSPEED

Single-ended rigid inserts and holders for parting and deep grooving

Dmax: Ø60 mm

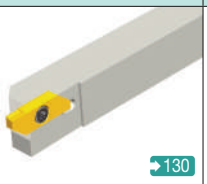
Cutting width: 1.6-3.0 mm

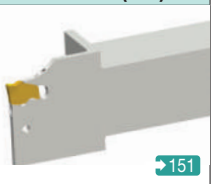

SFJ


SFC

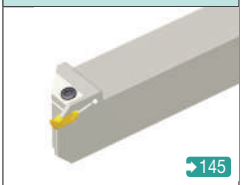


Parting / Grooving / Turning

QUADRUSH	TOPCUT	RHINOGROOVE
TQHR/L-20(-TB)	**TTVER/L**	**RGER/L-SH**
 ➔123	 ➔130	 ➔147
Insert : TQ...20	TVPR/L	RD.../RS...
Width : 0.5-3.0	0.7-2.0	2.0-3.0
Max.D : Ø10	Ø13	Ø24
Shank : 10-25	10-25	10-16

T-CLAMP	T-CLAMP	CUTSPEED
TTER/L-SH(-TB)	**TTER/L-D**	**TTER/L-SH(-TB)**
 ➔131	 ➔134	 ➔151
Insert : TD.../TS...	TD.../TS...	SF...
Width : 1.4-3.0	1.4-3.0	1.6-3.0
Max.D : Ø45	Ø50	Ø60
Shank : 10-20	10-25	20-25

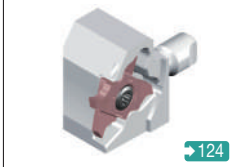
Shallow Grooving

T-CLAMP
TTSER/L
 ➔145
Insert : TDIM/TDIP
Width : 2.0
Max.D : Ø7
Shank : 10-20

Insert Selection Guide

External parting & grooving

Modular Head Type Holders

QUADRUSH	WINSWISS	
QE1 TQHR/L(-TB)	QE1 TTER(-TB)	QE1 TTEL(-TB)
 124	 132	 133
Insert : TQ...20	TD.../TS...	TD.../TS...
Width : 0.5-3.0	2.0-3.0	2.0-3.0
Max.D : Ø10	Ø32	Ø32
Shank : 12-16	12-16	12-16

Y-axis Holders (TMY)

QUADRUSH
TMY-TQHR(-TB)
 125
Insert : TQ...20-R
Width : 0.5-3.0
Depth : 2.7-5.0
Shank : 10-16

Sleeve Holders (TMS)

QUADRUSH	QUADIRUSH
TMS-TQHL(-TB)	TMS-TQHIL(-TB)
 126	 128
Insert : TQ...20-R	TQIS 14
Width : 0.5-3.0	1.0-3.0
Depth : 2.7-5.0	2.5
Shank : Ø16-Ø25.4	Ø16-Ø25.4

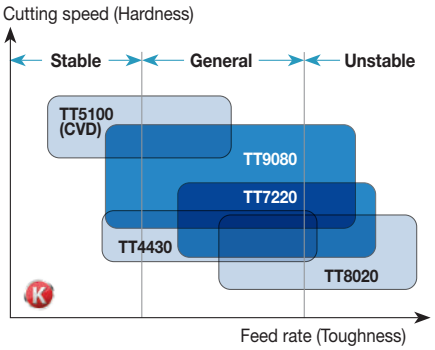
Profiling

TGROOVE
TTLEN
 150
Insert : TGUX
Width : 10-25
Shank : 12-32

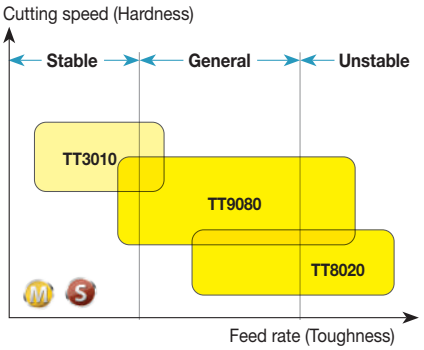
Grades

Selection guide for parting and grooving grades

For steel (PVD & CVD coated)



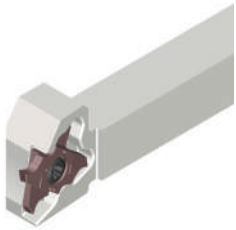
For stainless steel & super alloy (PVD coated)

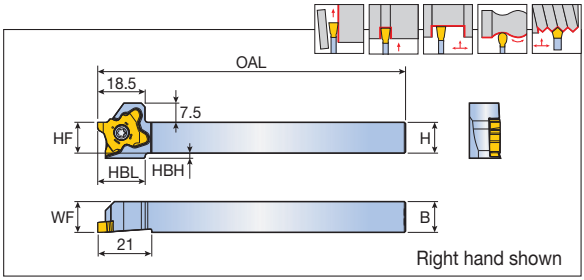


Grades	ISO	Characteristics & applications
TT3010 PVD coated	S05 – S20	• High speed grooving and turning of heat-resistant super alloy
TT5100 CVD coated	P20 – P35 M20 – M35	• Medium grooving and turning of mild steel, low carbon steel and low carbon alloy steel • Low to medium speed machining of stainless steel
TT9080 PVD coated	P20 – P40 M20 – M40 S20 – S40	• HGeneral machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning • Continuous cut and medium cutting speed
TT4430 PVD coated	P20 – P40 M20 – M40	• General machining of steel, stainless steel and heat-resistant super alloy for small parts • Grooving, turning and parting
TT7220 PVD coated	S20 – S40 P25 – P45 M25 – M45	• Rough machining of steel and stainless steel for parting, grooving and turning
TT8020 PVD coated	P30 – P50 M30 – M50 S30 – S50	• Low speed or rough and interrupted machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning
CT3000 Cermet	P10 – P20 M10 – M20 K10 – K20	• Good surface finish turning of steel, stainless steel and cast iron
K10 Cermet	K05 – K15 N05 – N15 S05 – S15	• General machining of cast iron, aluminum alloys, non-ferrous materials and titanum alloys
TB2015 CBN	H10 – H20	• Continuous and light interrupted machining of hardened steel
TD1020 PCD	N10 – N25	• General machining of aluminum alloys

TQHR/L-20

Holders for parting and grooving

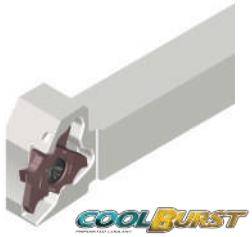


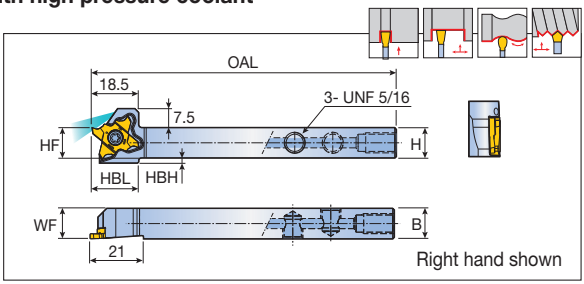


Designation	Dimension (mm)							Insert
	H	HF	B	WF	OAL	HBL	HBH	
TQHR/L 10-20	10	10	10	10	120	18.5	4	TQ...20
12-20	12	12	12	12	120	18.5	2	
16-20	16	16	16	16	120	-	-	
20-20	20	20	20	20	120	-	-	
25-20	25	25	25	25.3	135	-	-	

TQHR/L-20-TB

Holders for parting and grooving with high pressure coolant





Designation	Dimension (mm)							Insert
	H	HF	B	WF	OAL	HBL	HBH	
TQHR/L 12-20-TB	12	12	12	12	120	18.5	2	TQ...20
16-20-TB	16	16	16	16	120	-	-	
20-20-TB	20	20	20	20	120	-	-	

Designation	70 bar flow rate (ℓ/min)	100 bar flow rate (ℓ/min)	140 bar flow rate (ℓ/min)
TQHR/L- TB	9-11	11-13	12-14

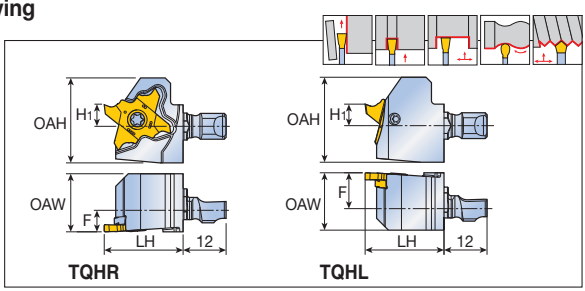
▸ Please refer to 44 page for COOL-BURST accessories

QE1 TQHR/L

WINSWISS

Modular head for parting and grooving





Designation	Dimension (mm)					Shank	Insert
	OAH	LH	OAW	H_1	F		
QE1 TQHR 20	23.7	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB	TQ...20
TQHL 20	23.7	22.0	16.0	6.0	9.0	42	

▸ CDX: Refer to insert dimension

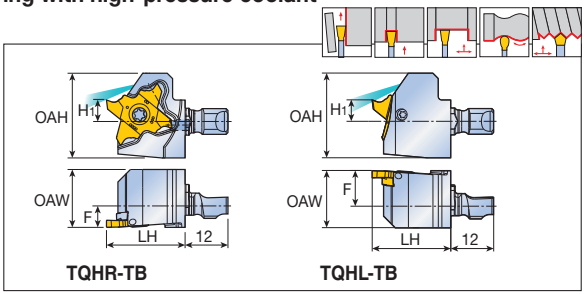
QE1 TQHR/L-TB

WINSWISS

Modular head for parting and grooving with high-pressure coolant



COOLBURST



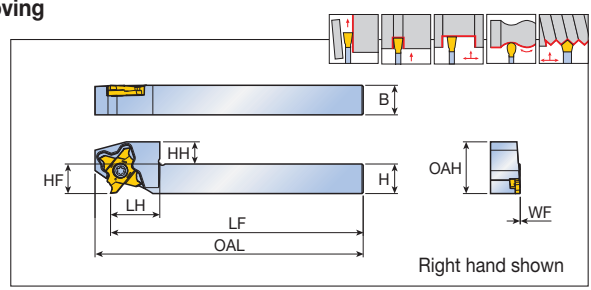
Designation	Dimension (mm)					Shank	Insert
	OAH	LH	OAW	H_1	F		
QE1 TQHR 20-TB	23.7	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB	TQ...20
TQHL 20-TB	23.7	22.0	16.0	6.0	9.0	42	

▸ CDX: Refer to insert dimension
▸ Please refer to 44 page for COOL-BURST accessories

TMY-TQHR

Y-axis holders for parting and grooving





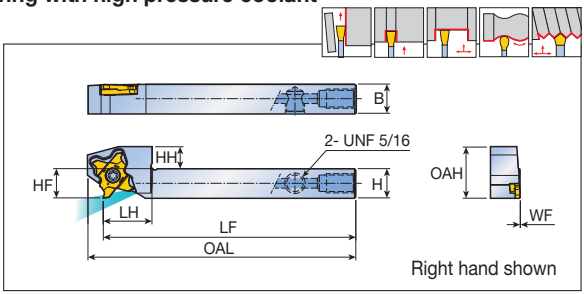
Designation		Dimension (mm)									Insert
		H	B	HH	LH	HF	WF	OAH	LF	OAL	
TMY-TQHR	**10-20**	10	10	11	20	10	0	21	125	131.3	TQ... 20-R
	12-20	12	12	9	20	12	0	21	125	131.3	
	16-20	16	16	5	20	16	0	21	125	131.3	

▸ CDX: Refer to insert dimension

TMY-TQHR-TB

Y-axis holders for parting and grooving with high pressure coolant





Designation		Dimension (mm)									Insert
		H	B	HH	LH	HF	WF	OAH	LF	OAL	
TMY-TQHR	**12-20-TB**	12	12	9	20	12	0	21	125	131.3	TQ... 20-R
	16-20-TB	16	16	5	20	16	0	21	125	131.3	

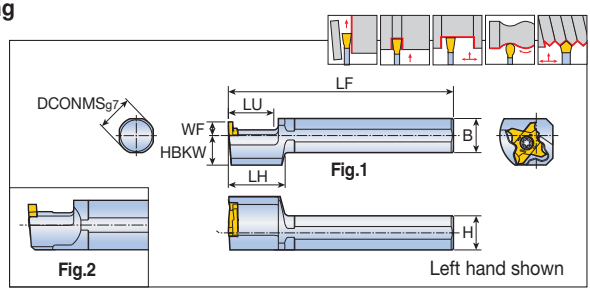
▸ CDX: Refer to insert dimension
▸ Please refer to 44 page for COOL-BURST accessories

TMS-TQHL

QUADRUSH

Sleeve holders for external grooving





Designation		Dimension (mm)							Fig.	Insert
		DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHL	**16-20**	16	15	100	20	25	6	13	1	TQ... 20-R
	19.05-20	19.05	18	100	20	25	6	13	1	
	20-20	20	19	100	20	25	6	13	1	
	22-20	22	21	100	20	25	6	13	1	
	25-20	25	24	100	20	-	10	12	2	
	25.4-20	25.4	24.4	100	20	-	10	12.2	2	

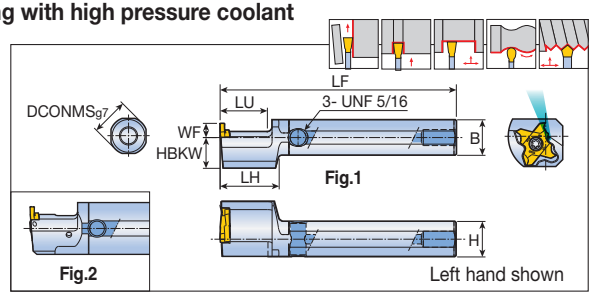
- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension

TMS-TQHL-TB

QUADRUSH

Sleeve holders for external grooving with high pressure coolant





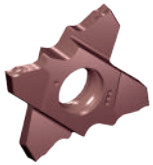
Designation		Dimension (mm)							Fig.	Insert
		DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHL	**16-20-TB**	16	15	100	20	25	6	13	1	TQ... 20-R
	25-20-TB	25	24	100	20	-	10	12	2	

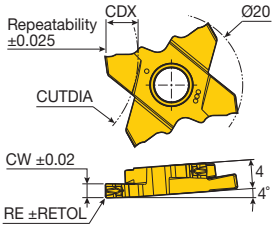
- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension
- Please refer to 44 page for COOL-BURST accessories

TQJ 20

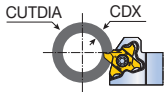
QUADRUSH

Precision grooving and parting inserts with J-Type chip breaker





RE	RETOL
RE ≤ 0.1	0.02
0.1 < RE ≤ 0.4	0.03
RE > 0.4	0.05



Right hand shown

Designation		Feed (mm/rev)	CW	RE	CDX	CUTDIA					Grade	
						CDX ≤ 2.7	≤ 3.0	≤ 3.5	≤ 4.0	≤ 5.0	TT9080	TT4430
TQJ	**20-1.00-0.10-R/L**	0.03-0.07	1.00	0.10	2.7	N.L.	-	-	-	-	●	●
	20-1.25-0.10-R/L	0.03-0.07	1.25	0.10	3.0	N.L.	170	70	50	16	●	●
	20-1.50-0.20-R/L	0.03-0.08	1.50	0.20	5.0	N.L.	170	70	50	16	●	●
	20-1.75-0.20-R/L	0.03-0.08	1.75	0.20	5.0	N.L.	170	70	50	16	●	●
	20-2.00-0.20-R/L	0.04-0.10	2.00	0.20	5.0	N.L.	170	70	50	16	●	●
	20-2.50-0.20-R/L	0.04-0.10	2.50	0.20	5.0	N.L.	170	70	50	16	●	●
	20-3.00-0.20-R/L	0.04-0.12	3.00	0.20	5.0	N.L.	170	70	50	16	●	●

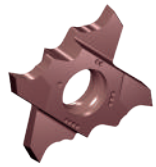
▸ N.L.: No limit

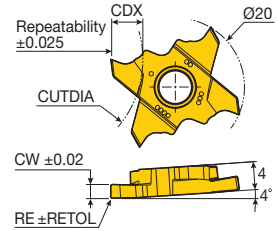
●: Standard items

TQS 20

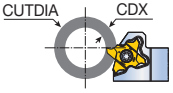
QUADRUSH

Precision grooving and parting inserts with ground chip breaker





RE	RETOL
RE ≤ 0.1	0.02
0.1 < RE ≤ 0.4	0.03
RE > 0.4	0.05



Right hand shown

Designation		Feed (mm/rev)	CW	RE	CDX	CUTDIA						Grade
						CDX ≤ 2.2	≤ 2.7	≤ 3.5	≤ 4.0	≤ 4.5	≤ 5.0	TT4430
TQS	**20-0.50-0.05-R/L**	0.03-0.07	0.50	0.05	2.2	N.L.	-	-	-	-	-	●
	20-0.75-0.10-R/L	0.03-0.07	0.75	0.10	2.2	N.L.	-	-	-	-	-	●
	20-0.95-0.10-R/L	0.03-0.07	0.95	0.10	2.2	N.L.	-	-	-	-	-	●
	20-1.00-0.05-R/L	0.03-0.07	1.00	0.05	2.7	N.L.	N.L.	-	-	-	-	●
	20-1.00-0.10-R/L	0.03-0.07	1.00	0.10	2.7	N.L.	N.L.	-	-	-	-	●
	20-1.50-0.10-R/L	0.03-0.10	1.50	0.10	5.0	N.L.	N.L.	70	50	30	16	●
	20-2.00-0.10-R/L	0.04-0.12	2.00	0.10	5.0	N.L.	N.L.	70	50	30	16	●
	20-2.00-0.20-R/L	0.04-0.12	2.00	0.20	5.0	N.L.	N.L.	70	50	30	16	●
	20-2.00-1.00-R/L*	0.05-0.13	2.00	1.00	5.0	N.L.	N.L.	70	50	30	16	●
	20-2.50-0.10-R/L	0.04-0.15	2.50	0.10	5.0	N.L.	N.L.	70	50	30	16	●
	20-3.00-0.10-R/L	0.04-0.16	3.00	0.10	5.0	N.L.	N.L.	70	50	30	16	●
	20-3.00-1.50-R/L*	0.04-0.16	3.00	1.50	5.0	N.L.	N.L.	70	50	30	16	●

▸ N.L.: No limit

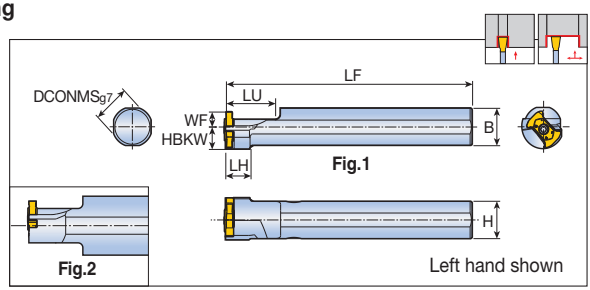
▸ *: Full radius insert

●: Standard items

TMS-TQHIL

Sleeve holders for external grooving





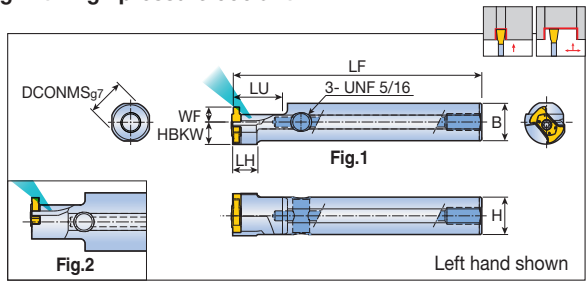
Designation	Dimension (mm)							Fig.	Insert
	DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHIL 16-14	16	15	100	20	10	6	9	1	TQIS 14
19.05-14	19.05	18	100	20	-	6	9	1	
20-14	20	19	100	20	20	6	9	2	
22-14	22	21	100	20	22	10	7	2	
25-14	25	24	100	20	22	10	7	2	
25.4-14	25.4	24.4	100	20	22	10	7	2	

▸ CDX: Refer to insert dimension

TMS-TQHIL-TB

Sleeve holders for external grooving with high pressure coolant





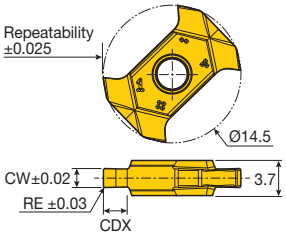
Designation	Dimension (mm)							Fig.	Insert
	DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHIL 16-14-TB	16	15	100	20	10	6	9	1	TQIS 14
25-14-TB	25	24	100	20	22	10	5	2	

▸ CDX: Refer to insert dimension
▸ Please refer to 44 page for COOL-BURST accessories

TQIS 14

4 cutting edge inserts for internal shallow grooving





Designation	Feed (mm/rev)	Dimension (mm)			Grade
		CW	RE	CDX	TT9080
TQIS 14-1.00-0.05	0.02-0.06	1.00	0.05	2.50	●
14-1.50-0.10	0.02-0.07	1.50	0.10	2.50	●
14-1.50-0.20	0.02-0.07	1.50	0.20	2.50	●
14-1.70-0.20	0.02-0.08	1.70	0.20	2.50	●
14-2.00-0.10	0.03-0.08	2.00	0.10	2.50	●
14-2.00-0.20	0.03-0.08	2.00	0.20	2.50	●
14-2.50-0.20	0.03-0.09	2.50	0.20	2.50	●
14-3.00-0.20	0.03-0.10	3.00	0.20	2.50	●

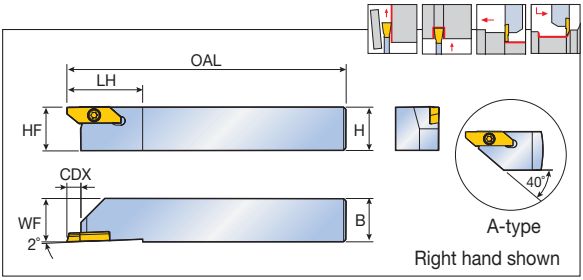
●: Standard items

TTVER/L

TOPCUT

Holders for grooving and parting



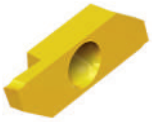


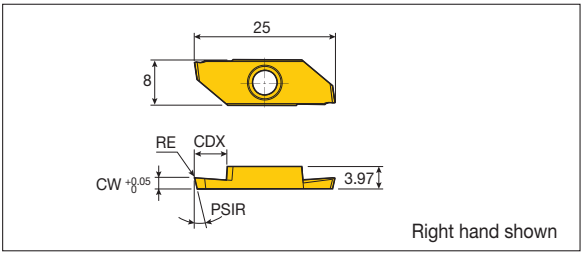
Designation	Dimension (mm)							Insert
	H	HF	B	OAL	LH	WF	CDX	
TTVER/L 1010-4-A	10	10	10	125	29	1.0	6.7	TVPR/L
1212-4-A	12	12	12	125	29	12	6.7	
1616-4	16	16	16	125	29	16	6.5	
2020-4	20	20	20	125	29	20	6.5	
2525-4	25	25	25	125	29	25	6.5	

TVPR/L

TOPCUT

Grooving and parting inserts



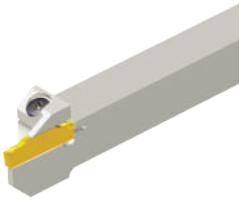


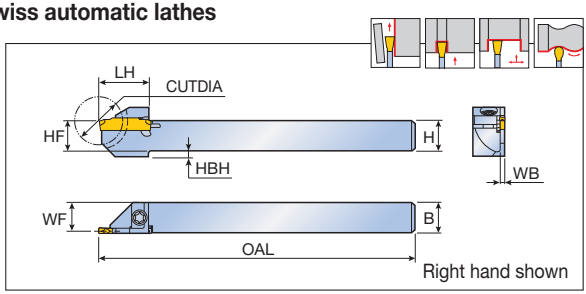
Designation	ap (mm)	Feed (mm/rev)	Dimension (mm)				Grade (TT9010)	
			CW	RE	PSIR	CDX	R	L
TVPR/L 40700-45	0.7	0.02-0.04	0.7	0.00	15°	4.5	●	●
40705-45	0.7	0.02-0.04	0.7	0.05	15°	4.5	●	
41000-60	1.0	0.02-0.04	1.0	0.00	15°	6.0	●	●
41005-60	1.0	0.02-0.04	1.0	0.05	15°	6.0	●	
41000-45	1.0	0.02-0.04	1.0	0.00	15°	4.5	●	
41005-45	1.0	0.02-0.04	1.0	0.05	15°	4.5	●	
41500-60	1.5	0.02-0.07	1.5	0.00	15°	6.0	●	●
41505-60	1.5	0.02-0.07	1.5	0.05	15°	6.0	●	
41500-50	1.5	0.02-0.07	1.5	0.00	15°	5.0	●	
41505-50	1.5	0.02-0.07	1.5	0.05	15°	5.0	●	
41800-60	1.8	0.02-0.07	1.8	0.00	15°	6.0	●	
42000-60	2.0	0.02-0.07	2.0	0.00	15°	6.0	●	●
42005-60	2.0	0.02-0.07	2.0	0.05	15°	6.0	●	
42000N-60	2.0	0.02-0.09	2.0	0.00	0°	6.0	●	●
42005N-60	2.0	0.02-0.09	2.0	0.05	0°	6.0	●	

●: Standard items

TTER/L-SH

Parting and grooving holders for Swiss automatic lathes



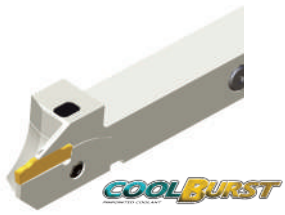


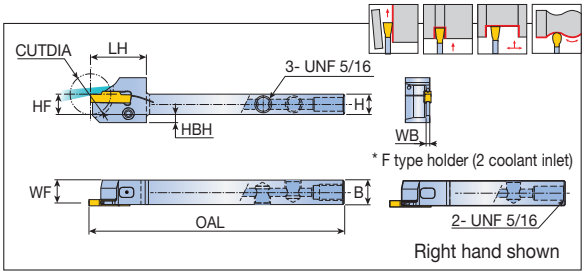
Designation		Insert seat size	Dimension (mm)								Insert
			H(HF)	B	OAL	LH	WF	WB	HBH	CUTDIA	
TTER/L	**10-20-1.4SH**	1 *	10	10	125	18	9.5	1.0	-	20	TDJ 1.4
	12-24-1.4SH	1 *	12	12	125	19.5	11.5	1.0	-	24	
	16-32-1.4SH	1 *	16	16	125	24	15.5	1.0	-	32	
	10-20-2SH	2	10	10	125	19	9.1	1.8	2	20	TDC/J/V/UF TSC/J TDCT/XU/XY /XT/T
	12-24-2SH	2	12	12	125	19	11.1	1.8	2	24	
	14-24-2SH	2	14	14	125	19	13.1	1.8	-	24	
	16-32-2SH	2	16	16	125	24	15.1	1.8	-	32	
	12-24-3SH	3	12	12	125	19	10.8	2.4	2	24	
	16-32-3SH	3	16	16	125	24	14.8	2.4	-	32	
	16-38-3SH	3	16	16	125	27	14.8	2.4	-	38	
	20-45-3SH	3	20	20	125	30.5	18.8	2.4	-	45	

▸ * TDJ 1.4 insert only

TTER/L-SH-TB

Side lock holders with high pressure coolant for Swiss automatic lathes





Designation		Insert seat size	Dimension (mm)								Insert
			H(HF)	B	OAL	LH	WF	WB	HBH	CUTDIA	
TTER/L	**12-24-2SH-TB-F**	2	12	12	85	27.5	11.1	1.8	2	24	TDC/J/V/UF TSC/J TDCT/XU/XY /XT/T
	12-24-2SH-TB	2	12	12	125	27.5	11.1	1.8	2	24	
	16-32-2SH-TB	2	16	16	125	31.5	15.1	1.8	-	32	
	12-24-3SH-TB	3	12	12	125	27.5	10.8	2.4	2	24	
	16-32-3SH-TB	3	16	16	125	31.5	14.8	2.4	-	32	
	16-38-3SH-TB	3	16	16	125	34.5	14.8	2.4	-	38	
	20-45-3SH-TB	3	20	20	125	38	18.8	2.4	-	45	

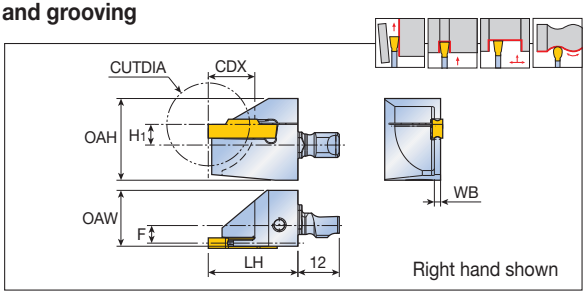
Designation		70 bar flow rate (ℓ/min)	100 bar flow rate (ℓ/min)	140 bar flow rate (ℓ/min)
TTER/L	**2SH-TB**	5-7	7-9	8-10
	3SH-TB	5-7	7-9	8-10

▸ Please refer to 44 page for COOL-BURST accessories

QE1 TTER

Modular heads for external turning and grooving



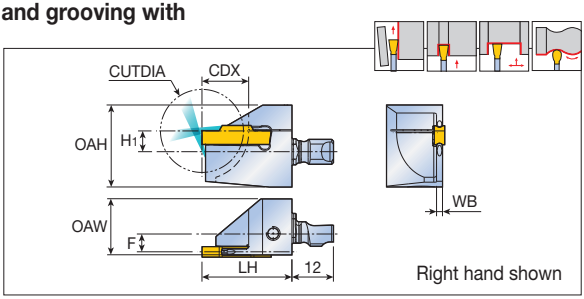


Designation	Insert seat size	Dimension (mm)								Shank	Insert
		OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTER 2-12-24	2	23.7	26.0	16.2	1.8	12.0	24.0	6.0	6.1	QE1 S12N-TB QE1 S16R-TB 42	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T
2-16-32	2	23.7	26.0	16.2	1.8	16.0	32.0	6.0	6.1		
3-12-24	3	23.7	26.0	16.2	2.4	12.0	24.0	6.0	5.8		
3-16-32	3	23.7	26.0	16.2	2.4	16.0	32.0	6.0	5.8		

QE1 TTER-TB

Modular heads for external turning and grooving with high pressure coolant





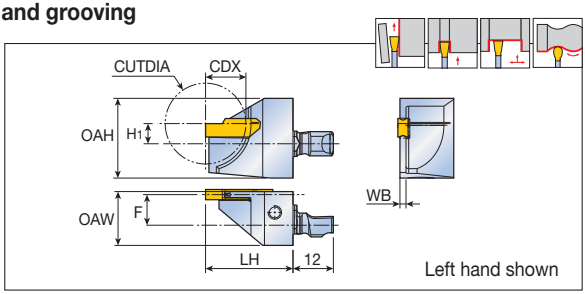
Designation	Insert seat size	Dimension (mm)								Shank	Insert
		OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTER 2-12-24-TB	2	23.7	26.0	16.2	1.8	12.0	24.0	6.0	6.1	QE1 S12N-TB QE1 S16R-TB 42	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T
2-16-32-TB	2	23.7	26.0	16.2	1.8	16.0	32.0	6.0	6.1		
3-12-24-TB	3	23.7	26.0	16.2	2.4	12.0	24.0	6.0	5.8		
3-16-32-TB	3	23.7	26.0	16.2	2.4	16.0	32.0	6.0	5.8		

▸ Please refer to 44 page for COOL-BURST accessories

QE1 TTEL

Modular heads for external turning and grooving





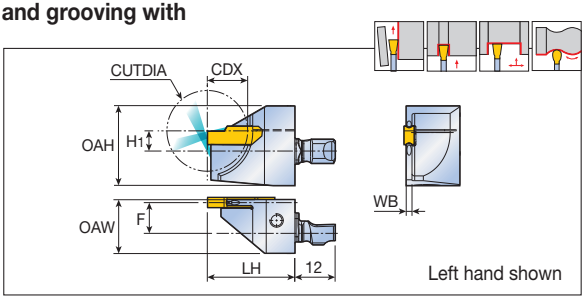
Designation		Insert seat size	Dimension (mm)								Shank	Insert
			OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTEL	2-12-24	2	23.7	26.0	16.0	1.8	12.0	24.0	6.0	8.1	QE1 S12N-TB	TDC/J/V/UF
	2-16-32	2	23.7	26.0	16.0	1.8	16.0	32.0	6.0	8.1	QE1 S16R-TB	TSC/J
	3-12-24	3	23.7	26.0	16.0	2.4	12.0	24.0	6.0	7.8	42	TDCT/XU/XY/XT/T
	3-16-32	3	23.7	26.0	16.0	2.4	16.0	32.0	6.0	7.8		

QE1 TTEL-TB

Modular heads for external turning and grooving with high pressure coolant



COOL BURST



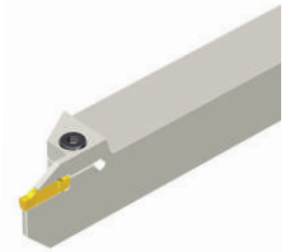
Designation		Insert seat size	Dimension (mm)								Shank	Insert
			OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTEL	2-12-24-TB	2	23.7	26.0	16.0	1.8	12.0	24.0	6.0	8.1	QE1 S12N-TB	TDC/J/V/UF
	2-16-32-TB	2	23.7	26.0	16.0	1.8	16.0	32.0	6.0	8.1	QE1 S16R-TB	TSC/J
	3-12-24-TB	3	23.7	26.0	16.0	2.4	12.0	24.0	6.0	7.8	42	TDCT/XU/XY/XT/T
	3-16-32-TB	3	23.7	26.0	16.0	2.4	16.0	32.0	6.0	7.8		

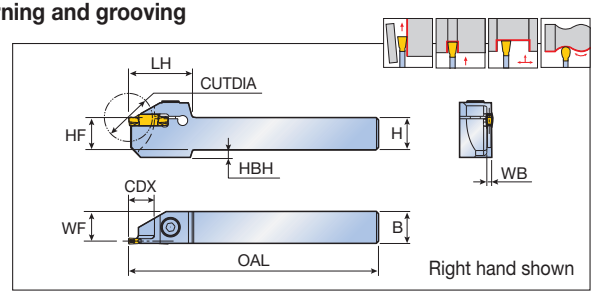
▸ Please refer to 44 page for COOL-BURST accessories

TTER/L-D

T-CLAMP

Reinforced holders for external turning and grooving



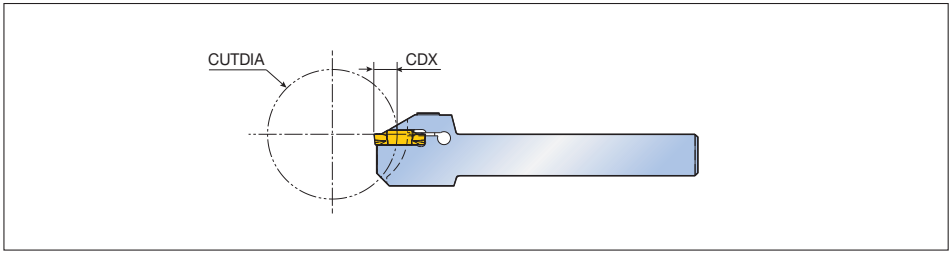


Designation		Insert seat size	Dimension (mm)									Insert
			H(HF)	B	OAL	LH	WF	WB	HBH	CDX	CUTDIA	
TTER/L	1010-1.4T15-D40	1*	10	10	125	32	9.5	1.0	6	15	40	TDJ 1.4
	1212-1.4T15-D40	1*	12	12	125	32	11.5	1.0	4	15	40	
	1616-1.4T20-D45	1*	16	16	125	38	15.5	1.0	4	20	45	
	2020-1.4T20-D45	1*	20	20	125	38	19.5	1.0	-	20	45	
	1010-2T15-D40	2	10	10	125	32	9.1	1.8	6	15	40	TDC/J/V/UF
	1212-2T15-D40	2	12	12	125	32	11.1	1.8	4	15	40	TSC/J
	1616-2T20-D45	2	16	16	125	38	15.1	1.8	4	20	45	TDCT/XU/XY/XT/T
	2020-2T20-D45	2	20	20	125	38	19.1	1.8	-	20	45	
	2525-2T20-D45	2	25	25	150	38	24.1	1.8	-	20	45	
	1212-3T15-D40	3	12	12	125	32	10.8	2.4	4	15	40	
	1616-3T20-D45	3	16	16	125	38	14.8	2.4	4	20	45	
	2020-3T20-D45	3	20	20	125	38	18.8	2.4	-	20	45	
	2525-3T20-D45	3	25	25	150	38	23.8	2.4	-	20	45	
	2525-3T25-D60	3	25	25	150	43	23.8	2.4	-	25	60	

▸ * TDJ 1.4 insert only

●: Standard items

Machining depth for diameter of workpiece

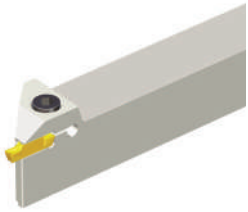


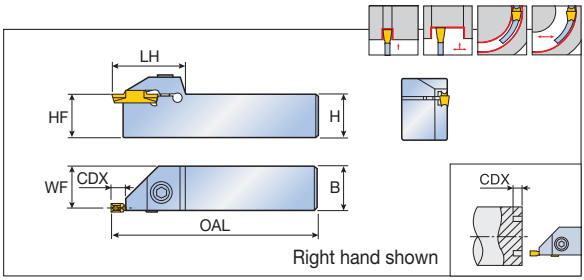
Designation			CDX												
			1	2	3	4	5	6	7	8	9	10	11	12	13
TTER/L	1010-1.4T15-D40	CUTDIA					N.L.						269	120	79
	1212-1.4T15-D40						N.L.						269	120	79
	1616-1.4T20-D45						N.L.								432
	2020-1.4T20-D45						N.L.								432
	1010-2T15-D40						N.L.						269	120	79
	1212-2T15-D40						N.L.						269	120	79
	1616-2T20-D45						N.L.								432
	2020-2T20-D45						N.L.								432
	2525-2T20-D45						N.L.				1468	339	193	136	106
	1212-3T15-D40						N.L.						269	120	79
	1616-3T20-D45						N.L.								432
	2020-3T20-D45						N.L.								432
	2525-3T20-D45						N.L.				1468	339	193	136	106
	2525-3T25-D60						N.L.								

▸ N.L.: No limit

TGFR/L

Holders for shallow grooving



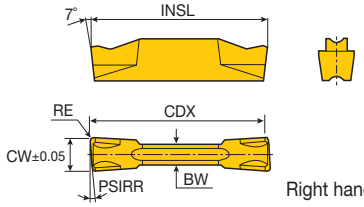


Designation	Insert seat size	Dimension (mm)						Insert
		H(HF)	B	OAL	LH	WF	CDX	
TGFR/L 1616-4	2, 3, 4	16	16	110	33	14.5	4.8	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T TDFT TDMV
2020-4	2, 3, 4	20	20	125	33	18.5	4.8	
2525-4	2, 3, 4	25	25	150	33	23.5	4.8	
2020-6	5, 6	20	20	125	37	17.6	4.8	
2525-6	5, 6	25	25	150	37	22.6	4.8	

▸ External turning & grooving is available depending on the insert type

TDC

Double-ended inserts for parting and grooving with C-Type chip breaker



Right hand shown

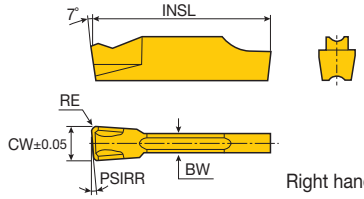
Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIRR	CDX
2 (..R/L)	2.0	0.20	1.7	20.0	0-15	19
2 RS/LS	2.0	0.02	1.7	19.6	15	19
3 (..R/L)	3.0	0.20	2.4	20.0	0-15	19
3 RS/LS	3.0	0.02	2.4	19.6	6-15	19
3.18	3.18	0.20	2.4	20.0	-	19

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDC 2**	2	0.05-0.18	●				●	●	●	●
	2-6R/L	2	0.04-0.14					●	●	●	●
	2-8R/L	2	0.04-0.14						●	●	
	2-15R/L	2	0.04-0.12					●	●	●	
	2-15RS/LS	2	0.02-0.12					●	●	●	
	3	3	0.07-0.25	●			●	●	●	●	●
	3-6R/L	3	0.06-0.18					●	●	●	●
	3-6RS/LS	3	0.03-0.18					●	●		
	3-15R/L	3	0.06-0.16					●	●	●	
	3-15RS/LS	3	0.03-0.16						●	●	
	3.18	3	0.07-0.25					●		●	

●: Standard items

TSC

Double-ended inserts for parting and grooving with C-Type chip breaker



Right hand shown

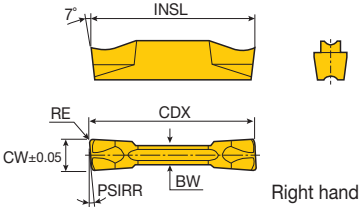
Size	Dimension (mm)				
	CW	RE	BW	INSL	PSIRR
2 (..R/L)	2.0	0.20	1.7	19.7	0-15
2 RS/LS	2.0	0.02	1.7	19.5	15
3 (..R/L)	3.0	0.20	2.4	19.6	0-15
3 RS/LS	3.0	0.02	2.4	19.4	15

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TSC 2**	2	0.05-0.18					●	●	●	●
	2-6R/L	2	0.04-0.14					●	●	●	●
	2-8R/L	2	0.04-0.14						●	●	
	2-15R/L	2	0.04-0.12						●	●	
	2-15RS/LS	2	0.02-0.12						●	●	
	3	3	0.07-0.25					●	●	●	●
	3-6R/L	3	0.06-0.18					●	●	●	●
	3-15R/L	3	0.06-0.16						●	●	
	3-15RS/LS	3	0.03-0.16						●	●	

●: Standard items

TDJ

Double-ended inserts for parting and grooving with J-Type chip breaker



Right hand shown

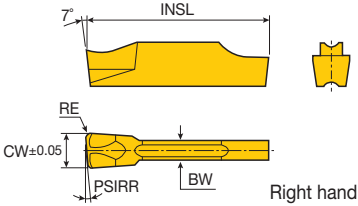
Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIRR	CDX
1.4	1.4	0.16	1.0	16.0	-	15
2 (..R/L)	2.0	0.20	1.7	20.0	0-15	19
2 RS/LS	2.0	0.02	1.7	19.6	6-15	19
3 (..R/L)	3.0	0.20	2.4	20.0	0-15	19
3 RS/LS	3.0	0.02	2.4	19.6	6-15	19
3.18	3.18	0.20	2.4	20.0	-	19

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDJ 1.4**	1	0.02-0.10					●		●	
	2	2	0.04-0.12					●	●	●	●
	2-6R/L	2	0.03-0.08					●	●	●	●
	2-6RS/LS	2	0.03-0.07					●	●	●	
	2-8R/L	2	0.03-0.08					●	●	●	
	2-15R/L	2	0.03-0.08					●	●	●	
	2-15RS/LS	2	0.03-0.07					●	●	●	
	3	3	0.04-0.16					●	●	●	●
	3-6R/L	3	0.03-0.12					●	●	●	●
	3-6RS/LS	3	0.03-0.10						●	●	
	3-15R/L	3	0.03-0.12					●	●	●	
	3-15RS/LS	3	0.03-0.10						●	●	

●: Standard items

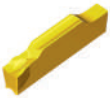
TSJ

Single-ended inserts for parting and deep grooving with J-Type chip breaker



Right hand shown

Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIRR	
2 (..R/L)	2.0	0.20	1.7	19.8	0-15	
2 RS/LS	2.0	0.02	1.7	19.6	15	
3 (..R/L)	3.0	0.20	2.4	19.6	0-15	
3 RS/LS	3.0	0.02	2.4	19.4	6-15	

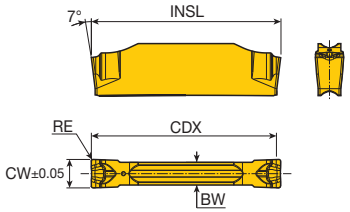
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TSJ 2**	2	0.04-0.12					●	●	●	●
	2-6R/L	2	0.03-0.08						●	●	●
	2-15R/L	2	0.03-0.08						●	●	
	2-15RS/LS	2	0.03-0.08						●	●	
	2-8R/L	2	0.03-0.07							●	
	3	3	0.04-0.16					●	●	●	●
	3-6R/L	3	0.03-0.12					●	●	●	●
	3-6RS/LS	3	0.03-0.10					●	●	●	
	3-15R/L	3	0.03-0.12						●	●	
	3-15RS/LS	3	0.03-0.10						●	●	

●: Standard items

TDUF

T-CLAMP

Double-ended inserts for parting and grooving with UF-Type chip breaker



Size	Dimension (mm)					
	CW	RE	BW	INSL	CDX	
2	2.0	0.2	1.5	20	19	
3	3.0	0.2	2.4	20	19	

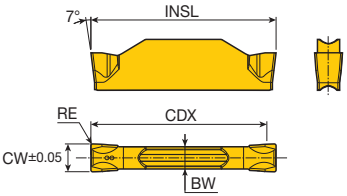
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated	
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
	**TDUF 2**	2	0.03-0.11					●				
	3	3	0.04-0.13					●				

●: Standard items

TDV

T-CLAMP

Double-ended inserts for parting and grooving with V-Type chip breaker



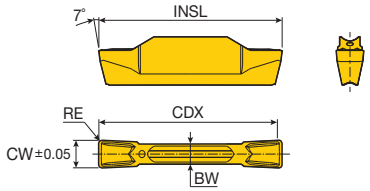
Size	Dimension (mm)					
	CW	RE	BW	INSL	CDX	
2	2.0	0.2	1.7	20	19	
3	3.0	0.2	2.4	20	19	

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated	
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
	**TDV 2**	2	0.04-0.12					●		●		
	3	3	0.06-0.18					●		●		

●: Standard items

TDCT

Double-ended inserts for turning and grooving



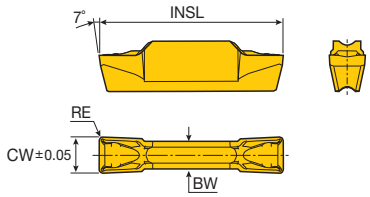
Size	Dimension (mm)				
	CW	RE	BW	INSL	CDX
2	2.0	0.30	1.7	20	19
3	3.0	0.30	2.2	20	19

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDCT 2E-0.3**	2	0.4-1.2	0.12-0.18	0.05-0.18			●		●		●	●
	3E-0.3	3	0.4-1.8	0.15-0.19	0.07-0.25			●		●		●	●

●: Standard items

TDXU

Double-ended inserts for grooving, turning, face grooving and parting



Size	Dimension (mm)				
	CW	RE	BW	INSL	
2E-0.3	2.0	0.3	1.7	20.0	
3E-0.3	3.0	0.3	2.2	20.0	

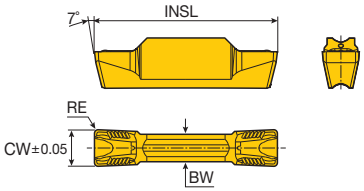
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated							Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXU 2E-0.3**	2	0.4-1.2	0.12-0.18	0.03-0.20		●	●		●	●		●	●
	3E-0.3	3	0.4-1.8	0.15-0.19	0.07-0.22	●	●	●	●	●	●	●	●	●

●: Standard items

TDXY

T-CLAMP

Double-ended inserts for grooving, turning and face grooving



Size	Dimension (mm)					
	CW	RE	BW	INSL		
3E-0.4	3.0	0.40	2.2	20		

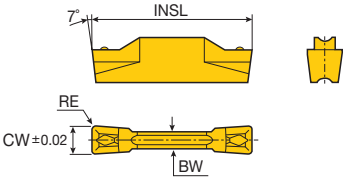
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated							Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXY 3E-0.4**	3	0.5-1.8	0.17-0.20	0.06-0.18			●	●		●			

●: Standard items

TDT-E

T-CLAMP

Precision double-ended inserts for turning and grooving



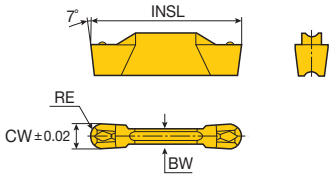
Size	Dimension (mm)					
	CW	RE	BW	INSL		
2.65	2.65	0.15	2.2	20.0		
3.00	3.0	0.2-0.4	2.2	20.0		
3.15	3.15	0.15	2.2	20.0		

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDT 2.65E-0.15**	3	0.2-1.8	0.10-0.18	0.05-0.12			●	●	●	●		●
	3.00E-0.20	3	0.3-2.0	0.12-0.20	0.07-0.13			●	●	●	●		●
	3.00E-0.40	3	0.5-2.0	0.15-0.22	0.07-0.15			●	●	●	●		●
	3.15E-0.15	3	0.2-2.0	0.15-0.22	0.07-0.15			●	●	●	●		●

●: Standard items

TDT-E (Full-Radius)

Precision double-ended inserts for external turning, grooving and profiling



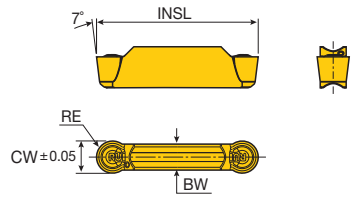
Size	Dimension (mm)					
	CW	RE	BW	INSL		
3	3.00	1.50	2.2	20.0		

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDT 3.00E-1.50**	3	0.0-1.5	0.15-0.28	0.08-0.18				●	●	●		●

●: Standard items

TDT-RU (Full-Radius)

Double-ended inserts for external turning, grooving and profiling



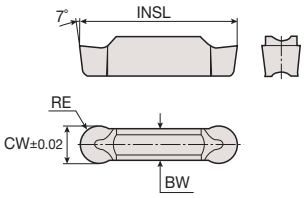
Size	Dimension (mm)					
	CW	RE	BW	INSL		
2	2.0	1.0	1.7	20.0		
3	3.0	1.5	2.2	20.0		

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated							Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT3010	TT9080	TT7220	TT8020	K10
	**TDT 2E-1.0-RU**	2	0.0-1.0	0.10-0.25	0.05-0.15		●	●	●	●	●	●		●
	3E-1.5-RU	3	0.0-1.5	0.15-0.28	0.08-0.18	●	●	●	●	●	●	●		●

●: Standard items

TDA

Inserts for aluminum wheel machining



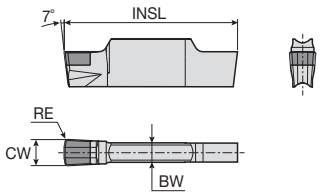
Size	Dimension (mm)					
	CW	RE	BW	INSL		
3	3.00	1.5	2.4	20.0		

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated	
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
K10 	**TDA 3.00-1.50**	3	0.0-1.5	0.15-0.30	0.08-0.16								●	

●: Standard items

TSG-HF

Single-ended CBN inserts for high feed turning



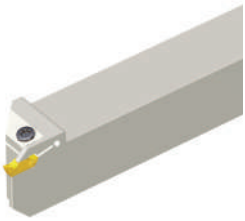
Size	Dimension (mm)					
	CW	RE	BW	INSL		
3	3.0	0.3	2.2	20		

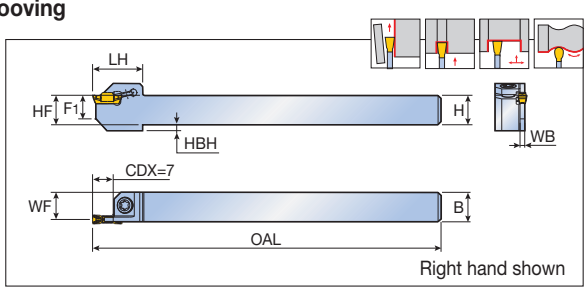
Insert	Designation	Insert seat size	ap (mm)	Feed (mm/rev)	Cermet	Coated						CBN	
					CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	TB2015	
	**TSG 3.0-0.3-HF**	3	0.08-0.12	0.40-0.80								●	

●: Standard items

TTSER/L

Holders for external turning and grooving



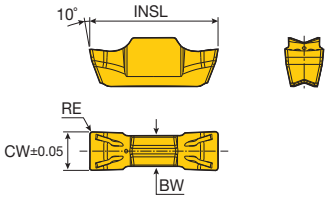


Designation	Insert seat size	Dimension (mm)								Insert
		H(HF)	B	OAL	LH	WF	WB	F1	HBH	
TTSER/L 1010-2T7	2	10	10	125	17	9.2	1.6	8	2	TDIM / TDIP
1212-2T7	2	12	12	125	17	11.2	1.6	8	-	
1616-2T7	2	16	16	125	20	15.2	1.6	11	-	
2020-2T7	2	20	20	125	20	19.2	1.6	14	-	
2525-2T7	2	25	25	125	20	24.2	1.6	18	-	
1010-3T7	3	10	10	125	17	8.8	2.4	8	2	
1212-3T7	3	12	12	125	17	10.8	2.4	8	-	
1616-3T7	3	16	16	125	20	14.8	2.4	11	-	
2020-3T7	3	20	20	125	20	18.8	2.4	14	-	
2525-3T7	3	25	25	125	20	23.8	2.4	18	-	

TDIM

T-CLAMP

Double-ended inserts for internal turning and grooving on small diameter



Size	Dimension (mm)					
	CW	RE	BW	INSL		
2	2.0	0.15	1.6	10		
3	3.0	0.20	2.4	10		

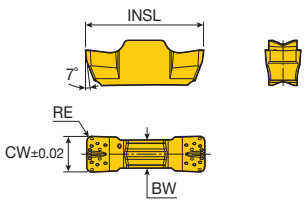
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated	
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
	**TDIM 2E-0.15**	2	0.2-0.6	0.05-0.08	0.03-0.05					●				
	3E-0.2	3	0.3-1.3	0.10-0.14	0.05-0.09					●				

●: Standard items

TDIP

T-CLAMP

Precision double-ended inserts for internal turning and grooving on small diameter



Size	Dimension (mm)					
	CW	RE	BW	INSL	CDX	
2.00	2.00	0.10-1.00	1.6	10	-	
2.15	2.15	0.15	1.6	10	-	
2.50	2.50	0.20	2.4	10	-	
3.00	3.00	0.20-1.50	2.4	10	-	

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated	
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
	**TDIP 2.00E-0.10**	2	0.2-0.6	0.05-0.07	0.03-0.05					●				
	2.00E-0.20	2	0.2-0.6	0.05-0.07	0.03-0.05					●				
	2.00E-1.00	2	0.0-0.6	0.08-0.12	0.04-0.07					●				
	2.15E-0.15	2	0.2-0.6	0.06-0.08	0.04-0.06					●				
	2.50E-0.20	3	0.2-1.1	0.07-0.09	0.04-0.07					●				
	3.00E-0.20	3	0.3-1.3	0.11-0.14	0.05-0.09					●				
	3.00E-1.50	3	0.0-1.5	0.13-0.20	0.05-0.11					●				

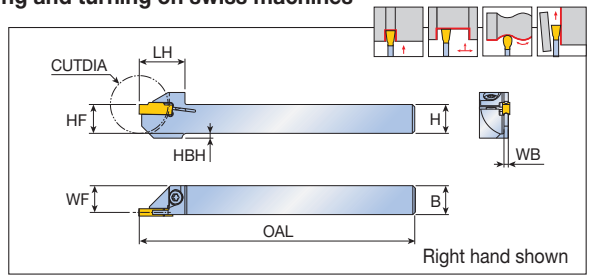
●: Standard items

RGER/L-SH

RHINO GROOVE

Holders for external shallow grooving and turning on swiss machines



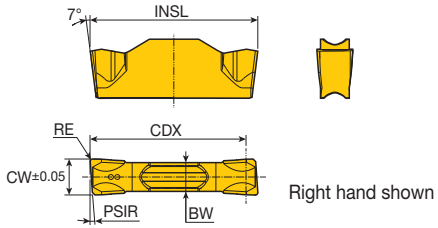


Designation		Insert seat size	Dimension (mm)								Torque (N.m)	Insert
			H(HF)	B	OAL	WF	LH	WB	HBH	CUTDIA		
RGER/L	**10-20-2SH**	2	10	10	125	9.1	19	1.8	2	20	2.0	RDC/J RSC/J RDT
	12-24-2SH	2	12	12	125	11.1	19	1.8	2	24	2.0	
	16-24-2SH	2	16	16	125	15.1	24	1.8	-	24	2.0	
	12-24-3SH	3	12	12	125	10.8	19	2.4	2	24	2.0	
	14-24-3SH	3	14	14	125	12.8	19	2.4	-	24	2.0	
	16-24-3SH	3	16	16	125	14.8	19	2.4	-	24	2.0	

RDC

RHINO GROOVE

Double-ended inserts for shallow grooving and parting with "C" type chip breaker



Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIR	CDX
2 (..R)	2	0.2	1.7	14	0-6	13
2 RS	2	0.02	1.7	13.6	15	13
3 (..R)	3	0.2	2.4	14	0-15	13

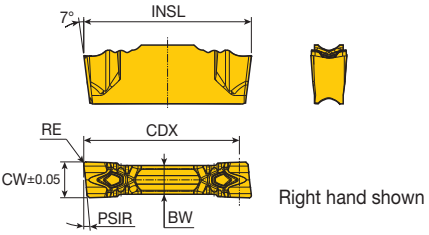
Insert	Designation		Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated		
					CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	
	**RDC**	**2**	2	0.05-0.18					●	●	●	●	
		2-6R	2	0.04-0.14					●	●	●		
		2-15R	2	0.04-0.14					●	●	●		
		2-15RS	2	0.04-0.13					●				
		3	3	0.07-0.25					●	●	●		
		3-6R	3	0.06-0.18					●	●	●		
		3-15R	3	0.06-0.18							●		

●: Standard items

RDJ

RHINOGROOVE

Double-ended inserts for shallow grooving and parting with “J” type chip breaker



Right hand shown

Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIR	CDX
2 (..R)	2	0.2	1.7	14	0-15	13
2 RS	2	0.02	1.7	13.6	15	13
3 (..R)	3	0.2	2.4	14	0-15	13
3 RS	3	0.02	2.4	13.6	6-15	13

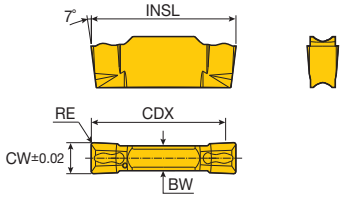
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated		
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10		
	**RDJ 2**	2	0.05-0.18					●	●	●	●		
	2-6R	2	0.03-0.08					●		●			
	2-15R	2	0.03-0.08					●		●			
	2-15RS	2	0.03-0.07					●	●	●			
	3	3	0.07-0.25					●	●	●	●		
	3-6R	3	0.03-0.12					●	●	●			
	3-6RS	3	0.03-0.10							●			
	3-15R	3	0.03-0.12					●		●			
	3-15RS	3	0.03-0.10					●	●	●			

●: Standard items

RDT

RHINOGROOVE

Double-ended precision inserts for shallow grooving and turning with T-type chip breaker



Size	Dimension (mm)				
	CW	RE	BW	INSL	CDX
2	2.00	0.10-1.00	1.7	14.0	13
3	3.00	0.20-1.50	2.4	14.0	13

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated		
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10		
	**RDT 2.00E-0.10**	2	0.2-1.4	0.12-0.18	0.03-0.13	●				●					
	2.00E-0.20	2	0.3-1.4	0.12-0.18	0.03-0.13					●					
	2.00E-1.00*	2	0.0-1.0	0.10-0.25	0.05-0.15					●					
	3.00E-0.20	3	0.3-2.0	0.12-0.20	0.07-0.13	●				●					
	3.00E-0.40	3	0.5-2.0	0.15-0.22	0.07-0.15					●					
	3.00E-1.50*	3	0.0-1.5	0.15-0.28	0.08-0.18					●					

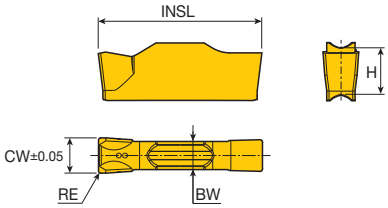
▸ *: Full radius insert

●: Standard items

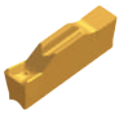
RSC

RHINOGROOVE

Single-ended inserts for deep grooving and parting with “C” type chip breaker



Size	Dimension (mm)				
	CW	RE	BW	INSL	H
2	2.0	0.20	1.6	14.0	4.0
3	3.0	0.20	2.4	14.0	4.0

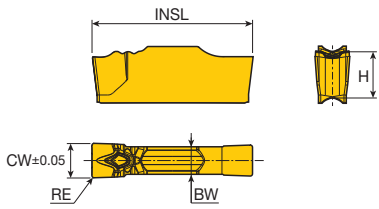
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated		
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10		
	**RSC 2**	2	0.05-0.18					●	●	●			
	3	3	0.07-0.25					●	●	●			

●: Standard items

RSJ

RHINOGROOVE

Single-ended inserts for deep grooving and parting with “J” type chip breaker



Size	Dimension (mm)				
	CW	RE	BW	INSL	H
2	2.0	0.20	1.6	14.0	4.0
3	3.0	0.20	2.4	14.0	4.0

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated		
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10		
	**RSJ 2**	2	0.04-0.12					●	●	●			
	3	3	0.04-0.16					●	●	●			

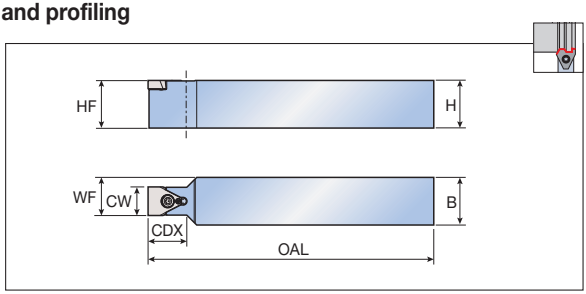
●: Standard items

TTLEN

TGROOVE

Holders for external wide grooving and profiling





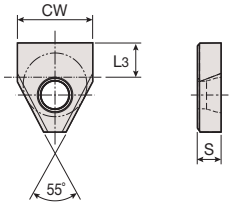
Designation		Dimension (mm)							Insert (1)
		H	HF	B	OAL	WF	CDX	CW	
TTLEN	**1212 K10**	12	12	12	125	11.0	20	10	TGUX
	1616 K10	16	16	16	125	13.0	20	10	
	2020 M10	20	20	20	150	15.0	20	10	
	2525 M10	25	25	25	150	17.5	20	10	
	1616 K15	16	16	16	125	15.5	20	15	
	2020 M15	20	20	20	150	17.5	20	15	
	2525 M15	25	25	25	150	20.0	20	15	
	2020 K20	20	20	20	125	20.0	35	20	
	2525 M20	25	25	25	150	22.5	35	20	
	3232 P20	32	32	32	170	26.0	35	20	
	2020 K25	20	20	20	125	22.5	35	25	
	2525 M25	25	25	25	150	25.0	35	25	
	3232 P25	32	32	32	170	28.5	35	25	

▸ (1) Designation of final insert will be different to the semi finished blank

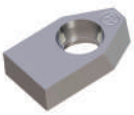
TGUX

TGROOVE

Semi finished blanks for wide grooving and profiling



Size	Dimension (mm)		
	CW	S	L3
10	10.2	4.76	5.85
15	15.2	4.76	5.85
20	20.2	6.35	9.35
25	25.2	6.35	9.25

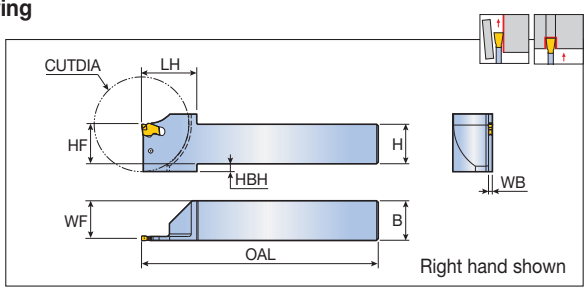
Insert	Designation		Cermet	Coated						Uncoated		
			CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10	P40	UF10
	**TGUX**	**1004**								●	●	●
		1504								●	●	●
		2006								●	●	●
		2506								●	●	●

●: Standard items

SFER/L

Holders for parting and deep grooving



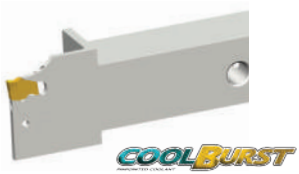


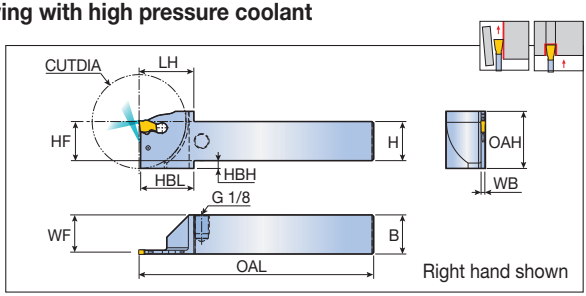
Designation	Insert seat size	Dimension (mm)									Insert
		H	HF	B	OAL	LH	WF	WB	HBH	CUTDIA	
SFER/L 2020-1.6T22-D45	1*	20	20	20	150	29.5	19.4	1.3	2.5	45	SFC SFJ
2525-2T25-D50	2	25	25	25	150	32	24.1	1.8	-	50	
2525-3T30-D60	3	25	25	25	150	35	23.8	2.4	5	60	

▸ * : SFC 1.6 insert only

SFER/L-TB

Holders for parting and deep grooving with high pressure coolant





Designation	Insert seat size	Dimension (mm)									Insert
		H	HF	B	OAL	LH	WF	WB	HBH	CUTDIA	
SFER/L 2525-2T25-D50-TB	2	25	25	25	150	32	24.1	1.8	-	50	SFC SFJ
2525-3T30-D60-TB	3	25	25	25	150	35	23.8	2.4	5	60	

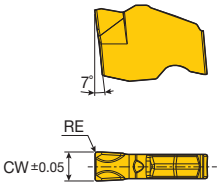
Designation	70 bar flow rate (ℓ/min)	100 bar flow rate (ℓ/min)	140 bar flow rate (ℓ/min)
SFER/L 2525-2T25-D50-TB	10-12	12-14	15-17
2525-3T30-D60-TB	14-16	17-19	21-23

▸ Please refer to 44 page for COOL-BURST accessories

SFC

CUTSPEED PARTING & GROOVING

Single-ended inserts for parting and deep grooving with C-Type chip breaker



Size	Dimension (mm)					
	CW	RE				
1.6	1.6	0.2				
2	2.0	0.2				
3	3.0	0.2				

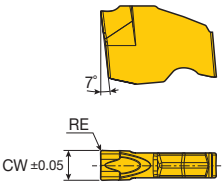
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**SFC 1.6**	1	0.05-0.15					●		●	
	2	2	0.08-0.20					●		●	●
	3	3	0.10-0.25					●		●	●

●: Standard items

SFJ

CUTSPEED PARTING & GROOVING

Single-ended inserts for parting and deep grooving with J-Type chip breaker



Size	Dimension (mm)					
	CW	RE				
2	2.0	0.2				
3	3.0	0.2				

Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**SFJ 2**	2	0.05-0.15					●		●	●
	3	3	0.08-0.20					●		●	●

●: Standard items

02

Parting & Grooving

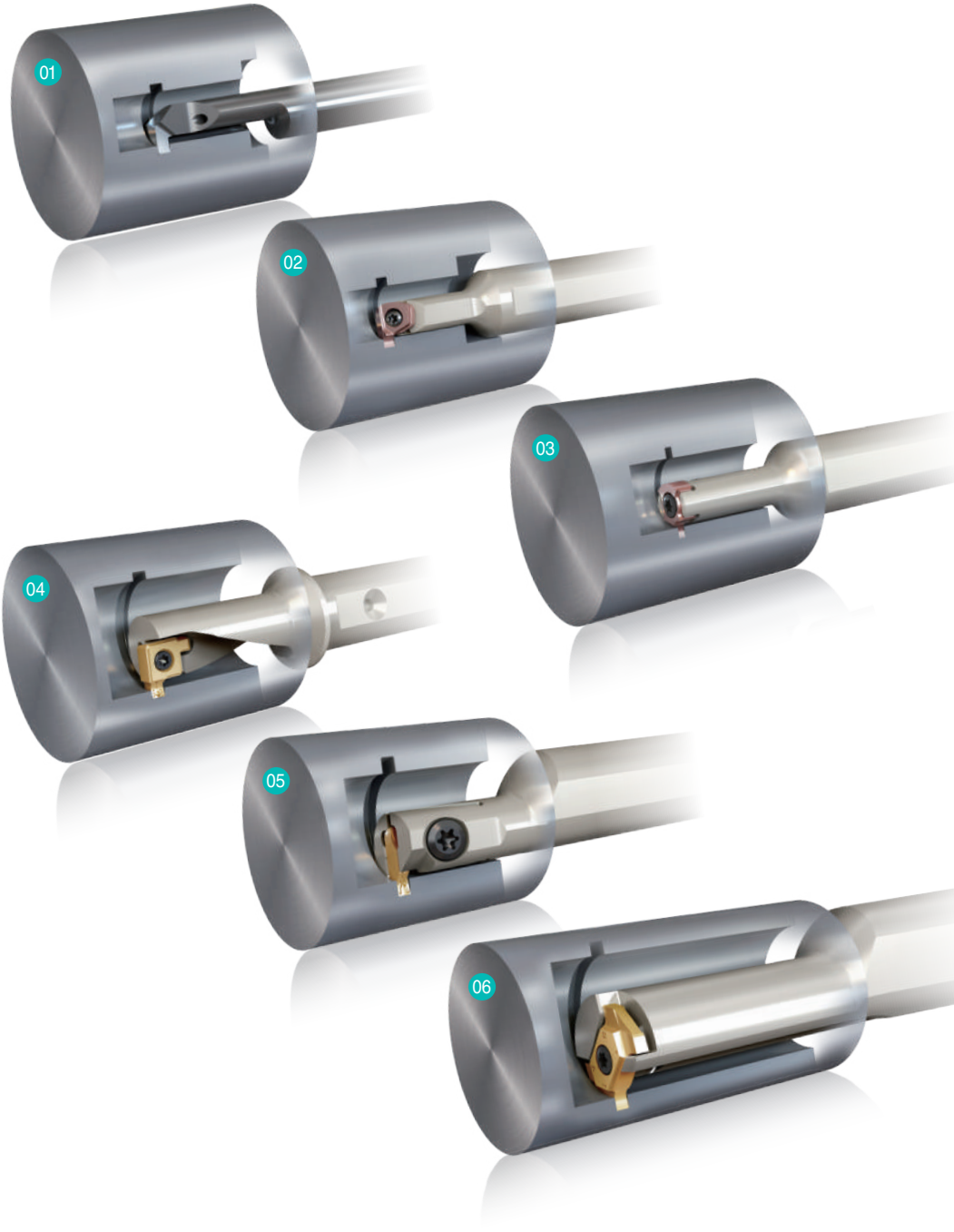
02-2

Internal Grooving

Tool Selection Guide 154

Holders & Inserts

- TOP-MICRO 157
- WIN-I-GROOVE 160
- MINI-I-RUSH 162
- TOP-CAP 164
- T-CLAMP 166
- QUAD-I-RUSH 168


01
02
03
04
05
06

Internal Grooving

01 TOPMICRO

Dmin: Ø2 mm
Cutting width: 0.5-2.0 mm



MING



MINS…-L100C
Sleeve for direct connection of coolant supply



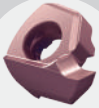
MINSL
Two-directional clamping sleeve

02 WINIGROOVE

Dmin: Ø6 mm
Cutting width: 0.5-2.0 mm



TMIR/L 6



TMIR/L 8



Steel shank



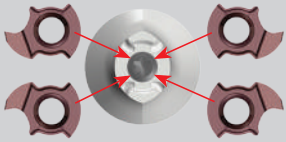
Carbide shank

03 MINIRUSH

Dmin: Ø10 mm
Cutting width: 0.5-2.0 mm



TMIS



Insert can be mounted onto
4-directional neutral holders



2xD
Steel shank



3xD, 4xD
Carbide shank

04 TOPCAP

Dmin: Ø11 mm
Cutting width: 2.0-4.0 mm



XCMT-GV



05 T-CLAMP

Dmin: Ø12.5 mm
Cutting width: 1.0-3.0 mm



TDIP



TDIM

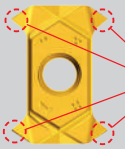


06 QUADIRUSH

Dmin: Ø16.5 mm
Cutting width: 1.5-3.0 mm



TQIS



4 edges



TOPMICRO	
MING R 04	**MING R/L 07**
 158	 159
Min. bore dia : Ø2	Ø5
Width : 0.5-1.0	1.0-2.0
Depth : 0.4-0.8	1.0-2.0
Shank : Ø4	Ø7
Sleeve : Ø12-Ø25	Ø12-Ø25

WINIGROOVE	MINIRUSH	TOPCAP
TMIHR/L / TMIHR/L-C	**TMIHN/TMIHN-C**	**TCAP...-2.25DN /3.0DN**
 160	 162	 164
Insert : TMIR/L	TMIS	XCMT...GV
Min. bore dia : Ø6.0	Ø10	Ø12
Width : 0.5-2.0	0.5-2.0	2.0-4.0
Depth : 0.5-1.5	0.7-1.5	1.8-4.0
Shank : Ø12	Ø12	Ø12-Ø40

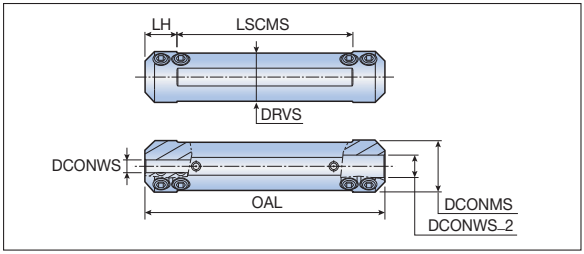
T-CLAMP		QUADIRUSH
TTSIR/L	**TGSIR/L**	**TQHIR/L**
 166	 166	 168
Insert : TDIM/TDIP	TDIM/TDIP	TQIS 15
Min. bore dia : Ø12.5	Ø12.5	Ø16.5
Width : 2.0-3.0	2.0-3.0	1.0-3.0
Depth : 2.4-4.0	2.5	2.5
Shank : Ø10-Ø20	Ø10-Ø16	Ø16-Ø32

MINSL

TOPMICRO

Sleeves





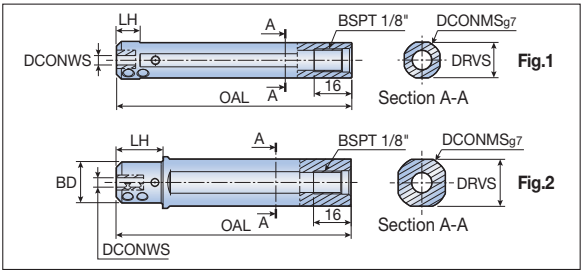
Designation	Dimension (mm)						
	DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	DRVS
MINSL 12-4-4	12	4	4	75	13	49	10
14-4-4	14	4	4	75	13	49	12
16-4-7	16	4	7	75	10	55	15
20-4-7	20	4	7	90	10	70	18
22-4-7	22	4	7	90	10	70	20
25-4-7	25	4	7	90	10	70	23

MINS ...-L100C

TOPMICRO

Sleeves for direct connection for coolant





Designation	Dimension (mm)						Fig.
	DCONMS	DCONWS	BD	OAL	LH	DRVS	
MINS 16-4-L100C	16	4	-	100	10	15	1
16-7-L100C	16	7	-	100	10	15	1
20-4-L100C	20	4	17.5	100	20	18	2
20-7-L100C	20	7	17.5	100	20	18	2
22-4-L100C	22	4	17.5	100	20	20	2
22-7-L100C	22	7	17.5	100	20	20	2
25-4-L100C	25	4	18.0	100	23	23	2
25-7-L100C	25	7	18.0	100	23	23	2

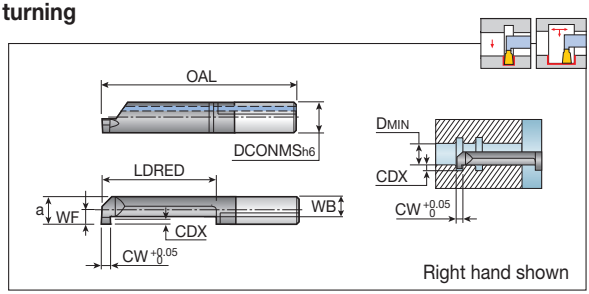
▸ Please refer to 44 page for COOL-BURST accessories

MING R 04

TOPMICRO

Mini carbide bars for grooving and turning





Designation	Dimension (mm)									R/L	Grade
	DCONMS	CW	WF	a	WB	OAL	LDRED	CDX	DMIN		TT9030
MINGR04-050050D020	4.00	0.50	0.20	1.80	1.15	21.00	6.00	0.40	2.00	R	●
100050D020	4.00	0.50	0.20	1.80	1.15	26.00	11.00	0.40	2.00	R	●
050070D030	4.00	0.70	0.70	2.70	1.85	21.00	6.00	0.60	3.00	R	●
100070D030	4.00	0.70	0.70	2.70	1.85	26.00	11.00	0.60	3.00	R	●
090100D040	4.00	1.00	1.50	3.50	2.30	25.50	10.50	0.80	4.00	R	●
150100D040	4.00	1.00	1.50	3.50	2.30	31.50	16.50	0.80	4.00	R	●

▸ The corner radius is less than 0.1mm

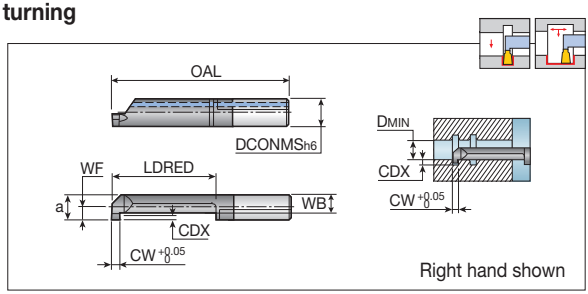
●: Standard items

MING R/L 07

TOPMICRO

Mini carbide bars for grooving and turning





Right hand shown

Designation	Dimension (mm)									R/L	Grade
	DCONMS	CW	WF	a	WB	OAL	LDRED	CDX	DMIN		TT9030
MINGR07-090100D050	7.00	1.00	0.90	4.40	3.00	25.00	10.00	1.00	5.00	R	●
140100D050	7.00	1.00	0.90	4.40	3.00	30.00	15.00	1.00	5.00	R	●
090150D050	7.00	1.50	0.90	4.40	3.00	25.00	10.00	1.00	5.00	R	●
140150D050	7.00	1.50	0.90	4.40	3.00	30.00	15.00	1.00	5.00	R	●
090200D050	7.00	2.00	0.90	4.40	3.00	25.00	10.00	1.00	5.00	R	●
190200D050	7.00	2.00	0.90	4.40	3.00	35.00	20.00	1.00	5.00	R	●
090100D060	7.00	1.00	1.80	5.30	3.10	25.00	10.00	1.80	6.00	R	●
140100D060	7.00	1.00	1.80	5.30	3.10	30.00	15.00	1.80	6.00	R	●
210100D060	7.00	1.00	1.80	5.30	3.10	37.00	22.00	1.80	6.00	R	●
290100D060	7.00	1.00	1.80	5.30	3.10	45.00	30.00	1.80	6.00	R	●
090150D060	7.00	1.50	1.80	5.30	3.10	25.00	10.00	1.80	6.00	R	●
140150D060	7.00	1.50	1.80	5.30	3.10	30.00	15.00	1.80	6.00	R	●
210150D060	7.00	1.50	1.80	5.30	3.10	37.00	22.00	1.80	6.00	R	●
240150D060	7.00	1.50	1.80	5.30	3.10	40.00	25.00	1.80	6.00	R	●
290150D060	7.00	1.50	1.80	5.30	3.10	45.00	30.00	1.80	6.00	R	●
090200D060	7.00	2.00	1.80	5.30	3.10	25.00	10.00	1.80	6.00	R	●
140200D060	7.00	2.00	1.80	5.30	3.10	30.00	15.00	1.80	6.00	R	●
210200D060	7.00	2.00	1.80	5.30	3.10	37.00	22.00	1.80	6.00	R	●
240200D060	7.00	2.00	1.80	5.30	3.10	40.00	25.00	1.80	6.00	R	●
290200D060	7.00	2.00	1.80	5.30	3.10	45.00	30.00	1.80	6.00	R	●
090100D068	7.00	1.00	2.70	6.20	3.30	25.00	10.00	2.50	6.80	R	●
140100D068	7.00	1.00	2.70	6.20	3.30	30.00	15.00	2.50	6.80	R	●
210100D068	7.00	1.00	2.70	6.20	3.30	37.00	22.00	2.50	6.80	R	●
090150D068	7.00	1.50	2.70	6.20	3.30	25.00	10.00	2.50	6.80	R	●
140150D068	7.00	1.50	2.70	6.20	3.30	30.00	15.00	2.50	6.80	R	●
210150D068	7.00	1.50	2.70	6.20	3.30	37.00	22.00	2.50	6.80	R	●
290150D068	7.00	1.50	2.70	6.20	3.30	45.00	30.00	2.50	6.80	R	●
090200D068	7.00	2.00	2.70	6.20	3.30	25.00	10.00	2.50	6.80	R	●
140200D068	7.00	2.00	2.70	6.20	3.30	30.00	15.00	2.50	6.80	R	●
210200D068	7.00	2.00	2.70	6.20	3.30	37.00	22.00	2.50	6.80	R	●
290200D068	7.00	2.00	2.70	6.20	3.30	45.00	29.00	2.50	6.80	R	●
MINGL07-090100D060	7.00	1.00	1.80	5.30	3.10	25.00	10.00	1.80	6.00	L	●
090150D060	7.00	1.50	1.80	5.30	3.10	25.00	10.00	1.80	6.00	L	●
140200D068	7.00	2.00	2.70	6.20	3.30	30.00	15.00	2.50	6.80	L	●

▸ The corner radius is less than 0.1mm

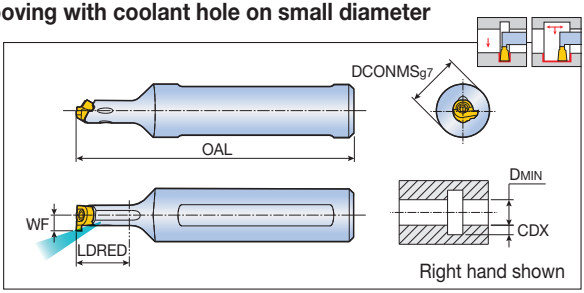
●: Standard items

TMIHR/L

WINIGROOVE

Internal boring bars for shallow grooving with coolant hole on small diameter





Designation		Dimension (mm)					Insert
		DCONMS	OAL	LDRED	WF	DMIN	
TMIHR/L	**12-12-6**	12	80	12	3.5	6.5	TMIR/L 6
	12-16-8	12	80	16	4.7	8.0	TMIR/L 8

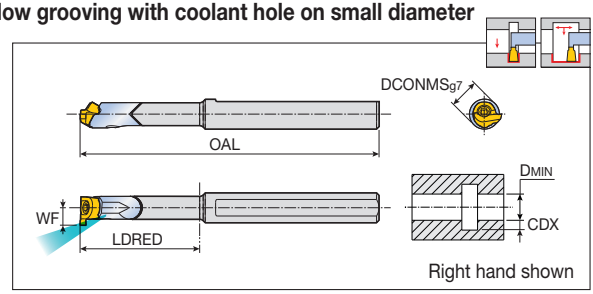
▸ CDX: Refer to insert dimension

TMIHR/L-C

WINIGROOVE

Internal carbide boring bars for shallow grooving with coolant hole on small diameter





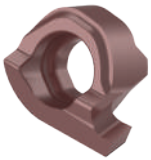
Designation		Dimension (mm)					Insert
		DCONMS	OAL	LDRED	WF	DMIN	
TMIHR/L	**06C-18-6**	6	54	18	3.5	6.0	TMIR/L 6
	06C-24-6	6	60	24	3.5	6.0	TMIR/L 6
	12C-24-8	12	92	24	4.7	8.0	TMIR/L 8
	12C-32-8	12	100	32	4.7	8.0	TMIR/L 8

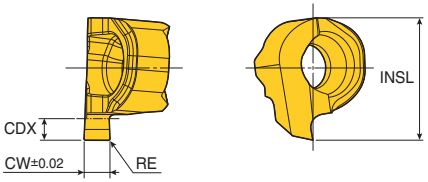
▸ CDX: Refer to insert dimension

TMIR/L

WINGROOVE

Precise inserts for internal shallow grooving on small diameter





Right hand shown

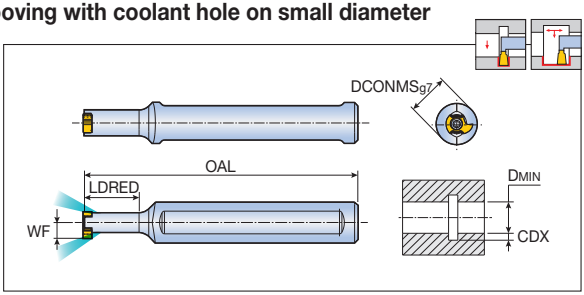
Designation	Feed (mm/rev)	Dimension (mm)				Grade	
		CW	RE	CDX	INSL	TT4430	TT8020
TMIR/L 6-0.50-0.00	0.01-0.03	0.50	0.00	0.5	5.7	●	●
6-1.00-0.00	0.01-0.03	1.00	0.00	1.0	5.7	●	●
6-1.20-0.05	0.01-0.03	1.20	0.05	1.0	5.7	●	●
8-0.50-0.00	0.01-0.03	0.50	0.00	0.7	7.4	●	●
8-1.00-0.00	0.01-0.03	1.00	0.00	1.5	7.4	●	●
8-1.50-0.05	0.01-0.03	1.50	0.05	1.5	7.4	●	●
8-2.00-0.10	0.01-0.03	2.00	0.10	1.5	7.4	●	●

●: Standard items

TMIHN

Internal boring bars for shallow grooving with coolant hole on small diameter





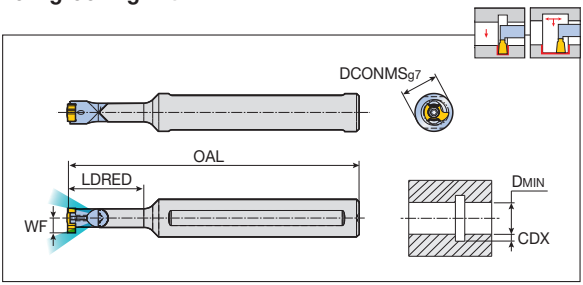
Designation	Dimension (mm)					Coolant inlet	Insert
	DCONMS	OAL	LDRED	WF	DMIN		
TMIHN 12-16-8	12	80	16	4.7	10	Ø3	TMIS 8

▸ CDX: Refer to insert dimension

TMIHN-C

Internal carbide boring bars for shallow grooving with coolant hole on small diameter



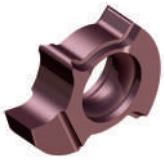


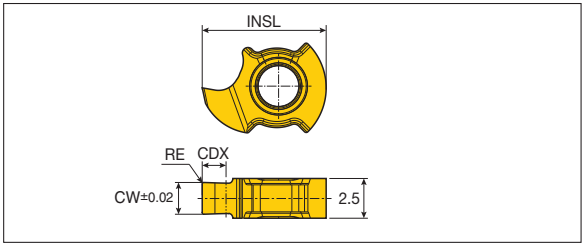
Designation	Dimension (mm)					Coolant inlet	Insert
	DCONMS	OAL	LDRED	WF	DMIN		
TMIHN 12C-24-8	12	92	24	4.7	10	Ø2	TMIS 8
12C-32-8	12	100	32	4.7	10	Ø2	

▸ CDX: Refer to insert dimension

TMIS 8

Precise inserts for internal shallow grooving on small diameter





Designation	Feed (mm/rev)	Dimension (mm)				Grade
		CW	RE	CDX	INSL	TT4430
TMIS 8-0.50-0.00	0.01-0.03	0.50	0.00	0.70	7.8	●
8-1.00-0.00	0.01-0.03	1.00	0.00	1.50	7.8	●
8-1.50-0.05	0.01-0.03	1.50	0.05	1.50	7.8	●
8-2.00-0.10	0.01-0.03	2.00	0.10	1.50	7.8	●

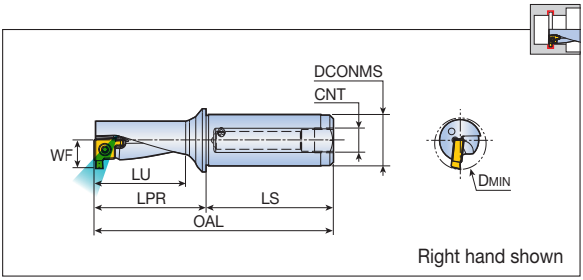
●: Standard items

TCAP...-2.25DN

TOPCAP

Multi-function toolholders - 2.25xD





Designation	Dimension (mm)								Insert
	DC	DCONMS	WF	LU	LPR	LS	DMIN	CNT	For grooving
TCAP 10R/L-2.25DN-GV	10	12	7.1	22.5	27.5	42	12.0	G 1/16	XCMT 05R...GV
12R/L-2.25DN-GV	12	16	8.5	27.0	33.0	45	14.5	G 1/8	XCMT 06R...GV
14R/L-2.25DN-GV	14	16	9.5	31.5	38.5	45	16.5	G 1/8	XCMT 07R...GV
16R/L-2.25DN-GV	16	20	11.1	36.0	44.0	50	19.0	G 1/8	XCMT 08R...GV
20R/L-2.25DN-GV	20	25	13.2	45.0	55.0	56	23.5	G 1/8	XCMT 10R...GV
25R/L-2.25DN-GV	25	32	16.5	56.2	69.0	61	29.0	G 1/8	XCMT 13R...GV
32R/L-2.25DN-GV	32	40	20.5	72.0	86.0	74	36.5	G 1/8	XCMT 17R...GV

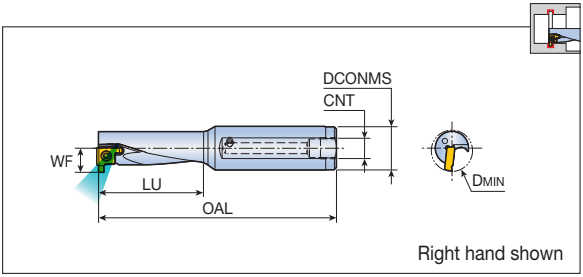
▸ Grooving insert is available for right handed type

TCAP...-3.0DN

TOPCAP

Multi-function toolholders - 3.0xD





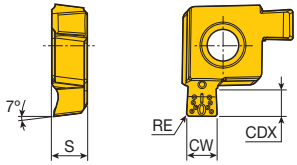
Designation	Dimension (mm)							Insert
	DC	DCONMS	WF	LU	OAL	DMIN	CNT	For grooving
TCAP 10R/L-3.0DN-GV	10	12	7.1	30	85	12.0	G 1/16	XCMT 05R...GV
12R/L-3.0DN-GV	12	16	8.5	36	95	14.5	G 1/8	XCMT 06R...GV
14R/L-3.0DN-GV	14	16	9.5	42	100	16.5	G 1/8	XCMT 07R...GV
16R/L-3.0DN-GV	16	20	11.1	48	110	19.0	G 1/8	XCMT 08R...GV
20R/L-3.0DN-GV	20	25	13.2	60	130	23.5	G 1/8	XCMT 10R...GV
25R/L-3.0DN-GV	25	32	16.5	75	150	29.0	G 1/8	XCMT 13R...GV
32R/L-3.0DN-GV	32	40	20.5	96	185	36.5	G 1/8	XCMT 17R...GV

▸ Grooving insert is available for right handed type

XCMT..R-GV

TOPCAP

Inserts



Size	Dimension (mm)					
	CW	CDX	S	RE		
05	2.0	1.8	2.28	0.2		
06	2.0	2.0	2.65	0.2		
07	2.5	2.0	3.41	0.2		
08	2.5	2.5	3.50	0.2		
10	3.0	3.0	4.34	0.3		
13	3.5	3.5	5.18	0.3		
17	4.0	4.0	6.00	0.4		

• For grooving

Insert	Designation	Coated								Uncoated			
		TT9080	TT8020	TT9300	TT9030	TT6030	TT7400			K10			
	**XCMT 05R-200020GV**	●	●										
	06R-200020GV	●	●										
	07R-250020GV	●	●										
	08R-250020GV	●	●										
	10R-300030GV	●	●										
	13R-350030GV	●	●										
	17R-400040GV	●	●										

▸ Grooving insert is available for right handed type

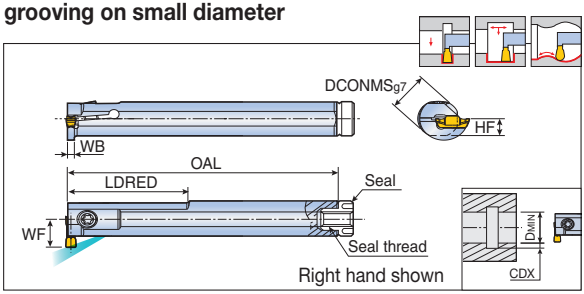
●: Standard items

TTSIR/L

T-CLAMP

Internal boring bars for turning and grooving on small diameter





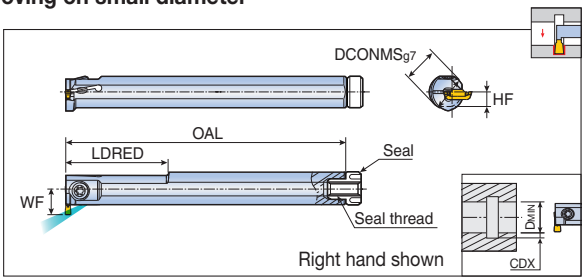
Designation		Insert seat size	Dimension (mm)								Coolant inlet	Insert
			DCONMS	OAL	LDRED	WF	HF	WB	CDX	DMIN		
TTSIR/L	**10-12.5-2**	2	10	125	25	7.5	4.5	1.6	2.4	12.5	Ø4	TDIM /TDIP
	12-14-2	2	12	125	35	9.1	5.5	1.6	2.6	14.0	Ø6	
	16-12.5-2	2	16	150	20	10.5	7.5	1.6	2.4	12.5	-	
	16-14-2	2	16	150	25	11.0	7.5	1.6	2.6	14.0	-	
	16-16-2	2	16	150	40	11.0	7.5	1.6	3.0	16.0	-	
	12-14-3	3	12	125	35	9.1	5.5	2.0	2.6	14.0	Ø6	
	16-12.5-3	3	16	150	20	10.5	7.5	2.0	2.4	12.5	-	
	16-14-3	3	16	150	25	11.0	7.5	2.0	2.6	14.0	-	
	16-16-3	3	16	150	40	11.0	7.5	2.0	3.0	16.0	-	
	20-20-3	3	20	150	40	14.0	9.0	2.0	4.0	20.0	-	

TGSIR/L

T-CLAMP

Internal boring bars for shallow grooving on small diameter

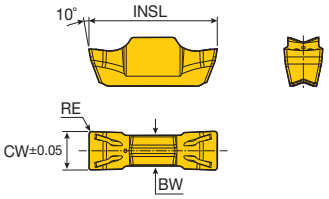




Designation		Insert seat size	Dimension (mm)							Coolant inlet	Insert
			DCONMS	OAL	LDRED	WF	HF	CDX	DMIN		
TGSIR/L	**10-13-2**	2, 3	10	125	25	7.6	5	2.5	12.5	Ø4	TDIM / TDIP
	12-14-2	2, 3	12	125	32	9.0	6	2.5	14.0	Ø6	
	16-13-2	2, 3	16	150	20	10.6	8	2.5	13.0	-	
	16-14-2	2, 3	16	150	25	10.9	8	2.5	14.0	-	
	16-16-2	2, 3	16	150	40	10.5	8	2.5	16.0	-	

TDIM

Double-ended inserts for internal turning and grooving on small diameter



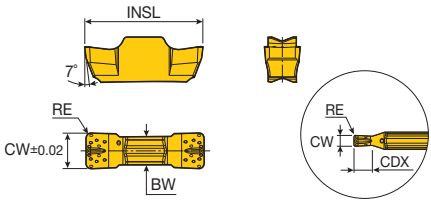
Size	Dimension (mm)					
	CW	RE	BW	INSL		
2	2.0	1.8	2.28	0.2		
3	2.0	2.0	2.65	0.2		

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDIM 2E-0.15**	2	0.2-0.6	0.05-0.08	0.03-0.05					●			
	3E-0.2	3	0.3-1.3	0.10-0.14	0.05-0.09					●			

●: Standard items

TDIP

Precision double-ended inserts for internal turning and grooving on small diameter



Size	Dimension (mm)				
	CW	RE	BW	INSL	CDX
1.00	1.00	0.10-0.50	1.6	10	1.6
1.20	1.20	0.00	1.6	10	1.8
1.40	1.40	0.00	1.6	10	2.0
1.50	1.50	0.10	1.6	10	2.0
2.00	2.00	0.10-1.00	1.6	10	-
2.15	2.15	0.15	1.6	10	-
2.50	2.50	0.20	2.4	10	-
3.00	3.00	0.20-1.50	2.4	10	-

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDIP 1.00-0.10***	2	-	-	0.01-0.03					●			
	1.00-0.50*	2	-	-	0.01-0.04					●			
	1.20-0.00*	2	-	-	0.01-0.03					●			
	1.40-0.00*	2	-	-	0.02-0.04					●			
	1.50-0.10*	2	-	-	0.02-0.04					●			
	2.00E-0.10	2	0.2-0.6	0.05-0.07	0.03-0.05					●			
	2.00E-0.20	2	0.2-0.6	0.05-0.07	0.03-0.05					●			
	2.00E-1.00	2	0.0-0.6	0.08-0.12	0.04-0.07					●			
	2.15E-0.15	2	0.2-0.6	0.06-0.08	0.04-0.06					●			
	2.50E-0.20	3	0.2-1.1	0.07-0.09	0.04-0.07					●			
	3.00E-0.20	3	0.3-1.3	0.11-0.14	0.05-0.09					●			
	3.00E-1.50	3	0.0-1.5	0.13-0.20	0.05-0.11					●			

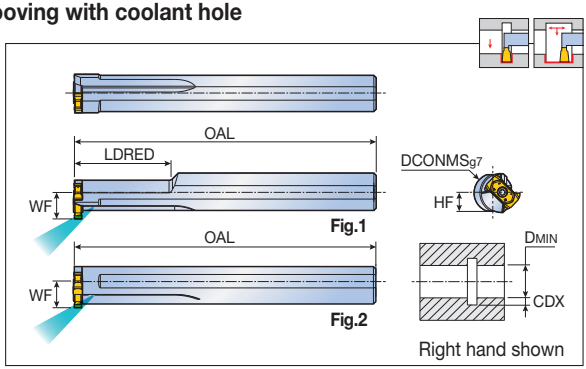
▸*: Only for grooving - Please use TGSIR/L holder

●: Standard items

TQHIR/L

Internal boring bars for shallow grooving with coolant hole





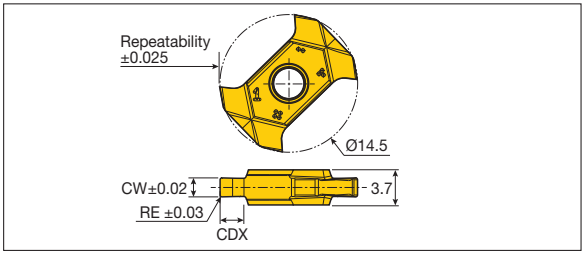
Designation	Dimension (mm)						Fig.	Insert
	DCONMS	OAL	LDRED	WF	DMIN	HF		
TQHIR/L 16-16.5-14	16	125	40	11	16.5	7.5	1	TQIS 14
16-16.5-14-L20	16	125	20	11	16.5	7.5	1	
20-16.5-14	20	125	40	13	16.5	9	1	
20-16.5-14-L20	20	125	20	13	16.5	9	1	
16-20-14	16	125	-	11	20	7.5	2	
20-24-14	20	125	-	13	24	9	2	
25-29-14	25	200	-	15.5	29	11.5	2	
32-36-14	32	200	-	19	36	15	2	

▸ CDX: Refer to insert dimension

TQIS 14

4 cutting edge inserts for internal shallow grooving





Designation	Feed (mm/rev)	Dimension (mm)			Grade
		CW	RE	CDX	TT9080
TQIS 14-1.00-0.05	0.02-0.06	1.00	0.05	2.50	●
14-1.50-0.10	0.02-0.07	1.50	0.10	2.50	●
14-1.50-0.20	0.02-0.07	1.50	0.20	2.50	●
14-1.70-0.20	0.02-0.08	1.70	0.20	2.50	●
14-2.00-0.10	0.03-0.08	2.00	0.10	2.50	●
14-2.00-0.20	0.03-0.08	2.00	0.20	2.50	●
14-2.50-0.20	0.03-0.09	2.50	0.20	2.50	●
14-3.00-0.20	0.03-0.10	3.00	0.20	2.50	●

●: Standard items

02

Parting & Grooving

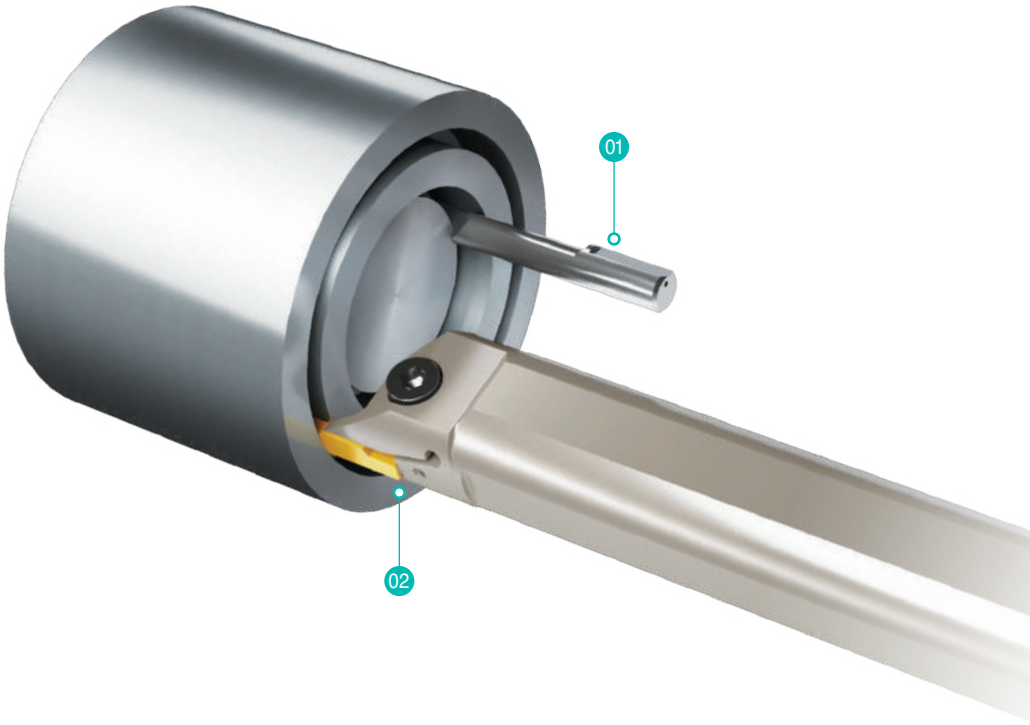
02-3

Face Grooving

Tool Selection Guide 170

Holders & Inserts

- TOP-MICRO 172
- T-CLAMP 176

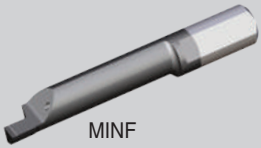


Face Grooving

01 TOPMICRO

Dmin: 6 mm

Cutting width: 1.0-3.0 mm



MINF

02 T-CLAMP

Dmin: 18 mm

Cutting width: 3.0-6.0 mm



TDXU



TOPMICRO	
MINF R 07	**MINF R/L 07**
 ➔173	 ➔174
Min. dia : Ø15	Ø6.0
Width : 2.5-3.0	1.0-3.0
Depth : 20-30	1.5-3.5
Shank : Ø7	Ø7
Sleeve : Ø12-Ø25	Ø12-Ø25

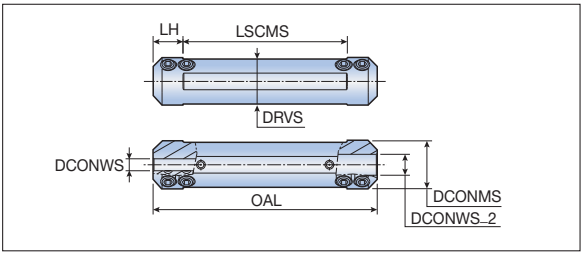
T-CLAMP	
TGIFR/L	**TTFIR/L**
 ➔175	 ➔176
Insert : TDXU / TDXY	TDXU / TDXY
Min. dia : Ø18	Ø20
Width : 3.0-6.0	3.0-4.0
Depth : 5.5	12
Shank : Ø25-Ø32	Ø25-Ø32

MINSL

TOPMICRO

Sleeves





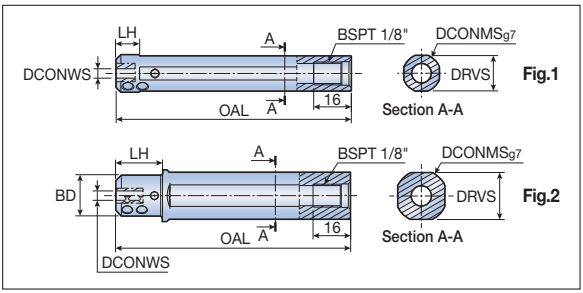
Designation		Dimension (mm)						
		DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	DRVS
MINSL	**12-4-4**	12	4	4	75	13	49	10.3
	14-4-4	14	4	4	75	13	49	12
	16-4-7	16	4	7	75	10	55	15
	19-4-7	19.05	4	7	89	10	69	17.2
	20-4-7	20	4	7	90	10	70	18
	22-4-7	22	4	7	90	10	70	20
	25-4-7	25	4	7	90	10	70	23.4

MINS ...-L100C

TOPMICRO

Sleeves for direct connection for coolant





Designation		Dimension (mm)						Fig.
		DCONMS	DCONWS	BD	OAL	LH	DRVS	
MINS	**16-4-L100C**	16	4	-	100	10	15	1
	16-7-L100C	16	7	-	100	10	15	1
	20-4-L100C	20	4	17.5	100	20	18	2
	20-7-L100C	20	7	17.5	100	20	18	2
	22-4-L100C	22	4	17.5	100	20	20	2
	22-7-L100C	22	7	17.5	100	20	2	2
	25-4-L100C	25	4	18	100	23	23	2
	25-7-L100C	25	7	18	100	23	23	2

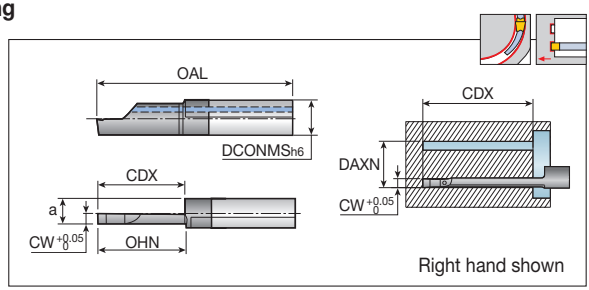
▸ Please refer to 44 page for COOL-BURST accessories

MINF R 07

TOPMICRO

Carbide bars for deep face grooving





Designation	Dimension (mm)							R/L	Grade
	DCONMS	CW	a	OAL	OHN	CDX	DAXN		TT9030
MINFR07 200250D150	7.00	2.50	5.90	36.00	21.00	20.00	15.00	R	●
200300D150	7.00	3.00	5.90	36.00	21.00	20.00	15.00	R	●
300300D150	7.00	3.00	5.90	46.00	31.00	30.00	15.00	R	●

▸ The corner radius is less than 0.1mm

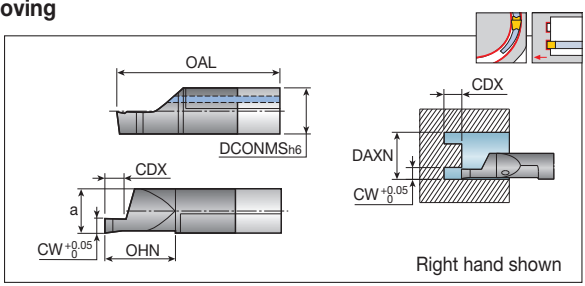
●: Standard items

MINF R/L 07

TOPMICRO

Mini carbide bars for deep face grooving





Designation	Dimension (mm)							R/L	Grade
	DCONMS	CW	a	OAL	OHN	CDX	DAXN		TT9030
MINFR07-110100D060	7.00	1.00	5.20	26.00	11.00	1.50	6.00	R	●
110100D080	7.00	1.00	5.90	27.00	12.00	1.50	8.00	R	●
110150D060	7.00	1.50	5.20	26.00	11.00	2.00	6.00	R	●
110150D080	7.00	1.50	5.90	27.00	12.00	2.50	8.00	R	●
110200D060	7.00	2.00	5.20	26.00	11.00	3.00	6.00	R	●
200200D080	7.00	2.00	5.90	36.00	21.00	3.00	8.00	R	●
210150D080	7.00	1.50	5.90	36.00	22.00	2.50	8.00	R	●
110200D080	7.00	2.00	5.90	27.00	12.00	3.00	8.00	R	●
210200D080	7.00	2.00	5.90	36.00	22.00	3.00	8.00	R	●
110250D080	7.00	2.50	5.90	27.00	12.00	3.50	8.00	R	●
210250D080	7.00	2.50	5.90	36.00	22.00	3.50	8.00	R	●
110300D080	7.00	3.00	5.90	27.00	12.00	3.50	8.00	R	●
210300D080	7.00	3.00	5.90	36.00	22.00	3.50	8.00	R	●
300200D080	7.00	2.00	5.90	46.00	31.00	3.00	8.00	R	●
300300D080	7.00	3.00	5.90	46.00	31.00	3.50	8.00	R	●
MINFL07-210150D080	7.00	1.50	5.90	36.00	22.00	2.50	8.00	L	●
300200D080	7.00	2.00	5.90	46.00	31.00	3.00	8.00	L	●

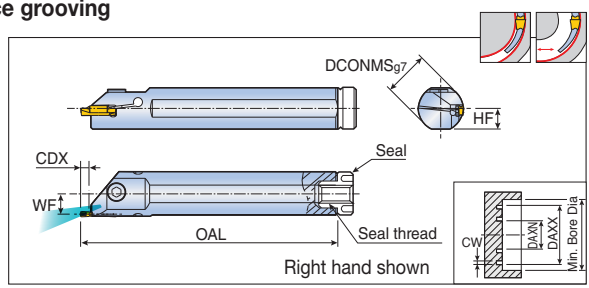
▸ The corner radius is less than 0.1mm

●: Standard items

TGIFR/L

Internal boring bars for shallow face grooving





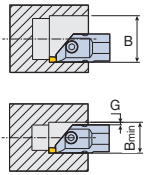
Designation		Insert seat size	Dimension (mm)					Insert
			DCONMS	OAL	WF	HF	CDX	
TGIFR/L	**25-4C-T5.5**	3, 4	25	200	11.3	11.5	5.5	TDXU / XY
	32-4C-T5.5	3, 4	32	250	14.8	15.0	5.5	
	25-6C-T5.5	5, 6	25	200	10.3	11.5	5.5	
	32-6C-T5.5	5, 6	32	250	13.8	15.0	5.5	

▸ Please check insert min. dia for face grooving 176 page.

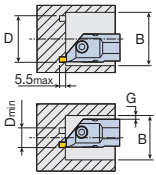
CW	Min. bore dia		DAXIN	DAXX
	d=25	d=32	TDXU / TDXY	
3	26.3	33.3	18	∞
4	26.8	33.8	18	
5	26.3	33.3	20	
6	26.8	33.8	18	

TGIFR/L Application

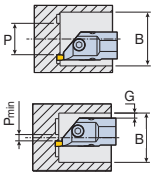
Boring
Bmin=WF+DCONMS/2+CW/2+2G



Face grooving
Dmin=2WF+DCONMS+CW-B+2G



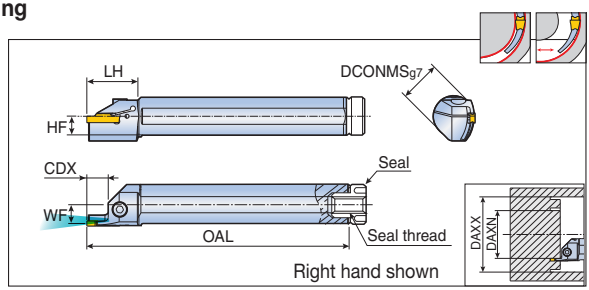
Face recessing
Pmin=2WF+DCONMS-CW-B+2G



TTFIR/L

Internal boring bars for face grooving





Designation	Insert seat size	Dimension (mm)								Insert
		DCONMS	OAL	LH	WF	HF	CDX	DAXN	DAXX	
TTFIR/L 25-3T12 20-33	3	25	200	31	11.5	11.5	12	20	33	TDXU / XY
25-3T12 26-39	3	25	200	31	11.5	11.5	12	26	39	
25-3T12 33-48	3	25	200	31	11.5	11.5	12	33	48	
25-3T12 42-60	3	25	200	31	11.5	11.5	12	42	60	
25-3T12 54-85	3	25	200	31	11.5	11.5	12	54	85	
25-3T12 79-150	3	25	200	31	11.5	11.5	12	79	150	
25-4T12 18-34	4	25	200	31	11.0	11.5	12	18	34	
25-4T12 26-42	4	25	200	31	11.0	11.5	12	26	42	
25-4T12 34-55	4	25	200	31	11.0	11.5	12	34	55	
32-4T12 47-70	4	32	250	31	14.5	15.0	12	47	70	
32-4T12 62-100	4	32	250	31	14.5	15.0	12	62	100	
32-4T12 92-180	4	32	250	31	14.5	15.0	12	92	180	

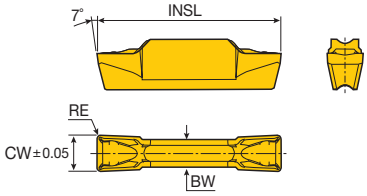
▸ Please check insert min. dia for face grooving

Insert initial min.Dia (Dmin) for face grooving

Machining	Insert	Size (mm)	Min. dia. (mm)
Facing Min. dia. of face machining	**TDXU** **TDXY**	3	18
		4	18
		5	20
		6	18

TDXU

Double-ended inserts for grooving, turning, face grooving and parting



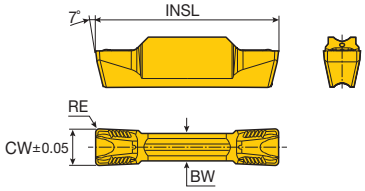
Size	Dimension (mm)			
	CW	RE	BW	INSL
2E-0.3	2.0	0.3	1.7	20.0
3E-0.3	3.0	0.3	2.2	20.0
4E-0.4	4.0	0.4	3.0	20.0
4E-0.8	4.0	0.8	3.0	20.0
5E-0.4	5.0	0.4	4.0	25.0
5E-0.8	5.0	0.8	4.0	25.0
6E-0.4	6.0	0.4	5.0	25.0
6E-0.8	6.0	0.8	5.0	25.0

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated							Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXU 3E-0.3**	3	0.4-1.8	0.15-0.19	0.07-0.22	●	●	●	●	●	●	●	●	●
	4E-0.4	4	0.5-2.4	0.18-0.24	0.08-0.27	●	●	●	●	●	●	●	●	●
	4E-0.8	4	1.0-2.4	0.18-0.24	0.08-0.27	●	●	●	●	●	●	●	●	●
	5E-0.4	5	0.5-3.0	0.20-0.30	0.10-0.30	●	●	●	●	●	●	●	●	●
	5E-0.8	5	1.0-3.0	0.23-0.35	0.10-0.30	●	●	●	●	●	●	●	●	
	6E-0.4	6	0.5-3.6	0.22-0.36	0.13-0.40		●	●	●	●	●	●	●	
	6E-0.8	6	1.0-3.6	0.24-0.42	0.13-0.40		●	●	●	●	●	●	●	

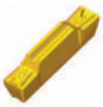
●: Standard items

TDXY

Double-ended inserts for grooving, turning and face grooving



Size	Dimension (mm)			
	CW	RE	BW	INSL
3E-0.4	3.0	0.40	2.2	20
4E-0.4	4.0	0.40	3.0	20
4E-0.8	4.0	0.80	3.0	20
5E-0.4	5.0	0.40	4.0	25
5E-0.8	5.0	0.80	4.0	25
6E-0.4	6.0	0.40	5.0	25
6E-0.8	6.0	0.80	5.0	25

Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXY 3E-0.4**	3	0.5-1.8	0.17-0.20	0.06-0.18			●	●		●			
	4E-0.4	4	0.5-2.4	0.20-0.27	0.07-0.20			●	●		●			
	4E-0.8	4	1.0-2.4	0.22-0.27	0.07-0.20			●	●		●			
	5E-0.4	5	0.5-3.0	0.22-0.32	0.08-0.23			●	●		●			
	5E-0.8	5	1.0-3.0	0.25-0.37	0.08-0.23			●	●		●			
	6E-0.4	6	0.5-3.6	0.25-0.38	0.12-0.35			●	●		●			
	6E-0.8	6	1.0-3.6	0.26-0.42	0.12-0.35			●	●		●			

●: Standard items

03

Threading

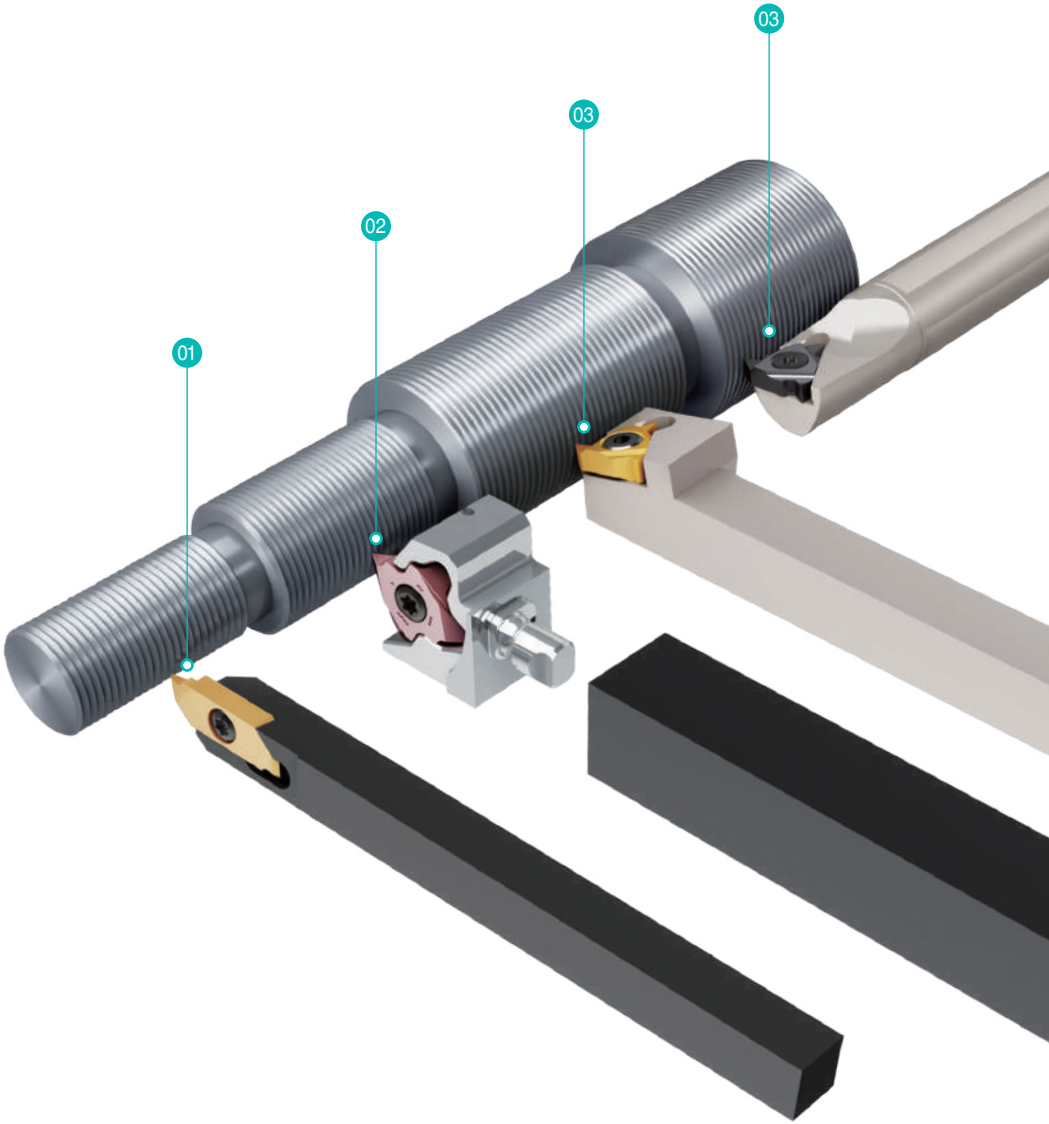
Internal & External Threading

Tool Selection Guide 180

Grade 185

Holders & Inserts

- QUAD-RUSH 186
- TOP-CUT 191
- T-THREAD 192
- TOP-MICRO 206
- TS-THREAD 207
- T-TAP 209


03
03
02
01

External Threading

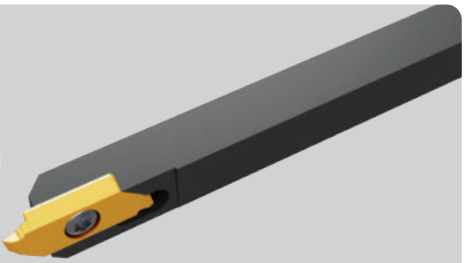
01 TOPCUT

Diameter: 1-10 mm

Thread forms: Profile 60°



TVTR/L



02 QUADRUSH

Diameter: 10-20 mm

Thread forms: Profile 60°



TQS-MT

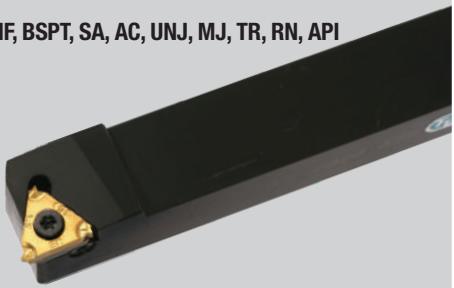


03 T-THREAD

Diameter: 10-38 mm

Thread forms: Profile 55 & 60°, M, UN, WH, NT, NF, BSPT, SA, AC, UNJ, MJ, TR, RN, API







Regular Type



B/M-Type

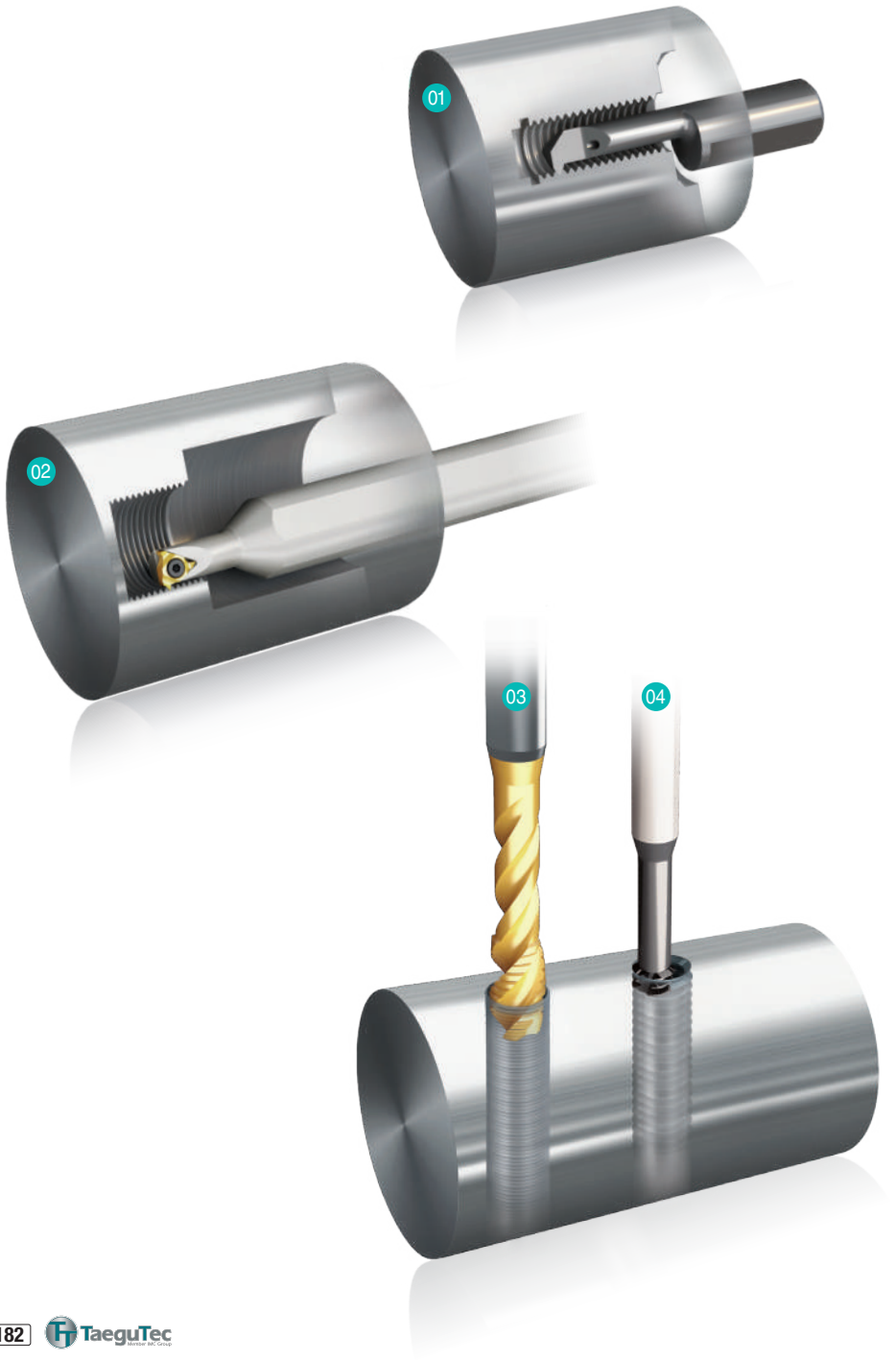


U type



Multi-tooth

Various standard threading lines


01
02
03
04

Internal Threading

01 TOPMICRO

Dmin: Ø4 mm

Thread forms: Profile 60°



MINS…-L100C
Sleeve for direct connection of coolant supply



MINI R



MINSL
Two-directional clamping sleeve

02 T-THREAD

Dmin: Ø6.4 mm

Thread forms: Profile 55 & 60°, M, UN, WH, NT, NF, BSPT, UNJ, MJ



Steel shank



Carbide shank



Regular Type



B/M-Type



U type



Multi-tooth

Various standard threading lines

03 T-TAP

Min. Thread size: M2x0.4

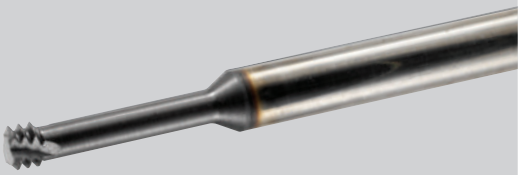
Thread forms: M



04 TS-THREAD

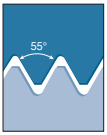
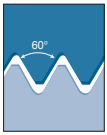
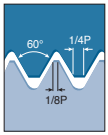
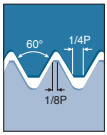
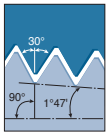
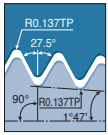
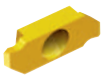
Min. Thread size: M1x0.25

Thread forms: ISO, UN, UNJ, MJ



Tool Selection Guide

External & internal threading holders and inserts

T-THREAD	55° thread	60° thread	Metric ISO	American UN	NPT	BSPT
Thread						
Type of threading	Partial profile	Partial profile	Full profile	Full profile	Full profile	Full profile
Application	General use for 55° thread forms for wide range of pitches	General use for 60° thread forms for wide range of pitches	General usage for all industries	General usage for all industries	Steam, gas and water pipes	55° form for steam, gas and water pipes
TOPCUT TTVBR/L External		 ➔191				
QUADRUSH TQHR/L External		 ➔190				
T-THREAD SER/L External	 ➔195	 ➔196	 ➔197	 ➔199	 ➔204	 ➔205
T-THREAD SIR/L Internal	 ➔195	 ➔196	 ➔198	 ➔201	 ➔204	 ➔205
TOPMICRO MINI R Internal			 ➔206			
TS-THREAD MTECS Internal			 ➔207	 ➔208		
T-TAP TPH Internal			 ➔211			

Grade

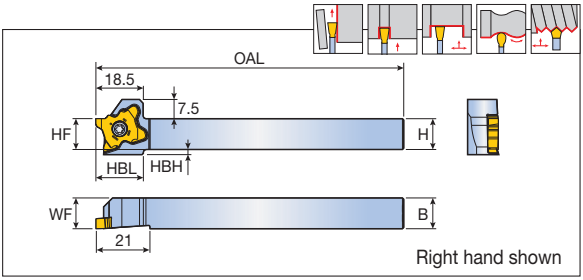
Threading

Grades	ISO	Characteristics & applications
TT7010 PVD coated	S05 – S20	• General machining of steel and cast iron
TT8010 PVD coated	P20 – P35 M20 – M35	• Toughest garde in threading product line • For a wide range of threading on low carbon steel & low carbon alloy steel • Medium to low speed threading of stainless steel and exotic materials
TT9030 PVD coated	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
P30 Carbide	P20 – P40	• General machining of steel

TQHR/L-20

Holders for threading

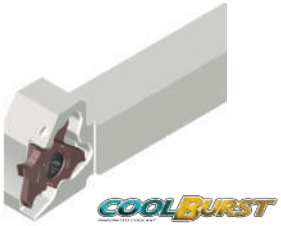


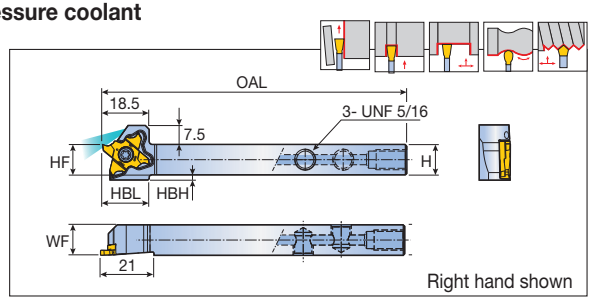


Designation	Dimension (mm)							Insert
	H	HF	B	WF	OAL	HBL	HBH	
TQHR/L 10-20	10	10	10	10	120	18.5	4	TQS 20
12-20	12	12	12	12	120	18.5	2	190
16-20	16	16	16	16	120	-	-	
20-20	20	20	20	20	120	-	-	
25-20	25	25	25	25.3	135	-	-	

TQHR/L-20-TB

Holders for threading with high pressure coolant





Designation	Dimension (mm)							Insert
	H	HF	B	WF	OAL	HBL	HBH	
TQHR/L 12-20-TB	12	12	12	12	120	18.5	2	TQS 20
16-20-TB	16	16	16	16	120	-	-	190
20-20-TB	20	20	20	20	120	-	-	

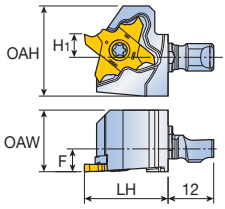
Designation	70 bar flow rate (ℓ/min)	100 bar flow rate (ℓ/min)	140 bar flow rate (ℓ/min)
TQHR/L- TB	9-11	11-13	12-14

▸ Please refer to 44 page for COOL-BURST accessories

QE1 TQHR

Modular head for threading



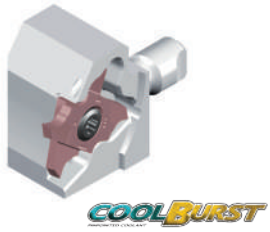


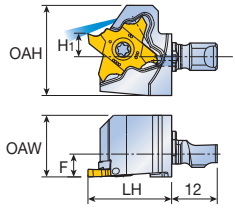
Right hand shown

Designation	Dimension (mm)			HF	Insert
	OAH	LH	OAW		
QE1 TQHR 20	23.7	22.0	16.2	QE1 S12N-TB QE1 S16R-TB 42	TQS 20 190

QE1 TQHR-TB

Modular head for threading with high pressure coolant





Right hand shown

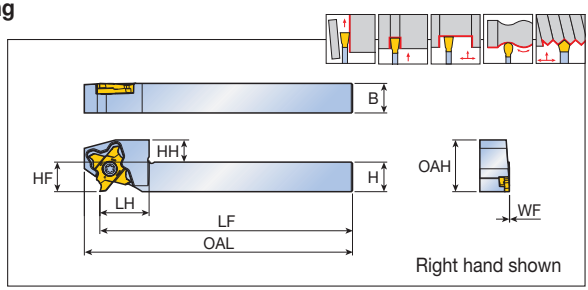
Designation	Dimension (mm)			HF	Insert
	OAH	LH	OAW		
QE1 TQHR 20-TB-TB	23.7	22.0	16.2	QE1 S12N-TB QE1 S16R-TB 42	TQS 20 190

▸ Please refer to 44 page for COOL-BURST accessories

TMY-TQHR

Y-axis holders for external threading





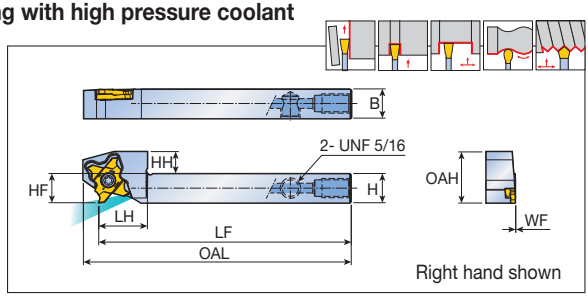
Designation		Dimension (mm)									Insert
		H	B	HH	LH	HF	WF	OAH	LF	OAL	
TMY-TQHR	**10-20**	10	10	11	20	10	0	21	125	131.3	TQ... 20-R
	12-20	12	12	9	20	12	0	21	125	131.3	190
	16-20	16	16	5	20	16	0	21	125	131.3	

▸ CDX: Refer to insert dimension

TMY-TQHR-TB

Y-axis holders for external threading with high pressure coolant





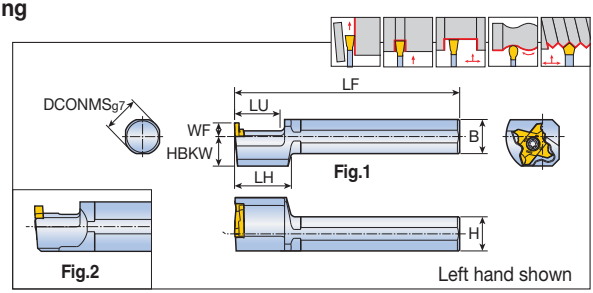
Designation		Dimension (mm)									Insert
		H	B	HH	LH	HF	WF	OAH	LF	OAL	
TMY-TQHR	**12-20-TB**	12	12	9	20	12	0	21	125	131.3	TQ... 20-R
	16-20-TB	16	16	5	20	16	0	21	125	131.3	190

▸ CDX: Refer to insert dimension
▸ Please refer to 44 page for COOL-BURST accessories

TMS-TQHL

Sleeve holders for external threading





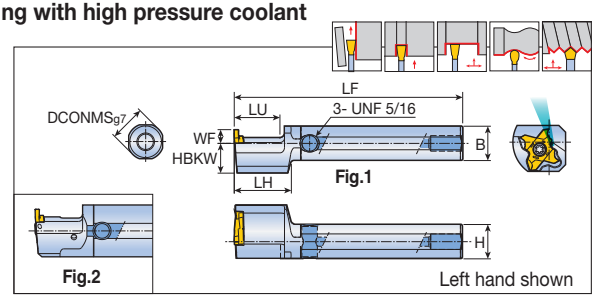
Designation		Dimension (mm)							Fig.	Insert
		DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHL	**16-20**	16	15	100	20	25	6	13	1	TQ... 20-R
	19.05-20	19.05	18	100	20	25	6	13	1	190
	20-20	20	19	100	20	25	6	13	1	
	22-20	22	21	100	20	25	6	13	1	
	25-20	25	24	100	20	-	10	12	2	
	25.4-20	25.4	24.4	100	20	-	10	12.2	2	

- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension

TMS-TQHL-TB

Sleeve holders for external threading with high pressure coolant

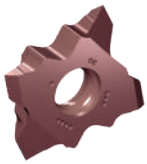


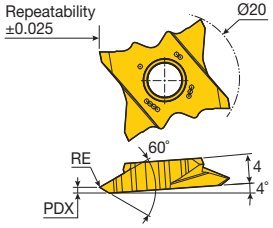


Designation		Dimension (mm)							Fig.	Insert
		DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHL	**16-20-TB**	16	15	100	20	25	6	13	1	TQ... 20-R
	25-20-TB	25	24	100	20	-	10	12	2	190

- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension
- Please refer to 44 page for COOL-BURST accessories

Partial profile 60° threading inserts





Right hand shown

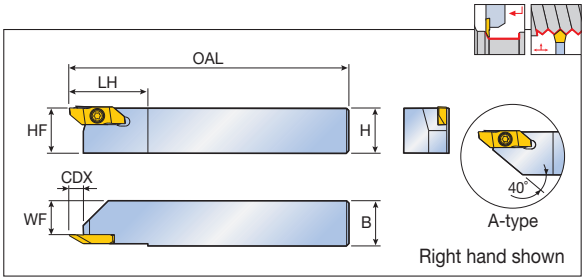
Designation	Dimension (mm)						Grade
	TPN	TPX	TPIX	TPIN	RE	PDX	TT4430
TQS 20-MT-0.05-R	0.30	1.75	48	14	0.05	0.8	●
20-MT-0.05-L	0.30	1.75	48	14	0.05	0.8	●

▸ TPN: Thread pitch minimum (mm)
▸ TPX: Thread pitch maximum (mm)
●: Standard items
▸ TPIN: Thread per inch minimum
▸ TPIX: Thread per inch maximum

TTVBR/L

Holders for threading



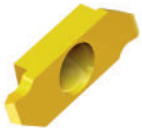


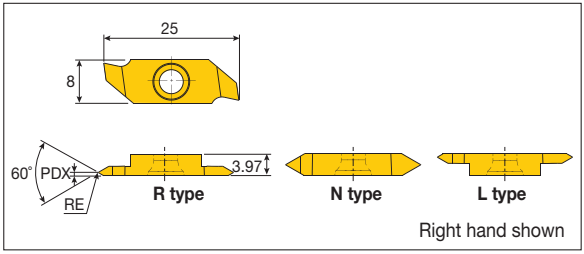
Designation	Dimension (mm)							Insert
	H	HF	B	OAL	LH	WF	CDX	
TTVBR/L 1010-4-A	10	10	10	125	29	5.7	6.7	TVBR/L TVTR/L
1212-4-A	12	12	12	125	29	7.7	6.7	
1616-4	16	16	16	125	29	11.7	6.4	
2020-4	20	20	20	125	29	15.7	6.4	
2525-4	25	25	25	125	29	20.7	6.4	

▸ Please keep in your mind selecting right insert

TVTR/L

Threading inserts





Designation	Dimension (mm)				Grade	
	TPN	TPX	PDX	RE	R	L
TVTR/L 41203-R	0.5	1.0	0.6	0.03	●	●
40003-N	0.5	2.0	0.6	0.03	●	●
41203-L	0.5	1.0	0.6	0.03	●	●

▸TVTR 41203-R/L ➡ pitch range: 0.5 - 1.0mm
▸TVTR 40003-N ➡ pitch range: 0.5 - 2.0mm
▸TPN: Thread pitch minimum (mm), TPX: Thread pitch maximum (mm)

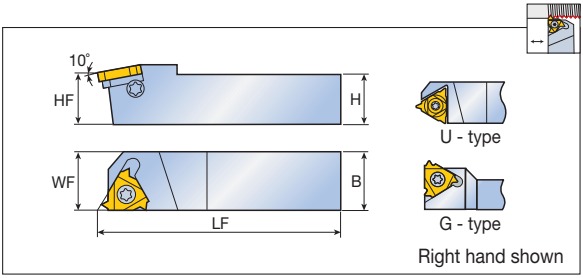
●: Standard items

SER/L

T-THREAD

External threading toolholders





Designation		Dimension (mm)					Insert [2]
		H	HF	B	LF	WF	
SER	**0808 H11** [1]	8	8	8	100	11	11 ER...
	1616 K16G	16	16	16	125	21.7	16 ER...
SER/L	**1010 H11** [1]	10	10	10	100	11	11 ER/L...
	1212 F16	12	12	12	80	16	16 ER/L...
	1212 X16	12	12	12	120	12	16 ER/L...
	1616 H16	16	16	16	100	16	16 ER/L...
	2020-16-AD	20	20	20	67	25	16 ER/L...
	2020 K16	20	20	20	125	20	16 ER/L...
	2525 M16	25	25	25	150	25	16 ER/L...

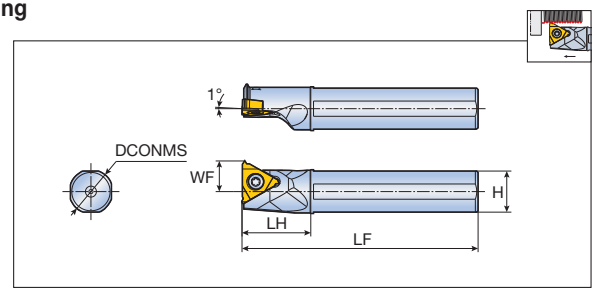
- [1] Toolholders without anvil [2] Use left hand toolholders (L) with right hand insert (ER)
- All Toolholders are made with 1.5° helix angle
- For multi-tooth inserts use anvils AI16M, AI22M, AI27M

TMS-SEL

T-THREAD

Sleeve holders for external threading





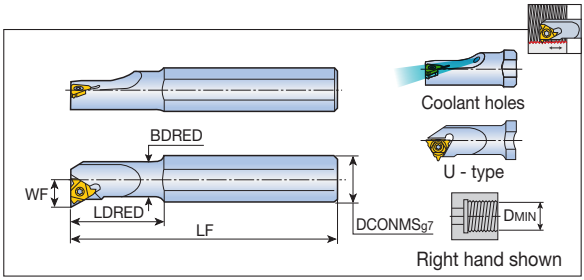
Designation		Dimension (mm)					Insert
		DCONMS	H	LF	LH	WF	
TMS-	**16F SEL 16**	16	15	85	25	11	16 ER...
	19G SEL 16	19.05	18	90	30	12.5	
	19X SEL 16	19.05	18	120	30	12.5	
	20G SEL 16	20	19	90	30	13	
	20X SEL 16	20	19	120	30	13	
	25H SEL 16	25	24	100	30	15.5	
	254X SEL 16	25.4	24	120	30	15.7	

- Use left hand toolholders (L) with right hand insert (ER)

SIR/L

Internal threading toolholders





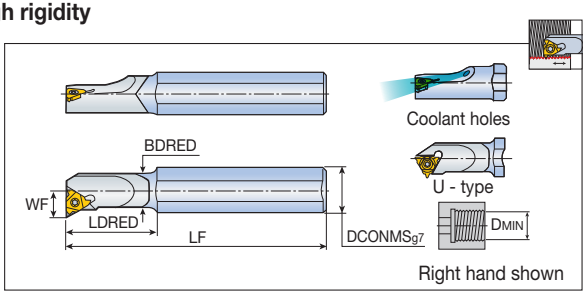
Designation		Dimension (mm)						Coolant hole	Insert (2)
		DCONMS	BDRED	LF	LDRED	DMIN	WF		
SIR/L	0005 H06 (1)	12	5.1	100	12	6.4	4.3	X	06 IR/L...
	0007 K08 (1)	16	6.6	125	18	9.0	5.3	X	08 IR/L...
	0008 K08U (1)	16	7.4	125	21	9.0	6.4	X	08 UIRL...
	0010 H11 (1)	10	10	100	-	12	7.4	X	11 IR/L...
SIR	0010 H11B (1)	10	10	100	-	12	7.4	•	11 IR...
SIR/L	0010 K11 (1)	16	10	125	25	12	6.5	X	11 IR/L...
	0010 K11B (1)	16	10	125	25	12	7.4	•	11 IR/L...
	0013 L11 (1)	16	13	140	32	15	8.9	X	11 IR/L...
	0013 M16 (1)	16	13	150	32	16	10.0	X	16 IR/L...
	0013 M16B (1)	16	13	150	32	16	10.2	•	16 IR/L...
	0016 P16 (1)	20	16	170	40	19	11.4	X	16 IR/L...
	0016 P16B (1)	20	16	170	40	19	11.7	•	16 IR/L...
	0020-16-AD	20	20	80	-	24	13.7	X	16 IR/L...
	0020 P16	20	20	170	-	24	13.4	X	16 IR/L...
	0020 P16B	20	20	170	-	24	13.7	•	16 IR/L...
	0025-16-AD	25	25	120	-	29	16.3	X	16 IR/L...
	0025 R16	25	25	200	-	29	16.3	X	16 IR/L...
	0025 R16B	25	25	200	-	29	16.2	•	16 IR/L...
	0032 S16	32	32	250	-	36	19.6	X	16 IR/L...

- (1) Toolholders without anvil (2) Use left hand toolholders (L) with right hand insert (ER)
- All Toolholders are made with 1.5° helix angle
- For multi-tooth inserts use anvils AI16M, AI22M, AI27M

SIR/L...CB

Solid carbide threading bars for high rigidity





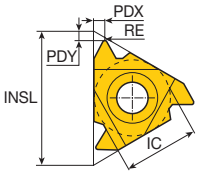
Designation		Dimension (mm)						Coolant hole	Insert (2)
		DCONMS	BDRED	LF	LDRED	DMIN	WF		
SIR/L	**0005 H06CB** (1)	6	5.1	100	25	6.4	4.3	•	06 IR/L...
	0007 K08CB (1)	8	6.6	125	30	9.0	5.3	•	08 IR/L...
	0008 K08UCB (1)	8	7.3	125	35	9.0	6.4	•	08 UIRL...
	0010 M11CB (1)	10	10	150	-	12	7.4	•	11 IR/L...
	0012 P11CB (1)	12	12	170	-	15	8.4	•	11 IR/L...
	0016 R16CB (1)	16	16	200	-	19	11.7	•	16 IR/L...
	0020 S16CB	20	20	250	-	28	13.7	•	16 IR/L...
	0025 S16CB	25	25	250	-	28	16.2	•	16 IR/L...

▸ (1) Toolholders without anvil (2) Use left hand toolholders (L) with right hand insert (ER)
▸ All Toolholders are made with 1.5° helix angle ▸ All carbide shank Toolholders are coolant through type
▸ For multi-tooth inserts use anvils AI16M, AI22M, AI27M

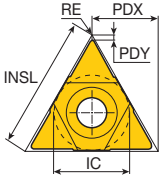
Partial Profile 55°

T-THREAD

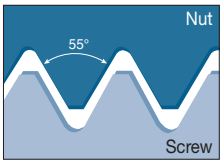
External & internal



External right hand shown
(Internal left hand)



U-type



• Application: General industry

Insert	Designation	Pitch		Dimension (mm)					Coated			Uncoated
		TP (mm)	TPI	IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**11ER/L A 55**	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	●	●		
	**16ER/L A 55**	0.5-1.5	48-16	9.52	16	0.05	0.8	0.9		●		●
	16ER/L AG 55	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7	●	●	●	
Regular	**16ERB AG 55**	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7		●		
	16ERM AG 55	0.5-3.0	48-8	9.52	16	0.06	1.2	1.7	●	●		●
	**16ER/L G 55**	1.75-3.0	14-8	9.52	16	0.20	1.2	1.7	●	●		
	16ERB G 55	1.75-3.0	14-8	9.52	16	0.20	1.2	1.7		●		
B/M	**16ERM G 55**	1.75-3.0	14-8	9.52	16	0.23	1.2	1.7	●	●		
Internal	**06IR/L A 55**	0.5-1.25	48-20	3.97	6	0.05	0.5	0.6			●	
	**08IR/L A 55**	0.5-1.5	48-16	4.76	8	0.05	0.6	0.7		●	●	
	11IR/L A 55	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	●	●	●	
Regular	**16IR A 55**	0.5-1.5	48-16	9.52	16	0.05	0.8	0.9		●		●
	16IR/L AG 55	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7	●	●		
	**16IRB AG 55**	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7		●		
	16IRM AG 55	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7	●	●		
	16IR/L G 55	1.75-3.0	14-8	9.52	16	0.20	1.2	1.7	●	●		
B/M	**16IRB G 55**	1.75-3.0	14-8	9.52	16	0.20	1.2	1.7		●		
	16IRM G 55	1.75-3.0	14-8	9.52	16	0.20	1.2	1.7	●	●		
	**08UIRL U 55**	1.75-2.0	14-11	4.76	8	0.10	0.9	4.0			●	
U												

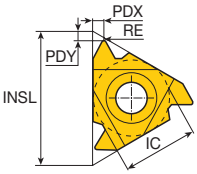
▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

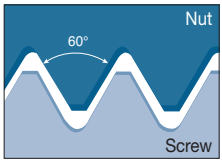
Partial Profile 60°

T-THREAD

External & internal



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	Pitch		Dimension (mm)					Coated			Uncoated
		TP (mm)	TPI	IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**11ER/L A 60**	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9		●		
	**16ER/L A 60**	0.5-1.5	48-16	9.52	16	0.08	1.0	0.9	●	●	●	
Regular	**16ERB A 60**	0.5-1.5	48-16	9.52	16	0.08	1.0	0.9		●		
	16ERM A 60	0.5-1.5	48-16	9.52	16	0.07	0.8	0.9	●	●		●
	16ER/L AG 60	0.5-3.0	48-8	9.52	16	0.06	1.2	1.7	●	●	●	●
	**16ERB AG 60**	0.5-3.0	48-8	9.52	16	0.06	1.2	1.7		●		
	16ERM AG 60	0.5-3.0	48-8	9.52	16	0.08	1.2	1.7	●	●		●
B/M	**16ER/L G 60**	1.75-3.0	14-8	9.52	16	0.22	1.2	1.7	●	●	●	
	16ERB G 60	1.75-3.0	14-8	9.52	16	0.22	1.2	1.7		●		
	16ERM G 60	1.75-3.0	14-8	9.52	16	0.25	1.0	1.5	●	●		●
Internal	**06IR/L A 60**	0.5-1.25	48-20	3.97	6	0.05	0.5	0.6			●	
	**06IRM A 60**	0.5-1.25	48-20	3.97	6	0.05	0.5	0.6			●	
	08IR/L A 60	0.5-1.5	48-16	4.76	8	0.05	0.6	0.7		●	●	
Regular	**08IRM A 60**	0.5-1.5	48-16	4.76	8	0.04	0.6	0.7		●	●	
	11IR/L A 60	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	●	●	●	●
	**11IRM A 60**	0.5-1.5	48-16	6.35	11	0.05	0.7	0.9	●	●		
	16IR/L A 60	0.5-1.5	48-16	9.52	16	0.05	0.7	0.8	●	●	●	●
	16IRB A 60	0.5-1.5	48-16	9.52	16	0.04	0.8	0.9		●		
	16IRM A 60	0.5-1.5	48-16	9.52	16	0.05	0.8	0.9	●	●		
	16IR/L AG 60	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7	●	●	●	●
B/M	**16IRB AG 60**	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7		●		
	16IRM AG 60	0.5-3.0	48-8	9.52	16	0.05	1.2	1.7	●	●		●
	16IR/L G 60	1.75-3.0	14-8	9.52	16	0.13	1.2	1.7	●	●	●	●
	16IRB G 60	1.75-3.0	14-8	9.52	16	0.13	1.2	1.7		●		
	16IRM G 60	1.75-3.0	14-8	9.52	16	0.10	1.2	1.7	●	●		●
	**08UIRL U 60**	1.25-2.0	18-12	4.76	8	0.10	0.8	4.3			●	
U												

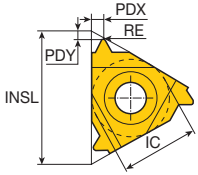
▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

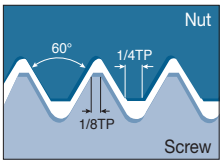
External ISO Metric

T-THREAD

Full profile (DIN13 12-1986 class: 6G)



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	TP (mm)	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**11ER/L 0.35 ISO**	0.35	6.35	11	0.04	0.8	0.4		•		
	**11ER 0.40 ISO**	0.40	6.35	11	0.04	0.7	0.4		•		
	11ER 0.45 ISO	0.45	6.35	11	0.05	0.7	0.4			•	
Regular	**11ER/L 0.50 ISO**	0.50	6.35	11	0.05	0.6	0.6	•	•		
	11ER 0.60 ISO	0.60	6.35	11	0.07	0.6	0.6		•		
	**11ER 0.70 ISO**	0.70	6.35	11	0.07	0.6	0.6		•		
	11ER/L 0.75 ISO	0.75	6.35	11	0.08	0.6	0.6		•		
	11ER 0.80 ISO	0.80	6.35	11	0.09	0.6	0.6		•		
B/M	**11ER/L 1.00 ISO**	1.00	6.35	11	0.12	0.7	0.7		•		
	11ER 1.25 ISO	1.25	6.35	11	0.15	0.8	0.9		•		
	11ER/L 1.50 ISO	1.50	6.35	11	0.18	0.8	1.0	•	•		
	11ER 1.75 ISO	1.75	6.35	11	0.21	0.8	1.1	•			
	16ER/L 0.35 ISO	0.35	9.52	16	0.04	0.8	0.4		•		
	16ER/L 0.40 ISO	0.40	9.52	16	0.04	0.7	0.4		•		
	16ER 0.45 ISO	0.45	9.52	16	0.05	0.7	0.4		•		
	16ER/L 0.50 ISO	0.50	9.52	16	0.04	0.6	0.6	•	•		
	16ER 0.60 ISO	0.60	9.52	16	0.07	0.6	0.6		•		
	16ER/L 0.70 ISO	0.70	9.52	16	0.07	0.6	0.6	•	•		
	16ER/L 0.75 ISO	0.75	9.52	16	0.08	0.6	0.6	•	•		
	16ERM 0.75 ISO	0.75	9.52	16	0.08	0.6	0.6		•		
	16ER/L 0.80 ISO	0.80	9.52	16	0.09	0.6	0.6	•	•		
	16ERB 0.80 ISO	0.80	9.52	16	0.09	0.6	0.6		•		
	16ER/L 1.00 ISO	1.00	9.52	16	0.12	0.7	0.7	•	•	•	•
	16ERB 1.00 ISO	1.00	9.52	16	0.12	0.7	0.7		•		
	16ERM 1.00 ISO	1.00	9.52	16	0.11	0.7	0.7	•	•		•
	16ER/L 1.25 ISO	1.25	9.52	16	0.15	0.8	0.9	•	•		
	16ERB 1.25 ISO	1.25	9.52	16	0.15	0.8	0.9		•		
	16ERM 1.25 ISO	1.25	9.52	16	0.14	0.8	0.9	•	•		
	16ER/L 1.50 ISO	1.50	9.52	16	0.18	0.8	1.0	•	•	•	•
	16ERB 1.50 ISO	1.50	9.52	16	0.18	0.8	1.0		•		
	16ERM 1.50 ISO	1.50	9.52	16	0.19	0.8	1.0	•	•		•
	16ER/L 1.75 ISO	1.75	9.52	16	0.21	0.9	1.2	•	•	•	
	16ERB 1.75 ISO	1.75	9.52	16	0.21	0.9	1.2		•		
	16ERM 1.75 ISO	1.75	9.52	16	0.20	0.9	1.2	•	•		

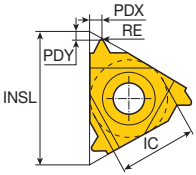
▸ ERB / ERM with pressed chip breaker

●: Standard items

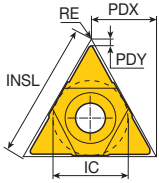
External ISO Metric

T-THREAD

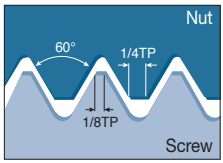
Full profile (DIN13 12-1986 class: 6G)



External right hand shown
(Internal left hand)



U-type



• Application: General industry

Insert	Designation	TP (mm)	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**16ER/L 2.00 ISO**	2.00	9.52	16	0.25	1.0	1.3	●	●	●	●
	16ERB 2.00 ISO	2.00	9.52	16	0.25	1.0	1.3		●		
	16ERM 2.00 ISO	2.00	9.52	16	0.24	1.0	1.3	●	●		●
	16ER/L 2.50 ISO	2.50	9.52	16	0.31	1.1	1.5	●	●		●
Regular	**16ERB 2.50 ISO**	2.50	9.52	16	0.31	1.1	1.5		●		
	16ERM 2.50 ISO	2.50	9.52	16	0.30	1.1	1.5	●	●		●
	16ER/L 3.00 ISO	3.00	9.52	16	0.38	1.2	1.6	●	●	●	●
B/M	**16ERB 3.00 ISO**	3.00	9.52	16	0.38	1.2	1.6		●		
	16ERM 3.00 ISO	3.00	9.52	16	0.38	1.2	1.6	●	●		●

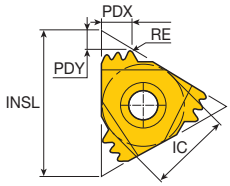
▸ ERB / ERM with pressed chip breaker

●: Standard items

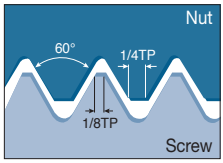
External & Internal ISO Metric

T-THREAD

Full profile, multi-tooth



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	TP (mm)	Dimension (mm)					CICT(1)	Coated			Uncoated
			IC	INSL	RE	PDY	PDX		TT7010	TT9030	TT8010	P30
Internal / External	**16ER 0.75 ISO 3M**	0.75	9.52	16	0.07	1.3	1.9	3		●		
	16ER/IR 1.00 ISO 3M	1.0	9.52	16	0.07	1.7	2.5	3		●		
	16ER/IR 1.50 ISO 2M	1.5	9.52	16	0.18	1.5	2.3	2		●		
	16ER/IR 2.00 ISO 2M	2.00	9.52	16	0.09	2.0	3.0	2		●		

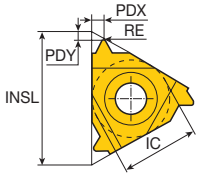
▸ (1) Number of teeth per corner

●: Standard items

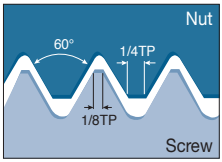
External American UN

T-THREAD

Full profile, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**11ER 44 UN**	44	6.35	11	0.05	0.6	0.6		●		
	11ER 36 UN	36	6.35	11	0.07	0.6	0.6		●		
	11ER 32 UN	32	6.35	11	0.09	0.6	0.6		●		
	11ER/L 28 UN	28	6.35	11	0.10	0.6	0.7		●		
Regular	**11ER 18 UN**	18	6.35	11	0.17	0.8	1.0		●		
	11ER 16 UN	16	6.35	11	0.18	0.9	1.1	●	●		●
	16ER 72 UN	72	9.52	16	-	0.8	0.4		●		
	16ER 56 UN	56	9.52	16	0.04	0.7	0.4		●		
B/M	**16ER 48 UN**	48	9.52	16	0.05	0.6	0.6		●		
	16ER/L 40 UN	40	9.52	16	0.06	0.6	0.6		●	●	
	16ER/L 36 UN	36	9.52	16	0.07	0.6	0.6		●		
	16ER/L 32 UN	32	9.52	16	0.09	0.6	0.6		●		
	16ER/L 28 UN	28	9.52	16	0.10	0.6	0.7	●	●		
	16ER/L 24 UN	24	9.52	16	0.12	0.7	0.8	●	●		
	16ERB 24 UN	24	9.52	16	0.12	0.7	0.8		●		
	16ERM 24 UN	24	9.52	16	0.11	0.7	0.8	●	●		
	16ER/L 20 UN	20	9.52	16	0.15	0.8	0.9		●		
	16ERB 20 UN	20	9.52	16	0.15	0.8	0.9		●		
	16ERM 20 UN	20	9.52	16	0.14	0.8	0.9	●	●		
	16ER/L 18 UN	18	9.52	16	0.17	0.8	1.0		●		●
	16ERB 18 UN	18	9.52	16	0.17	0.8	1.0		●		
	16ERM 18 UN	18	9.52	16	0.15	0.8	1.0	●	●		●
	16ER/L 16 UN	16	9.52	16	0.18	0.9	1.1	●	●	●	
	16ERB 16 UN	16	9.52	16	0.18	0.9	1.1		●		
	16ERM 16 UN	16	9.52	16	0.19	0.9	1.1	●	●		
	16ER/L 14 UN	14	9.52	16	0.22	1.0	1.2	●	●		
	16ERB 14 UN	14	9.52	16	0.22	1.0	1.2		●		
	16ERM 14 UN	14	9.52	16	0.22	1.0	1.2	●	●		
	16ER/L 13 UN	13	9.52	16	0.24	1.0	1.3	●	●		
	16ERB 13 UN	13	9.52	16	0.24	1.0	1.3		●		
	16ERM 13 UN	13	9.52	16	0.24	1.0	1.3		●		

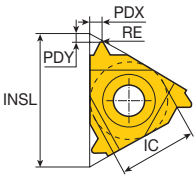
▸ ERB / ERM with pressed chip breaker
▸ Tolerance: Class 2A

●: Standard items

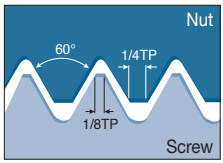
External American UN

T-THREAD

Full profile, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**16ER/L 12 UN**	12	9.52	16	0.26	1.1	1.4	•	•		
	16ERB 12 UN	12	9.52	16	0.26	1.1	1.4		•		
	16ERM 12 UN	12	9.52	16	0.25	1.1	1.4	•	•		•
	16ER 11.5 UN	11.5	9.52	16	0.27	1.1	1.5		•		
Regular	**16ER/L 11 UN**	11	9.52	16	0.28	1.1	1.5	•	•		
	16ERB 11 UN	11	9.52	16	0.28	1.1	1.5		•		
	16ER/L 10 UN	10	9.52	16	0.32	1.1	1.5	•	•		
	16ERB 10 UN	10	9.52	16	0.32	1.1	1.5		•		
B/M	**16ER/L 9 UN**	9	9.52	16	0.36	1.2	1.7		•		
	16ERB 9 UN	9	9.52	16	0.36	1.2	1.7		•		
	16ER/L 8 UN	8	9.52	16	0.41	1.2	1.6	•	•		
	16ERB 8 UN	8	9.52	16	0.41	1.2	1.6		•		
	16ERM 8 UN	8	9.52	16	0.41	1.2	1.6	•	•		

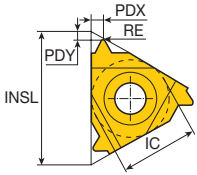
▸ ERB / ERM with pressed chip breaker
▸ Tolerance: Class 2A

●: Standard items

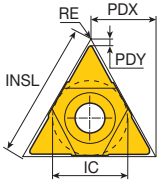
Internal American UN

T-THREAD

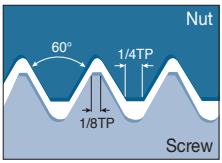
Full profile, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



U-type



• Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
Internal	**06IR 32 UN**	32	3.97	6	0.04	0.8	0.5			•	
	**06IR/L 24 UN**	24	3.97	6	0.05	0.7	0.6			•	
	06IR/L 20 UN	20	3.97	6	0.06	0.6	0.6			•	
	06IR/L 18 UN	18	3.97	6	0.07	0.6	0.7			•	
Regular	**08IR 32 UN**	32	4.76	8	0.04	0.6	0.5			•	
	**08IR/L 28 UN**	28	4.76	8	0.04	0.6	0.6			•	
	08IR/L 24 UN	24	4.76	8	0.05	0.6	0.6			•	
	08IR/L 20 UN	20	4.76	8	0.06	0.6	0.7			•	
B/M	**08IR 18 UN**	18	4.76	8	0.07	0.6	0.7			•	
	08IR/L 16 UN	16	4.76	8	0.09	0.6	0.7			•	
	08IR 14 UN	14	4.76	8	0.10	0.6	0.8		•	•	
	11IR 64 UN	64	6.35	11	0.02	0.8	0.4				
	11IR/L 32 UN	32	6.35	11	0.04	0.6	0.6		•		
	11IR/L 28 UN	28	6.35	11	0.04	0.6	0.7		•		
	11IR/L 24 UN	24	6.35	11	0.05	0.7	0.8		•		
	11IR/L 20 UN	20	6.35	11	0.06	0.8	0.9		•		
	11IR/L 18 UN	18	6.35	11	0.07	0.8	1.0	•	•		
	11IR/L 16 UN	16	6.35	11	0.09	0.9	1.1		•		•
	11IR/L 14 UN	14	6.35	11	0.10	0.9	1.1		•		•
	11IR 12 UN	12	6.35	11	0.12	0.9	1.1	•	•		
	11IR 11 UN	11	6.35	11	0.14	0.8	1.1	•	•		
	16IR 32 UN	32	9.52	16	0.04	0.6	0.6	•	•		
	16IR/L 28 UN	28	9.52	16	0.04	0.6	0.7		•		
	16IR 24 UN	24	9.52	16	0.05	0.7	0.8		•		
	16IRB 24 UN	24	9.52	16	0.05	0.7	0.8		•		
	16IR/L 20 UN	20	9.52	16	0.06	0.8	0.9		•		
	16IRB 20 UN	20	9.52	16	0.06	0.8	0.9		•		
	16IRM 20 UN	20	9.52	16	0.06	0.8	0.9		•		
	16IR/L 18 UN	18	9.52	16	0.07	0.8	1.0	•	•		
	16IRB 18 UN	18	9.52	16	0.07	0.8	1.0		•		
	16IRM 18 UN	18	9.52	16	0.08	0.8	1.0		•		
	16IR/L 16 UN	16	9.52	16	0.09	0.9	1.1	•	•		
	16IRB 16 UN	16	9.52	16	0.09	0.9	1.1		•		
	16IRM 16 UN	16	9.52	16	0.09	0.9	1.1	•	•		
	16IR/L 14 UN	14	9.52	16	0.10	0.9	1.2		•		
	16IRB 14 UN	14	9.52	16	0.10	0.9	1.2		•		
	16IRM 14 UN	14	9.52	16	0.11	0.9	1.2	•	•		

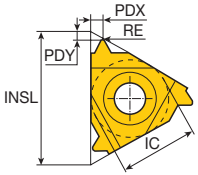
▸ IRB / IRM with pressed chip breaker
▸ Tolerance: Class 2B, ANSI B1, 3M-1986

●: Standard items

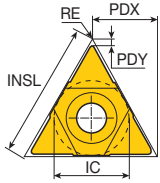
Internal American UN

T-THREAD

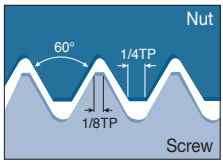
Full profile, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



U-type



• Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
Internal Regular	**16IR/L 12 UN**	12	9.52	16	0.12	1.1	1.4	•	•	•	
	16IRB 12 UN	12	9.52	16	0.12	1.1	1.4		•		
	16IRM 12 UN	12	9.52	16	0.12	1.1	1.4		•		
	16IR 11.5 UN	11.5	9.52	16	0.13	1.1	1.5		•		
	16IR 11 UN	11	9.52	16	0.14	1.1	1.5		•		
	16IR 10 UN	10	9.52	16	0.15	1.1	1.5	•	•		
	16IRB 10 UN	10	9.52	16	0.15	1.1	1.5		•		
	16IR 9 UN	9	9.52	16	0.17	1.2	1.7		•		
B/M	**16IR/L 8 UN**	8	9.52	16	0.19	1.1	1.5	•	•		
	16IRB 8 UN	8	9.52	16	0.19	1.1	1.5		•		
	16IRM 8 UN	8	9.52	16	0.20	1.1	1.5	•	•		
Internal U	**08UIRL 13 UN**	13	4.76	8	0.10	1.0	4.0		•		
	08UIRL 11 UN	11	4.76	8	0.10	0.9	4.0			•	

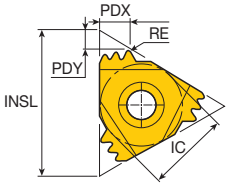
▸ IRB / IRM with pressed chip breaker
▸ Tolerance: Class 2B, ANSI B1, 3M-1986

●: Standard items

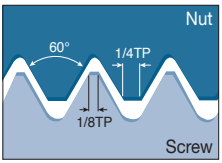
External & Internal American UN

T-THREAD

Full profile, multi-tooth, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



• Application: General industry

Insert	Designation	TP (mm)	Dimension (mm)					CICT(1)	Coated			Uncoated	
			IC	INSL	RE	PDY	PDX		TT7010	TT9030	TT8010	P30	
Internal / External	**16ER/IR 16 UN 2M**	16	9.52	16	0.09	1.5	2.3	2		•			
	**16ER 12 UN 2M**	12	9.52	16	0.26	2.2	3.4	2		•			

▸ (1) Number of teeth per corner

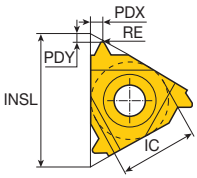
●: Standard items

03 Threading

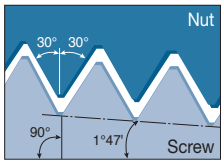
External & Internal NPT

T-THREAD

Full profile, national pipe threads (ANSI/ASME B1.20.1-1983)



External right hand shown
(Internal left hand)



• Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**16ER 27 NPT**	27	9.52	16	0.04	0.7	0.8		●		
	16ER/L 18 NPT	18	9.52	16	0.06	0.8	1.0	●	●		
	16ERB 18 NPT	18	9.52	16	0.06	0.8	1.0		●		
	16ERM 18 NPT	18	9.52	16	0.05	0.8	1.0		●		
Regular	**16ER/L 14 NPT**	14	9.52	16	0.07	0.9	1.2		●	●	
	16ERB 14 NPT	14	9.52	16	0.07	0.9	1.2		●		
	16ERM 14 NPT	14	9.52	16	0.05	0.9	1.2	●	●		●
	16ER/L 11.5 NPT	11.5	9.52	16	0.09	1.1	1.5	●	●		●
B/M	**16ERB 11.5 NPT**	11.5	9.52	16	0.09	1.1	1.5		●		
	16ERM 11.5 NPT	11.5	9.52	16	0.09	1.1	1.5	●	●		
	16ER 8 NPT	8	9.52	16	0.12	1.3	1.8		●		●
	16ERB 8 NPT	8	9.52	16	0.12	1.3	1.8		●		
	16ERM 8 NPT	8	9.52	16	0.15	1.3	1.8	●	●		
Internal	**06IR 27 NPT**	27	3.97	6	0.04	0.6	0.6			●	
	08IR 27 NPT	27	4.76	8	0.04	0.6	0.6			●	
	08IR/L 18 NPT	18	4.76	8	0.06	0.6	0.6		●	●	
	11IR/L 18 NPT	18	6.35	11	0.06	0.8	1.0	●	●		
Regular	**11IR/L 14 NPT**	14	6.35	11	0.07	0.8	1.0		●		
	16IR 27 NPT	27	9.52	16	0.04	0.7	0.8		●		
	16IR 18 NPT	18	9.52	16	0.06	0.8	1.0		●		
	16IR/L 14 NPT	14	9.52	16	0.07	0.9	1.2	●	●	●	
B/M	**16IRB 14 NPT**	14	9.52	16	0.07	0.9	1.2		●		
	16IRM 14 NPT	14	9.52	16	0.05	0.9	1.2	●	●		●
	16IR 11.5 NPT	11.5	9.52	16	0.09	1.1	1.5		●		
	16IRB 11.5 NPT	11.5	9.52	16	0.09	1.1	1.5		●		
	16IRM 11.5 NPT	11.5	9.52	16	0.09	1.1	1.5	●	●		●
	16IR/L 8 NPT	8	9.52	16	0.12	1.3	1.8		●		
	16IRB 8 NPT	8	9.52	16	0.12	1.3	1.8		●		
	16IRM 8 NPT	8	9.52	16	0.12	1.3	1.8		●		

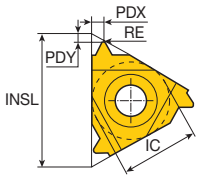
▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

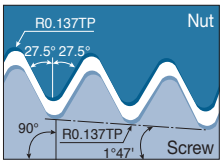
External & Internal BSPT

T-THREAD

Full profile, british standard pipe (B.S. 21-1957)



External right hand shown
(Internal left hand)



• Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**16ER 28 BSPT**	28	9.52	16	0.11	0.6	0.6		●		
	16ER/L 19 BSPT	19	9.52	16	0.16	0.8	0.9		●		
	16ER/L 14 BSPT	14	9.52	16	0.21	1.0	1.2	●	●		
Regular	**16ERB 14 BSPT**	14	9.52	16	0.21	1.0	1.2		●		
	16ERM 14 BSPT	14	9.52	16	0.21	1.0	1.2		●		
	16ER/L 11 BSPT	11	9.52	16	0.28	1.1	1.5	●	●		
	16ERB 11 BSPT	11	9.52	16	0.28	1.1	1.5		●		
B/M	**16ERM 11 BSPT**	11	9.52	16	0.28	1.1	1.5		●		
Internal	**06IR 28 BSPT**	28	3.97	6	0.11	0.7	0.6			●	
	08IR 28 BSPT	28	4.76	8	0.11	0.6	0.6			●	
	08IR 19 BSPT	19	4.76	8	0.16	0.6	0.6			●	
	11IR 19 BSPT	19	6.35	11	0.16	0.8	0.9		●		
Regular	**11IRB 19 BSPT**	19	6.35	11	0.16	0.8	0.9		●		
	11IR/L 14 BSPT	14	6.35	11	0.21	0.9	1.0	●	●		
	16IR 28 BSPT	28	9.52	16	0.11	0.6	0.6		●		
B/M	**16IR 19 BSPT**	19	9.52	16	0.16	0.8	0.9	●			
	16IR/L 14 BSPT	14	9.52	16	0.21	1.0	1.2		●		
	16IRB 14 BSPT	14	9.52	16	0.21	1.0	1.2		●		
	16IRM 14 BSPT	14	9.52	16	0.21	1.0	1.2		●		
	16IR/L 11 BSPT	11	9.52	16	0.28	1.1	1.5		●	●	
	16IRB 11 BSPT	11	9.52	16	0.28	1.1	1.5		●		
	16IRM 11 BSPT	11	9.52	16	0.28	1.1	1.5		●		

▸ ERB / ERM / IRB / IRM with pressed chip breaker

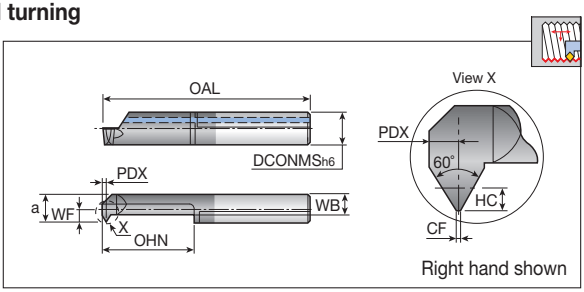
●: Standard items

MINI R 04/07

TOPMICRO

Carbide bars for ISO internal thread turning





Designation	Dimension (mm)											Grade
	DCONMS	Pitch	HC	CF	PDX	WF	a	WB	OAL	OHN	DMIN	TT9030
MINIR04- 140050D040	4.00	0.50	0.30	0.06	0.35	1.50	3.50	2.40	30.00	15.00	4.00	●
MINIR07- 140050D050	7.00	0.50	0.30	0.06	0.35	0.90	4.40	3.30	30.00	15.00	5.00	●
140075D050	7.00	0.75	0.40	0.09	0.45	0.90	4.40	3.30	30.00	15.00	5.00	●
140100D048	7.00	1.00	0.60	0.12	0.55	0.90	4.40	3.30	30.00	15.00	4.80	●
140100D060	7.00	1.00	0.60	0.12	0.55	1.80	5.30	3.40	30.00	15.00	6.00	●
140125D060	7.00	1.25	0.70	0.15	0.65	1.80	5.30	3.40	30.00	15.00	6.00	●
140150D060	7.00	1.50	0.80	0.18	0.75	1.80	5.30	3.40	30.00	15.00	6.00	●
140150D070	7.00	1.50	0.80	0.18	0.75	2.80	6.30	3.80	30.00	15.00	7.00	●

▸ Please refer to 157 page for sleeve shank

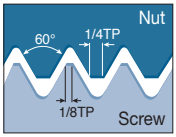
●: Standard items

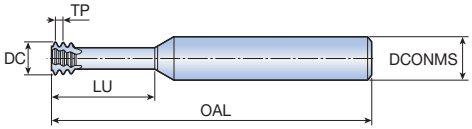
MTECS-ISO

TS-THREAD

Short solid carbide end mills for internal threading







• Application: General engineering

Thread length: 2xDC

Designation				TP (mm)	TDZ	Dimension (mm)				NOF	Grade
						DCONMS	DC	LU	OAL		TT9030
MTECS	06016C4	0.4	ISO	0.40	M2	6	1.55	4.5	58	3	●
	06017C5	0.45	ISO	0.45	M2.2	6	1.65	5.0	58	3	●
	0602C5	0.45	ISO	0.45	M2.5	6	1.95	5.5	58	3	●
	06024C6	0.5	ISO	0.50	M3	6	2.35	6.5	58	3	●
	06028C7	0.6	ISO	0.60	M3.5	6	2.75	7.5	58	3	●
	06031C9	0.7	ISO	0.70	M4	6	3.10	9.0	58	3	●
	06038C12	0.8	ISO	0.80	M5	6	3.80	12.5	58	3	●
	06047C14	1.0	ISO	1.00	M6	6	4.65	14.0	58	3	●
	0606C18	1.25	ISO	1.25	M8	6	5.95	18.0	58	3	●
	0808D25	0.75	ISO	0.75	M10	8	8.00	25.0	64	4	●
	08078C23	1.5	ISO	1.50	M10	8	7.80	23.0	64	3	●
	1009C26	1.75	ISO	1.75	M12	10	9.00	26.0	73	3	●
	12118D35	2.0	ISO	2.00	M16	12	11.80	35.0	84	4	●
	1615E43	2.5	ISO	2.50	M20	16	15.00	43.0	105	5	●

▸ TDZ : Thread diameter size
▸ NOF: Number of flutes

●: Standard items

Thread length: 3xDC

Designation				TP (mm)	TDZ	Dimension (mm)				NOF	Grade
						DCONMS	DC	LU	OAL		TT9030
MTECS	03007C2	0.25	ISO	0.25	M1.0	3	0.72	2.5	39	3	●
	03009C3	0.25	ISO	0.25	M1.2	3	0.90	3.0	39	3	●
	03011C4	0.3	ISO(1)	0.30	M1.4	3	1.05	4.0	39	3	●
	03012C5	0.35	ISO(1)	0.35	M1.6	3	1.20	5.0	39	3	●
	03016C6	0.4	ISO(1)	0.40	M2	3	1.55	6.0	39	3	●
	0602C7	0.45	ISO	0.45	M2.5	6	1.95	7.5	58	3	●
	06024C9	0.5	ISO	0.50	M3	6	2.35	9.5	58	3	●
	06028C10	0.6	ISO	0.60	M3.5	6	2.75	10.5	58	3	●
	06031C12	0.7	ISO	0.70	M4	6	3.10	12.5	58	3	●
	06038C16	0.8	ISO	0.80	M5	6	3.80	16.0	58	3	●
	06047C20	1.0	ISO	1.00	M6	6	4.65	20.0	58	3	●
	0606C24	1.25	ISO	1.25	M8	6	5.95	24.0	58	3	●

▸ TDZ : Thread diameter size ▸ NOF: Number of flutes

●: Standard items

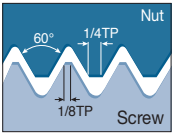
▸ (1) Specially designed for the production of dental implants

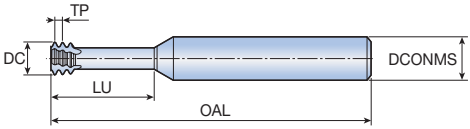
MTECS-UN

TS-THREAD

Short solid carbide end mills for internal threading







• Application: General engineering

Designation	TPI	UNC	UNF	Dimension (mm)				NOF	Grade
				DCONMS	DC	LU	OAL		TT9030
MTECS 06019C5 48 UN	48	3	4	6	1.90	5.2	58	3	●
06021C6 40 UN	40	4	-	6	2.10	6.3	58	3	●
06033C9 36 UN	36	-	8	6	3.30	9.0	58	3	●
06025C7 32 UN	32	6	-	6	2.55	7.1	58	3	●
06032C9 32 UN	32	8	-	6	3.20	9.5	58	3	●
06037C10 32 UN	32	-	10	6	3.70	10.5	58	3	●
0605C14 28 UN	28	-	1/4	6	5.00	14.5	58	3	●
08066C17 24 UN	24	-	5/16, 3/8	8	6.60	17.0	58	3	●
06047C14 20 UN	20	1/4	-	6	4.75	14.0	58	3	●
0606C17 18 UN	18	5/16	-	6	6.00	17.0	58	3	●
1212D35 18 UN	18	-	5/8	12	12.00	35.0	84	4	●
08067C22 16 UN	16	3/8	-	8	6.70	22.0	64	3	●
10092C27 13 UN	13	1/2	-	10	9.20	27.5	73	3	●
12114C34 11 UN	11	5/8	-	12	11.40	34.5	84	3	●
06032C12 32 UN	32	8	-	6	3.20	12.5	58	3	●
06025C10 32 UN	32	6	-	6	2.55	10.5	58	3	●
0605C19 28 UN	28	-	1/4	6	5.00	19.0	58	3	●
06047C19 20 UN	20	1/4	-	6	4.75	19.0	58	3	●
0606C23 18 UN	18	5/16	-	6	6.00	23.0	58	3	●

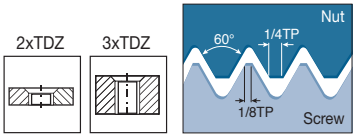
▸ NOF: Number of flutes

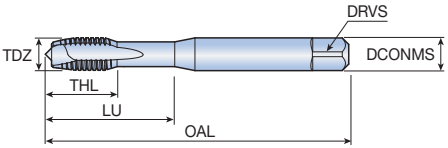
●: Standard items

TPH...52B

Straight flute with spiral point - Uncoated







- For general purpose
- Form B: 4-5 threads chamfer

Metric ISO standard thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH452B M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	8	-	2.8	2.1	1.6
TPH452B M2.5x0.45	M2.5	0.45			50	9	-	2.8	2.1	2.05
TPH452B M3x0.5	M3	0.5			56	10	18	3.5	2.7	2.5
TPH452B M4x0.7	M4	0.7			63	12	21	4.5	3.4	3.3
TPH452B M5x0.8	M5	0.8			70	14	25	6	4.9	4.2
TPH452B M6x1.0	M6	1			80	16	30	6	4.9	5
TPH452B M8x1.25	M8	1.25			90	18	35	8	6.2	6.8
TPH452B M10x1.5	M10	1.5			100	20	39	10	8	8.5
TPH652B M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	22	-	9	7	10.2
TPH652B M14x2.0	M14	2			110	24	-	11	9	12
TPH652B M16x2.0	M16	2			110	26	-	12	9	14
TPH652B M20x2.5	M20	2.5			140	30	-	16	12	17.5

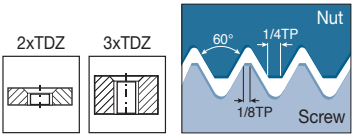
Metric ISO fine thread DIN 13 standard

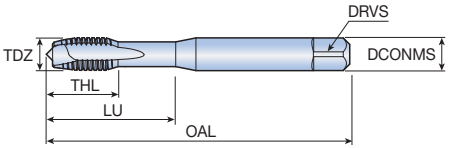
Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH552B MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH552B MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH552B MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH552B MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH552B MF16x1.5	M16	1.5			100	18	-	12	9	14.5

TPH...52B05

Straight flute with spiral point - Steam tempered







- For general purpose
- Form B: 4-5 threads chamfer

Metric ISO standard thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH452B05 M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	8	-	2.8	2.1	1.6
TPH452B05 M2.5x0.45	M2.5	0.45			50	9	-	2.8	2.1	2.05
TPH452B05 M3x0.5	M3	0.5			56	10	18	3.5	2.7	2.5
TPH452B05 M4x0.7	M4	0.7			63	12	21	4.5	3.4	3.3
TPH452B05 M5x0.8	M5	0.8			70	14	25	6	4.9	4.2
TPH452B05 M6x1.0	M6	1			80	16	30	6	4.9	5
TPH452B05 M8x1.25	M8	1.25			90	18	35	8	6.2	6.8
TPH452B05 M10x1.5	M10	1.5			100	20	39	10	8	8.5
TPH652B05 M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	22	-	9	7	10.2
TPH652B05 M14x2.0	M14	2			110	24	-	11	9	12
TPH652B05 M16x2.0	M16	2			110	26	-	12	9	14
TPH652B05 M20x2.5	M20	2.5			140	30	-	16	12	17.5

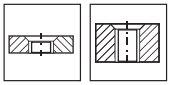
Metric ISO fine thread DIN 13 standard

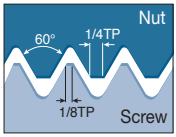
Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH552B05 MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH552B05 MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH552B05 MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH552B05 MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH552B05 MF16x1.5	M16	1.5			100	18	-	12	9	14.5

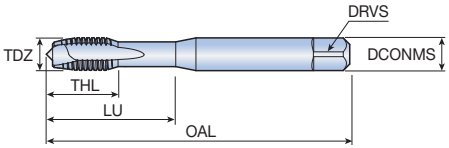
TPH...52B10

Straight flute with spiral point - TiN coated









- For general purpose
- Form B: 4-5 threads chamfer

Metric ISO standard thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH452B10 M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	8	-	2.8	2.1	1.6
TPH452B10 M2.5x0.45	M2.5	0.45			50	9	-	2.8	2.1	2.05
TPH452B10 M3x0.5	M3	0.5			56	10	18	3.5	2.7	2.5
TPH452B10 M4x0.7	M4	0.7			63	12	21	4.5	3.4	3.3
TPH452B10 M5x0.8	M5	0.8			70	14	25	6	4.9	4.2
TPH452B10 M6x1.0	M6	1			80	16	30	6	4.9	5
TPH452B10 M8x1.25	M8	1.25			90	18	35	8	6.2	6.8
TPH452B10 M10x1.5	M10	1.5			100	20	39	10	8	8.5
TPH652B10 M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	22	-	9	7	10.2
TPH652B10 M14x2.0	M14	2			110	24	-	11	9	12
TPH652B10 M16x2.0	M16	2			110	26	-	12	9	14
TPH652B10 M20x2.5	M20	2.5			140	30	-	16	12	17.5

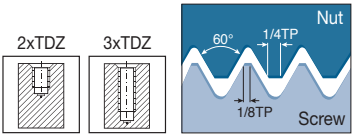
Metric ISO fine thread DIN 13 standard

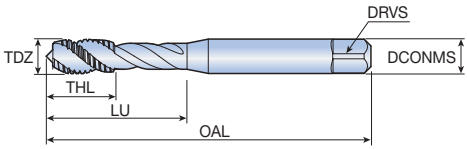
Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH552B10 MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH552B10 MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH552B10 MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH552B10 MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH552B10 MF16x1.5	M16	1.5			100	18	-	12	9	14.5

TPH...54C

Right hand spiral flute (40°) - Uncoated







- For general purpose
- Form C: 2-3 threads chamfer

Metric ISO standard thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH454C M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	6	10	2.8	2.1	1.6
TPH454C M2.5x0.45	M2.5	0.45			50	6	12	2.8	2.1	2.05
TPH454C M3x0.5	M3	0.5			56	7	18	3.5	2.7	2.5
TPH454C M4x0.7	M4	0.7			63	8	21	4.5	3.4	3.3
TPH454C M5x0.8	M5	0.8			70	10	25	6	4.9	4.2
TPH454C M6x1.0	M6	1			80	12	30	6	4.9	5
TPH454C M8x1.25	M8	1.25			90	15	35	8	6.2	6.8
TPH454C M10x1.5	M10	1.5			100	18	39	10	8	8.5
TPH654C M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	18	-	9	7	10.2
TPH654C M14x2.0	M14	2			110	20	-	11	9	12
TPH654C M16x2.0	M16	2			110	20	-	12	9	14
TPH654C M20x2.5	M20	2.5			140	25	-	16	12	17.5

Metric ISO fine thread DIN 13 standard

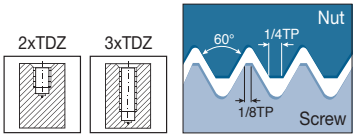
Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH554C MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH554C MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH554C MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH554C MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH554C MF16x1.5	M16	1.5			100	18	-	12	9	14.5

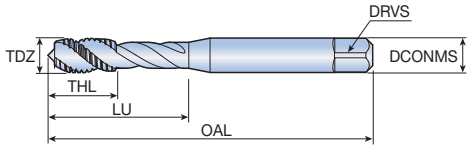
TPH...54C05

T-TAP

Right hand spiral flute (40°) - Steam tempered







- For general purpose
- Form C: 2-3 threads chamfer

Metric ISO standard thread DIN 13 standard

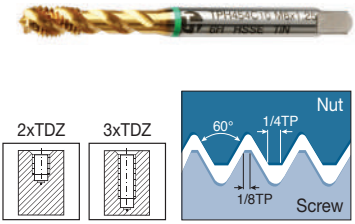
Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH454C05 M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	6	10	2.8	2.1	1.6
TPH454C05 M2.5x0.45	M2.5	0.45			50	6	12	2.8	2.1	2.05
TPH454C05 M3x0.5	M3	0.5			56	7	18	3.5	2.7	2.5
TPH454C05 M4x0.7	M4	0.7			63	8	21	4.5	3.4	3.3
TPH454C05 M5x0.8	M5	0.8			70	10	25	6	4.9	4.2
TPH454C05 M6x1.0	M6	1			80	12	30	6	4.9	5
TPH454C05 M8x1.25	M8	1.25			90	15	35	8	6.2	6.8
TPH454C05 M10x1.5	M10	1.5			100	18	39	10	8	8.5
TPH654C05 M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	18	-	9	7	10.2
TPH654C05 M14x2.0	M14	2			110	20	-	11	9	12
TPH654C05 M16x2.0	M16	2			110	20	-	12	9	14
TPH654C05 M20x2.5	M20	2.5			140	25	-	16	12	17.5

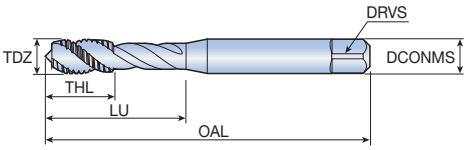
Metric ISO fine thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH554C05 MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH554C05 MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH554C05 MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH554C05 MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH554C05 MF16x1.5	M16	1.5			100	18	-	12	9	14.5

TPH...54C10

Right hand spiral flute (40°) - TiN coated





- For general purpose
- Form C: 2-3 threads chamfer

Metric ISO standard thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH454C10 M2x0.4	M2	0.4	DIN371	ISO 2-6H	45	6	10	2.8	2.1	1.6
TPH454C10 M2.5x0.45	M2.5	0.45			50	6	12	2.8	2.1	2.05
TPH454C10 M3x0.5	M3	0.5			56	7	18	3.5	2.7	2.5
TPH454C10 M4x0.7	M4	0.7			63	8	21	4.5	3.4	3.3
TPH454C10 M5x0.8	M5	0.8			70	10	25	6	4.9	4.2
TPH454C10 M6x1.0	M6	1			80	12	30	6	4.9	5
TPH454C10 M8x1.25	M8	1.25			90	15	35	8	6.2	6.8
TPH454C10 M10x1.5	M10	1.5			100	18	39	10	8	8.5
TPH654C10 M12x1.75	M12	1.75	DIN376	ISO 2-6H	110	18	-	9	7	10.2
TPH654C10 M14x2.0	M14	2			110	20	-	11	9	12
TPH654C10 M16x2.0	M16	2			110	20	-	12	9	14
TPH654C10 M20x2.5	M20	2.5			140	25	-	16	12	17.5

Metric ISO fine thread DIN 13 standard

Designation	TDZ	TP (mm)	Standard (DIN)	Tolerance	Dimension (mm)					
					OAL	THL	LU	DCONMS	DRVS	Core hole
TPH554C10 MF8x1.0	M8	1	DIN374	ISO 2-6H	90	15	-	6	4.9	7
TPH554C10 MF10x1.25	M10	1.25			100	18	-	7	5.5	8.8
TPH554C10 MF12x1.5	M12	1.5			100	18	-	9	7	10.5
TPH554C10 MF14x1.5	M14	1.5			100	18	-	11	9	12.5
TPH554C10 MF16x1.5	M16	1.5			100	18	-	12	9	14.5

04

Holemaking

Drilling & Reaming

Tool Selection Guide 216

Grade 219

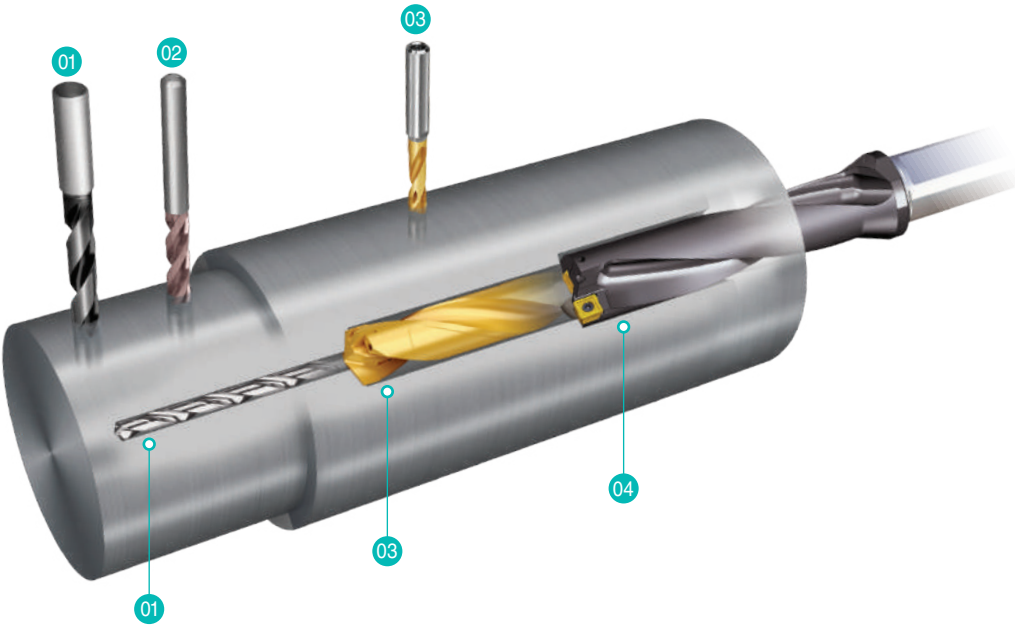
Drill

- WIN-DRILL 220
- DRILL-RUSH 222
- TOP-DRILL 241
- TOP-CAP 245
- SOLID-3-DRILL 247
- H-DRILL 253

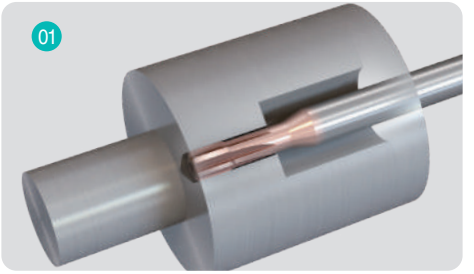
Reamer

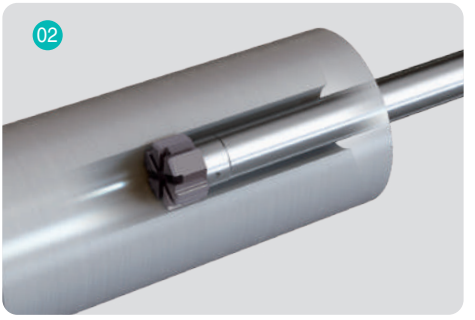
- TS-REAM 266
- XM-REAM 268

Drilling



Reaming





01 TSREAM

Dmin: 3 mm



For blind hole



For through hole

02 XM-REAM

Dmin: 8 mm

Overhang: 3xD, 5xD





XR-AS
For blind hole



XR-BL
For through hole

Drilling

01 HDRILL

Daimeter: 3-12 mm
Drilling depth: 3xD, 5xD



NHD

Daimeter: 4-10 mm
Drilling depth: 10xD, 15xD, 20xD



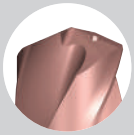
SHO MQLDRILL

02 SOLID3DRILL

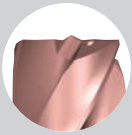
Daimeter: 4-12 mm
Drilling depth: 3xD, 5xD, 8xD, 12xD



3HD



PI



FI



CI

03 DRILLRUSH / WINDRILL

Daimeter: 4-25 mm
Drilling depth: 1.5xD-12xD





TCD-P+

Self-centering



TCD-F

Flat bottom



TCD-P/M

P : for steel
M: for stainless steel



TCD-N

For non-ferrous

Drill sleeves



TSL-SW (Adjustable tightening length)



TSL-NC (Fixed tightening length)



MAXIRUSH Connection



TFLEXTEC Connection

04 TOPDRILL

Daimeter: 12-26 mm
Drilling depth: 2xD-5xD





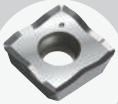
SOMT-DP

For general



SOMT-DL

For low carbon



SOMT-DA

For non-ferrous

Series	Head changeable drill				Indexable drill	
	WinDrill	DrillRush	WinDrill		TopDrill	TopCap
	TCD	TCD	TCD	TCD/TCDM	TOP	TCAP
	 220	 221	 222	 227	 241	 245
Dc (mm)	Ø4.0-Ø5.9	Ø6.0-Ø9.9	Ø6.0-Ø25.9	Ø6.0-Ø20.9	Ø12-Ø26	Ø8-Ø32
Depth (L/D)	3, 5xDc	3, 5, 8xDc	1.5, 3, 5, 8xDc	2, 3, 4xDc	2, 3xDc	2.25, 3 x Dc
Hole tolerance	IT 9-10	IT 9-10	IT 9-10	IT 9-10	IT 11-13	IT 10-12

Series	Carbide drill		
	Solid3Drill	HDrill	
	3HD	NHD	SHO
	 247	 253	 265
Dc (mm)	Ø4-Ø12	Ø3-Ø12	Ø4-Ø10
Depth (L/D)	3, 5, 8,12xDc	3, 5 x Dc	10, 15, 20 x Dc
Hole tolerance	IT 8-10	IT 8-10	IT 8-10

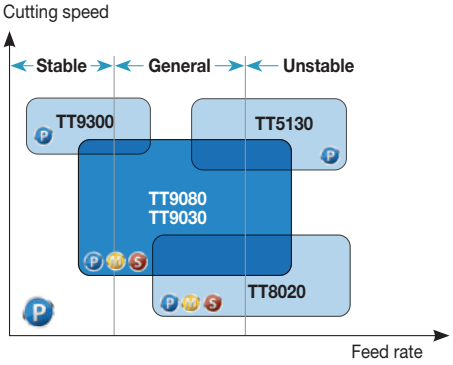
Series	Reamer		
	TSReam	XM-Ream	
	TS	XR	
	 266	 268	
Dc (mm)	Ø3.0-Ø12.0	Ø8.0-Ø12.0	
Depth (L/D)	-	3, 5xDc	
Hole tolerance	IT 7*	IT 7*	

▸ * Up to IT tolerance

Grades

Holemaking grades

For steel



Grades	ISO	Characteristics & applications
TT9300 CVD carbide	P10 – P25	• High speed drilling of carbon & alloy steel
TT5130 PVD carbide	P20 – P40 K20 – K40	• High speed drilling of carbon & alloy steel
TT9080 CVD carbide	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
TT9030 CVD carbide	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
TT8020 CVD carbide	P30 – P50 M30 – M50 S30 – S50	• Interrupted and rough machining of steel • Interrupted and rough machining of stainless steel • Low speed and interrupted machining of heat-resistant alloy
K10 비코팅	K05 – K15 N05 – N15 S05 – S15	• General machining of cast iron • General machining of aluminum alloys and non-ferrous materials • General machining of heat-resistant alloy
UF1A/UF10 비코팅	N10 – N25 S10 – S30	• General machining of aluminum alloys and non-ferrous materials • General machining of heat-resistant alloy

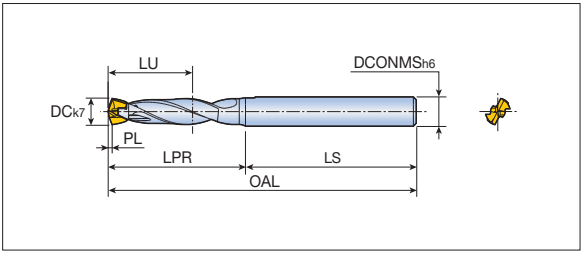
TCD...-3D

Head changeable drill holder - Cylindrical type shank



• Drilling depth: 3xdiameter





Designation		Dimension (mm)							Clamping key
		DC	DCONMS	LU	LPR	LS	PL	SSC	
TCD	040-044-06A0-3D	4.0-4.4	6	13	22.7	35	0.62	4	K TCD D040-D049
	045-049-06A0-3D	4.5-4.9	6	14	24.7	35	0.66	4.5	
	050-054-06A0-3D	5.0-5.4	6	16	26.3	35	0.73	5	K TCD D050-D059
	055-059-06A0-3D	5.5-5.9	6	17	28.2	35	0.80	5.5	

▸ SSC: Seat size code

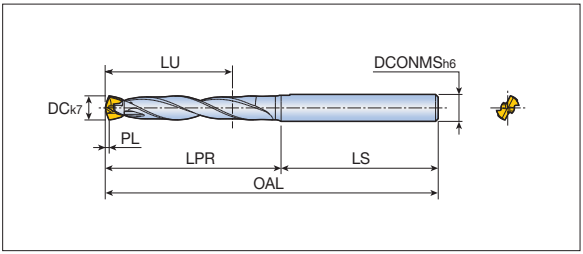
TCD...-5D

Head changeable drill holder - Cylindrical type shank



• Drilling depth: 5xdiameter





Designation		Dimension (mm)							Clamping key
		DC	DCONMS	LU	LPR	LS	PL	SSC	
TCD	040-044-06A0-5D	4.0-4.4	6	21	30.7	35	0.62	4	K TCD D040-D049
	045-049-06A0-5D	4.5-4.9	6	23	33.7	35	0.66	4.5	
	050-054-06A0-5D	5.0-5.4	6	26	36.3	35	0.73	5	K TCD D050-D059
	055-059-06A0-5D	5.5-5.9	6	28	39.2	35	0.80	5.5	

▸ SSC: Seat size code

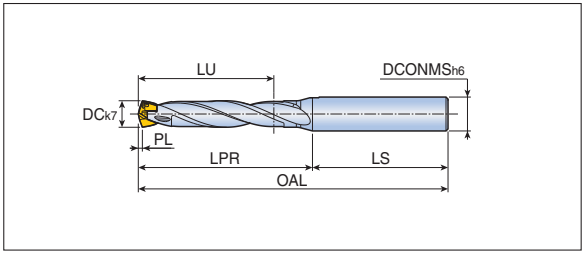
TCD…A0-3D/5D/8D

Head changeable drill holder - Cylindrical type shank



• Drilling depth: 3/5/8xdiameter





Designation	Dimension (mm)							Clamping key
	DC	DCONMS	LU	LPR	LS	PL	SSC	
TCD 060-064-08A0-3D	6.0-6.4	8	19	28.0	36	0.96	6	K TCD D060-D099
065-069-08A0-3D	6.5-6.9	8	21	29.8	36	1.18	6.5	
070-074-08A0-3D	7.0-7.4	8	22	31.6	36	1.01	7	
075-079-08A0-3D	7.5-7.9	8	24	33.1	36	1.10	7.5	
080-084-10A0-3D	8.0-8.4	10	25	35.4	40	1.20	8	
085-089-10A0-3D	8.5-8.9	10	27	36.9	40	1.29	8.5	
090-094-10A0-3D	9.0-9.4	10	28	38.8	40	1.35	9	
095-099-10A0-3D	9.5-9.9	10	30	40.3	40	1.44	9.5	
TCD 060-064-08A0-5D	6.0-6.4	8	31	40.0	36	0.96	6	K TCD D060-D099
065-069-08A0-5D	6.5-6.9	8	34	42.8	36	1.18	6.5	
070-074-08A0-5D	7.0-7.4	8	36	45.6	36	1.01	7	
075-079-08A0-5D	7.5-7.9	8	39	48.1	36	1.10	7.5	
080-084-10A0-5D	8.0-8.4	10	41	51.4	40	1.20	8	
085-089-10A0-5D	8.5-8.9	10	44	53.9	40	1.29	8.5	
090-094-10A0-5D	9.0-9.4	10	46	56.8	40	1.35	9	
095-099-10A0-5D	9.5-9.9	10	49	59.3	40	1.44	9.5	
TCD 060-064-08A0-8D	6.0-6.4	8	49	58.0	36	0.96	6	K TCD D060-D099
065-069-08A0-8D	6.5-6.9	8	53	62.3	36	1.18	6.5	
070-074-08A0-8D	7.0-7.4	8	57	66.6	36	1.01	7	
075-079-08A0-8D	7.5-7.9	8	61	70.6	36	1.10	7.5	
080-084-10A0-8D	8.0-8.4	10	65	75.4	40	1.20	8	
085-089-10A0-8D	8.5-8.9	10	69	79.4	40	1.29	8.5	
090-094-10A0-8D	9.0-9.4	10	73	83.8	40	1.35	9	
095-099-10A0-8D	9.5-9.9	10	77	87.8	40	1.44	9.5	

▸ OAL: LPR+LS
▸ SSC: Seat size code

TCD...T...-1.5D

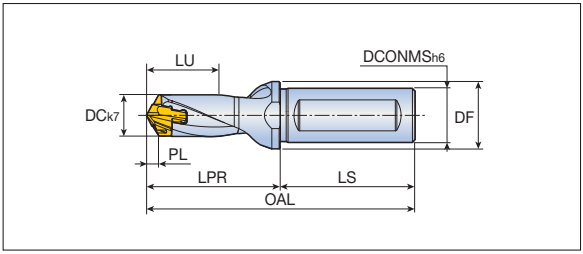
DRILLRUSH

Head changeable drill holder - Weldon type shank



• Drilling depth: 1.5xdiameter





Designation	Dimension (mm)								Clamping key
	DC	DCONMS	DF	LU	LPR	LS	PL	SSC	
TCD 060-064-12T3-1.5D	6.0-6.4	12	16	10	23.0	45	0.96	6	K TCD D060-D099
065-069-12T3-1.5D	6.5-6.9	12	16	11	24.1	45	1.18	6.5	
070-074-12T3-1.5D	7.0-7.4	12	16	12	25.1	45	1.01	7	
075-079-12T3-1.5D	7.5-7.9	12	16	12	25.9	45	1.10	7	
080-089-12T3-1.5D	8.0-8.9	12	16	13	27.4	45	1.20	8	
090-099-12T3-1.5D	9.0-9.9	12	16	15	29.3	45	1.35	9	
100-109-16T3-1.5D	10.0-10.9	16	20	17	31.2	48	1.50	10	K TCD D100-D199
110-119-16T3-1.5D	11.0-11.9	16	20	19	33.1	48	1.67	11	
120-129-16T3-1.5D	12.0-12.9	16	20	20	35.0	48	1.82	12	
130-139-16T3-1.5D	13.0-13.9	16	20	22	37.1	48	1.96	13	
140-149-16T3-1.5D	14.0-14.9	16	20	23	41.1	48	2.12	14	
150-159-20T3-1.5D	15.0-15.9	20	25	25	46.2	50	2.27	15	
160-169-20T3-1.5D	16.0-16.9	20	25	26	49.3	50	2.42	16	
170-179-20T3-1.5D	17.0-17.9	20	25	29	52.4	50	2.59	17	
180-189-25T2-1.5D	18.0-18.9	25	32	30	55.5	56	2.73	18	
190-199-25T2-1.5D	19.0-19.9	25	32	32	58.5	56	2.88	19	
200-209-25T2-1.5D	20.0-20.9	25	32	33	61.6	56	3.02	20	K TCD D200-D269
210-219-25T2-1.5D	21.0-21.9	25	32	35	64.7	56	3.18	21	
220-229-25T2-1.5D	22.0-22.9	25	32	36	67.8	56	3.24	22	
230-239-32T2-1.5D	23.0-23.9	32	42	38	70.8	60	3.46	23	
240-249-32T2-1.5D	24.0-24.9	32	42	40	73.9	60	3.62	24	
250-259-32T2-1.5D	25.0-25.9	32	42	42	77.0	60	3.80	25	

▸ OAL: LPR+LS
▸ SSC: Seat size code

TCD...T...-3D

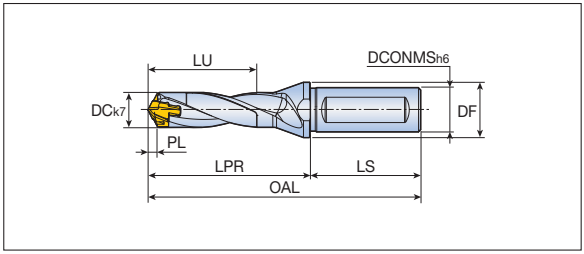
DRILLRUSH

Head changeable drill holder - Weldon type shank



• Drilling depth: 3xdiameter





Designation	Dimension (mm)								Clamping key
	DC	DCONMS	DF	LU	LPR	LS	PL	SSC	
TCD 060-064-12T3-3D	6.0-6.4	12	16	19	32.0	45	0.96	6	K TCD D060-D099
065-069-12T3-3D	6.5-6.9	12	16	21	33.8	45	1.18	6.5	
070-074-12T3-3D	7.0-7.4	12	16	22	35.6	45	1.01	7	
075-079-12T3-3D	7.5-7.9	12	16	24	37.1	45	1.10	7	
080-084-12T3-3D	8.0-8.4	12	16	25	39.4	45	1.20	8	
085-089-12T3-3D	8.5-8.9	12	16	27	40.9	45	1.29	8	
090-094-12T3-3D	9.0-9.4	12	16	28	42.8	45	1.35	9	
095-099-12T3-3D	9.5-9.9	12	16	30	44.3	45	1.44	9	
100-104-16T3-3D	10.0-10.4	16	20	32	46.2	48	1.50	10	K TCD D100-D199
105-109-16T3-3D	10.5-10.9	16	20	34	47.7	48	1.59	10	
110-114-16T3-3D	11.0-11.4	16	20	35	49.6	48	1.67	11	
115-119-16T3-3D	11.5-11.9	16	20	37	51.1	48	1.76	11	
120-124-16T3-3D	12.0-12.4	16	20	38	53.0	48	1.82	12	
125-129-16T3-3D	12.5-12.9	16	20	39	54.5	48	1.91	12	
130-134-16T3-3D	13.0-13.4	16	20	41	56.6	48	1.96	13	
135-139-16T3-3D	13.5-13.9	16	20	43	58.1	48	2.05	13	
140-144-16T3-3D	14.0-14.4	16	20	44	62.2	48	2.12	14	
145-149-16T3-3D	14.5-14.9	16	20	46	63.7	48	2.21	14	
150-159-20T3-3D	15.0-15.9	20	25	47	68.7	50	2.27	15	
160-169-20T3-3D	16.0-16.9	20	25	50	73.3	50	2.42	16	
170-179-20T3-3D	17.0-17.9	20	25	54	77.9	50	2.59	17	
180-189-25T2-3D	18.0-18.9	25	32	57	82.5	56	2.73	18	
190-199-25T2-3D	19.0-19.9	25	32	60	87.0	56	2.88	19	
200-209-25T2-3D	20.0-20.9	25	32	63	91.6	56	3.02	20	K TCD D200-D269
210-219-25T2-3D	21.0-21.9	25	32	66	96.2	56	3.18	21	
220-229-25T2-3D	22.0-22.9	25	32	69	100.8	56	3.24	22	
230-239-32T2-3D	23.0-23.9	32	42	72	105.3	60	3.46	23	
240-249-32T2-3D	24.0-24.9	32	42	76	109.9	60	3.62	24	
250-259-32T2-3D	25.0-25.9	32	42	79	114.5	60	3.80	25	

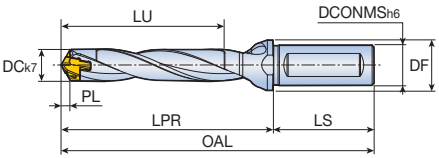
▸ OAL: LPR+LS
▸ SSC: Seat size code

Head changeable drill holder - Weldon type shank



• Drilling depth: 5xdiameter





Designation	Dimension (mm)								Clamping key
	DC	DCONMS	DF	LU	LPR	LS	PL	SSC	
TCD 060-064-12T3-5D	6.0-6.4	12	16	31	44.0	45	0.96	6	K TCD D060-D099
065-069-12T3-5D	6.5-6.9	12	16	34	46.8	45	1.18	6.5	
070-074-12T3-5D	7.0-7.4	12	16	36	49.6	45	1.01	7	
075-079-12T3-5D	7.5-7.9	12	16	39	52.1	45	1.10	7	
080-084-12T3-5D	8.0-8.4	12	16	41	55.4	45	1.20	8	
085-089-12T3-5D	8.5-8.9	12	16	44	57.9	45	1.29	8	
090-094-12T3-5D	9.0-9.4	12	16	46	60.8	45	1.35	9	
095-099-12T3-5D	9.5-9.9	12	16	49	63.3	45	1.44	9	
100-104-16T3-5D	10.0-10.4	16	20	52	66.2	48	1.50	10	K TCD D100-D199
105-109-16T3-5D	10.5-10.9	16	20	55	68.7	48	1.59	10	
110-114-16T3-5D	11.0-11.4	16	20	57	71.6	48	1.67	11	
115-119-16T3-5D	11.5-11.9	16	20	60	74.1	48	1.76	11	
120-124-16T3-5D	12.0-12.4	16	20	62	77.0	48	1.82	12	
125-129-16T3-5D	12.5-12.9	16	20	64	79.5	48	1.91	12	
130-134-16T3-5D	13.0-13.4	16	20	67	82.6	48	1.96	13	
135-139-16T3-5D	13.5-13.9	16	20	70	85.1	48	2.05	13	
140-144-16T3-5D	14.0-14.4	16	20	72	90.2	48	2.12	14	
145-149-16T3-5D	14.5-14.9	16	20	75	92.7	48	2.21	14	
150-159-20T3-5D	15.0-15.9	20	25	77	98.7	50	2.27	15	
160-169-20T3-5D	16.0-16.9	20	25	82	105.3	50	2.42	16	
170-179-20T3-5D	17.0-17.9	20	25	88	111.9	50	2.59	17	
180-189-25T2-5D	18.0-18.9	25	32	93	118.5	56	2.73	18	
190-199-25T2-5D	19.0-19.9	25	32	98	125.0	56	2.88	19	
200-209-25T2-5D	20.0-20.9	25	32	103	131.6	56	3.02	20	K TCD D200-D269
210-219-25T2-5D	21.0-21.9	25	32	108	138.2	56	3.18	21	
220-229-25T2-5D	22.0-22.9	25	32	113	144.8	56	3.24	22	
230-239-32T2-5D	23.0-23.9	32	42	118	151.3	60	3.46	23	
240-249-32T2-5D	24.0-24.9	32	42	124	157.9	60	3.62	24	
250-259-32T2-5D	25.0-25.9	32	42	129	164.5	60	3.80	25	

▸ OAL: LPR+LS
▸ SSC: Seat size code

TCD...T...-8D

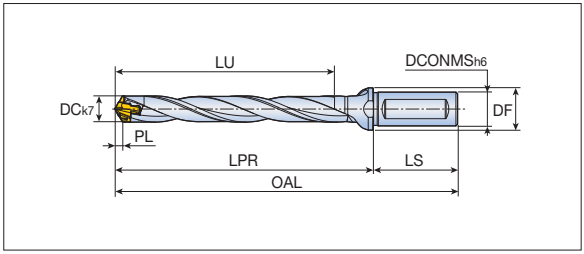
DRILLRUSH

Head changeable drill holder - Weldon type shank



• Drilling depth: 8xdiameter





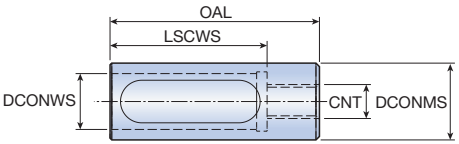
Designation	Dimension (mm)								Clamping key
	DC	DCONMS	DF	LU	LPR	LS	PL	SSC	
TCD 070-074-12T3-8D	7.0-7.4	12	16	57	70.6	45	1.01	7	K TCD D060-D099
075-079-12T3-8D	7.5-7.9	12	16	61	74.6	45	1.10	7	
080-084-12T3-8D	8.0-8.4	12	16	65	79.4	45	1.20	8	
085-089-12T3-8D	8.5-8.9	12	16	69	83.4	45	1.29	8	
090-094-12T3-8D	9.0-9.4	12	16	73	87.8	45	1.35	9	
095-099-12T3-8D	9.5-9.9	12	16	77	91.8	45	1.44	9	
100-104-16T3-8D	10.0-10.4	16	20	82	96.2	48	1.50	10	K TCD D100-D199
105-109-16T3-8D	10.5-10.9	16	20	86	100.2	48	1.59	10	
110-114-16T3-8D	11.0-11.4	16	20	90	104.6	48	1.67	11	
115-119-16T3-8D	11.5-11.9	16	20	94	108.6	48	1.76	11	
120-124-16T3-8D	12.0-12.4	16	20	98	113.0	48	1.82	12	
125-129-16T3-8D	12.5-12.9	16	20	102	117.0	48	1.91	12	
130-134-16T3-8D	13.0-13.4	16	20	106	121.6	48	1.96	13	
135-139-16T3-8D	13.5-13.9	16	20	110	125.6	48	2.05	13	
140-144-16T3-8D	14.0-14.4	16	20	114	132.2	48	2.12	14	
145-149-16T3-8D	14.5-14.9	16	20	118	136.2	48	2.21	14	
150-159-20T3-8D	15.0-15.9	20	25	122	143.7	50	2.27	15	
160-169-20T3-8D	16.0-16.9	20	25	130	153.3	50	2.42	16	
170-179-20T3-8D	17.0-17.9	20	25	139	162.9	50	2.59	17	
180-189-25T2-8D	18.0-18.9	25	32	147	172.5	56	2.73	18	
190-199-25T2-8D	19.0-19.9	25	32	155	182.0	56	2.88	19	
200-209-25T2-8D	20.0-20.9	25	32	163	191.6	56	3.02	20	K TCD D200-D269
210-219-25T2-8D	21.0-21.9	25	32	171	201.2	56	3.18	21	
220-229-25T2-8D	22.0-22.9	25	32	179	210.8	56	3.24	22	
230-239-32T2-8D	23.0-23.9	32	42	187	220.3	60	3.46	23	
240-249-32T2-8D	24.0-24.9	32	42	196	229.9	60	3.62	24	
250-259-32T2-8D	25.0-25.9	32	42	204	239.5	60	3.80	25	

▸ It is recommended to make the pilot hole with a 1.5D holder
▸ OAL: LPR+LS
▸ SSC: Seat size code

TSL-NC

Drill sleeves for swiss type automatic lathes (Fixed type, internal coolant)



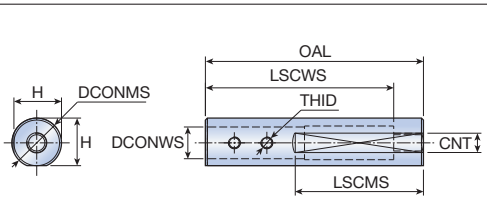


Designation	Dimension (mm)				
	DCONMS	DCONWS	LSCWS	OAL	CNT
TSL-NC 19.05-12	19.05	12.0	45	60	Rc 1/8
19.05-16	19.05	16.0	45	60	Rc 1/8
20-12	20.0	12.0	45	60	Rc 1/8
20-16	20.0	16.0	45	60	Rc 1/8
22-16	22.0	16.0	45	60	Rc 1/8
25-20	25.0	20.0	45	60	Rc 1/8
25.4-20	25.4	20.0	45	60	Rc 1/8
32-25	32.0	25.0	45	60	Rc 1/8

TSL-SW

Drill sleeves for swiss type automatic lathes (Adjustable type, internal coolant)





Designation	Dimension (mm)							
	DCONMS	DCONWS	LSCWS	LSCMS	OAL	H	THID	CNT
TSL-SW 22-12	22.0	12.0	95	65	110	21.0	M6	Rc 1/8
25-12	25.0	12.0	95	65	110	24.0	M8	Rc 1/8
25-16	25.0	16.0	95	65	110	24.0	M6	Rc 1/8
25.4-12	25.4	12.0	95	65	110	24.4	M8	Rc 1/8
25.4-16	25.4	16.0	95	65	110	24.4	M6	Rc 1/8
32-12	32.0	12.0	95	65	110	31.0	M8	Rc 1/8
32-16	32.0	16.0	95	65	110	31.0	M8	Rc 1/8
32-20	32.0	20.0	95	65	110	31.0	M8	Rc 1/8

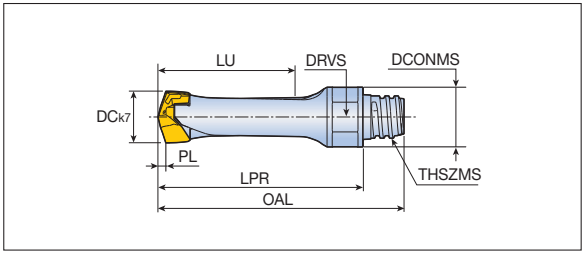
TCD...-MRS-2D

Head changeable drill holder with MAXI-RUSH type shank



• Drilling depth: 2xdiameter





Designation		Dimension (mm)									Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	DRVS	THSZMS	SSC	
TCD	060-064-MRS06-2D	6.0-6.4	9.6	13.0	28.0	1.0	34.3	8	S06	6	K TCD D060-D099
	080-084-MRS06-2D	8.0-8.4	9.6	17.2	32.9	1.2	39.2	8	S06	8	
	100-104-MRS08-2D	10.0-10.4	11.6	21.5	39.8	1.5	47.3	10	S08	10	K TCD D100-D199

▸ SSC: Seat size code
▸ Matched with MAXI-RUSH holder, Please refer to 324-325 page

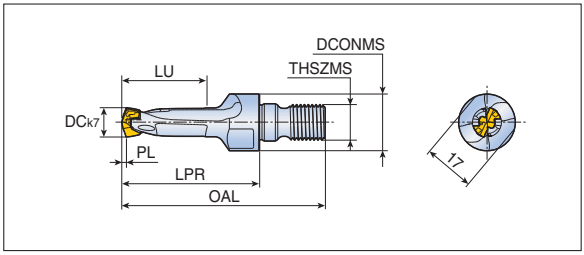
TCDM...-M12-2D

Head changeable drill holder with T-FLEXTEC type shank



• Drilling depth: 2xdiameter





Designation		Dimension (mm)								Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	THSZMS	SSC	
TCDM	100-104-M12-2D	10.0-10.4	19	28.7	46.2	1.5	68.2	M12	10	K TCD D100-D199
	105-109-M12-2D	10.5-10.9	19	29.7	47.2	1.6	69.2	M12	10	
	110-114-M12-2D	11.0-11.4	19	31.1	48.6	1.7	70.6	M12	11	
	115-119-M12-2D	11.5-11.9	19	32.1	49.6	1.8	71.6	M12	11	
	120-124-M12-2D	12.0-12.4	19	33.5	51.0	1.8	73.0	M12	12	
	125-129-M12-2D	12.5-12.9	19	34.5	52.0	1.9	74.0	M12	12	
	130-134-M12-2D	13.0-13.4	19	36.1	53.6	2.0	75.6	M12	13	
	135-139-M12-2D	13.5-13.9	19	37.1	54.6	2.1	76.6	M12	13	
	140-144-M12-2D	14.0-14.4	19	38.7	56.2	2.1	78.2	M12	14	
	145-149-M12-2D	14.5-14.9	19	39.7	57.2	2.2	79.2	M12	14	
	150-159-M12-2D	15.0-15.9	19	41.2	58.7	2.3	80.7	M12	15	

▸ SSC: Seat size code
▸ Matched with T-FLEXTEC holder

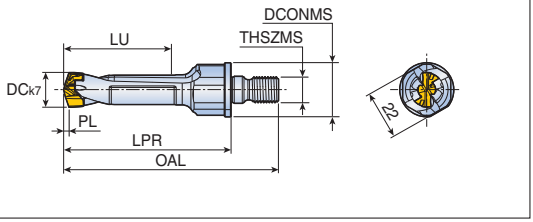
TCDM...-M12-3D

Head changeable drill holder with T-FLEXTEC type shank



• Drilling depth: 3xdiameter





Designation		Dimension (mm)								Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	THSZMS	SSC	
TCDM	**060-064-M12-3D**	6.0-6.4	25	19.0	42.0	1.0	64.0	M12	6	K TCD D060-D099
	065-069-M12-3D	6.5-6.9	25	20.7	44.3	1.2	66.3	M12	6.5	
	070-074-M12-3D	7.0-7.4	25	22.0	45.6	1.0	67.6	M12	7	
	075-079-M12-3D	7.5-7.9	25	23.6	47.6	1.1	69.6	M12	7	
	080-084-M12-3D	8.0-8.4	25	25.2	49.4	1.2	71.4	M12	8	
	085-089-M12-3D	8.5-8.9	25	26.8	50.4	1.3	72.4	M12	8	
	090-094-M12-3D	9.0-9.4	25	28.4	52.8	1.4	74.8	M12	9	
	095-099-M12-3D	9.5-9.9	25	29.9	54.8	1.4	76.8	M12	9	
	100-104-M12-3D	10.0-10.4	25	31.5	56.2	1.5	78.2	M12	10	K TCD D100-D199
	105-109-M12-3D	10.5-10.9	25	33.1	58.2	1.6	80.2	M12	10	
	110-114-M12-3D	11.0-11.4	25	34.7	59.6	1.7	81.6	M12	11	
	115-119-M12-3D	11.5-11.9	25	36.3	61.6	1.8	83.6	M12	11	
	120-124-M12-3D	12.0-12.4	25	37.8	63.0	1.8	85.0	M12	12	
	125-129-M12-3D	12.5-12.9	25	39.4	64.0	1.9	86.0	M12	12.	
	130-134-M12-3D	13.0-13.4	25	41.0	66.6	2.0	88.6	M12	13	
	135-139-M12-3D	13.5-13.9	25	42.6	68.6	2.1	90.6	M12	13	
	140-144-M12-3D	14.0-14.4	25	44.1	70.2	2.1	92.2	M12	14	
	145-149-M12-3D	14.5-14.9	25	45.7	72.2	2.2	94.2	M12	14	
	150-159-M12-3D	15.0-15.9	25	47.3	73.7	2.3	95.7	M12	15	
	160-169-M12-3D	16.0-16.9	25	50.4	77.3	2.4	99.3	M12	16	
	170-179-M12-3D	17.0-17.9	25	53.6	80.9	2.6	102.9	M12	17	
	180-189-M12-3D	18.0-18.9	25	56.7	84.5	2.7	106.5	M12	18	
	190-199-M12-3D	19.0-19.9	25	59.9	88.0	2.9	110.0	M12	19	
	200-209-M12-3D	20.0-20.9	25	63.0	91.6	3.0	113.6	M12	20	K TCD D200-D269

▸ SSC: Seat size code
▸ Matched with T-FLEXTEC holder

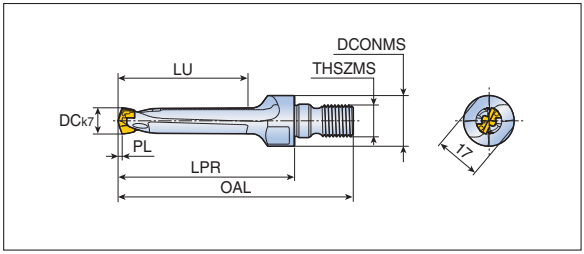
TCDM...-M12-4D

Head changeable drill holder with T-FLEXTEC type shank



• Drilling depth: 4xdiameter





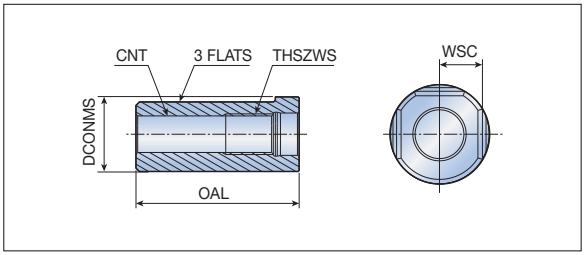
Designation		Dimension (mm)								Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	THSZMS	SSC	
TCDM	100-104-M12-4D	10.0-10.4	19	48.7	66.2	1.5	88.2	M12	10	K TCD D100-D199
	105-109-M12-4D	10.5-10.9	19	50.7	68.2	1.6	90.2	M12	10	
	110-114-M12-4D	11.0-11.4	19	53.1	70.6	1.7	92.6	M12	11	
	115-119-M12-4D	11.5-11.9	19	55.1	72.6	1.8	94.6	M12	11	
	120-124-M12-4D	12.0-12.4	19	57.5	75.0	1.8	97.0	M12	12	
	125-129-M12-4D	12.5-12.9	19	59.5	77.0	1.9	99.0	M12	12	
	130-134-M12-4D	13.0-13.4	19	62.1	79.6	2.0	101.6	M12	13	
	135-139-M12-4D	13.5-13.9	19	64.1	81.6	2.1	103.6	M12	13	
	140-144-M12-4D	14.0-14.4	19	66.7	84.2	2.1	106.2	M12	14	
	145-149-M12-4D	14.5-14.9	19	68.7	86.2	2.2	108.2	M12	14	
	150-159-M12-4D	15.0-15.9	19	71.2	88.7	2.3	110.7	M12	15	

▸ SSC: Seat size code
▸ Matched with T-FLEXTEC holder

TFLEX...-TCD-M12

T-FLEXTEC shank





Designation		Dimension (mm)				CNT
		THSZWS	DCONMS	OAL	WSC	
TFLEX	160X36-TCD-M12	M12	16	36	7.5	UNF 5/16
	1905X36-TCD-M12	M12	19.05	36	8.5	UNF 5/16
	200X36-TCD-M12	M12	20	36	8.5	G 1/8
	220X48-TCD-M12	M12	22	48	9.5	G 1/8
	250X54-TCD-M12	M12	25	54	11	G 1/8
	254X54-TCD-M12	M12	25.4	54	11	G 1/8

Accessories

Hose set



• Hose set components: 1 hose, 2 nipples, 1 elbo nipple

Designation		Dimension (mm)	
		OAL (mm)	Max. pressure (bar)
S-TSL HOSE	**R1/8-220**	220	100
	R1/8-350	350	100

Plug for coolant supply in a stationary machines

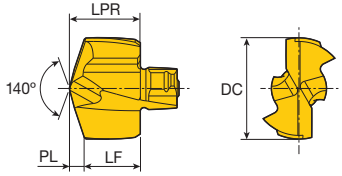
TaeguTec supplies special plugs with an internal thread for coolant connections used on lathes that can be pressed into the cavity on the back end of the shank.

Designation	Shank diameter	Internal thread
PL-TCD-12	12	G 1/16
PL-TCD-16	16	G 1/16
PL-TCD-20	20	G 1/8
PL-TCD-25	25	G 1/8
PL-TCD-32	32	G 1/8



Drill heads





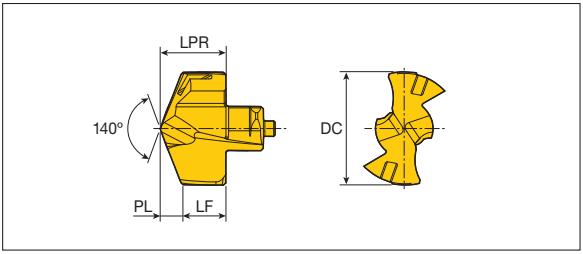
Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD- 040-P	4.0	3.10	0.62	2.48	4	●
041-P	4.1	3.10	0.64	2.46	4	●
042-P	4.2	3.10	0.66	2.44	4	●
043-P	4.3	3.10	0.67	2.43	4	●
044-P	4.4	3.10	0.69	2.41	4	●
045-P	4.5	3.55	0.66	2.89	4.5	●
046-P	4.6	3.55	0.68	2.87	4.5	●
047-P	4.7	3.55	0.70	2.85	4.5	●
048-P	4.8	3.55	0.71	2.84	4.5	●
049-P	4.9	3.55	0.73	2.82	4.5	●
050-P	5.0	3.70	0.73	2.97	5	●
051-P	5.1	3.70	0.75	2.95	5	●
052-P	5.2	3.70	0.77	2.93	5	●
053-P	5.3	3.70	0.78	2.92	5	●
054-P	5.4	3.70	0.80	2.90	5	●
055-P	5.5	3.85	0.80	3.05	5.5	●
056-P	5.6	3.85	0.82	3.03	5.5	●
057-P	5.7	3.85	0.84	3.01	5.5	●
058-P	5.8	3.85	0.85	3.00	5.5	●
059-P	5.9	3.85	0.87	2.98	5.5	●

●: Standard items

P Steel

Drill heads





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD - 060-P/M/K	6.0	4.0	0.96	3.04	6	●
061-P/M/K	6.1	4.0	0.98	3.02	6	●
062-P/M/K	6.2	4.0	1.00	3.00	6	●
063-P/M/K	6.3	4.0	1.01	2.99	6	●
064-P/M/K	6.4	4.0	1.03	2.97	6	●
065-P/M/K	6.5	4.3	1.18	3.12	6.5	●
066-P/M/K	6.6	4.3	1.20	3.10	6.5	●
067-P/M/K	6.7	4.3	1.22	3.08	6.5	●
068-P/M/K	6.8	4.3	1.23	3.07	6.5	●
069-P/M/K	6.9	4.3	1.25	3.05	6.5	●
070-P/M/K	7.0	4.6	1.01	3.59	7	●
071-P/M/K	7.1	4.6	1.03	3.57	7	●
072-P/M/K	7.2	4.6	1.05	3.55	7	●
073-P/M/K	7.3	4.6	1.06	3.54	7	●
074-P/M/K	7.4	4.6	1.08	3.52	7	●
075-P/M/K	7.5	4.6	1.10	3.50	7	●
076-P/M/K	7.6	4.6	1.12	3.48	7	●
077-P/M/K	7.7	4.6	1.14	3.46	7	●
078-P/M/K	7.8	4.6	1.16	3.44	7	●
079-P/M/K	7.9	4.6	1.17	3.43	7	●
080-P/M/K	8.0	5.4	1.20	4.20	8	●
081-P/M/K	8.1	5.4	1.22	4.18	8	●
082-P/M/K	8.2	5.4	1.24	4.16	8	●
083-P/M/K	8.3	5.4	1.25	4.15	8	●
084-P/M/K	8.4	5.4	1.27	4.13	8	●
085-P/M/K	8.5	5.4	1.29	4.11	8	●
086-P/M/K	8.6	5.4	1.31	4.09	8	●
087-P/M/K	8.7	5.4	1.33	4.07	8	●
088-P/M/K	8.8	5.4	1.35	4.05	8	●
089-P/M/K	8.9	5.4	1.36	4.04	8	●
090-P/M/K	9.0	5.8	1.35	4.45	9	●
091-P/M/K	9.1	5.8	1.37	4.43	9	●
092-P/M/K	9.2	5.8	1.39	4.41	9	●
093-P/M/K	9.3	5.8	1.40	4.40	9	●
094-P/M/K	9.4	5.8	1.42	4.38	9	●
095-P/M/K	9.5	5.8	1.44	4.36	9	●
096-P/M/K	9.6	5.8	1.46	4.34	9	●
097-P/M/K	9.7	5.8	1.48	4.32	9	●
098-P/M/K	9.8	5.8	1.50	4.30	9	●
099-P/M/K	9.9	5.8	1.51	4.29	9	●

▸ Drill head can be ordered by an application
Order example) Diameter 10.0 mm drill head for ISO P application: TCD-100-P TT9080

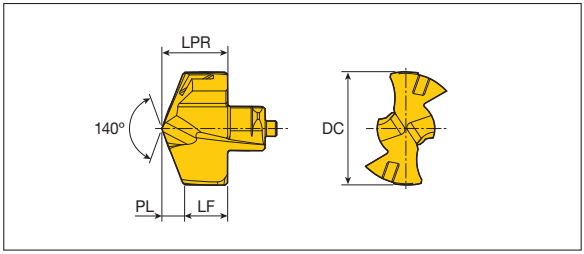
●: Standard items

P Steel M Stainless steel K Cast iron

DRILLRUSH

Drill heads





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD-100-P/M/K	10.0	6.2	1.50	4.70	10	●
101-P/M/K	10.1	6.2	1.52	4.68	10	●
102-P/M/K	10.2	6.2	1.54	4.66	10	●
103-P/M/K	10.3	6.2	1.55	4.65	10	●
104-P/M/K	10.4	6.2	1.57	4.63	10	●
105-P/M/K	10.5	6.2	1.59	4.61	10	●
106-P/M/K	10.6	6.2	1.61	4.59	10	●
107-P/M/K	10.7	6.2	1.63	4.57	10	●
108-P/M/K	10.8	6.2	1.65	4.55	10	●
109-P/M/K	10.9	6.2	1.66	4.54	10	●
110-P/M/K	11.0	6.6	1.67	4.93	11	●
111-P/M/K	11.1	6.6	1.69	4.91	11	●
112-P/M/K	11.2	6.6	1.71	4.89	11	●
113-P/M/K	11.3	6.6	1.72	4.88	11	●
114-P/M/K	11.4	6.6	1.74	4.86	11	●
115-P/M/K	11.5	6.6	1.76	4.84	11	●
116-P/M/K	11.6	6.6	1.78	4.82	11	●
117-P/M/K	11.7	6.6	1.80	4.80	11	●
118-P/M/K	11.8	6.6	1.82	4.78	11	●
119-P/M/K	11.9	6.6	1.83	4.77	11	●
120-P/M/K	12.0	7.0	1.82	5.18	12	●
121-P/M/K	12.1	7.0	1.84	5.16	12	●
122-P/M/K	12.2	7.0	1.86	5.14	12	●
123-P/M/K	12.3	7.0	1.87	5.13	12	●
124-P/M/K	12.4	7.0	1.89	5.11	12	●
125-P/M/K	12.5	7.0	1.91	5.09	12	●
126-P/M/K	12.6	7.0	1.93	5.07	12	●
127-P/M/K	12.7	7.0	1.95	5.05	12	●
128-P/M/K	12.8	7.0	1.97	5.03	12	●
129-P/M/K	12.9	7.0	1.98	5.02	12	●
130-P/M/K	13.0	7.6	1.96	5.64	13	●
131-P/M/K	13.1	7.6	1.98	5.62	13	●
132-P/M/K	13.2	7.6	2.00	5.60	13	●
133-P/M/K	13.3	7.6	2.01	5.59	13	●
134-P/M/K	13.4	7.6	2.03	5.57	13	●
135-P/M/K	13.5	7.6	2.05	5.55	13	●
136-P/M/K	13.6	7.6	2.07	5.53	13	●
137-P/M/K	13.7	7.6	2.09	5.51	13	●
138-P/M/K	13.8	7.6	2.11	5.49	13	●
139-P/M/K	13.9	7.6	2.12	5.48	13	●

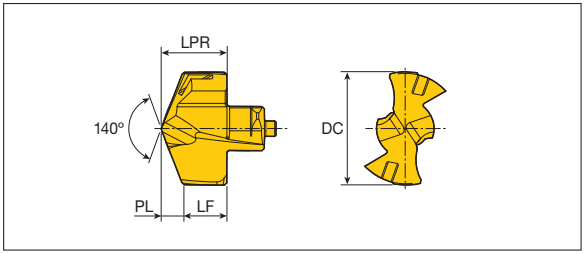
▸ Drill head can be ordered by an application
Order example) Diameter 10.0 mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

P Steel M Stainless steel K Cast iron

Drill heads





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD-140-P/M/K	14.0	8.1	2.12	5.98	14	●
141-P/M/K	14.1	8.1	2.14	5.96	14	●
142-P/M/K	14.2	8.1	2.16	5.94	14	●
143-P/M/K	14.3	8.1	2.17	5.93	14	●
144-P/M/K	14.4	8.1	2.19	5.91	14	●
145-P/M/K	14.5	8.1	2.21	5.89	14	●
146-P/M/K	14.6	8.1	2.23	5.87	14	●
147-P/M/K	14.7	8.1	2.25	5.85	14	●
148-P/M/K	14.8	8.1	2.27	5.83	14	●
149-P/M/K	14.9	8.1	2.28	5.82	14	●
150-P/M/K	15.0	8.7	2.27	6.43	15	●
151-P/M/K	15.1	8.7	2.29	6.41	15	●
152-P/M/K	15.2	8.7	2.31	6.39	15	●
153-P/M/K	15.3	8.7	2.32	6.38	15	●
154-P/M/K	15.4	8.7	2.34	6.36	15	●
155-P/M/K	15.5	8.7	2.36	6.34	15	●
156-P/M/K	15.6	8.7	2.38	6.32	15	●
157-P/M/K	15.7	8.7	2.40	6.30	15	●
158-P/M/K	15.8	8.7	2.42	6.28	15	●
159-P/M/K	15.9	8.7	2.43	6.27	15	●
160-P/M/K	16.0	9.3	2.42	6.88	16	●
161-P/M/K	16.1	9.3	2.44	6.86	16	●
162-P/M/K	16.2	9.3	2.46	6.84	16	●
163-P/M/K	16.3	9.3	2.47	6.83	16	●
164-P/M/K	16.4	9.3	2.49	6.81	16	●
165-P/M/K	16.5	9.3	2.51	6.79	16	●
166-P/M/K	16.6	9.3	2.53	6.77	16	●
167-P/M/K	16.7	9.3	2.55	6.75	16	●
168-P/M/K	16.8	9.3	2.57	6.73	16	●
169-P/M/K	16.9	9.3	2.58	6.72	16	●
170-P/M/K	17.0	9.9	2.59	7.31	17	●
171-P/M/K	17.1	9.9	2.61	7.29	17	●
172-P/M/K	17.2	9.9	2.63	7.27	17	●
173-P/M/K	17.3	9.9	2.64	7.26	17	●
174-P/M/K	17.4	9.9	2.66	7.24	17	●
175-P/M/K	17.5	9.9	2.68	7.22	17	●
176-P/M/K	17.6	9.9	2.70	7.20	17	●
177-P/M/K	17.7	9.9	2.72	7.18	17	●
178-P/M/K	17.8	9.9	2.74	7.16	17	●
179-P/M/K	17.9	9.9	2.75	7.15	17	●

▸ Drill head can be ordered by an application
Order example) Diameter 10.0 mm drill head for ISO P application: TCD-100-P TT9080

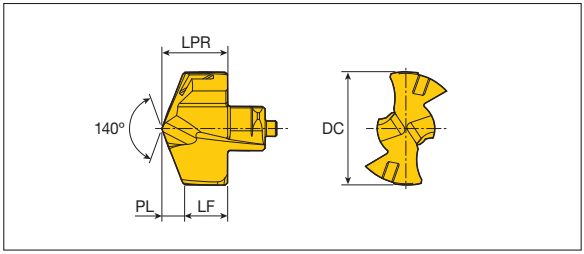
●: Standard items

P Steel M Stainless steel K Cast iron

DRILLRUSH

Drill heads





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD-180-P/M/K	18.0	10.5	2.73	7.77	18	●
181-P/M/K	18.1	10.5	2.75	7.75	18	●
182-P/M/K	18.2	10.5	2.77	7.73	18	●
183-P/M/K	18.3	10.5	2.78	7.72	18	●
184-P/M/K	18.4	10.5	2.80	7.70	18	●
185-P/M/K	18.5	10.5	2.82	7.68	18	●
186-P/M/K	18.6	10.5	2.84	7.66	18	●
187-P/M/K	18.7	10.5	2.86	7.64	18	●
188-P/M/K	18.8	10.5	2.88	7.62	18	●
189-P/M/K	18.9	10.5	2.89	7.61	18	●
190-P/M/K	19.0	11.0	2.88	8.12	19	●
191-P/M/K	19.1	11.0	2.90	8.10	19	●
192-P/M/K	19.2	11.0	2.92	8.08	19	●
193-P/M/K	19.3	11.0	2.93	8.07	19	●
194-P/M/K	19.4	11.0	2.95	8.05	19	●
195-P/M/K	19.5	11.0	2.97	8.03	19	●
196-P/M/K	19.6	11.0	2.99	8.01	19	●
197-P/M/K	19.7	11.0	3.01	7.99	19	●
198-P/M/K	19.8	11.0	3.03	7.97	19	●
199-P/M/K	19.9	11.0	3.04	7.96	19	●
200-P/M/K	20.0	11.6	3.02	8.58	20	●
201-P/M/K	20.1	11.6	3.04	8.56	20	●
202-P/M/K	20.2	11.6	3.06	8.54	20	●
203-P/M/K	20.3	11.6	3.07	8.53	20	●
204-P/M/K	20.4	11.6	3.09	8.51	20	●
205-P/M/K	20.5	11.6	3.11	8.49	20	●
206-P/M/K	20.6	11.6	3.13	8.47	20	●
207-P/M/K	20.7	11.6	3.15	8.45	20	●
208-P/M/K	20.8	11.6	3.17	8.43	20	●
209-P/M/K	20.9	11.6	3.18	8.42	20	●
210-P/M/K	21.0	12.1	3.18	8.92	21	●
211-P/M/K	21.1	12.1	3.20	8.90	21	●
212-P/M/K	21.2	12.1	3.22	8.88	21	●
213-P/M/K	21.3	12.1	3.23	8.87	21	●
214-P/M/K	21.4	12.1	3.25	8.85	21	●
215-P/M/K	21.5	12.1	3.27	8.83	21	●
216-P/M/K	21.6	12.1	3.29	8.81	21	●
217-P/M/K	21.7	12.1	3.31	8.79	21	●
218-P/M/K	21.8	12.1	3.33	8.77	21	●
219-P/M/K	21.9	12.1	3.34	8.76	21	●

▸ Drill head can be ordered by an application
Order example) Diameter 10.0 mm drill head for ISO P application: TCD-100-P TT9080

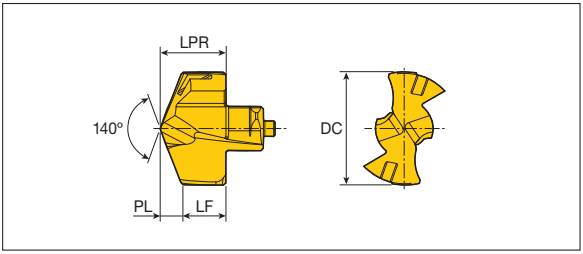
●: Standard items

P Steel M Stainless steel K Cast iron

DRILLRUSH

Drill heads





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	TT9080
TCD - 220-P/M/K	22.0	12.7	3.24	9.46	22	●
221-P/M/K	22.1	12.7	3.26	9.44	22	●
222-P/M/K	22.2	12.7	3.28	9.42	22	●
223-P/M/K	22.3	12.7	3.29	9.41	22	●
224-P/M/K	22.4	12.7	3.31	9.39	22	●
225-P/M/K	22.5	12.7	3.33	9.37	22	●
226-P/M/K	22.6	12.7	3.35	9.35	22	●
227-P/M/K	22.7	12.7	3.37	9.33	22	●
228-P/M/K	22.8	12.7	3.39	9.31	22	●
229-P/M/K	22.9	12.7	3.40	9.30	22	●
230-P/M/K	23.0	13.3	3.46	9.84	23	●
231-P/M/K	23.1	13.3	3.48	9.82	23	●
232-P/M/K	23.2	13.3	3.50	9.80	23	●
233-P/M/K	23.3	13.3	3.51	9.79	23	●
234-P/M/K	23.4	13.3	3.53	9.77	23	●
235-P/M/K	23.5	13.3	3.55	9.75	23	●
236-P/M/K	23.6	13.3	3.57	9.73	23	●
237-P/M/K	23.7	13.3	3.59	9.71	23	●
238-P/M/K	23.8	13.3	3.61	9.69	23	●
239-P/M/K	23.9	13.3	3.62	9.68	23	●
240-P/M/K	24.0	13.9	3.62	10.28	24	●
241-P/M/K	24.1	13.9	3.64	10.26	24	●
242-P/M/K	24.2	13.9	3.66	10.24	24	●
243-P/M/K	24.3	13.9	3.67	10.23	24	●
244-P/M/K	24.4	13.9	3.69	10.21	24	●
245-P/M/K	24.5	13.9	3.71	10.19	24	●
246-P/M/K	24.6	13.9	3.73	10.17	24	●
247-P/M/K	24.7	13.9	3.75	10.15	24	●
248-P/M/K	24.8	13.9	3.77	10.13	24	●
249-P/M/K	24.9	13.9	3.78	10.12	24	●
250-P/M/K	25.0	14.5	3.80	10.70	25	●
251-P/M/K	25.1	14.5	3.82	10.68	25	●
252-P/M/K	25.2	14.5	3.84	10.66	25	●
253-P/M/K	25.3	14.5	3.85	10.65	25	●
254-P/M/K	25.4	14.5	3.87	10.63	25	●
255-P/M/K	25.5	14.5	3.89	10.61	25	●
256-P/M/K	25.6	14.5	3.91	10.59	25	●
257-P/M/K	25.7	14.5	3.93	10.57	25	●
258-P/M/K	25.8	14.5	3.95	10.55	25	●
259-P/M/K	25.9	14.5	3.96	10.54	25	●

▸ Drill head can be ordered by an application
Order example) Diameter 10.0 mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

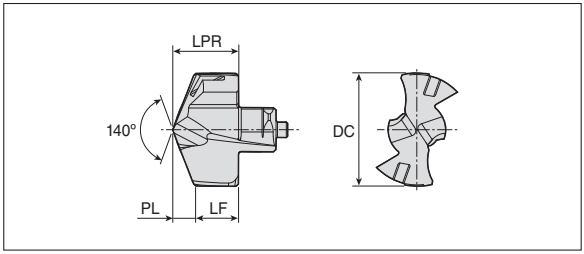
P Steel M Stainless steel K Cast iron

TCD...N

DRILLRUSH

Drill heads for aluminum alloy





Designation	Dimension (mm)					Grade
	DC	LPR	PL	LF	SSC	UF10
TCD-060-N	6.0	4.00	0.96	3.04	6	●
065-N	6.5	4.30	1.18	3.12	6.5	●
070-N	7.0	4.60	1.01	3.59	7	●
075-N	7.5	4.60	1.10	3.50	7	●
080-N	8.0	5.40	1.20	4.20	8	●
085-N	8.5	5.40	1.29	4.11	8	●
090-N	9.0	5.80	1.35	4.45	9	●
095-N	9.5	5.80	1.44	4.36	9	●
100-N	10.0	6.20	1.50	4.70	10	●
105-N	10.5	6.20	1.59	4.61	10	●
110-N	11.0	6.60	1.67	4.93	11	●
115-N	11.5	6.60	1.76	4.84	11	●
120-N	12.0	7.00	1.82	5.18	12	●
125-N	12.5	7.00	1.91	5.09	12	●
130-N	13.0	7.60	1.96	5.64	13	●
135-N	13.5	7.60	2.05	5.55	13	●
140-N	14.0	8.15	2.12	6.03	14	●
145-N	14.5	8.15	2.21	5.94	14	●
150-N	15.0	8.73	2.27	6.46	15	●
155-N	15.5	8.73	2.36	6.37	15	●
160-N	16.0	9.30	2.42	6.88	16	●
165-N	16.5	9.30	2.51	6.79	16	●
170-N	17.0	9.90	2.59	7.31	17	●
175-N	17.5	9.90	2.68	7.22	17	●
180-N	18.0	10.50	2.73	7.77	18	●
185-N	18.5	10.50	2.82	7.68	18	●
190-N	19.0	11.00	2.88	8.12	19	●
195-N	19.5	11.00	2.97	8.03	19	●

▸ SSC: Seat size code

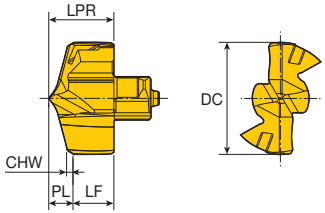
●: Standard items

N Nonferrous

DRILLRUSH

Self-centering drill heads





Designation	Dimension (mm)						Grade
	DC	LPR	PL	LF	CHW	SSC	TT9080
TCD-060-P+	6.0	4.00	1.46	2.54	0.27	6	●
065-P+	6.5	4.30	1.55	2.75	0.27	6.5	●
068-P+	6.8	4.30	1.59	2.71	0.27	6.5	●
070-P+	7.0	4.60	1.64	2.96	0.27	7	●
075-P+	7.5	4.60	1.71	2.89	0.27	7	●
080-P+	8.0	5.40	1.81	3.59	0.27	8	●
085-P+	8.5	5.40	1.88	3.52	0.27	8	●
086-P+	8.6	5.40	1.89	3.51	0.27	8	●
090-P+	9.0	5.80	1.98	3.82	0.27	9	●
095-P+	9.5	5.80	2.05	3.75	0.27	9	●
099-P+	9.9	5.80	2.10	3.70	0.27	9	●
100-P+	10.0	6.20	2.33	3.87	0.38	10	●
102-P+	10.2	6.20	2.36	3.84	0.38	10	●
103-P+	10.3	6.20	2.37	3.83	0.38	10	●
105-P+	10.5	6.20	2.40	3.80	0.38	10	●
107-P+	10.7	6.20	2.42	3.78	0.38	10	●
108-P+	10.8	6.20	2.44	3.76	0.38	10	●
110-P+	11.0	6.60	2.50	4.10	0.38	11	●
111-P+	11.1	6.60	2.51	4.09	0.38	11	●
115-P+	11.5	6.60	2.57	4.03	0.38	11	●
120-P+	12.0	7.00	2.67	4.33	0.38	12	●
123-P+	12.3	7.00	2.71	4.29	0.38	12	●
125-P+	12.5	7.00	2.74	4.26	0.38	12	●
126-P+	12.6	7.00	2.75	4.25	0.38	12	●
127-P+	12.7	7.00	2.76	4.24	0.38	12	●
130-P+	13.0	7.60	2.85	4.75	0.38	13	●
135-P+	13.5	7.60	2.92	4.68	0.38	13	●
140-P+	14.0	8.15	3.02	5.13	0.38	14	●
141-P+	14.1	8.15	3.03	5.12	0.38	14	●
142-P+	14.2	8.15	3.05	5.10	0.38	14	●
143-P+	14.3	8.15	3.06	5.09	0.38	14	●
145-P+	14.5	8.15	3.09	5.06	0.38	14	●
146-P+	14.6	8.15	3.10	5.05	0.38	14	●
150-P+	15.0	8.73	3.19	5.54	0.38	15	●

▸ SSC: Seat size code

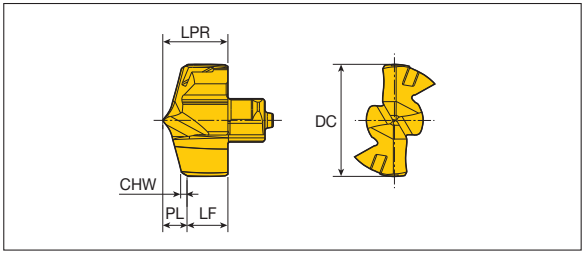
●: Standard items

TCD-P+

DRILLRUSH

Self-centering drill heads





Designation	Dimension (mm)						Grade
	DC	LPR	PL	LF	CHW	SSC	TT9080
TCD- 151-P+	15.1	8.73	3.20	5.53	0.38	15	●
152-P+	15.2	8.73	3.22	5.51	0.38	15	●
155-P+	15.5	8.73	3.26	5.47	0.38	15	●
159-P+	15.9	8.73	3.31	5.42	0.38	15	●
160-P+	16.0	9.30	3.46	5.84	0.44	16	●
161-P+	16.1	9.30	3.47	5.83	0.44	16	●
163-P+	16.3	9.30	3.50	5.80	0.44	16	●
164-P+	16.4	9.30	3.51	5.79	0.44	16	●
165-P+	16.5	9.30	3.53	5.77	0.44	16	●
167-P+	16.7	9.30	3.55	5.75	0.44	16	●
170-P+	17.0	9.90	3.63	6.27	0.44	17	●
173-P+	17.3	9.90	3.67	6.23	0.44	17	●
175-P+	17.5	9.90	3.70	6.20	0.44	17	●
180-P+	18.0	10.50	3.81	6.69	0.44	18	●
185-P+	18.5	10.50	3.88	6.62	0.44	18	●
190-P+	19.0	11.00	3.98	7.02	0.44	19	●
192-P+	19.2	11.00	4.01	6.99	0.44	19	●
193-P+	19.3	11.00	4.02	6.98	0.44	19	●
194-P+	19.4	11.00	4.03	6.97	0.44	19	●
195-P+	19.5	11.00	4.05	6.95	0.44	19	●
200-P+	20.0	11.60	4.15	7.45	0.44	20	●
205-P+	20.5	11.60	4.22	7.38	0.44	20	●
206-P+	20.6	11.60	4.23	7.37	0.44	20	●
210-P+	21.0	12.18	4.32	7.86	0.44	21	●
215-P+	21.5	12.18	4.39	7.79	0.44	21	●
220-P+	22.0	12.76	4.50	8.26	0.44	22	●
222-P+	22.2	12.76	4.53	8.23	0.44	22	●
225-P+	22.5	12.76	4.57	8.19	0.44	22	●
230-P+	23.0	13.33	4.67	8.66	0.44	23	●
235-P+	23.5	13.33	4.74	8.59	0.44	23	●
240-P+	24.0	13.90	4.84	9.06	0.44	24	●
245-P+	24.5	13.90	4.91	8.99	0.44	24	●
250-P+	25.0	14.50	5.01	9.49	0.44	25	●
255-P+	25.5	14.50	5.08	9.42	0.44	25	●
259-P+	25.9	14.50	5.13	9.37	0.44	25	●

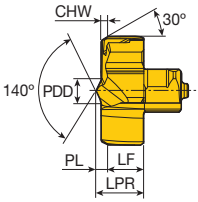
▸ SSC: Seat size code

●: Standard items

TCD...F

Drill heads for flat bottom hole





Designation	Dimension (mm)							Grade
	DC	PDD	LPR	PL	LF	CHW	SSC	TT9080
TCD - 080-F	8.0	1.2	4.4	1.09	3.3	0.7	8	●
085-F	8.5	1.2	4.4	1.09	3.3	0.7	8	●
090-F	9.0	1.21	4.6	1.11	3.5	0.7	9	●
095-F	9.5	1.21	4.6	1.11	3.5	0.7	9	●
100-F	10.0	1.27	4.9	1.17	3.7	0.7	10	●
105-F	10.5	1.27	4.9	1.17	3.7	0.7	10	●
110-F	11.0	1.49	5.1	1.25	3.8	0.7	11	●
115-F	11.5	1.49	5.1	1.25	3.8	0.7	11	●
120-F	12.0	1.5	5.4	1.26	4.1	0.7	12	●
125-F	12.5	1.5	5.4	1.26	4.1	0.7	12	●
130-F	13.0	1.64	5.7	1.30	4.4	0.7	13	●
135-F	13.5	1.64	5.7	1.30	4.4	0.7	13	●
140-F	14.0	1.68	6.1	1.31	4.8	0.7	14	●
145-F	14.5	1.68	6.1	1.31	4.8	0.7	14	●
150-F	15.0	1.78	6.6	1.35	5.23	0.7	15	●
155-F	15.5	1.78	6.6	1.35	5.23	0.7	15	●
160-F	16.0	1.89	7.0	1.39	5.6	0.7	16	●
165-F	16.5	1.89	7.0	1.39	5.6	0.7	16	●
170-F	17.0	1.91	7.3	1.40	5.9	0.7	17	●
175-F	17.5	1.91	7.3	1.40	5.9	0.7	17	●
180-F	18.0	1.97	7.6	1.42	6.18	0.7	18	●
185-F	18.5	1.97	7.6	1.42	6.18	0.7	18	●
190-F	19.0	1.96	7.9	1.44	6.5	0.7	19	●
195-F	19.5	1.96	7.9	1.44	6.5	0.7	19	●
200-F	20.0	3.42	9.3	1.77	7.5	0.7	20	●
205-F	20.5	3.42	9.3	1.77	7.5	0.7	20	●
210-F	21.0	3.6	9.7	1.79	7.9	0.7	21	●
215-F	21.5	3.6	9.7	1.79	7.9	0.7	21	●
220-F	22.0	3.8	10.0	1.81	8.2	0.7	22	●
225-F	22.5	3.8	10.0	1.81	8.2	0.7	22	●
230-F	23.0	3.9	10.4	1.83	8.6	0.7	23	●
235-F	23.5	3.9	10.4	1.83	8.6	0.7	23	●
240-F	24.0	4.1	10.9	1.86	9.0	0.7	24	●
245-F	24.5	4.1	10.9	1.86	9.0	0.7	24	●
250-F	25.0	4.3	11.3	1.89	9.4	0.7	25	●
254-F	25.4	4.3	11.3	1.89	9.4	0.7	25	●
255-F	25.5	4.3	11.3	1.89	9.4	0.7	25	●

▸ SSC: Seat size code

●: Standard items

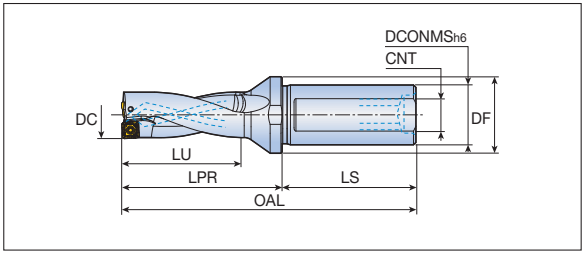
TOP 2...-T2

Indexable drill holders



• Drilling depth: 2xdiameter





Designation	Dimension (mm)							Insert
	DC	DCONMS	DF	LU	LPR	LS	CNT	
TOP 2120-20T2-04	12.0	20	25	24	44	50	M13X1.0	SOMT 04...DP
2125-20T2-04	12.5	20	25	26	46	50	M13X1.0	
2130-20T2-04	13.0	20	25	26	46	50	M13X1.0	
2135-20T2-04	13.5	20	25	28	46	50	M13X1.0	
2140-20T2-05	14.0	20	25	28	46	50	M13X1.0	SOMT 05...DP/DL/DK/DA
2145-20T2-05	14.5	20	25	30	49	50	M13X1.0	
2150-20T2-05	15.0	20	25	30	49	50	M13X1.0	
2155-20T2-05	15.5	20	25	32	52	50	M13X1.0	
2160-20T2-05	16.0	20	25	32	52	50	M13X1.0	
2165-25T2-06	16.5	25	32	34	54	56	M16X1.5	SOMT 06...DP/DL/DK/DA
2170-25T2-06	17.0	25	32	34	54	56	M16X1.5	
2175-25T2-06	17.5	25	32	36	57	56	M16X1.5	
2180-25T2-06	18.0	25	32	36	57	56	M16X1.5	
2185-25T2-06	18.5	25	32	38	59	56	M16X1.5	
2190-25T2-06	19.0	25	32	38	59	56	M16X1.5	
2195-25T2-07	19.5	25	32	40	63	56	M16X1.5	SOMT 07...DP/DL/DK/DA
2200-25T2-07	20.0	25	32	40	63	56	M16X1.5	
2205-25T2-07	20.5	25	32	42	65	56	M16X1.5	
2210-25T2-07	21.0	25	32	42	65	56	M16X1.5	
2215-25T2-07	21.5	25	32	44	67	56	M16X1.5	
2220-25T2-07	22.0	25	32	44	67	56	M16X1.5	
2225-25T2-08	22.5	25	32	46	68	56	M16X1.5	SOMT 08...DP/DL/DK/DA
2230-25T2-08	23.0	25	32	46	68	56	M16X1.5	
2230-32T2-08	23.0	32	40	46	68	60	M22X2.0	
2235-25T2-08	23.5	25	32	48	70	56	M16X1.5	
2235-32T2-08	23.5	32	40	48	70	60	M22X2.0	
2240-25T2-08	24.0	25	32	48	70	56	M16X1.5	
2240-32T2-08	24.0	32	40	48	70	60	M22X2.0	
2245-25T2-08	24.5	25	32	50	72	56	M16X1.5	
2245-32T2-08	24.5	32	40	50	72	60	M22X2.0	
2250-25T2-08	25.0	25	32	50	72	56	M16X1.5	
2250-32T2-08	25.0	32	40	50	72	60	M22X2.0	
2255-25T2-08	25.5	25	32	52	73	56	M16X1.5	
2255-32T2-08	25.5	32	40	52	73	60	M22X2.0	
2260-25T2-08	26.0	25	32	52	73	56	M16X1.5	
2260-32T2-08	26.0	32	40	52	73	60	M22X2.0	

▸ Please refer to 226 page for sleeve shank

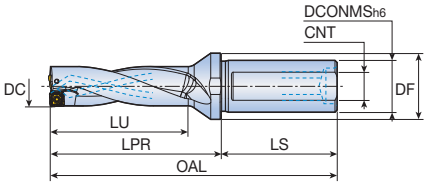
●: Standard items

Indexable drill holders



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Insert
	DC	DCONMS	DF	LU	LPR	LS	CNT	
TOP 3120-20T2-04	12.0	20	25	36	56	50	M13X1.0	SOMT 04...DP
3125-20T2-04	12.5	20	25	39	59	50	M13X1.0	
3130-20T2-04	13.0	20	25	39	59	50	M13X1.0	
3135-20T2-04	13.5	20	25	42	60	50	M13X1.0	
3140-20T2-05	14.0	20	25	42	60	50	M13X1.0	SOMT 05...DP/DL/DK/DA
3145-20T2-05	14.5	20	25	45	64	50	M13X1.0	
3150-20T2-05	15.0	20	25	45	64	50	M13X1.0	
3155-20T2-05	15.5	20	25	48	68	50	M13X1.0	
3160-20T2-05	16.0	20	25	48	68	50	M13X1.0	
3165-25T2-06	16.5	25	32	51	71	56	M16X1.5	SOMT 06...DP/DL/DK/DA
3167-25T2-06 *	16.7	25	32	51	71	56	M16X1.5	
3170-25T2-06	17.0	25	32	51	71	56	M16X1.5	
3175-25T2-06	17.5	25	32	54	75	56	M16X1.5	
3180-25T2-06	18.0	25	32	54	75	56	M16X1.5	
3185-25T2-06	18.5	25	32	57	78	56	M16X1.5	
3190-25T2-06	19.0	25	32	57	78	56	M16X1.5	
3195-25T2-07	19.5	25	32	60	83	56	M16X1.5	SOMT 07...DP/DL/DK/DA
3200-25T2-07	20.0	25	32	60	83	56	M16X1.5	
3205-25T2-07	20.5	25	32	63	86	56	M16X1.5	
3210-25T2-07	21.0	25	32	63	86	56	M16X1.5	
3215-25T2-07	21.5	25	32	66	89	56	M16X1.5	
3220-25T2-07	22.0	25	32	66	89	56	M16X1.5	
3222-25T2-07 *	22.2	25	32	66	89	56	M16X1.5	
3225-25T2-08	22.5	25	32	69	91	56	M16X1.5	SOMT 08...DP/DL/DK/DA
3230-25T2-08	23.0	25	32	69	91	56	M16X1.5	
3230-32T2-08	23.0	32	40	69	91	60	M22X2.0	
3235-25T2-08	23.5	25	32	72	94	56	M16X1.5	
3235-32T2-08	23.5	32	40	72	94	60	M22X2.0	
3240-25T2-08	24.0	25	32	72	94	56	M16X1.5	
3240-32T2-08	24.0	32	40	72	94	60	M22X2.0	
3245-25T2-08	24.5	25	32	75	97	56	M16X1.5	
3245-32T2-08	24.5	32	40	75	97	60	M22X2.0	
3250-25T2-08	25.0	25	32	75	97	56	M16X1.5	
3250-32T2-08	25.0	32	40	75	97	60	M22X2.0	
3254-25T2-08 *	25.4	25	32	75	97	56	M16X1.5	
3255-25T2-08	25.5	25	32	78	99	56	M16X1.5	
3255-32T2-08	25.5	32	40	78	99	60	M22X2.0	
3260-25T2-08	26.0	25	32	78	99	56	M16X1.5	
3260-32T2-08	26.0	32	32	78	99	60	M22X2.0	

▸ OAL = LPR+LS

●: Standard items

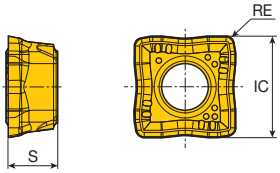
▸ * Marked items are for inch sized hole

▸ Please refer to 226 page for sleeve shank

SOMT...DP

TOPDRILL

Inserts for general purpose



Size	Dimension (mm)		
	IC	S	RE
04	4.4	2.38	0.4
05	4.9	2.38	0.4
06	5.7	2.38	0.4
07	6.8	2.80	0.6
08	7.9	3.97	0.6

Insert	Designation	Coated						Uncoated
		TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10
	**SOMT 040204 DP**	●	●	●				
	050204 DP	●	●	●				
	060204 DP	●	●	●				
	070306 DP	●	●	●				
	08T306 DP	●	●	●				

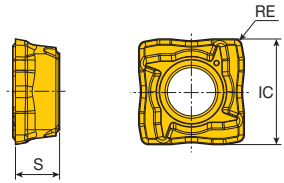
▸ TT9080: First choice for general purpose
▸ TT8020: For unstable condition
▸ TT9300: For high speed machining on a steel application (Peripheral ONLY)

●: Standard items

SOMT…DL

TOPDRILL

Inserts for low carbon steel



Size	Dimension (mm)		
	IC	S	RE
05	4.9	2.38	0.4
06	5.7	2.38	0.4
07	6.8	2.80	0.6
08	7.9	3.97	0.6

Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**SOMT 050204 DL**	●						
	060204 DL	●						
	070306 DL	●						
	08T306 DL	●						

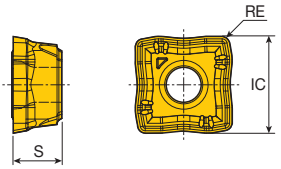
▸ TT9080: First choice for general purpose

●: Standard items

SOMT...DK

TOPDRILL

Inserts for cast iron



Size	Dimension (mm)		
	IC	S	RE
05	4.9	2.38	0.4
06	5.7	2.38	0.4
07	6.8	2.80	0.6
08	7.9	3.97	0.6

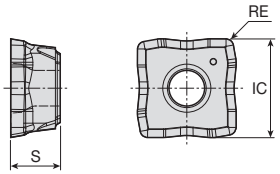
Insert	Designation	Coated								Uncoated			
		TT9080	TT8020	TT9300	TT9030	TT6030	TT6080	TT7400		K10			
	**SOMT 050204 DK**						●						
	060204 DK						●						
	070306 DK						●						
	08T306 DK						●						

●: Standard items

SOMT...DA

TOPDRILL

Inserts for aluminum alloy



Size	Dimension (mm)		
	IC	S	RE
05	4.9	2.38	0.4
06	5.7	2.38	0.4
07	6.8	2.80	0.6
08	7.9	3.97	0.6

Insert	Designation	Coated								Uncoated			
		TT9080	TT8020	TT9300	TT9030	TT6030	TT6080	TT7400		K10			
	**SOMT 050204 DA**									●			
	060204 DA									●			
	070306 DA									●			
	08T306 DA									●			

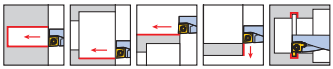
●: Standard items

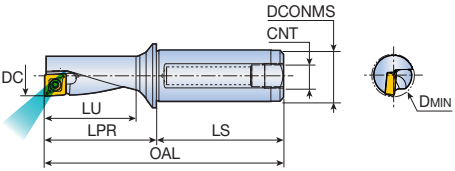
TCAP...-2.25DN

Multi-function toolholders - 2.25xD



• Internal coolant





Right hand shown

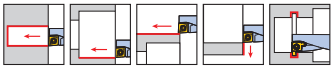
Designation	Dimension (mm)							Insert
	DC	DCONMS	LU	LPR	LS	DMIN	CNT	For drilling, boring, turning
TCAP 08R/L-2.25DN	8	12	18.0	22.5	42	-	G 1/16	XCM(G)T 04...TC/TA
10R/L-2.25DN-GV	10	12	22.5	27.5	42	12.0	G 1/16	XCM(G)T 05...TC/TA
12R/L-2.25DN-GV	12	16	27.0	33.0	45	14.5	G 1/8	XCM(G)T 06...TC/TA
14R/L-2.25DN-GV	14	16	31.5	38.5	45	16.5	G 1/8	XCM(G)T 07...TC/TA
16R/L-2.25DN-GV	16	20	36.0	44.0	50	19.0	G 1/8	XCM(G)T 08...TC/TA
20R/L-2.25DN-GV	20	25	45.0	55.0	56	23.5	G 1/8	XCM(G)T 10...TC/TA
25R/L-2.25DN-GV	25	32	56.2	69.0	61	29.0	G 1/8	XCM(G)T 13...TC/TA
32R/L-2.25DN-GV	32	40	72.0	86.0	74	36.5	G 1/8	XCM(G)T 17...TC/TA

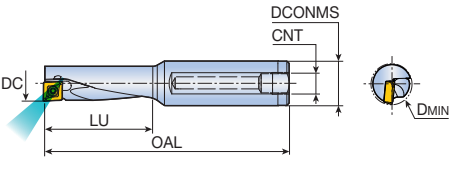
TCAP...-3.0DN

Multi-function toolholders - 3.0xD



• Internal coolant





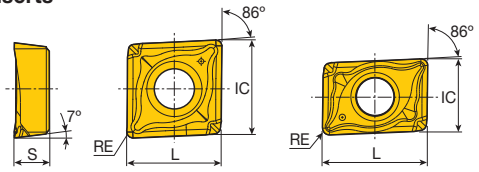
Right hand shown

Designation	Dimension (mm)						Insert
	DC	DCONMS	LU	OAL	DMIN	CNT	For drilling, boring, turning
TCAP 08R/L-3.0DN12	8	12	24	80	-	G 1/16	XCM(G)T 04...TC/TA
10R/L-3.0DN-GV	10	12	30	85	12.0	G 1/16	XCM(G)T 05...TC/TA
12R/L-3.0DN-GV	12	16	36	95	14.5	G 1/8	XCM(G)T 06...TC/TA
14R/L-3.0DN-GV	14	16	42	100	16.5	G 1/8	XCM(G)T 07...TC/TA
16R/L-3.0DN-GV	16	20	48	110	19.0	G 1/8	XCM(G)T 08...TC/TA
20R/L-3.0DN-GV	20	25	60	130	23.5	G 1/8	XCM(G)T 10...TC/TA
25R/L-3.0DN-GV	25	32	75	150	29.0	G 1/8	XCM(G)T 13...TC/TA
32R/L-3.0DN-GV	32	40	96	185	36.5	G 1/8	XCM(G)T 17...TC/TA

XCGT...TA

TOPCAP

Inserts



XCGT 0401

Size	Dimension (mm)			
	IC	L	S	RE
04	4.4	6.4	1.70	0.4
05	5.6	5.6	2.10	0.4
06	6.4	6.4	2.38	0.4
07	7.5	7.5	3.18	0.4
08	8.4	8.4	3.18	0.4
10	10.5	10.5	3.97	0.4
13	13.4	13.4	4.76	0.4
17	17.5	17.5	5.56	0.8

• For aluminum alloy

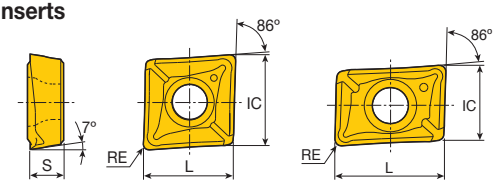
Insert	Designation	Turning		Drilling	Coated						Uncoated
		ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10
 Right hand shown (XCGT 0401) 	**XCGT 040104R TA**	0.2-1.8	0.02-0.15	0.02-0.09							●
	040104L TA	0.2-1.8	0.02-0.15	0.02-0.09							●
	050204 TA	0.2-2.2	0.03-0.18	0.02-0.11							●
	060204 TA	0.3-2.5	0.03-0.20	0.03-0.12							●
	070304 TA	0.4-2.8	0.05-0.22	0.03-0.13							●
	080304 TA	0.4-3.2	0.06-0.25	0.03-0.13							●
	10T304 TA	0.5-3.5	0.06-0.30	0.03-0.13							●
	130404 TA	0.6-4.3	0.08-0.33	0.03-0.13							●
	170508 TA	0.7-5.3	0.10-0.38	0.03-0.13							●

●: Standard items

XCMT...TC

TOPCAP

Inserts



XCMT 0401

Size	Dimension (mm)			
	IC	L	S	RE
04	4.4	6.4	1.70	0.4
05	5.6	5.6	2.10	0.4
06	6.4	6.4	2.38	0.4
07	7.5	7.5	3.18	0.4
08	8.4	8.4	3.18	0.4
10	10.5	10.5	3.97	0.4/0.8
13	13.4	13.4	4.76	0.4/0.8
17	17.4	17.4	5.56	0.8

• For drilling, boring and turning

Insert	Designation	Turning		Drilling	Coated						Uncoated
		ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10
 Right hand shown (XCMT 0401) 	**XCMT 040104R TC**	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●			
	040104L TC	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●			
	050204 TC	0.2-2.2	0.03-0.18	0.02-0.11	●	●		●			
	060204 TC	0.3-2.5	0.03-0.20	0.03-0.12	●	●		●			
	070304 TC	0.4-2.8	0.05-0.22	0.03-0.13	●	●		●			
	080304 TC	0.4-3.2	0.06-0.25	0.03-0.13	●	●		●			
	10T304 TC	0.5-3.5	0.06-0.30	0.03-0.13	●	●		●			
	10T308 TC	0.5-3.5	0.06-0.30	0.03-0.13	●	●		●			
	130404 TC	0.6-4.3	0.08-0.33	0.03-0.13	●	●		●			
	130408 TC	0.6-4.3	0.08-0.33	0.03-0.13	●	●		●			
	170508 TC	0.7-5.3	0.10-0.38	0.03-0.13	●	●		●			

●: Standard items

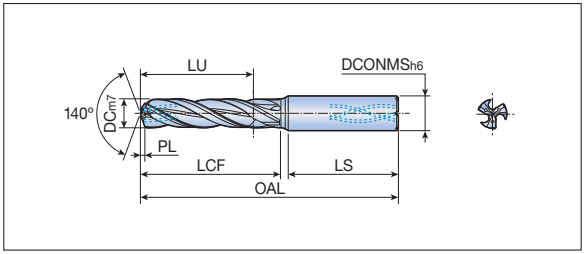
3HD...PI3

3 flute solid carbide drills with oil holes



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT5130
3HD 040-017-06 PI3	4.0	6	66	17	25	35	0.82	●
045-017-06 PI3	4.5	6	66	17	25	35	0.88	●
050-020-06 PI3	5.0	6	66	20	29	36	0.96	●
051-020-06 PI3	5.1	6	66	20	29	36	0.98	●
055-020-06 PI3	5.5	6	66	20	29	36	1.08	●
060-020-06 PI3	6.0	6	66	20	29	36	1.17	●
065-024-08 PI3	6.5	8	79	24	35	36	1.26	●
068-024-08 PI3	6.8	8	79	24	35	36	1.31	●
070-024-08 PI3	7.0	8	79	24	35	36	1.35	●
075-029-08 PI3	7.5	8	79	29	42	36	1.40	●
080-029-08 PI3	8.0	8	79	29	42	36	1.49	●
085-035-10 PI3	8.5	10	89	35	48	40	1.63	●
086-035-10 PI3	8.6	10	89	35	48	40	1.65	●
090-035-10 PI3	9.0	10	89	35	48	40	1.72	●
095-035-10 PI3	9.5	10	89	35	48	40	1.75	●
100-035-10 PI3	10.0	10	89	35	48	40	1.85	●
103-040-12 PI3	10.3	12	102	40	55	45	1.94	●
105-040-12 PI3	10.5	12	102	40	55	45	1.98	●
110-040-12 PI3	11.0	12	102	40	55	45	2.07	●
115-040-12 PI3	11.5	12	102	40	56	45	2.12	●
120-040-12 PI3	12.0	12	102	40	56	45	2.21	●

●: Standard items

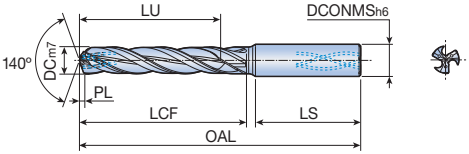
3HD...PI5

3 flute solid carbide drills with oil holes



• Drilling depth: 5xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT5130
3HD 040-029-06 PI5	4.0	6	74	29	37	35	0.82	●
045-029-06 PI5	4.5	6	74	29	37	35	0.88	●
050-035-06 PI5	5.0	6	82	35	45	36	0.96	●
051-035-06 PI5	5.1	6	82	35	45	36	0.98	●
055-035-06 PI5	5.5	6	82	35	45	36	1.08	●
060-035-06 PI5	6.0	6	82	35	45	36	1.17	●
065-043-08 PI5	6.5	8	91	43	54	36	1.26	●
068-043-08 PI5	6.8	8	91	43	54	36	1.31	●
070-043-08 PI5	7.0	8	91	43	54	36	1.35	●
075-043-08 PI5	7.5	8	91	43	54	36	1.40	●
080-043-08 PI5	8.0	8	91	43	54	36	1.49	●
085-049-10 PI5	8.5	10	103	49	62	40	1.63	●
086-049-10 PI5	8.6	10	103	49	62	40	1.65	●
090-049-10 PI5	9.0	10	103	49	62	40	1.72	●
095-049-10 PI5	9.5	10	103	49	62	40	1.75	●
100-049-10 PI5	10.0	10	103	49	62	40	1.85	●
103-056-12 PI5	10.3	12	118	56	71	45	1.94	●
105-056-12 PI5	10.5	12	118	56	71	45	1.98	●
110-056-12 PI5	11.0	12	118	56	71	45	2.07	●
115-056-12 PI5	11.5	12	118	56	72	45	2.12	●
120-056-12 PI5	12.0	12	118	56	72	45	2.21	●

●: Standard items

3HD...PI8

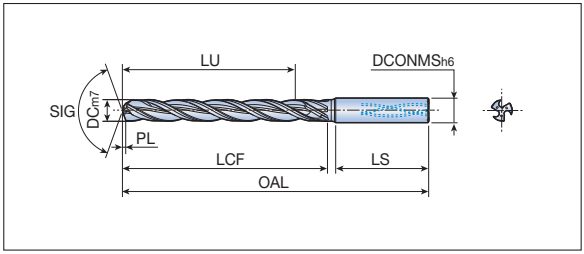
SOLID3DRILL

3 flute solid carbide drills with oil holes



• Drilling depth: 8xdiameter





Designation		Dimension (mm)								Grade
		DC	DCONMS	OAL	SIG	LU	LCF	LS	PL	TT5130
3HD	040-036-06 PI8	4.0	6	81	140	36	43	35	0.82	●
	045-036-06 PI8	4.5	6	81	140	36	43	35	0.88	●
	050-048-06 PI8	5.0	6	95	140	48	57	36	0.96	●
	055-048-06 PI8	5.5	6	95	140	48	57	36	1.08	●
	060-048-06 PI8	6.0	6	95	140	48	57	36	1.17	●
	065-064-08 PI8	6.5	8	114	140	64	76	36	1.26	●
	070-064-08 PI8	7.0	8	114	140	64	76	36	1.35	●
	075-064-08 PI8	7.5	8	114	140	64	76	36	1.40	●
	080-064-08 PI8	8.0	8	114	140	64	76	36	1.49	●
	085-080-10 PI8	8.5	10	142	130	80	95	40	2.04	●
	090-080-10 PI8	9.0	10	142	130	80	95	40	2.16	●
	095-080-10 PI8	9.5	10	142	130	80	95	40	2.29	●
	100-080-10 PI8	10.0	10	142	130	80	95	40	2.33	●
	105-096-12 PI8	10.5	12	162	130	96	113	45	2.50	●
	110-096-12 PI8	11.0	12	162	130	96	113	45	2.61	●
	115-096-12 PI8	11.5	12	162	130	96	113	45	2.67	●
	120-096-12 PI8	12.0	12	162	130	96	113	45	2.80	●

▸ Ø4.00-Ø8.00: SIG 140°
▸ Ø8.01-Ø12.00: SIG 130°

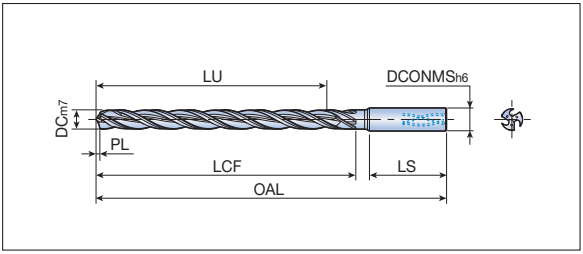
●: Standard items

3 flute solid carbide drill with oil holes



• Drilling depth: 12xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT5130
3HD 060-069-06 CI12	6.0	6	116	69	78	36	1.38	●
065-096-08 CI12	6.5	8	146	96	108	36	1.57	●
070-096-08 CI12	7.0	8	146	96	108	36	1.60	●
075-096-08 CI12	7.5	8	146	96	108	36	1.78	●
080-096-08 CI12	8.0	8	146	96	108	36	1.81	●
085-105-10 CI12	8.5	10	162	105	120	40	2.07	●
090-105-10 CI12	9.0	10	162	105	120	40	2.10	●
095-105-10 CI12	9.5	10	162	105	120	40	2.27	●
100-105-10 CI12	10.0	10	162	105	120	40	2.30	●
105-139-12 CI12	10.5	12	204	139	156	45	2.56	●
110-139-12 CI12	11.0	12	204	139	156	45	2.59	●
115-139-12 CI12	11.5	12	204	139	156	45	2.76	●
120-139-12 CI12	12.0	12	204	139	156	45	2.79	●

●: Standard items

3HD...FI3

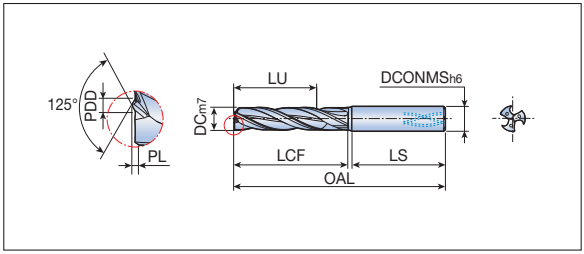
SOLID3DRILL

3 flute solid carbide drills for flat bottom holes



• Drilling depth: 3xdiameter





Designation		Dimension (mm)								Grade
		DC	DCONMS	OAL	LU	LCF	LS	PDD	PL	TT5130
3HD	040-017-06 FI3	4.0	6	66	17	25	35	0.77	0.43	●
	045-017-06 FI3	4.5	6	66	17	25	35	0.86	0.45	●
	050-020-06 FI3	5.0	6	66	20	29	36	0.97	0.47	●
	055-020-06 FI3	5.5	6	66	20	29	36	1.08	0.58	●
	060-020-06 FI3	6.0	6	66	20	29	36	1.08	0.58	●
	065-024-08 FI3	6.5	8	79	24	35	36	1.26	0.62	●
	070-024-08 FI3	7.0	8	79	24	35	36	1.26	0.62	●
	075-029-08 FI3	7.5	8	79	29	42	36	1.44	0.66	●
	080-029-08 FI3	8.0	8	79	29	42	36	1.44	0.66	●
	085-035-10 FI3	8.5	10	89	35	48	40	1.62	0.79	●
	090-035-10 FI3	9.0	10	89	35	48	40	1.62	0.79	●
	095-035-10 FI3	9.5	10	89	35	48	40	1.80	0.82	●
	100-035-10 FI3	10.0	10	89	35	48	40	1.80	0.82	●
	105-040-12 FI3	10.5	12	102	40	55	45	1.98	0.95	●
	110-040-12 FI3	11.0	12	102	40	55	45	1.98	0.95	●
	115-040-12 FI3	11.5	12	102	40	56	45	2.16	0.98	●
	120-040-12 FI3	12.0	12	102	40	56	45	2.16	0.98	●

●: Standard items

3HD...FI5

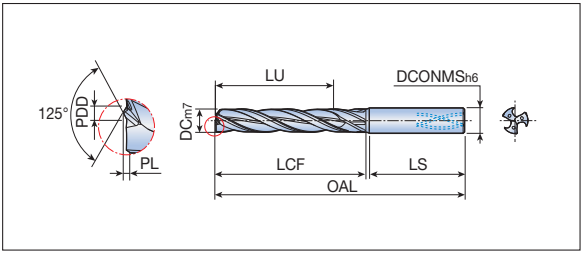
SOLID3DRILL

3 flute solid carbide drills for flat bottom holes



• Drilling depth: 5xdiameter





Designation		Dimension (mm)								Grade
		DC	DCONMS	OAL	LU	LCF	LS	PDD	PL	TT5130
3HD	040-029-06 FI5	4.0	6	74	29	37	35	0.77	0.43	●
	045-029-06 FI5	4.5	6	74	29	37	35	0.86	0.45	●
	050-035-06 FI5	5.0	6	82	35	45	36	0.97	0.47	●
	055-035-06 FI5	5.5	6	82	35	45	36	1.08	0.58	●
	060-035-06 FI5	6.0	6	82	35	45	36	1.08	0.58	●
	065-043-08 FI5	6.5	8	91	43	54	36	1.26	0.62	●
	070-043-08 FI5	7.0	8	91	43	54	36	1.26	0.62	●
	075-043-08 FI5	7.5	8	91	43	54	36	1.44	0.66	●
	080-043-08 FI5	8.0	8	91	43	54	36	1.44	0.66	●
	085-049-10 FI5	8.5	10	103	49	62	40	1.62	0.79	●
	090-049-10 FI5	9.0	10	103	49	62	40	1.62	0.79	●
	095-049-10 FI5	9.5	10	103	49	62	40	1.80	0.82	●
	100-049-10 FI5	10.0	10	103	49	62	40	1.80	0.82	●
	105-056-12 FI5	10.5	12	118	56	71	45	1.98	0.95	●
	110-056-12 FI5	11.0	12	118	56	71	45	1.98	0.95	●
	115-056-12 FI5	11.5	12	118	56	72	45	2.16	0.98	●
	120-056-12 FI5	12.0	12	118	56	72	45	2.16	0.98	●

●: Standard items

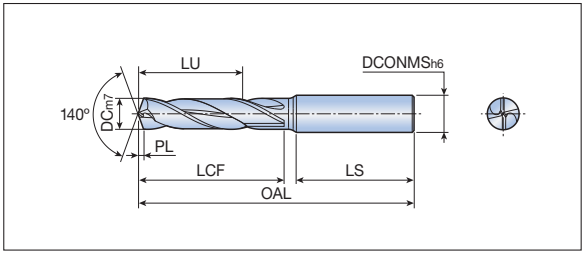
NHD...PE3

Solid carbide drills without oil holes



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 030-014-06 PE3	3.0	6.0	62	14	20	34	0.5	●
031-014-06 PE3	3.1	6.0	62	14	20	34	0.5	●
032-014-06 PE3	3.2	6.0	62	14	20	34	0.5	●
033-014-06 PE3	3.3	6.0	62	14	20	34	0.5	●
034-014-06 PE3	3.4	6.0	62	14	20	34	0.5	●
035-014-06 PE3	3.5	6.0	62	14	20	34	0.6	●
036-014-06 PE3	3.6	6.0	62	14	20	34	0.6	●
037-014-06 PE3	3.7	6.0	62	14	20	34	0.6	●
038-017-06 PE3	3.8	6.0	66	17	24	35	0.6	●
039-017-06 PE3	3.9	6.0	66	17	24	35	0.6	●
040-017-06 PE3	4.0	6.0	66	17	24	35	0.6	●
041-017-06 PE3	4.1	6.0	66	17	24	35	0.7	●
042-017-06 PE3	4.2	6.0	66	17	24	35	0.7	●
043-017-06 PE3	4.3	6.0	66	17	24	35	0.7	●
044-017-06 PE3	4.4	6.0	66	17	24	35	0.7	●
045-017-06 PE3	4.5	6.0	66	17	24	35	0.7	●
046-017-06 PE3	4.6	6.0	66	17	24	35	0.7	●
047-017-06 PE3	4.7	6.0	66	17	24	35	0.8	●
048-020-06 PE3	4.8	6.0	66	20	28	36	0.8	●
049-020-06 PE3	4.9	6.0	66	20	28	36	0.8	●
050-020-06 PE3	5.0	6.0	66	20	28	36	0.8	●
051-020-06 PE3	5.1	6.0	66	20	28	36	0.8	●
052-020-06 PE3	5.2	6.0	66	20	28	36	0.8	●
053-020-06 PE3	5.3	6.0	66	20	28	36	0.8	●
054-020-06 PE3	5.4	6.0	66	20	28	36	0.8	●
055-020-06 PE3	5.5	6.0	66	20	28	36	0.9	●
056-020-06 PE3	5.6	6.0	66	20	28	36	0.9	●
057-020-06 PE3	5.7	6.0	66	20	28	36	0.9	●
058-020-06 PE3	5.8	6.0	66	20	28	36	0.9	●
059-020-06 PE3	5.9	6.0	66	20	28	36	0.9	●
060-020-06 PE3	6.0	6.0	66	20	28	36	0.9	●
061-024-08 PE3	6.1	8.0	79	24	34	36	1.0	●
062-024-08 PE3	6.2	8.0	79	24	34	36	1.0	●
063-024-08 PE3	6.3	8.0	79	24	34	36	1.0	●
064-024-08 PE3	6.4	8.0	79	24	34	36	1.0	●
065-024-08 PE3	6.5	8.0	79	24	34	36	1.0	●
066-024-08 PE3	6.6	8.0	79	24	34	36	1.0	●
067-024-08 PE3	6.7	8.0	79	24	34	36	1.1	●
068-024-08 PE3	6.8	8.0	79	24	34	36	1.1	●
069-024-08 PE3	6.9	8.0	79	24	34	36	1.1	●
070-024-08 PE3	7.0	8.0	79	24	34	36	1.1	●

●: Standard items

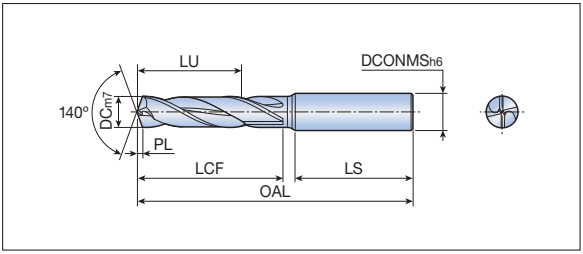
NHD...PE3

Solid carbide drills without oil holes



• Drilling depth: 3xdiameter





Designation		Dimension (mm)							Grade
		DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD	071-029-08 PE3	7.1	8.0	79	29	41	36	1.1	●
	072-029-08 PE3	7.2	8.0	79	29	41	36	1.1	●
	073-029-08 PE3	7.3	8.0	79	29	41	36	1.1	●
	074-029-08 PE3	7.4	8.0	79	29	41	36	1.2	●
	075-029-08 PE3	7.5	8.0	79	29	41	36	1.2	●
	076-029-08 PE3	7.6	8.0	79	29	41	36	1.2	●
	077-029-08 PE3	7.7	8.0	79	29	41	36	1.2	●
	078-029-08 PE3	7.8	8.0	79	29	41	36	1.2	●
	079-029-08 PE3	7.9	8.0	79	29	41	36	1.3	●
	080-029-08 PE3	8.0	8.0	79	29	41	36	1.3	●
	081-035-10 PE3	8.1	10.0	89	35	47	40	1.3	●
	082-035-10 PE3	8.2	10.0	89	35	47	40	1.3	●
	083-035-10 PE3	8.3	10.0	89	35	47	40	1.3	●
	084-035-10 PE3	8.4	10.0	89	35	47	40	1.3	●
	085-035-10 PE3	8.5	10.0	89	35	47	40	1.3	●
	086-035-10 PE3	8.6	10.0	89	35	47	40	1.4	●
	087-035-10 PE3	8.7	10.0	89	35	47	40	1.4	●
	088-035-10 PE3	8.8	10.0	89	35	47	40	1.4	●
	089-035-10 PE3	8.9	10.0	89	35	47	40	1.4	●
	090-035-10 PE3	9.0	10.0	89	35	47	40	1.4	●
	091-035-10 PE3	9.1	10.0	89	35	47	40	1.4	●
	092-035-10 PE3	9.2	10.0	89	35	47	40	1.4	●
	093-035-10 PE3	9.3	10.0	89	35	47	40	1.5	●
	094-035-10 PE3	9.4	10.0	89	35	47	40	1.5	●
	095-035-10 PE3	9.5	10.0	89	35	47	40	1.5	●
	096-035-10 PE3	9.6	10.0	89	35	47	40	1.5	●
	097-035-10 PE3	9.7	10.0	89	35	47	40	1.5	●
	098-035-10 PE3	9.8	10.0	89	35	47	40	1.6	●
	099-035-10 PE3	9.9	10.0	89	35	47	40	1.6	●
	100-035-10 PE3	10.0	10.0	89	35	47	40	1.6	●
	101-040-12 PE3	10.1	12.0	101	40	55	45	1.6	●
	102-040-12 PE3	10.2	12.0	101	40	55	45	1.6	●
	103-040-12 PE3	10.3	12.0	101	40	55	45	1.6	●
	104-040-12 PE3	10.4	12.0	101	40	55	45	1.6	●
	105-040-12 PE3	10.5	12.0	101	40	55	45	1.6	●
	106-040-12 PE3	10.6	12.0	101	40	55	45	1.7	●
	107-040-12 PE3	10.7	12.0	101	40	55	45	1.7	●
	108-040-12 PE3	10.8	12.0	101	40	55	45	1.7	●
	109-040-12 PE3	10.9	12.0	101	40	55	45	1.7	●
	110-040-12 PE3	11.0	12.0	101	40	55	45	1.7	●
	111-040-12 PE3	11.1	12.0	101	40	55	45	1.7	●

●: Standard items

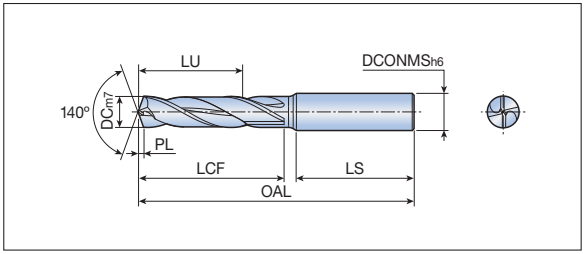
NHD...PE3

Solid carbide drills without oil holes



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 112-040-12 PE3	11.2	12.0	101	40	55	45	1.8	●
113-040-12 PE3	11.3	12.0	101	40	55	45	1.8	●
114-040-12 PE3	11.4	12.0	101	40	55	45	1.8	●
115-040-12 PE3	11.5	12.0	101	40	55	45	1.8	●
116-040-12 PE3	11.6	12.0	101	40	55	45	1.8	●
117-040-12 PE3	11.7	12.0	101	40	55	45	1.9	●
118-040-12 PE3	11.8	12.0	101	40	55	45	1.9	●
119-040-12 PE3	11.9	12.0	101	40	55	45	1.9	●
120-040-12 PE3	12.0	12.0	101	40	55	45	1.9	●

●: Standard items

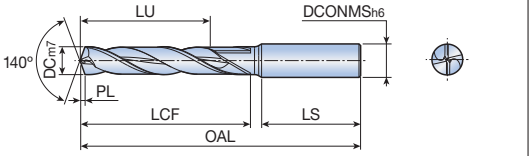
NHD...PE5

Solid carbide drills without oil holes



• Drilling depth: 4-5xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 030-023-06 PE5	3.0	6.0	66	23	28	34	0.5	●
031-023-06 PE5	3.1	6.0	66	23	28	34	0.5	●
032-023-06 PE5	3.2	6.0	66	23	28	34	0.5	●
033-023-06 PE5	3.3	6.0	66	23	28	34	0.5	●
034-023-06 PE5	3.4	6.0	66	23	28	34	0.5	●
035-023-06 PE5	3.5	6.0	66	23	28	34	0.6	●
036-023-06 PE5	3.6	6.0	66	23	28	34	0.6	●
037-023-06 PE5	3.7	6.0	66	23	28	34	0.6	●
038-029-06 PE5	3.8	6.0	74	29	36	35	0.6	●
039-029-06 PE5	3.9	6.0	74	29	36	35	0.6	●
040-029-06 PE5	4.0	6.0	74	29	36	35	0.6	●
041-029-06 PE5	4.1	6.0	74	29	36	35	0.7	●
042-029-06 PE5	4.2	6.0	74	29	36	35	0.7	●
043-029-06 PE5	4.3	6.0	74	29	36	35	0.7	●
044-029-06 PE5	4.4	6.0	74	29	36	35	0.7	●
045-029-06 PE5	4.5	6.0	74	29	36	35	0.7	●
046-029-06 PE5	4.6	6.0	74	29	36	35	0.7	●
047-029-06 PE5	4.7	6.0	74	29	36	35	0.8	●
048-035-06 PE5	4.8	6.0	82	35	44	36	0.8	●
049-035-06 PE5	4.9	6.0	82	35	44	36	0.8	●
050-035-06 PE5	5.0	6.0	82	35	44	36	0.8	●
051-035-06 PE5	5.1	6.0	82	35	44	36	0.8	●
052-035-06 PE5	5.2	6.0	82	35	44	36	0.8	●
053-035-06 PE5	5.3	6.0	82	35	44	36	0.8	●
054-035-06 PE5	5.4	6.0	82	35	44	36	0.8	●
055-035-06 PE5	5.5	6.0	82	35	44	36	0.9	●
056-035-06 PE5	5.6	6.0	82	35	44	36	0.9	●
057-035-06 PE5	5.7	6.0	82	35	44	36	0.9	●
058-035-06 PE5	5.8	6.0	82	35	44	36	0.9	●
059-035-06 PE5	5.9	6.0	82	35	44	36	0.9	●
060-035-06 PE5	6.0	6.0	82	35	44	36	0.9	●
061-043-08 PE5	6.1	8.0	91	43	53	36	1.0	●
062-043-08 PE5	6.2	8.0	91	43	53	36	1.0	●
063-043-08 PE5	6.3	8.0	91	43	53	36	1.0	●
064-043-08 PE5	6.4	8.0	91	43	53	36	1.0	●
065-043-08 PE5	6.5	8.0	91	43	53	36	1.0	●
066-043-08 PE5	6.6	8.0	91	43	53	36	1.0	●
067-043-08 PE5	6.7	8.0	91	43	53	36	1.1	●
068-043-08 PE5	6.8	8.0	91	43	53	36	1.1	●
069-043-08 PE5	6.9	8.0	91	43	53	36	1.1	●
070-043-08 PE5	7.0	8.0	91	43	53	36	1.1	●

●: Standard items

NHD...PE5

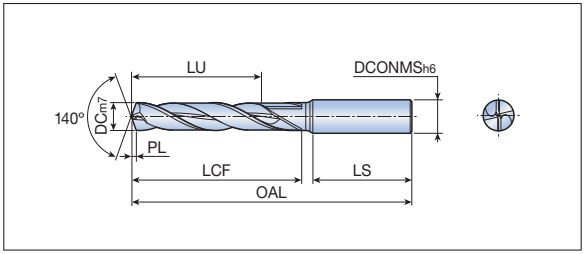
HDRILL

Solid carbide drills without oil holes



• Drilling depth: 4-5xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 071-043-08 PE5	7.1	8.0	91	43	53	36	1.1	●
072-043-08 PE5	7.2	8.0	91	43	53	36	1.1	●
073-043-08 PE5	7.3	8.0	91	43	53	36	1.1	●
074-043-08 PE5	7.4	8.0	91	43	53	36	1.2	●
075-043-08 PE5	7.5	8.0	91	43	53	36	1.2	●
076-043-08 PE5	7.6	8.0	91	43	53	36	1.2	●
077-043-08 PE5	7.7	8.0	91	43	53	36	1.2	●
078-043-08 PE5	7.8	8.0	91	43	53	36	1.2	●
079-043-08 PE5	7.9	8.0	91	43	53	36	1.3	●
080-043-08 PE5	8.0	8.0	91	43	53	36	1.3	●
081-049-10 PE5	8.1	10.0	103	49	61	40	1.3	●
082-049-10 PE5	8.2	10.0	103	49	61	40	1.3	●
083-049-10 PE5	8.3	10.0	103	49	61	40	1.3	●
084-049-10 PE5	8.4	10.0	103	49	61	40	1.3	●
085-049-10 PE5	8.5	10.0	103	49	61	40	1.3	●
086-049-10 PE5	8.6	10.0	103	49	61	40	1.4	●
087-049-10 PE5	8.7	10.0	103	49	61	40	1.4	●
088-049-10 PE5	8.8	10.0	103	49	61	40	1.4	●
089-049-10 PE5	8.9	10.0	103	49	61	40	1.4	●
090-049-10 PE5	9.0	10.0	103	49	61	40	1.4	●
091-049-10 PE5	9.1	10.0	103	49	61	40	1.4	●
092-049-10 PE5	9.2	10.0	103	49	61	40	1.4	●
093-049-10 PE5	9.3	10.0	103	49	61	40	1.5	●
094-049-10 PE5	9.4	10.0	103	49	61	40	1.5	●
095-049-10 PE5	9.5	10.0	103	49	61	40	1.5	●
096-049-10 PE5	9.6	10.0	103	49	61	40	1.5	●
097-049-10 PE5	9.7	10.0	103	49	61	40	1.5	●
098-049-10 PE5	9.8	10.0	103	49	61	40	1.6	●
099-049-10 PE5	9.9	10.0	103	49	61	40	1.6	●
100-049-10 PE5	10.0	10.0	103	49	61	1.6	40	●
101-056-12 PE5	10.1	12.0	118	56	71	1.6	45	●
102-056-12 PE5	10.2	12.0	118	56	71	1.6	45	●
103-056-12 PE5	10.3	12.0	118	56	71	1.6	45	●
104-056-12 PE5	10.4	12.0	118	56	71	1.6	45	●
105-056-12 PE5	10.5	12.0	118	56	71	1.6	45	●
106-056-12 PE5	10.6	12.0	118	56	71	1.7	45	●
107-056-12 PE5	10.7	12.0	118	56	71	1.7	45	●
108-056-12 PE5	10.8	12.0	118	56	71	1.7	45	●
109-056-12 PE5	10.9	12.0	118	56	71	1.7	45	●
110-056-12 PE5	11.0	12.0	118	56	71	1.7	45	●
111-056-12 PE5	11.1	12.0	118	56	71	1.7	45	●

●: Standard items

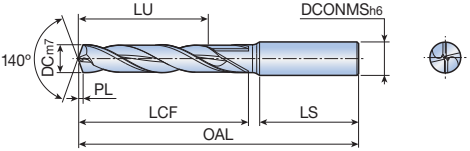
NHD...PE5

Solid carbide drills without oil holes



• Drilling depth: 4-5xdiameter





Designation		Dimension (mm)							Grade
		DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD	112-056-12 PE5	11.2	12.0	118	56	71	45	1.8	●
	113-056-12 PE5	11.3	12.0	118	56	71	45	1.8	●
	114-056-12 PE5	11.4	12.0	118	56	71	45	1.8	●
	115-056-12 PE5	11.5	12.0	118	56	71	45	1.8	●
	116-056-12 PE5	11.6	12.0	118	56	71	45	1.8	●
	117-056-12 PE5	11.7	12.0	118	56	71	45	1.9	●
	118-056-12 PE5	11.8	12.0	118	56	71	45	1.9	●
	119-056-12 PE5	11.9	12.0	118	56	71	45	1.9	●
	120-056-12 PE5	12.0	12.0	118	56	71	45	1.9	●

●: Standard items

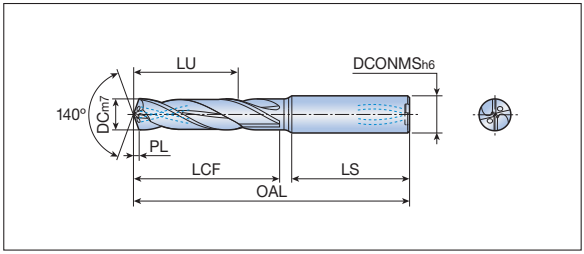
NHD...PI3

Solid carbide drills with oil holes



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 030-014-06 PI3	3.0	6.0	62	14	20	34	0.5	●
031-014-06 PI3	3.1	6.0	62	14	20	34	0.5	●
032-014-06 PI3	3.2	6.0	62	14	20	34	0.5	●
033-014-06 PI3	3.3	6.0	62	14	20	34	0.5	●
034-014-06 PI3	3.4	6.0	62	14	20	34	0.5	●
035-014-06 PI3	3.5	6.0	62	14	20	34	0.6	●
036-014-06 PI3	3.6	6.0	62	14	20	34	0.6	●
037-014-06 PI3	3.7	6.0	62	14	20	34	0.6	●
038-017-06 PI3	3.8	6.0	66	17	24	35	0.6	●
039-017-06 PI3	3.9	6.0	66	17	24	35	0.6	●
040-017-06 PI3	4.0	6.0	66	17	24	35	0.6	●
041-017-06 PI3	4.1	6.0	66	17	24	35	0.7	●
042-017-06 PI3	4.2	6.0	66	17	24	35	0.7	●
043-017-06 PI3	4.3	6.0	66	17	24	35	0.7	●
044-017-06 PI3	4.4	6.0	66	17	24	35	0.7	●
045-017-06 PI3	4.5	6.0	66	17	24	35	0.7	●
046-017-06 PI3	4.6	6.0	66	17	24	35	0.7	●
047-017-06 PI3	4.7	6.0	66	17	24	35	0.8	●
048-020-06 PI3	4.8	6.0	66	20	28	36	0.8	●
049-020-06 PI3	4.9	6.0	66	20	28	36	0.8	●
050-020-06 PI3	5.0	6.0	66	20	28	36	0.8	●
051-020-06 PI3	5.1	6.0	66	20	28	36	0.8	●
052-020-06 PI3	5.2	6.0	66	20	28	36	0.8	●
053-020-06 PI3	5.3	6.0	66	20	28	36	0.8	●
054-020-06 PI3	5.4	6.0	66	20	28	36	0.8	●
055-020-06 PI3	5.5	6.0	66	20	28	36	0.9	●
056-020-06 PI3	5.6	6.0	66	20	28	36	0.9	●
057-020-06 PI3	5.7	6.0	66	20	28	36	0.9	●
058-020-06 PI3	5.8	6.0	66	20	28	36	0.9	●
059-020-06 PI3	5.9	6.0	66	20	28	36	0.9	●
060-020-06 PI3	6.0	6.0	66	20	28	36	0.9	●
061-024-08 PI3	6.1	8.0	79	24	34	36	1.0	●
062-024-08 PI3	6.2	8.0	79	24	34	36	1.0	●
063-024-08 PI3	6.3	8.0	79	24	34	36	1.0	●
064-024-08 PI3	6.4	8.0	79	24	34	36	1.0	●
065-024-08 PI3	6.5	8.0	79	24	34	36	1.0	●
066-024-08 PI3	6.6	8.0	79	24	34	36	1.0	●
067-024-08 PI3	6.7	8.0	79	24	34	36	1.1	●
068-024-08 PI3	6.8	8.0	79	24	34	36	1.1	●
069-024-08 PI3	6.9	8.0	79	24	34	36	1.1	●
070-024-08 PI3	7.0	8.0	79	24	34	36	1.1	●

●: Standard items

NHD...PI3

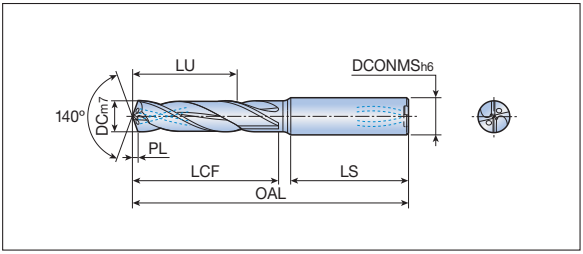
HDRILL

Solid carbide drills with oil holes



• Drilling depth: 3xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 071-029-08 PI3	7.1	8.0	79	29	41	36	1.1	●
072-029-08 PI3	7.2	8.0	79	29	41	36	1.1	●
073-029-08 PI3	7.3	8.0	79	29	41	36	1.1	●
074-029-08 PI3	7.4	8.0	79	29	41	36	1.2	●
075-029-08 PI3	7.5	8.0	79	29	41	36	1.2	●
076-029-08 PI3	7.6	8.0	79	29	41	36	1.2	●
077-029-08 PI3	7.7	8.0	79	29	41	36	1.2	●
078-029-08 PI3	7.8	8.0	79	29	41	36	1.2	●
079-029-08 PI3	7.9	8.0	79	29	41	36	1.3	●
080-029-08 PI3	8.0	8.0	79	29	41	36	1.3	●
081-035-10 PI3	8.1	10.0	89	35	47	40	1.3	●
082-035-10 PI3	8.2	10.0	89	35	47	40	1.3	●
083-035-10 PI3	8.3	10.0	89	35	47	40	1.3	●
084-035-10 PI3	8.4	10.0	89	35	47	40	1.3	●
085-035-10 PI3	8.5	10.0	89	35	47	40	1.3	●
086-035-10 PI3	8.6	10.0	89	35	47	40	1.4	●
087-035-10 PI3	8.7	10.0	89	35	47	40	1.4	●
088-035-10 PI3	8.8	10.0	89	35	47	40	1.4	●
089-035-10 PI3	8.9	10.0	89	35	47	40	1.4	●
090-035-10 PI3	9.0	10.0	89	35	47	40	1.4	●
091-035-10 PI3	9.1	10.0	89	35	47	40	1.4	●
092-035-10 PI3	9.2	10.0	89	35	47	40	1.4	●
093-035-10 PI3	9.3	10.0	89	35	47	40	1.5	●
094-035-10 PI3	9.4	10.0	89	35	47	40	1.5	●
095-035-10 PI3	9.5	10.0	89	35	47	40	1.5	●
096-035-10 PI3	9.6	10.0	89	35	47	40	1.5	●
097-035-10 PI3	9.7	10.0	89	35	47	40	1.5	●
098-035-10 PI3	9.8	10.0	89	35	47	40	1.6	●
099-035-10 PI3	9.9	10.0	89	35	47	40	1.6	●
100-035-10 PI3	10.0	10.0	89	35	47	40	1.6	●
101-040-12 PI3	10.1	12.0	102	40	55	45	1.6	●
102-040-12 PI3	10.2	12.0	102	40	55	45	1.6	●
103-040-12 PI3	10.3	12.0	102	40	55	45	1.6	●
104-040-12 PI3	10.4	12.0	102	40	55	45	1.6	●
105-040-12 PI3	10.5	12.0	102	40	55	45	1.6	●
106-040-12 PI3	10.6	12.0	102	40	55	45	1.7	●
107-040-12 PI3	10.7	12.0	102	40	55	45	1.7	●
108-040-12 PI3	10.8	12.0	102	40	55	45	1.7	●
109-040-12 PI3	10.9	12.0	102	40	55	45	1.7	●
110-040-12 PI3	11.0	12.0	102	40	55	45	1.7	●
111-040-12 PI3	11.1	12.0	102	40	55	45	1.7	●

●: Standard items

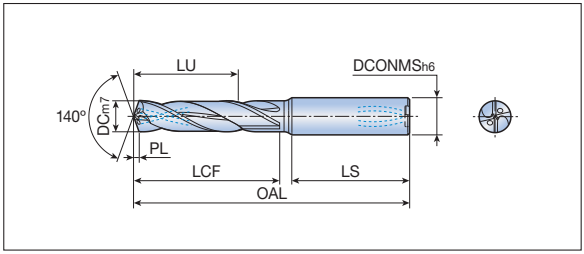
NHD...PI3

Solid carbide drills with oil holes



• Drilling depth: 3xdiameter





Designation		Dimension (mm)							Grade
		DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD	**112-040-12 PI3**	11.2	12.0	102	40	55	45	1.8	●
	113-040-12 PI3	11.3	12.0	102	40	55	45	1.8	●
	114-040-12 PI3	11.4	12.0	102	40	55	45	1.8	●
	115-040-12 PI3	11.5	12.0	102	40	55	45	1.8	●
	116-040-12 PI3	11.6	12.0	102	40	55	45	1.8	●
	117-040-12 PI3	11.7	12.0	102	40	55	45	1.9	●
	118-040-12 PI3	11.8	12.0	102	40	55	45	1.9	●
	119-040-12 PI3	11.9	12.0	102	40	55	45	1.9	●
	120-040-12 PI3	12.0	12.0	102	40	55	45	1.9	●

●: Standard items

NHD...PI5

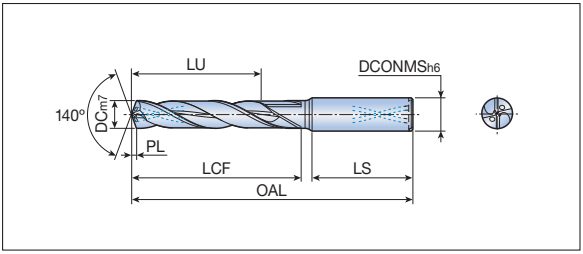
HDRILL

Solid carbide drills with oil holes



• Drilling depth: 4-5xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 030-023-06 PI5	3.0	6.0	66	23	28	34	0.5	●
031-023-06 PI5	3.1	6.0	66	23	28	34	0.5	●
032-023-06 PI5	3.2	6.0	66	23	28	34	0.5	●
033-023-06 PI5	3.3	6.0	66	23	28	34	0.5	●
034-023-06 PI5	3.4	6.0	66	23	28	34	0.5	●
035-023-06 PI5	3.5	6.0	66	23	28	34	0.6	●
036-023-06 PI5	3.6	6.0	66	23	28	34	0.6	●
037-023-06 PI5	3.7	6.0	66	23	28	34	0.6	●
038-029-06 PI5	3.8	6.0	74	29	36	35	0.6	●
039-029-06 PI5	3.9	6.0	74	29	36	35	0.6	●
040-029-06 PI5	4.0	6.0	74	29	36	35	0.6	●
041-029-06 PI5	4.1	6.0	74	29	36	35	0.7	●
042-029-06 PI5	4.2	6.0	74	29	36	35	0.7	●
043-029-06 PI5	4.3	6.0	74	29	36	35	0.7	●
044-029-06 PI5	4.4	6.0	74	29	36	35	0.7	●
045-029-06 PI5	4.5	6.0	74	29	36	35	0.7	●
046-029-06 PI5	4.6	6.0	74	29	36	35	0.7	●
047-029-06 PI5	4.7	6.0	74	29	36	35	0.8	●
048-035-06 PI5	4.8	6.0	82	35	44	36	0.8	●
049-035-06 PI5	4.9	6.0	82	35	44	36	0.8	●
050-035-06 PI5	5.0	6.0	82	35	44	36	0.8	●
051-035-06 PI5	5.1	6.0	82	35	44	36	0.8	●
052-035-06 PI5	5.2	6.0	82	35	44	36	0.8	●
053-035-06 PI5	5.3	6.0	82	35	44	36	0.8	●
054-035-06 PI5	5.4	6.0	82	35	44	36	0.8	●
055-035-06 PI5	5.5	6.0	82	35	44	36	0.9	●
056-035-06 PI5	5.6	6.0	82	35	44	36	0.9	●
057-035-06 PI5	5.7	6.0	82	35	44	36	0.9	●
058-035-06 PI5	5.8	6.0	82	35	44	36	0.9	●
059-035-06 PI5	5.9	6.0	82	35	44	36	0.9	●
060-035-06 PI5	6.0	6.0	82	35	44	36	0.9	●
061-043-08 PI5	6.1	8.0	91	43	53	36	1.0	●
062-043-08 PI5	6.2	8.0	91	43	53	36	1.0	●
063-043-08 PI5	6.3	8.0	91	43	53	36	1.0	●
064-043-08 PI5	6.4	8.0	91	43	53	36	1.0	●
065-043-08 PI5	6.5	8.0	91	43	53	36	1.0	●
066-043-08 PI5	6.6	8.0	91	43	53	36	1.0	●
067-043-08 PI5	6.7	8.0	91	43	53	36	1.1	●
068-043-08 PI5	6.8	8.0	91	43	53	36	1.1	●
069-043-08 PI5	6.9	8.0	91	43	53	36	1.1	●
070-043-08 PI5	7.0	8.0	91	43	53	36	1.1	●

●: Standard items

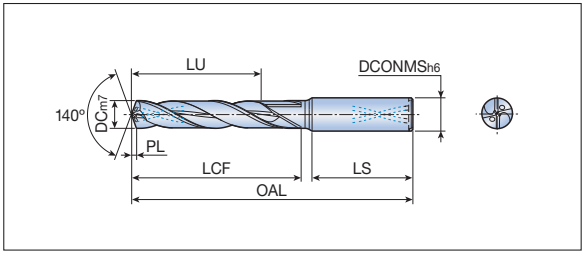
NHD...PI5

Solid carbide drills with oil holes



• Drilling depth: 4-5xdiameter





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 071-043-08 PI5	7.1	8.0	91	43	53	36	1.1	●
072-043-08 PI5	7.2	8.0	91	43	53	36	1.1	●
073-043-08 PI5	7.3	8.0	91	43	53	36	1.1	●
074-043-08 PI5	7.4	8.0	91	43	53	36	1.2	●
075-043-08 PI5	7.5	8.0	91	43	53	36	1.2	●
076-043-08 PI5	7.6	8.0	91	43	53	36	1.2	●
077-043-08 PI5	7.7	8.0	91	43	53	36	1.2	●
078-043-08 PI5	7.8	8.0	91	43	53	36	1.2	●
079-043-08 PI5	7.9	8.0	91	43	53	36	1.3	●
080-043-08 PI5	8.0	8.0	91	43	53	36	1.3	●
081-049-10 PI5	8.1	10.0	103	49	61	40	1.3	●
082-049-10 PI5	8.2	10.0	103	49	61	40	1.3	●
083-049-10 PI5	8.3	10.0	103	49	61	40	1.3	●
084-049-10 PI5	8.4	10.0	103	49	61	40	1.3	●
085-049-10 PI5	8.5	10.0	103	49	61	40	1.3	●
086-049-10 PI5	8.6	10.0	103	49	61	40	1.4	●
087-049-10 PI5	8.7	10.0	103	49	61	40	1.4	●
088-049-10 PI5	8.8	10.0	103	49	61	40	1.4	●
089-049-10 PI5	8.9	10.0	103	49	61	40	1.4	●
090-049-10 PI5	9.0	10.0	103	49	61	40	1.4	●
091-049-10 PI5	9.1	10.0	103	49	61	40	1.4	●
092-049-10 PI5	9.2	10.0	103	49	61	40	1.4	●
093-049-10 PI5	9.3	10.0	103	49	61	40	1.5	●
094-049-10 PI5	9.4	10.0	103	49	61	40	1.5	●
095-049-10 PI5	9.5	10.0	103	49	61	40	1.5	●
096-049-10 PI5	9.6	10.0	103	49	61	40	1.5	●
097-049-10 PI5	9.7	10.0	103	49	61	40	1.5	●
098-049-10 PI5	9.8	10.0	103	49	61	40	1.6	●
099-049-10 PI5	9.9	10.0	103	49	61	40	1.6	●
100-049-10 PI5	10.0	10.0	103	49	61	40	1.6	●
101-056-12 PI5	10.1	12.0	118	56	71	45	1.6	●
102-056-12 PI5	10.2	12.0	118	56	71	45	1.6	●
103-056-12 PI5	10.3	12.0	118	56	71	45	1.6	●
104-056-12 PI5	10.4	12.0	118	56	71	45	1.6	●
105-056-12 PI5	10.5	12.0	118	56	71	45	1.6	●
106-056-12 PI5	10.6	12.0	118	56	71	45	1.7	●
107-056-12 PI5	10.7	12.0	118	56	71	45	1.7	●
108-056-12 PI5	10.8	12.0	118	56	71	45	1.7	●
109-056-12 PI5	10.9	12.0	118	56	71	45	1.7	●
110-056-12 PI5	11.0	12.0	118	56	71	45	1.7	●
111-056-12 PI5	11.1	12.0	118	56	71	45	1.7	●

●: Standard items

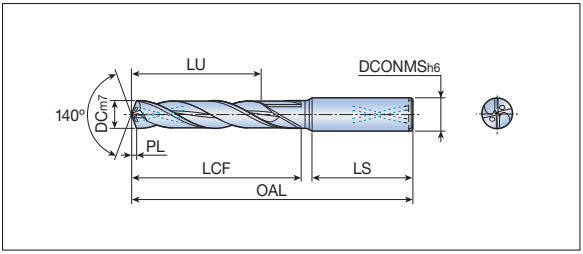
NHD...PI5

Solid carbide drills with oil holes



• Drilling depth: 4-5xdiameter





Designation		Dimension (mm)							Grade
		DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD	**112-056-12 PI5**	11.2	12.0	118	56	71	45	1.8	●
	113-056-12 PI5	11.3	12.0	118	56	71	45	1.8	●
	114-056-12 PI5	11.4	12.0	118	56	71	45	1.8	●
	115-056-12 PI5	11.5	12.0	118	56	71	45	1.8	●
	116-056-12 PI5	11.6	12.0	118	56	71	45	1.8	●
	117-056-12 PI5	11.7	12.0	118	56	71	45	1.9	●
	118-056-12 PI5	11.8	12.0	118	56	71	45	1.9	●
	119-056-12 PI5	11.9	12.0	118	56	71	45	1.9	●
	120-056-12 PI5	12.0	12.0	118	56	71	45	1.9	●

●: Standard items

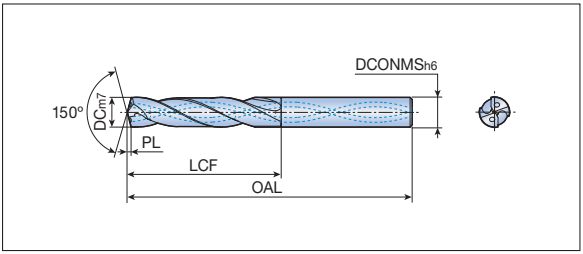
SHO 3...-PH

Solid pilot drills for solid long drill



• M.Q.L drilling is available





Designation		Dimension (mm)					Grade
		DC	DCONMS	OAL	LCF	PL	TT9030
SHO	**30403-PH**	4.03	4	66.5	24.5	0.5	●
	30503-PH	5.03	5	68.6	30.6	0.6	●
	30603-PH	6.03	6	68.7	30.7	0.7	●
	30703-PH	7.03	7	73.8	35.8	0.8	●
	30803-PH	8.03	8	79.9	41.9	0.9	●
	30903-PH	9.03	9	91.0	49.0	1.0	●
	31003-PH	10.03	10	91.1	49.1	1.1	●

●: Standard items

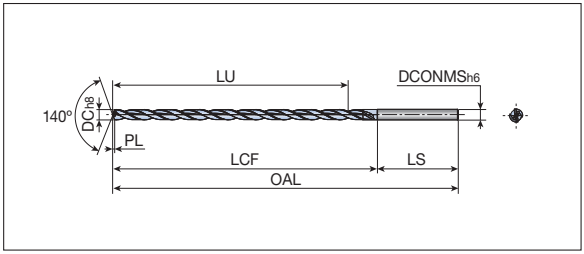
SHO 10/15/20

Solid long drills with oil holes



- Drilling depth: 10/15/20xdiameter
- M.Q.L drilling is available





Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
SHO 10040	4.0	4	105.6	50	55.6	50	0.6	●
10050	5.0	5	115.8	60	65.8	50	0.8	●
10060	6.0	6	131.0	76	81.0	50	1.0	●
10070	7.0	7	141.1	86	91.1	50	1.1	●
10080	8.0	8	156.3	98	106.3	50	1.3	●
10090	9.0	9	171.4	108	116.4	55	1.4	●
10100	10.0	10	191.6	123	131.6	60	1.6	●
15040	4.0	4	125.6	70	75.6	50	0.6	●
15050	5.0	5	140.8	85	90.8	50	0.8	●
15060	6.0	6	161.0	106	111.0	50	1.0	●
15070	7.0	7	176.1	121	126.1	50	1.1	●
15080	8.0	8	196.3	138	146.3	50	1.3	●
15090	9.0	9	221.4	153	161.4	60	1.4	●
15100	10.0	10	241.6	173	181.6	60	1.6	●
20040	4.0	4	140.6	85	90.6	50	0.6	●
20050	5.0	5	165.8	110	115.8	50	0.8	●
20060	6.0	6	191.0	136	141.0	50	1.0	●
20070	7.0	7	211.1	156	161.1	50	1.1	●
20080	8.0	8	231.3	173	181.3	50	1.3	●
20090	9.0	9	266.4	198	206.4	60	1.4	●
20100	10.0	10	286.6	218	226.6	60	1.6	●

●: Standard items

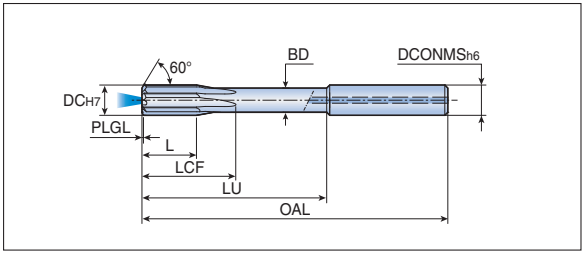
TS-S...-NS

Solid reamers for blind hole



• Straight flute - DIN1420





Designation	Dimension (mm)								NOF	Grade
	DC	L	PLGL	LCF	BD	LU	OAL	DCONMS		TT5040
TS- S0300-NS *	3.0	12	0.25	21	2.4	31	60	4.0	4	●
S0400-NS	4.0	12	0.3	17	3.4	40	68	6.0	4	●
S0500-NS	5.0	12	0.3	17	3.8	40	76	6.0	4	●
S0600-NS	6.0	12	0.3	17	4.5	40	76	6.0	4	●
S0700-NS	7.0	15	0.4	20	5.6	65	101	8.0	6	●
S0800-NS	8.0	15	0.4	20	6.4	65	101	8.0	6	●
S0900-NS	9.0	18	0.4	23	7.2	61	101	10.0	6	●
S1000-NS	10.0	18	0.5	23	8.0	61	101	10.0	6	●
S1050-NS	10.5	18	0.5	23	8.4	85	130	12.0	6	●
S1100-NS	11.0	18	0.5	23	8.8	85	130	12.0	6	●
S1150-NS	11.5	18	0.5	23	9.2	85	130	12.0	6	●
S1200-NS	12.0	18	0.5	23	9.6	85	130	12.0	6	●

▸ Special diameters are available on request
▸ NOF: Number of flutes
▸ *: Ø3 reamer does not include a coolant hole

●: Standard items

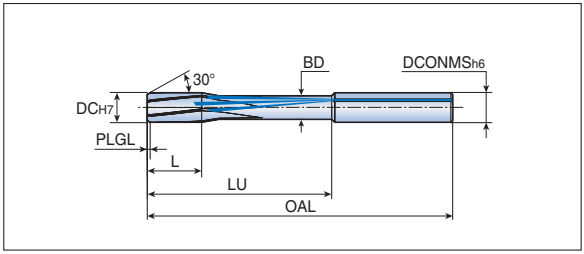
TS-L...-NS

Solid reamers for through hole



• Left flute - DIN1420





Designation	Dimension (mm)							NOF	Grade
	DC	L	PLGL	BD	LU	OAL	DCONMS		TT5040
TS- L0300-NS *	3.0	12	0.7	2.2	31	60	4.0	4	●
L0400-NS	4.0	12	0.7	3.0	40	68	6.0	4	●
L0500-NS	5.0	12	0.9	3.8	40	76	6.0	4	●
L0600-NS	6.0	12	0.9	4.5	40	76	6.0	4	●
L0700-NS	7.0	15	0.9	5.6	65	101	8.0	6	●
L0800-NS	8.0	15	0.9	6.4	65	101	8.0	6	●
L0900-NS	9.0	18	0.95	7.2	61	101	10.0	6	●
L1000-NS	10.0	18	0.95	8.0	61	101	10.0	6	●
L1050-NS	10.5	18	1.05	8.4	85	130	12.0	6	●
L1100-NS	11.0	18	1.05	8.8	85	130	12.0	6	●
L1150-NS	11.5	18	1.05	9.2	85	130	12.0	6	●
L1200-NS	12.0	18	1.05	9.6	85	130	12.0	6	●

▸ Special diameters are available on request
▸ NOF: Number of flutes
▸ *: Ø3 reamer does not include a coolant hole

●: Standard items

XR...-3B/5B-S0

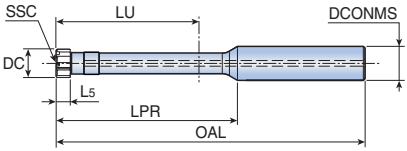
XM-REAM

Head changeable reamer holders for small diameter blind hole



• Cylindrical shank



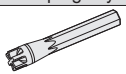


Designation	DC	SSC	Dimension (mm)					Overhang
			DCONMS	L5	OAL	LU	LPR	
XR- **D08-3B-10S0**	8.000-8.999	8	10	4.0	81.0	28.0	36.0	
D09-3B-10S0	9.000-9.999	9	10	4.5	85.5	31.5	40.5	
D10-3B-12S0	10.000-10.999	10	12	5.0	89.0	35.0	44.0	3XD
D11-3B-12S0	11.000-11.999	11	12	5.5	92.5	38.5	47.5	
D12-3B-12S0	12.000-12.999	12	12	6.0	96.0	42.0	51.0	
XR- **D08-5B-10S0**	8.000-8.999	8	10	4.0	97.0	44.0	52.0	
D09-5B-10S0	9.000-9.999	9	10	4.5	103.5	49.5	58.5	
D10-5B-12S0	10.000-10.999	10	12	5.0	109.0	55.0	64.0	5XD
D11-5B-12S0	11.000-11.999	11	12	5.5	114.5	60.5	69.5	
D12-5B-12S0	12.000-12.999	12	12	6.0	120.0	66.0	75.0	

▸ SSC: Seat size code
▸ Matched with XR...-AS reamer heads
▸ Reamer head is sold separately from reamer holder

●: Standard items

Spare parts

Designation	Clamping key	Key handle
		
XR-D08	W XR D08-KEY	SW6-T-SH
XR-D09	W XR D08-KEY	SW6-T-SH
XR-D10	W XR D10-KEY	SW6-T-SH
XR-D11	W XR D10-KEY	SW6-T-SH
XR-D12	W XR D12-KEY	SW6-T-SH

▸ Clamping key & clamping screw are included

XR...-3T/5T-S0

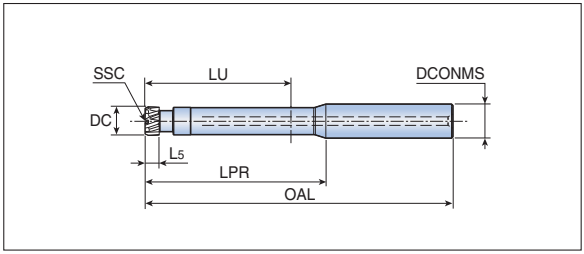
XM-REAM

Head changeable reamer holders for small diameter through hole



• Cylindrical shank



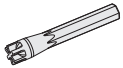


Designation	DC	SSC	Dimension (mm)					Overhang
			DCONMS	L5	OAL	LU	LPR	
XR- **D08-3T-10S0**	8.000-8.999	8	10	4.0	81.0	28.0	36.0	
D09-3T-10S0	9.000-9.999	9	10	4.5	85.5	31.5	40.5	
D10-3T-12S0	10.000-10.999	10	12	5.0	89.0	35.0	44.0	3XD
D11-3T-12S0	11.000-11.999	11	12	5.5	92.5	38.5	47.5	
D12-3T-12S0	12.000-12.999	12	12	6.0	95.0	42.0	50.0	
XR- **D08-5T-10S0**	8.000-8.999	8	10	4.0	97.0	44.0	52.0	
D09-5T-10S0	9.000-9.999	9	10	4.5	103.5	49.5	58.5	
D10-5T-12S0	10.000-10.999	10	12	5.0	109.0	55.0	64.0	5XD
D11-5T-12S0	11.000-11.999	11	12	5.5	114.5	60.5	69.5	
D12-5T-12S0	12.000-12.999	12	12	6.0	119.0	66.0	74.0	

▸ SSC: Seat size code
▸ Matched with XR...-BL reamer heads
▸ Reamer head is sold separately from reamer holder

●: Standard items

Spare parts

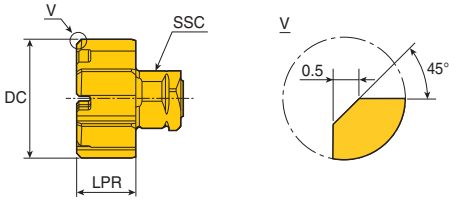
Designation	Clamping key	Key handle
		
XR-D08	W XR D08-KEY	SW6-T-SH
XR-D09	W XR D08-KEY	SW6-T-SH
XR-D10	W XR D10-KEY	SW6-T-SH
XR-D11	W XR D10-KEY	SW6-T-SH
XR-D12	W XR D12-KEY	SW6-T-SH

▸ Clamping key & clamping screw are included

XR...-AS

XM-REAM

Head changeable reamer head



- Straight flute for blind hole
- For H7 hole tolerance

Head	Designation	Dimension (mm)		NOF	SSC	Flute type	Edge type	Grade
		DC	LPR					TT9030
	XR- 08.000-AS	8.000	4.0	6	8	S	A	●
	09.000-AS	9.000	4.5	6	9	S	A	●
	10.000-AS	10.000	5.0	6	10	S	A	●
	11.000-AS	11.000	5.5	6	11	S	A	●
	12.000-AS	12.000	6.0	6	12	S	A	●

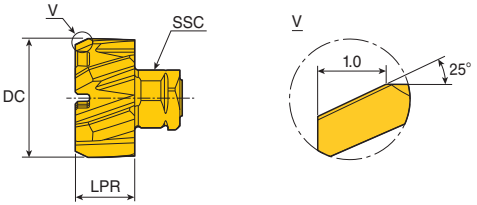
▸ NOF: Number of flutes
▸ SSC: Seat size code

●: Standard items

XR...-BL

XM-REAM

Head changeable reamer head



- Straight flute for blind hole
- For H7 hole tolerance

Head	Designation	Dimension (mm)		NOF	SSC	Flute type	Edge type	Grade
		DC	LPR					TT9030
	XR- 08.000-BL	8.000	4.0	6	8	L	B	●
	09.000-BL	9.000	4.5	6	9	L	B	●
	10.000-BL	10.000	5.0	6	10	L	B	●
	11.000-BL	11.000	5.5	6	11	L	B	●
	12.000-BL	12.000	6.0	6	12	L	B	●

▸ NOF: Number of flutes
▸ SSC: Seat size code

●: Standard items

05

Milling

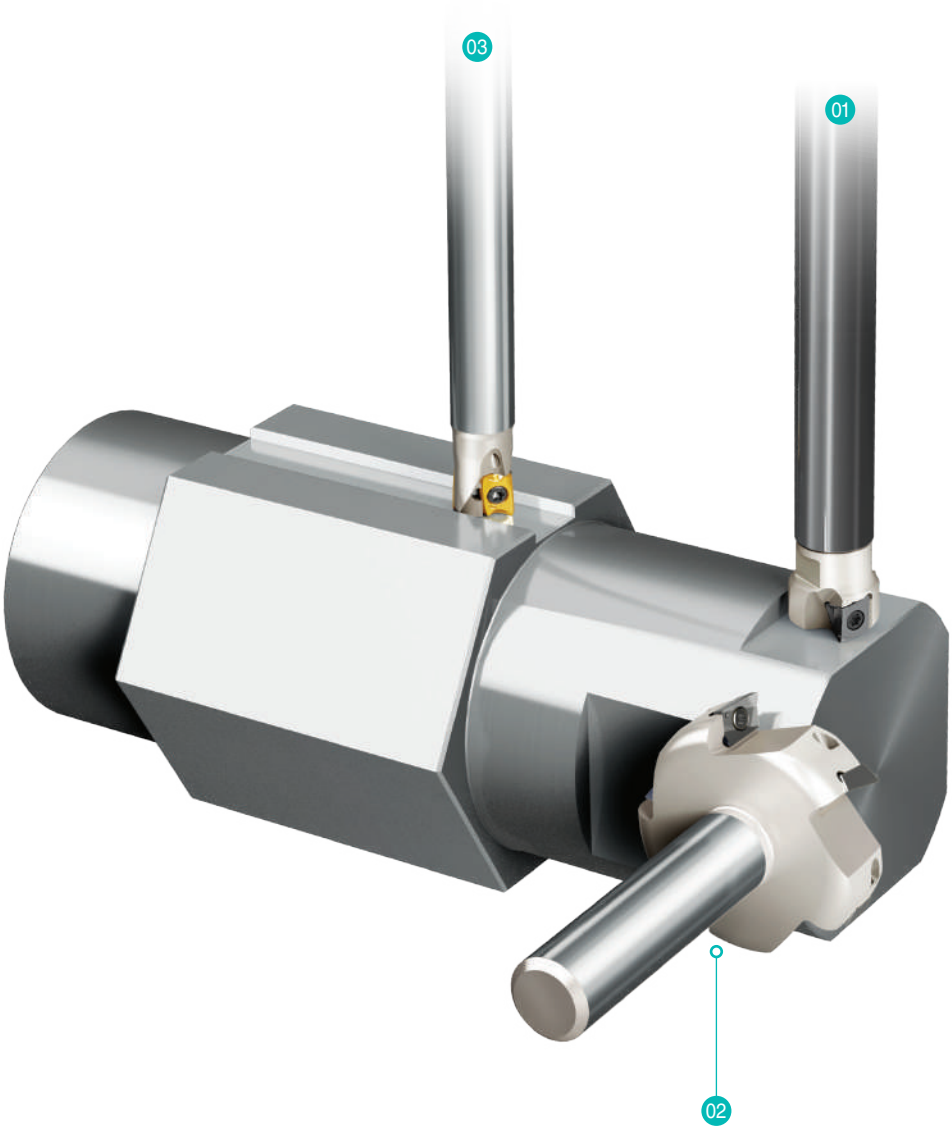
Milling for Small Parts

Tool Selection Guide 272

Grade 275

Milling Cutters & Inserts

- TANG-SFEED 276
- CHASE-MILL 278
- WIN-MILL 279


03
01
02

01 TANGSFEED

Cutter Diameter: 10-30 mm

Shank dia: 10, 12 mm



4T-MTE90





LPHU 05-ML

4 edges

02 CHASEMILL

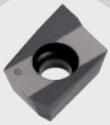
Cutter Diameter: 08-30 mm

Shank dia: 5, 6, 7, 10 mm



MTE90 AX





AXCT 06-L

For precision



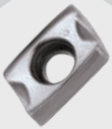
AXCT 06-AL

For non-ferrous

03 WINMILL

Cutter Diameter: 06-14 mm

Shank dia: 6, 8, 10, 12 mm



CVHT-L

For precision



CVKT-M

For general





Rigid larger core body, more teeth

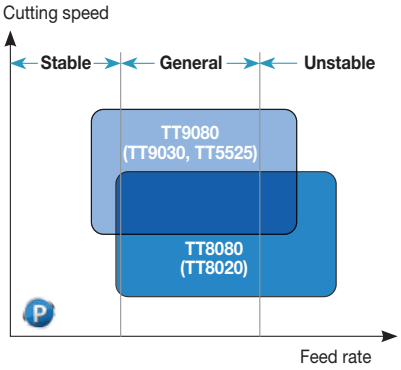
Series	TANGSFEED		CHASEMILL
	4T-MTE90-05	4T-MTE90-S-05	MTE90AX-06-L
	 276	 276	 278
Approach angle	90°	90°	90°
Max. depth of cut(mm)	4.6	4.6	5.5
Diameter range(mm)	Ø10-Ø30	Ø10-Ø30	Ø8-Ø30
Insert	LPHU 05	LPHU 05	AXCT 06-L AXCT 06-AL

Series	WINMILL		
	2S-TE90CV-05	2S-TE90CV-05	
	 279	 280	
Approach angle	90°	90°	
Max. depth of cut(mm)	5.0	5.0	
Diameter range(mm)	Ø6-Ø10	Ø8-Ø12	
Insert	CVHT 05	CVHT 05	

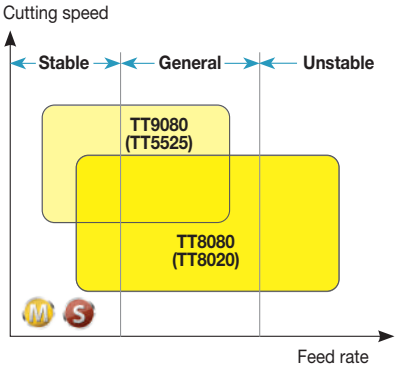
Grades

Milling grades

For steel



For stainless steel & super alloy



Grades	ISO	Characteristics & applications
K10 Uncoated	K05 – K15 N05 – N15 S05 – S15	• General machining of cast iron, aluminum alloys and non-ferrous materials
TT2510 PVD coated	P05 – P25 H05 – H25	• High speed milling of pre-hardened steel and hardened steel
TT9080 PVD coated	P20 – P40 M20 – M40 S20 – S40	• General machining of steel, stainless steel and heat-resistant alloy
TT8080 PVD coated	P30 – P50 M30 – M50 S30 – S50	• Interrupted and rough machining of steel and stainless steel • Low speed and interrupted machining of heat-resistant alloy
TT5525 PVD coated	P20 – P40 M20 – M20 S20 – S20	• General machining of steel, stainless steel and heat-resistant alloy

4T-MTE90-05

TANGSFEED TANGENTIAL MILL

End mills



90°

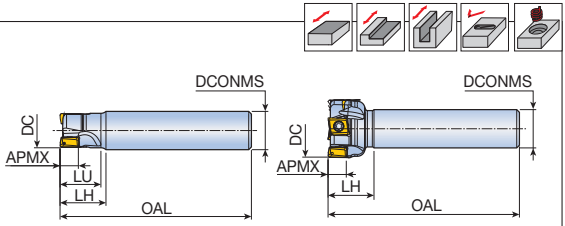


Fig.1 Fig.2

Designation		Dimension (mm)						Fig.	Insert
		DC	DCONMS	OAL	LU	LH	APMX		
4T-MTE90-210-10-05	2	10	10	50	10	12	4.6	1	LPHU 0502…
212-10-05	2	12	10	50	-	12	4.6	2	
314-10-05	3	14	10	50	-	12	4.6	2	
416-10-05	4	16	10	50	-	12	4.6	2	
420-10-05	4	20	10	50	-	12	4.6	2	
520-12-05	5	20	12	60	-	12	4.6	2	
430-10-05	4	30	10	50	-	12	4.6	2	
630-12-05	6	30	12	60	-	12	4.6	2	

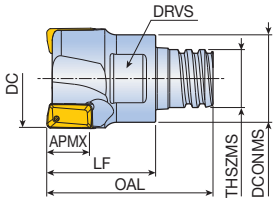
4T-MTE90-S-05

TANGSFEED TANGENTIAL MILL

Modular heads



90°

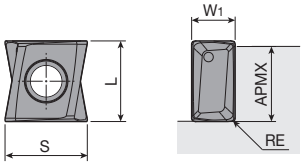


Designation		Dimension (mm)							Insert
		DC	DCONMS	LF	OAL	THSZMS	APMX	DRVS	
4T-MTE90-210-S06-05	2	10	9.6	11	17.3	S06	4.6	8	LPHU 0502…
212-S06-05	2	12	9.6	12	18.3	S06	4.6	8	
314-S06-05	3	14	9.6	13	19.3	S06	4.6	8	
416-S06-05	4	16	9.6	14	20.3	S06	4.6	8	
420-S06-05	4	20	9.6	15	21.3	S06	4.6	8	
430-S06-05	4	30	9.6	16	22.3	S06	4.6	8	
630-S08-05	6	30	11.5	16	23.5	S08	4.6	10	

▸ Matched with MAXI-RUSH holder, please refer to pages 324-325

LPHU

Inserts



Size	Dimension (mm)				
	L	W1	S	APMX	RE
05	5	2.7	5.0	4.6	0-0.4

ML

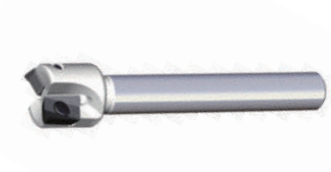
Insert	Designation	Recommended machining conditions		Coated									Uncoated		
		ap (mm)	Feed (mm/tooth)	TT9080	TT9030	TT8080	TT8020	TT8525B	TT7080	TT7515	TT6080	TT5525	TT2510	K10	
	**LPHU 050200 PNR-ML**	0.1-3.5	0.08-0.03									●			
	050202 PNR-ML	0.2-3.5	0.10-0.03									●			
	050204 PNR-ML	0.3-3.5	0.10-0.03									●			

●: Standard items

MTE90AX-06-L

CHASEMILL

End mills



90°

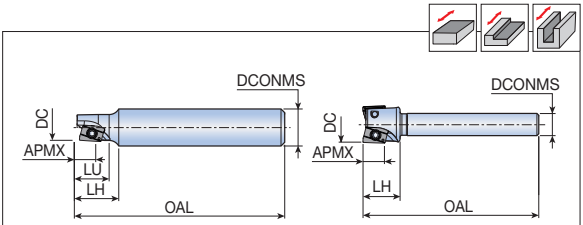


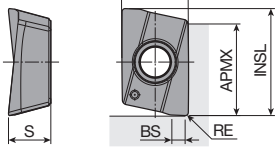
Fig.1 Fig.2

Designation			Dimension (mm)						Fig.	Insert
			DC	DCONMS	OAL	LU	LH	APMX		
MTE90AX	**108-10-06-L60**	1	8	10	60	9	12	5.5	1	AXCT 06-L...
	210-05-06-L40	2	10	5	40	-	10	5.5	2	
	210-06-06-L50	2	10	6	50	-	10	5.5	2	
	210-07-06-L50	2	10	7	50	-	10	5.5	2	
	210-10-06-L50	2	10	10	50	10	12	5.5	1	
	212-10-06-L50	2	12	10	50	-	10	5.5	2	
	214-10-06-L50	2	14	10	50	-	10	5.5	2	
	315-05-06-L40	3	15	5	40	-	10	5.5	2	
	316-07-06-L50	3	16	7	50	-	10	5.5	2	
	316-10-06-L50	3	16	10	50	-	10	5.5	2	
	320-07-06-L50	3	20	7	50	-	10	5.5	2	
	320-10-06-L50	3	20	10	50	-	10	5.5	2	
	530-10-06-L50	5	30	10	50	-	10	5.5	2	

AXCT 06-L / AXCT 06-AL

CHASEMILL

Inserts



L AL

Size	Dimension (mm)					
	INSL	W1	S	APMX	BS	RE
06-L	6.5	4.20	2.6	5.5	0.6-1.0	0-0.4
06-AL	6.7	4.20	2.6	5.5	0.83	0.2-0.8

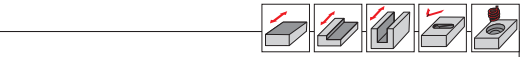
Insert	Designation	Recommended machining conditions		Coateda								Uncoated	
		ap (mm)	Feed (mm/tooth)	TT9080	TT9030	TT8080	TT8020	TT8525B	TT7080	TT7515	TT6080	TT5525	TTD620	K10	
	**AXCT 060200R-L**	0.1-5.0	0.08-0.03									●			
	060202R-L	0.2-5.0	0.10-0.03									●			
	060204R-L	0.3-5.0	0.10-0.03									●	●		
	**AXCT 060202R-AL**	1.5-5.0	0.20-0.10											●	
	060204R-AL	1.5-5.0	0.20-0.10											●	
	060208R-AL	1.5-5.0	0.20-0.10											●	

●: Standard items

2S-TE90CV-05

End mills





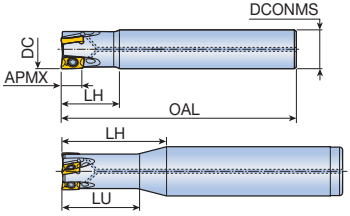
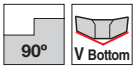


Fig.1

Fig.2

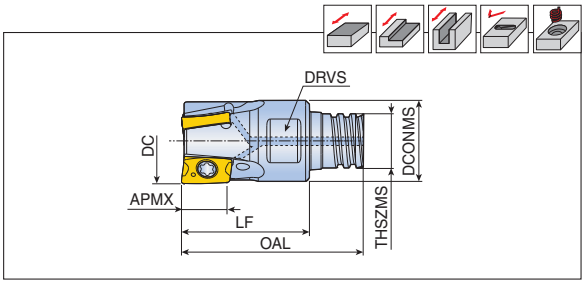


Designation		Dimension (mm)						Coolant hole	Fig.	Insert
		DC	DCONMS	OAL	LH	LU	APMX			
2S-TE90CV-106-06-05	1	6	6	60	12	-	5.0	•	1	CVHT 0502...
106-06-05-L50	1	6	6	50	10	-	5.0	•	1	
208-07-05	2	8	7	80	12	-	5.0	•	1	
208-08-05	2	8	8	80	12	-	5.0	•	1	
208-08-05-L50	2	8	8	50	10	-	5.0	•	1	
208-12-05	2	8	12	80	25	18	5.0	•	2	
209-08-05	2	9	8	80	12	-	5.0	•	1	
210-10-05	2	10	10	80	15	-	5.0	•	1	
212-12-05	2	12	12	80	15	-	5.0	•	1	
310-09-05	3	10	9	80	12	-	5.0	•	1	
310-10-05	3	10	10	80	15	-	5.0	•	1	
310-10-05-L55	3	10	10	55	12	-	5.0	•	1	
310-16-05-L90	3	10	16	90	34	22	5.0	•	2	
311-10-05	3	11	10	80	12	-	5.0	•	1	
312-12-05	3	12	12	80	15	-	5.0	•	1	
412-11-05	4	12	11	80	12	-	5.0	•	1	
412-12-05	4	12	12	80	15	-	5.0	•	1	
412-12-05-L60	4	12	12	60	14	-	5.0	•	1	
412-16-05-L100	4	12	16	100	34	26	5.0	•	2	
413-12-05	4	13	12	80	12	-	5.0	•	1	
414-12-05	4	14	12	80	10	-	5.0	•	1	
514-14-05-L90	5	14	14	90	15	-	5.0	•	1	

2S-TE90CV-S-05

End mills





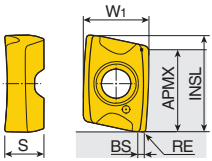
90°

Designation		Dimension (mm)							Coolant hole	Fig.	Insert
		DC	DCONMS	LF	OAL	THSZMS	APMX	DRVS			
2S-TE90CV- 208-S05-05	2	8	7.6	10	16.7	S05	5.0	5.5	●	2	CVHT 0502...
310-S06-05	3	10	9.6	15	21.3	S06	5.0	8	●	2	
412-S08-05	4	12	11.5	16	23.5	S08	5.0	10	●	2	

▸ Matched with MAXI-RUSH holder, please refer to pages 324-325.

CVK(H)T

Inserts



L / AL

Size	Dimension (mm)					
	INSL	W1	S	APMX	BS	RE
05-L/AL	6.3	4.1	2.6	5.0	0.3	0.2

L / AL

V Bottom

Insert	Designation	Recommended machining conditions		Coated								Uncoated
		ap (mm)	Feed (mm/tooth)	TT9080	TT9030	TT8080	TT8020	TT8525	TT7080	TT7515	TT6080	TT5525	TT2510	UF10
	**CVHT 0502PNR-L**	0.5-4.0	0.07-0.03	●		●						●		
	**CVHT 0502PNR-AL**	0.5-4.0	0.20-0.07											●

●: Standard items

06

Solid End Mills

Modular Type & Solid End Mills

Tool Selection Guide 282

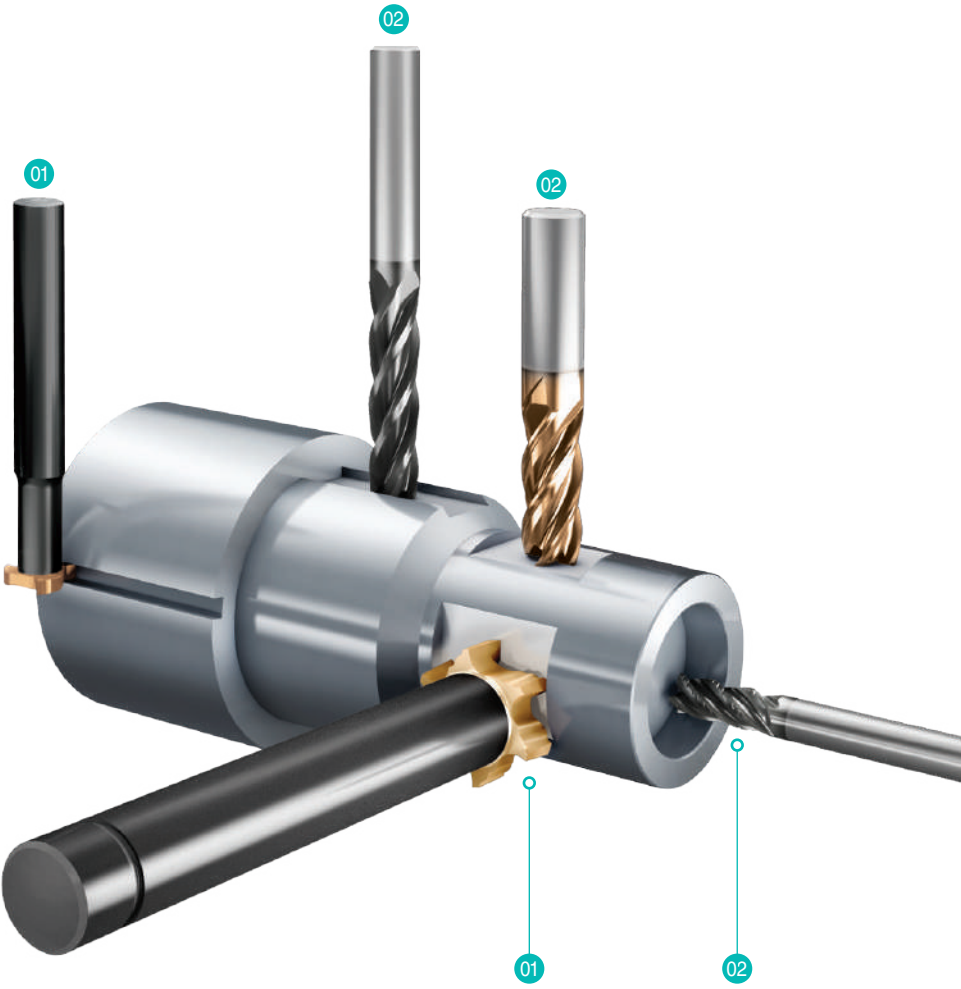
Grade 292

Molular Type End Mills

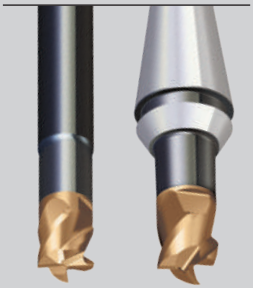
- MAXI-RUSH 293

Solid Carbide End Mills

- HARD-MILL 327
- SLIK-SOLID 333
- APEX-MILL 335
- STAR-MILL 341
- ALU-MILL 343

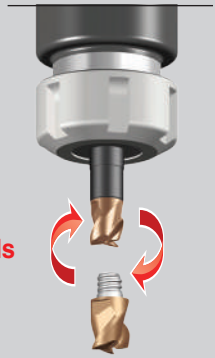

02
01
02
01
02

01 MAXIRUSH





Reduced downtime
Tool setting is eliminated by replacing the head



Within **15 seconds**



02 Solid End Mills

Solid End Mill Lines for Various Applications



APEXMILL



For general

SLIKSOLID



STARMILL



ALUMILL



For difficult-to-cut materials

For non-ferrous

Series	MXEE-03	MXEE(D)-04	MXEE-03	MXEE-I04	MXES-R	MXEE-R
						
Type	Flat	Radius	Radius	Chamfer/Radius	Radius	Chamfer
Flute	3	4	3	4	4	4-6
Grades	TT5523	TT5523	TT5523	TT5523	TT5523	TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○
Diameter range (mm)	Ø8-Ø12	Ø5-Ø20	Ø7.7-Ø19.7	Ø8-Ø25	Ø8-Ø25	Ø8-Ø25
Pages	293	293	295	295	296	296

Series	MXEE-R-1.5D	MXEE-C04	MXEE-A02	MXEE-A03	MXEE-RA03	MXEE(D)-06
						
Type	Radius	Chamfer	Radius	Radius	Radius	Radius
Flute	4-6	4	2	3	3	6
Grades	TT5523	TT5523	UF10/TTA101	UF10/TTA101	UF10	TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ●	P M K N S H ●	P M K N S H ●	P M K N S H ● ○ ● ●
Diameter range (mm)	Ø8-Ø20	Ø8-Ø25	Ø10-Ø12	Ø8-Ø20	Ø8-Ø20	Ø8-Ø12
Pages	297	297	298	298	299	299

● Recommended, ○ Suitable

MAXIRUSH

Modular solid carbide end mill heads

Series	MXED-08/10	MXED-I07/I09-1.5D	MXRB-02	MXRD-06	MXFX-02	MXFX-04/06
						
Type	Radius	Radius	Radius	Radius	Ball	Radius
Flute	8,10	7,9	2	6	2	4,6
Grades	TT5523	TT5523	TT5523	TT5523	TT5523	TT5513/TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○
Diameter range (mm)	Ø16-Ø25	Ø10-Ø20	Ø20	Ø8-Ø16	Ø10-Ø20	Ø8-Ø25
Pages	300	300	301	301	302	302

Series	MXBD-BG-02	MXBD(E)-BG-04	MXBE-BH-04	MXBB-SG-02	MXBE-BGA02	MXCP-02
						
Type	Ball	Ball	Ball	Ball (Spherical)	Ball	Chamfer
Flute	2	4	4	2	2	2
Grades	TT5523	TT5523	TT5513	TT5523	UF10/TTA101	TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ●	P M K N S H ● ○ ● ○	P M K N S H ●	P M K N S H ● ○ ● ○
Diameter range (mm)	Ø8-Ø16	Ø6-Ø25	Ø8-Ø20	Ø8-Ø25	Ø8-Ø20	Ø8-Ø16.5
Pages	303	303	304	304	305	305

● Recommended, ○ Suitable

Modular solid carbide end mill heads

Series	MXCA-04/06	MXCW-02	MXCR-02	MXCS-04	MXDP-02	MXGC-02
						
Type	Chamfer	Chamfer	Concave	Chamfer	Center drill	Counter Boring
Flute	4,6	2	2	4	2	2
Grades	TT5523	TT5523	TT5523	TT5523	TT5523	TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○
Diameter range (mm)	Ø10-Ø20	Ø9.8-Ø15.7	Ø8-Ø20	Ø7.7	Ø1.07-Ø6.41	Ø8-Ø16
Pages	306	306	307	308	308	309

Series	MXDS-02	MXEG-01	MXDG-04	MXCSL	MXCSO
					
Type	Drill & Chamfer	Engraving	Grooving	Lens Shape	Oval Shape
Flute	2	1	4	4	4
Grades	TT5523	TT5523	TT5523	TT5523	TT5523
Material	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ● ○ ● ○
Diameter range (mm)	Ø6-Ø16	Ø6-Ø8	Ø15.5-Ø24.5	Ø8-Ø16	Ø8-Ø16
Pages	309	310	310	311	311

● Recommended, ○ Suitable

Modular solid carbide end mill heads

Series	MXFM-I06	TTRD-A60	TTRD-W55	TDT-06	
					
Type	Milling	Thread	Thread	Dovetail	
Flute	6	3,4	4	6	
Grades	TT5523	TT5543	TT5543	TT5523	
Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H	
	● ○ ● ○	● ● ○ ○	● ● ○ ○	● ○ ● ○	
Diameter range (mm)	Ø10-Ø25	Ø15.7-Ø21.7	Ø21.7	Ø27.7	
Pages	312	312	313	313	

Modular solid carbide slotting heads

Series	TST-3	TST-4/6	TST-A45	TTB-04	TTB-06
					
Type	Slot	Slot	Slot Chamfer	Slot	Slot
Flute	3	4,6	3,4	4	6
Grades	TT5543	TT5523/TT5543	TT5523/TT5543	TT5523	TT5523/TT5543
Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H	P M K N S H
	● ● ○ ○	● ● ● ○	● ● ● ○	● ○ ● ○	● ○ ● ○
Diameter range (mm)	Ø15.7-Ø17.7	Ø21.7-Ø27.7	Ø17.7-Ø27.7	Ø7.7	Ø10.5-Ø25
Width of cut (mm)	1.5-3.17	0.76-10	3.4-9.8	1-2	1.58-8
Pages	314	315	316	316	317

● Recommended, O Suitable

Holders for MAXI-RUSH head

Series	MXSSD	MXSSD-S	MXSSD-C	MXSSD-W-A	MXTSD-S
					
Shank type	Short	Step neck	Step neck	Step neck	Taper neck
Shank material	Steel/Carbide	Steel	Carbide	Tungsten	Steel
Internal coolant	X	●/X	●/X	●	X
Connection size	S04-S15	S05-S15	S05-S15	S06-S12	S04-S15
Shank range (mm)	Ø6-Ø32	Ø8-Ø25	Ø8-Ø25	Ø10-Ø20	Ø8-Ø32
Pages	318	319	320	321	322

Series	MXTSD-C	MXTSD-W-A	MXSTD-S	MXSC-C	
					
Shank type	Taper neck	Taper neck	Straight	Straight	
Shank material	Carbide	Tungsten	Steel	Carbide	
Internal coolant	X	●	X	●/X	
Connection size	S05-S15	S06	S04-S10	S06, S08	
Shank range (mm)	Ø12-Ø32	Ø12-Ø16	Ø6-Ø16	Ø10-Ø12	
Pages	323	323	324	324	

Adaptor for MAXI-RUSH head

Series	MXAD-M	MXER			
					
Shank type	T-FLEXTEC	ER Collet			
Shank material	Steel	Steel			
Internal coolant	X	X			
Connection size	S08	S04-S08			
Shank range (mm)	M8 - M12	ER11 - ER25			
Pages	325	325			

Tool Selection Guide

Solid End Mills

Series	HARDMILL						
	HSB 2	HSB 2...S6	HSB 2...M	HSF 2	HSF 2...M	HSR 2	HSR 2...M
							
Type	Ball	Ball	Ball	Flat	Flat	Radius	Radius
Flute	2	2	2	2	2	2	2
Length	Long	Long	Short	Long	Medium	Long	Medium
Grades	TT5505	TT5505	TT5505	TT5505	TT5505	TT5505	TT5505
Application	H.S.M*	H.S.M*	H.S.M*	H.S.M*	H.S.M*	H.S.M*	H.S.M*
Material	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●	P M K N S H ○ ○ ●
Range	Ø0.3 - Ø0.8	Ø0.6 - Ø0.8	Ø0.3 - Ø0.9	Ø0.3 - Ø0.8	Ø0.3 - Ø0.8	Ø0.3 - Ø0.8	Ø0.3 - Ø0.8
Pages	327	328	328	329	330	331	332

Series	SLIKSOLID		APEXMILL		APEXMILL		
	UHP 4	UHP 4…R	TSE 2...M	TSE 4...M	FSM 4...M	CEM 2...-C60	CEM 2
							
Type	Flat	Radius	Flat	Flat	Chamfer	Chamfer 60°	Chamfer 45°
Flute	4	4	2	4	4	2	2
Length	Medium	Medium	Medium	Medium	Medium	Long	Long
Grades	TT5520	TT5520	TT5515, TT5525, UF10	TT5515, TT5525, UF10	TT5525	UF10	UF10
Application	General	General	General	General	Rough+Finish	General	General
Material	P M K N S H ● ●	P M K N S H ● ●	P M K N S H ● ○ ● ● ○	P M K N S H ● ○ ● ● ○	P M K N S H ● ○	P M K N S H ● ○ ○ ● ○	P M K N S H ● ○ ○ ● ○
Range	Ø2 - Ø25	Ø3 - Ø20	Ø1 - Ø12	Ø1 - Ø12	Ø6 - Ø12	Ø4 - Ø12	Ø4 - Ø20
Pages	333	334	335	336	337	337	338

▸ H.S.M*: High Speed Machining

● Recommended, ○ Suitable

Tool Selection Guide

Solid End Mills

Series	APEXMILL				STARMILL	
	CEM 2...-C120	ECEM 2	ECEM 4	SBE 2...T	SED 4...U	SER
						
Type	Chamfer 30°	Chamfer 45°	Chamfer 45°	Ball	Flat	Splitter
Flute	2	2	4	2	4	3-5
Length	Long	Medium	Medium	Medium	Medium	Medium
Grades	UF10	UF10	UF10	TT5515	TT5515	TT5525
Application	General	General	General	General	Difficult-to-cut	Difficult-to-cut
Material	P M K N S H ● ○ ○ ● ○	P M K N S H ● ○ ○ ● ○	P M K N S H ● ○ ○ ● ○	P M K N S H ● ○ ● ○	P M K N S H ○ ● ● ○	P M K N S H ○ ● ● ○
Range	Ø4 - Ø12	Ø2 - Ø12	Ø6 - Ø12	Ø1 - Ø12	Ø3 - Ø20	Ø3 - Ø20
Pages	338	339	339	340	341	341

Series	ALUMILL					
	AES 2	AES 3	AWE 3			
						
Type	Flat	Flat	Wave Flat			
Flute	2	3	3			
Length	Medium	Medium	Medium			
Grades	UF10	UF10	UF10			
Application	Aluminum	Aluminum	Aluminum			
Material	P M K N S H ●	P M K N S H ●	P M K N S H ●			
Range	Ø1 - Ø20	Ø2 - Ø13	Ø6 - Ø12			
Pages	342	343	344			

● Recommended, ○ Suitable

Grades

Solid End Mills

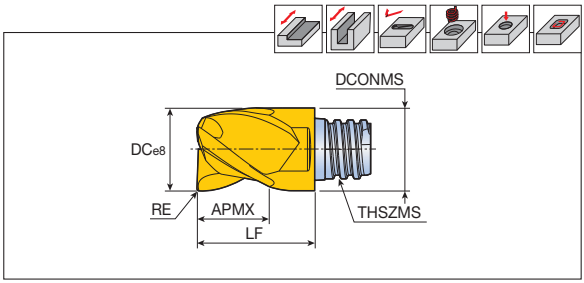
Grades	ISO	Characteristics & applications
TT5515 PVD carbide	P10 – P30 M15 – M30 K10 – K30 S10 – S30 H10 – H30	• An ultra wear resistant high performance grade covering all ISO ranges • Alloy steel, pre-hardeded steel, stainless steel, high-temp alloy (45 < HRC < 55) • Medium to high speed machining
TT5525 PVD carbide	P20 – P40 M20 – M40 S20 – S40	• Optimally balanced with wear resistant and anti-chipping properties • General machining of carbon steel, alloy steel, stainless steel, high-temp alloy (< 40 HRC) • Low to medium speed machining
UF10N **UF10** Uncoated	P25 – P35 M25 – M35 S25 – S35	• General machining of steel, aluminum alloys, non-ferrous materials • Submicron substrate
TT5523 PVD carbide	P20 – P40 M20 – M40 S20 – S40	• High speed milling of steel, stainless steed and high-temp alloy
TT5543 PVD carbide	P30 – P50 M30 – M50 S30 – S50	• Interrupted and rough machining of steel, stainless steel and high-temp alloy

MXEE-03

MAXI RUSH

3 flute, for general purpose





3 H•A 45°

Designation	Feed (mm/tooth)	Dimension (mm)						Grade
		DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXEE 080L05R00-03S05	0.03-0.09	8	-	5	10.0	S05	7.7	●
100L07R00-03S06	0.03-0.10	10	-	7	13.0	S06	9.7	●
120L09R00-03S08	0.04-0.11	12	-	9	16.5	S08	11.7	●

▸ Wrench should be ordered separately

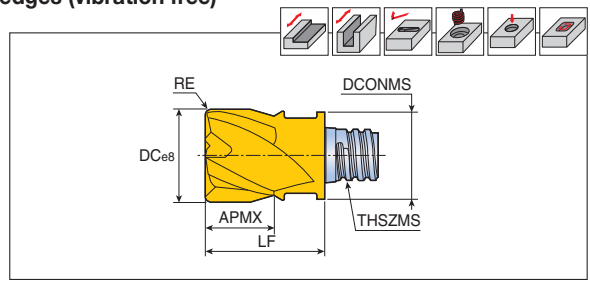
●: Standard items

MXEE(D)-04

MAXI RUSH

4 flute, unequal spacing of cutting edges (vibration free)





4 H•A 30° H•A 45°

Designation	Feed (mm/tooth)	Dimension (mm)							Grade
		DC	RE	FHA	APMX	LF	THSZMS	DCONMS	TT5523
MXEE 050L04R05-04S04	0.02-0.06	5	0.5	45	4	8.5	S04	6.0	●
MXEE 050L07R00-04S05	0.02-0.06	5	-	45	7	15.0	S05	8.0	●
MXEE 060L04R05-04S04	0.02-0.04	6	0.5	45	4	8.5	S04	5.8	●
MXEE 060L05R00-04S05	0.03-0.04	6	-	45	5	10.0	S05	8.0	●
MXED 080L05R05-04S05	0.03-0.09	8	0.5	30	5	10.0	S05	7.7	●
MXED 080L05R10-04S05	0.03-0.09	8	1.0	30	5	10.0	S05	7.7	●
MXED 080L05R15-04S05	0.03-0.09	8	1.5	30	5	10.0	S05	7.7	●
MXED 080L09R05-04S05	0.03-0.09	8	0.5	30	9	15.0	S05	7.7	●
MXEE 080L05R00-04S05	0.03-0.09	8	-	45	5	10.0	S05	7.7	●

▸ Wrench should be ordered separately

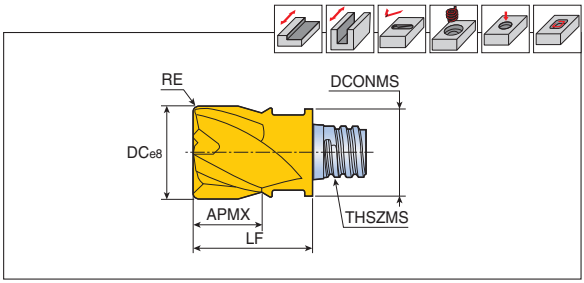
●: Standard items

MXEE(D)-04

MAXIRUSH

4 flute, for general purpose





Designation	Feed (mm/tooth)	Dimension (mm)							Grade
		DC	RE	FHA	APMX	LF	THSZMS	DCONMS	TT5523
MXEE 080L05R05-04S05	0.03-0.09	8	0.5	45	5	10.0	S05	7.7	●
MXEE 080L05R10-04S05	0.03-0.09	8	1.0	45	5	10.0	S05	7.7	●
MXEE 080L09R00-04S05	0.03-0.09	8	-	45	9	15.0	S05	7.7	●
MXED 100L07R05-04S06	0.03-0.10	10	0.5	30	7	13.0	S06	9.6	●
MXED 100L07R10-04S06	0.03-0.10	10	1.0	30	7	13.0	S06	9.6	●
MXEE 100L07R00-04S06	0.03-0.10	10	-	45	7	13.0	S06	9.6	●
MXEE 100L07R05-04S06	0.03-0.10	10	0.5	45	7	13.0	S06	9.6	●
MXEE 100L07R10-04S06	0.03-0.10	10	1.0	45	7	13.0	S06	9.6	●
MXEE 100L12R00-04S06	0.03-0.10	10	-	45	12	19.0	S06	9.6	●
MXED 120L09R05-04S08	0.04-0.11	12	0.5	30	9	16.5	S08	11.7	●
MXED 120L09R10-04S08	0.04-0.11	12	1.0	30	9	16.5	S08	11.7	●
MXEE 120L09R00-04S08	0.04-0.11	12	-	45	9	16.5	S08	11.7	●
MXEE 120L09R05-04S08	0.04-0.11	12	0.5	45	9	16.5	S08	11.7	●
MXEE 120L09R10-04S08	0.04-0.11	12	1.0	45	9	16.5	S08	11.7	●
MXEE 120L14R00-04S08	0.04-0.11	12	-	45	14	23.0	S08	11.7	●
MXED 160L12R05-04S10	0.05-0.13	16	0.5	30	12	20.5	S10	15.3	●
MXED 160L12R10-04S10	0.05-0.13	16	1.0	30	12	20.5	S10	15.3	●
MXED 160L12R15-04S10	0.05-0.13	16	1.5	30	12	20.5	S10	15.3	●
MXED 160L12R20-04S10	0.05-0.13	16	2.0	30	12	20.5	S10	15.3	●
MXED 160L12R30-04S10	0.05-0.13	16	3.0	30	12	20.5	S10	15.3	●
MXED 160L12R40-04S10	0.05-0.13	16	4.0	30	12	20.5	S10	15.3	●
MXEE 160L12R00-04S10	0.05-0.13	16	-	45	12	20.5	S10	15.3	●
MXEE 160L12R05-04S10	0.05-0.13	16	0.5	45	12	20.5	S10	15.3	●
MXEE 160L12R10-04S10	0.05-0.13	16	1.0	45	12	20.5	S10	15.3	●
MXEE 160L12R15-04S10	0.05-0.13	16	1.5	45	12	20.5	S10	15.3	●
MXEE 160L12R20-04S10	0.05-0.13	16	2.0	45	12	20.5	S10	15.3	●
MXEE 160L12R30-04S10	0.05-0.13	16	3.0	45	12	20.5	S10	15.3	●
MXEE 160L12R40-04S10	0.05-0.13	16	4.0	45	12	20.5	S10	15.3	●
MXED 200L15R05-04S12	0.05-0.13	20	0.5	30	15	25.5	S12	18.3	●
MXED 200L15R10-04S12	0.05-0.13	20	1.0	30	15	25.5	S12	18.3	●
MXED 200L15R20-04S12	0.05-0.13	20	2.0	30	15	25.5	S12	18.3	●
MXED 200L15R30-04S12	0.05-0.13	20	3.0	30	15	25.5	S12	18.3	●
MXEE 200L15R00-04S12	0.05-0.13	20	-	45	15	25.5	S12	18.3	●

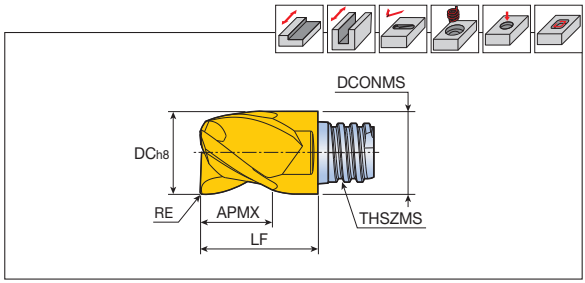
▸ Wrench should be ordered separately
▸ FHA: Flute helix angle

●: Standard items

MXEE-03

3 flute, for keyways





Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXEE	077L04R02-03S05	0.03-0.08	7.7	0.2	4	10.0	S05	7.7	●
	097L05R03-03S06	0.03-0.09	9.7	0.3	5	13.0	S06	9.7	●
	117L07R03-03S08	0.03-0.10	11.7	0.3	7	16.5	S08	11.7	●
	157L08R03-03S10	0.04-0.12	15.7	0.3	8	20.5	S10	15.3	●
	197L12R04-03S12	0.05-0.13	19.7	0.4	12	25.5	S12	18.3	●

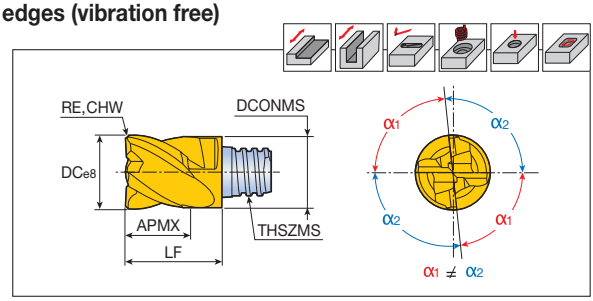
▸ Wrench should be ordered separately

●: Standard items

MXEE-I04

4 flute, unequal spacing of cutting edges (vibration free)





Designation		Feed (mm/tooth)	Dimension (mm)							Grade
			DC	RE	CHW	APMX	LF	THSZMS	DCONMS	TT5523
MXEE	080L05C30I04S05	0.03-0.09	8	-	0.3	5	10.0	S05	7.7	●
	100L07C40I04S06	0.03-0.10	10	-	0.4	7	13.0	S06	9.7	●
	120L09C50I04S08	0.04-0.11	12	-	0.5	9	16.5	S08	11.7	●
	160L12C60I04S10	0.05-0.13	16	-	0.6	12	20.5	S10	15.3	●
	200L15C60I04S12	0.05-0.17	20	-	0.6	15	25.5	S12	18.3	●
	250L22C60I04S15	0.06-0.17	25	-	0.6	22	37.0	S15	23.9	●
	250L22R00I04S15	0.06-0.17	25	-	-	22	37.0	S15	23.9	●
	250L22R05I04S15	0.06-0.17	25	0.5	-	22	37.0	S15	23.9	●
	250L22R10I04S15	0.06-0.17	25	1.0	-	22	37.0	S15	23.9	●
	250L22R20I04S15	0.06-0.17	25	2.0	-	22	37.0	S15	23.9	●
	250L22R30I04S15	0.06-0.17	25	3.0	-	22	37.0	S15	23.9	●

▸ Wrench should be ordered separately

●: Standard items

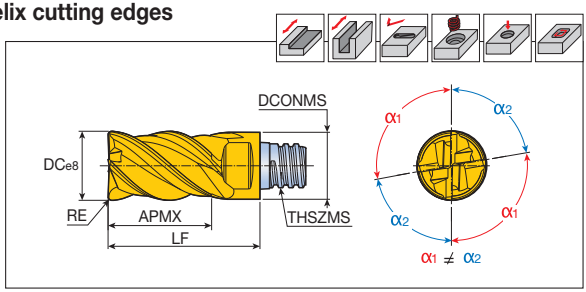
MXES-R

MAXIRUSH

4 flute, unequal space & variable helix cutting edges



4 | H•A 30° | H•A 45°



Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXES	080H05R05I04S05	0.03-0.09	8	0.5	5	10.0	S05	7.7	●
	080H12R05I04S05	0.03-0.08	8	0.5	12	18.0	S05	7.7	●
	100H07R05I04S06	0.03-0.10	10	0.5	7	13.0	S06	9.7	●
	100H15R05I04S06	0.03-0.09	10	0.5	15	22.0	S06	9.7	●
	120H09R05I04S08	0.04-0.11	12	0.5	9	16.5	S08	11.7	●
	120H18R05I04S08	0.04-0.10	12	0.5	18	27.0	S08	11.7	●
	160H12R05I04S10	0.05-0.13	16	0.5	12	20.5	S10	15.3	●
	160H24R05I04S10	0.04-0.10	16	0.5	24	33.5	S10	15.3	●
	200H15R05I04S12	0.05-0.17	20	0.5	15	25.5	S12	18.5	●
	200H30R05I04S12	0.05-0.11	20	0.5	30	41.0	S12	18.5	●
	250H22R05I04S15	0.06-0.17	25	0.5	22	37.0	S15	23.9	●
	250H37R05I04S15	0.05-0.12	25	0.5	37	52.5	S15	23.9	●

▸ Wrench should be ordered separately

●: Standard items

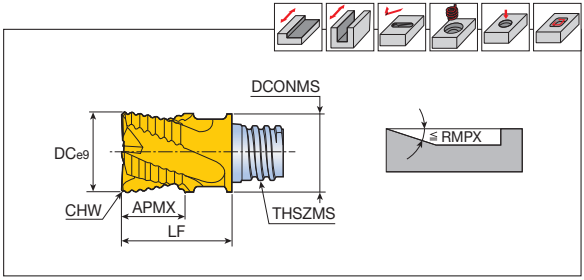
MXEE-R

MAXIRUSH

4-6 flute, for roughing



4-6 | H•A 45°



Designation		Feed (mm/tooth)	Dimension (mm)								Grade
			DC	NOF	CHW	APMX	LF	THSZMS	DCONMS	RMPX	TT5523
MXEE	080L05C25R04S05	0.03-0.08	8	4	0.25	5	10.0	S05	7.7	5	●
	100L07C30R04S06	0.03-0.09	10	4	0.30	7	13.0	S06	9.7	5	●
	120L09C35R04S08	0.04-0.10	12	4	0.35	9	16.5	S08	11.7	5	●
	160L12C40R05S10	0.04-0.10	16	5	0.40	12	20.5	S10	15.3	5	●
	200L15C40R06S12	0.05-0.11	20	6	0.40	15	25.5	S12	18.3	3	●
	250L22C50R06S15	0.05-0.11	25	6	0.50	22	37.0	S15	23.9	3	●

▸ Wrench should be ordered separately

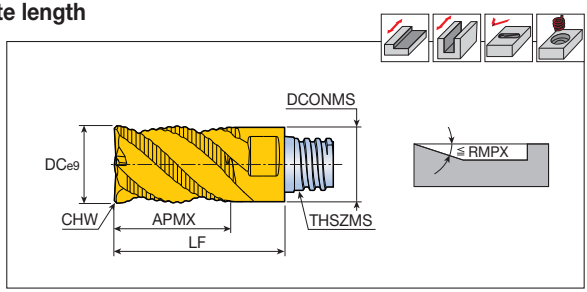
●: Standard items

MXEE-R-1.5D

MAXIRUSH

4-6 flute, for roughing with 1.5D flute length





4-6 | H•A 45°

Designation		Feed (mm/tooth)	Dimension (mm)								Grade
			DC	NOF	CHW	APMX	LF	THSZMS	DCONMS	RMPX	TT5523
MXEE	080L05C25R04S05	0.03-0.08	8	4	0.25	5	10.0	S05	7.7	5	●
	100L07C30R04S06	0.03-0.09	10	4	0.30	7	13.0	S06	9.7	5	●
	120L09C35R04S08	0.04-0.10	12	4	0.35	9	16.5	S08	11.7	5	●
	160L12C40R05S10	0.04-0.10	16	5	0.40	12	20.5	S10	15.3	5	●
	200L15C40R06S12	0.05-0.11	20	6	0.40	15	25.5	S12	18.3	3	●
	250L22C50R06S15	0.05-0.11	25	6	0.50	22	37.0	S15	23.9	3	●

▸ Wrench should be ordered separately
▸ NOF: Number of flutes
▸ RMPX: Ramping angle maximum

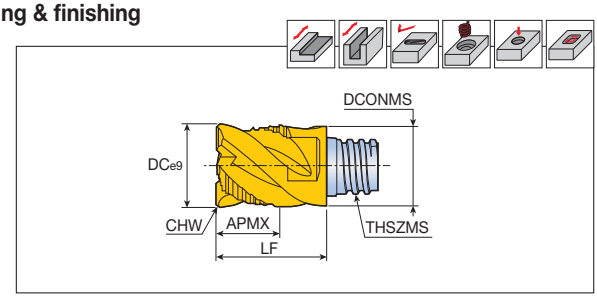
●: Standard items

MXEE-C04

MAXIRUSH

4 flute, combined edges for roughing & finishing





4 | H•A 45°

Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	CHW	APMX	LF	THSZMS	DCONMS	TT5523
MXEE	080L05C30C04S05	0.03-0.08	8	0.3	5	10.0	S05	7.7	●
	100L07C30C04S06	0.03-0.09	10	0.3	7	13.0	S06	9.7	●
	120L09C40C04S08	0.04-0.10	12	0.4	9	16.5	S08	11.7	●
	160L12C60C04S10	0.05-0.11	16	0.6	12	20.5	S10	15.3	●
	200L15C60C04S12	0.05-0.11	20	0.6	15	25.5	S12	18.3	●
	250L22C60C04S15	0.05-0.11	25	0.6	22	37.0	S15	23.9	●

▸ Wrench should be ordered separately

●: Standard items

MXEE-A02

MAXIRUSH

2 flute, for aluminum machining



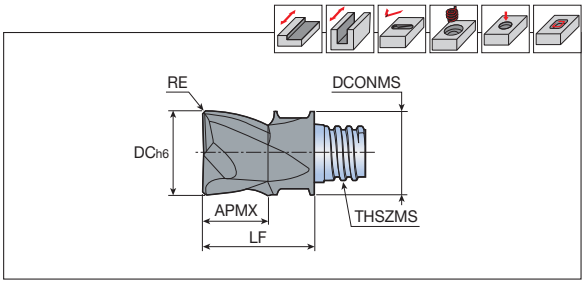
UF10



TTA101







Designation		Feed (mm/tooth)	Dimension (mm)						Grade	
			DC	RE	APMX	LF	THSZMS	DCONMS	UF10	TTA101
MXEE	100L07R05A02S06	0.03-0.10	10	0.5	7	13.0	S06	9.7	●	●
	100L07R10A02S06	0.03-0.10	10	1.0	7	13.0	S06	9.7	●	●
	120L09R05A02S08	0.04-0.11	12	0.5	9	16.5	S08	11.7	●	●

▸ Wrench should be ordered separately

●: Standard items

MXEE-A03

MAXIRUSH

3 flute, for aluminum machining



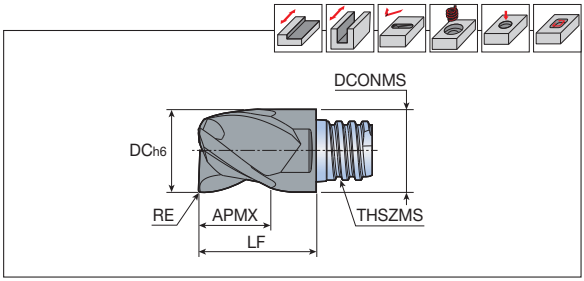
UF10



TTA101







Designation		Feed (mm/tooth)	Dimension (mm)						Grade	
			DC	RE	APMX	LF	THSZMS	DCONMS	UF10	TTA101
MXEE	080L05R05A03S05	0.03-0.09	8	0.5	5	10.0	S05	7.7	●	●
	100L06R05A03S06	0.03-0.10	10	0.5	6	13.0	S06	9.7	●	●
	100L06R10A03S06	0.03-0.10	10	1.0	6	13.0	S06	9.7	●	●
	120L08R05A03S08	0.04-0.11	12	0.5	8	16.5	S08	11.7	●	●
	120L08R10A03S08	0.04-0.11	12	1.0	8	16.5	S08	11.7	●	●
	160L10R00A03S10	0.05-0.13	16	-	10	20.5	S10	15.3	●	●
	160L10R10A03S10	0.05-0.13	16	1.0	10	20.5	S10	15.3	●	●
	160L10R20A03S10	0.05-0.13	16	2.0	10	20.5	S10	15.3	●	●
	200L12R05A03S12	0.05-0.13	20	0.5	12	25.5	S12	18.3	●	●
	200L12R10A03S12	0.05-0.13	20	1.0	12	25.5	S12	18.3	●	●
	200L12R20A03S12	0.05-0.13	20	2.0	12	25.5	S12	18.3	●	●

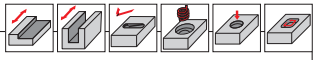
▸ Wrench should be ordered separately

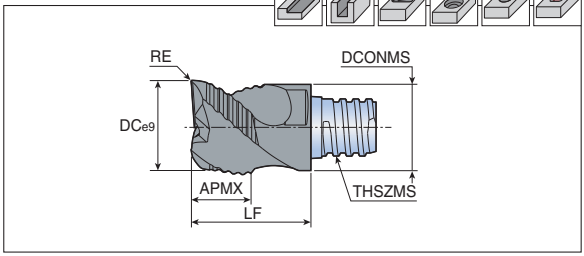
●: Standard items

MXEE-RA03

3 flute, for roughing with aluminum machining









Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	UF10
MXEE	080L05R02RA03S05	0.03-0.15	8	0.2	5	10.0	S05	7.7	●
	100L06R02RA03S06	0.05-0.20	10	0.2	6	13.0	S06	9.6	●
	120L08R02RA03S08	0.07-0.22	12	0.2	8	16.5	S08	11.7	●
	160L10R02RA03S10	0.07-0.25	16	0.2	10	20.5	S10	15.3	●
	200L12R02RA03S12	0.07-0.25	20	0.2	12	25.5	S12	18.5	●

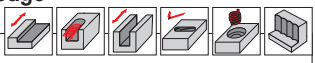
▸ Wrench should be ordered separately

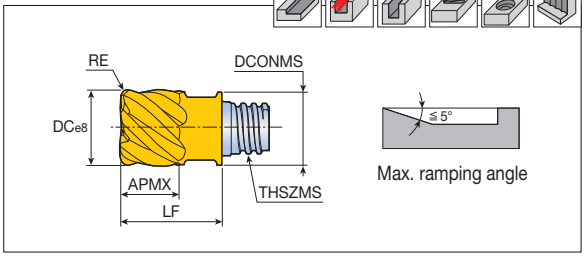
●: Standard items

MXEE(D)-06

6 flute, for difficult-to-cut material machining without central edge









Designation		Feed (mm/tooth)	Dimension (mm)							Grade
			DC	RE	FHA	APMX	LF	THSZMS	DCONMS	TT5523
MXEE	080L05R05-06S05	0.03-0.10	8	0.5	45	5	10.0	S05	7.7	●
MXEE	080L05R10-06S05	0.03-0.10	8	1.0	45	5	10.0	S05	7.7	●
MXED	100L07R05-06S06	0.03-0.10	10	0.5	30	7	13.0	S06	9.7	●
MXED	100L07R10-06S06	0.03-0.10	10	1.0	30	7	13.0	S06	9.7	●
MXEE	100L07R05-06S06	0.04-0.10	10	0.5	45	7	13.0	S06	9.7	●
MXEE	100L07R10-06S06	0.04-0.10	10	1.0	45	7	13.0	S06	9.7	●
MXEE	100L07R15-06S06	0.03-0.10	10	1.5	45	7	13.0	S06	9.7	●
MXED	120L09R05-06S08	0.04-0.11	12	0.5	30	9	16.5	S08	11.7	●
MXEE	120L09R00-06S08	0.04-0.11	12	-	45	9	16.5	S08	11.7	●
MXEE	120L09R10-06S08	0.04-0.11	12	1.0	45	9	16.5	S08	11.7	●
MXEE	120L09R15-06S08	0.04-0.11	12	1.5	45	9	16.5	S08	11.7	●

▸ Wrench should be ordered separately

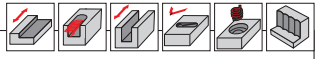
▸ FHA: Flute helix angle

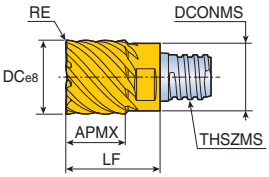
●: Standard items

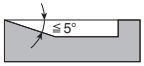
MXED-08/10

8, 10 flute, for difficult-to-cut material machining without central edge









Max. ramping angle



Designation		Feed (mm/tooth)	Dimension (mm)							Grade
			DC	NOF	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXED	160L12R05-08S10	0.05-0.13	16	8	0.5	12	20.5	S10	15.3	●
	160L12R10-08S10	0.05-0.13	16	8	1.0	12	20.5	S10	15.3	●
	160L12R20-08S10	0.05-0.13	16	8	2.0	12	20.5	S10	15.3	●
	200L15R10-10S12	0.05-0.13	20	10	1.0	15	25.5	S12	18.3	●
	200L15R20-10S12	0.05-0.13	20	10	2.0	15	25.5	S12	18.3	●
	250L22R10-10S15	0.05-0.13	25	10	1.0	22	37.0	S15	23.9	●
	250L22R20-10S15	0.05-0.13	25	10	2.0	22	37.0	S15	23.9	●

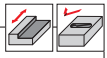
▸ Wrench should be ordered separately

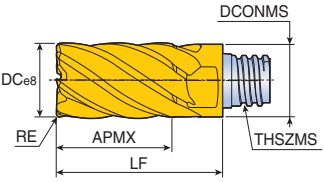
●: Standard items

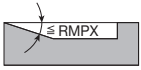
MXED-I07/I09-1.5D

Long cutting edge 1.5D & 7,9 flutes & variable helix, pitch











Designation		Feed (mm/tooth)	Dimension (mm)								Grade
			DC	NOF	RE	APMX	LF	THSZMS	DCONMS	RMPX	TT5523
MXED	100L15R05I07S06	0.04-0.10	10	7	0.5	15	22.0	S06	9.6	3	●
	120L18R05I07S08	0.04-0.10	12	7	0.5	18	27.0	S08	11.7	3	●
	160L24R08I09S10	0.05-0.10	16	9	0.8	24	33.5	S10	15.3	1	●
	200L30R10I09S12	0.05-0.10	20	9	1.0	30	41.0	S12	18.5	1	●

▸ Wrench should be ordered separately

▸ NOF: Number of flutes

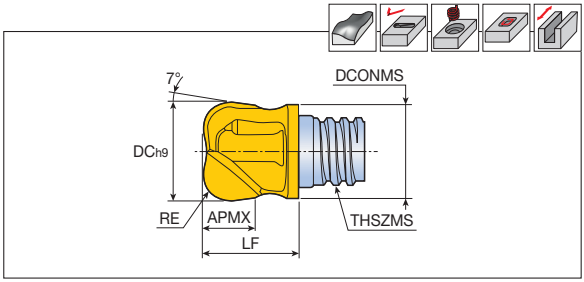
▸ RMPX: Ramping angle maximum

●: Standard items

MXRB-02

2 flute, 7° back taper flute





2

	Designation	Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXRB	200L11R50-02S12	0.05-0.15	20	5.0	11.3	17.3	S12	18.3	●

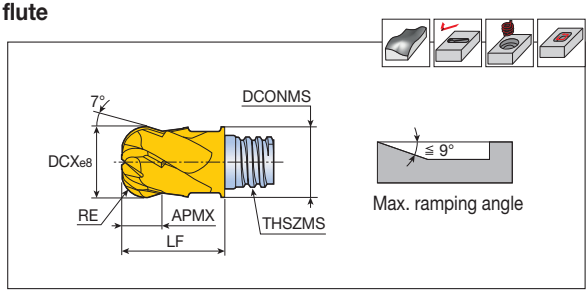
▸ Wrench should be ordered separately

●: Standard items

MXRD-06

6 flute, 7° back taper sided ground flute





6

H•A 30°

	Designation	Dimension (mm)						Grade
		DCX	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXRD	080L04R20-06S05	8	2.0	4	10.0	S05	7.7	●
	100L05R30-06S06	10	3.0	5	13.0	S06	9.7	●
	120L07R40-06S08	12	4.0	7	16.5	S08	11.7	●
	160L09R50-06S10	16	5.0	9	20.5	S10	15.3	●

▸ Wrench should be ordered separately

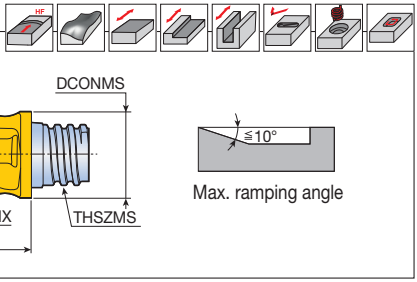
●: Standard items

MXFX-02

MAXIRUSH

2 flute, for high feed milling





Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXFX	100L0.6R20-02S06	0.30-0.60	10	2.0	0.6	12.5	S06	9.6	●
	120L1.0R25-02S08	0.50-1.00	12	2.5	0.68	11.1	S08	11.5	●
	160L1.1R30-02S10	0.55-1.10	16	3.0	1.1	20.0	S10	15.2	●
	200L1.5R34-02S12	0.75-1.50	20	3.4	1.5	17.4	S12	18.3	●

▸ Wrench should be ordered separately

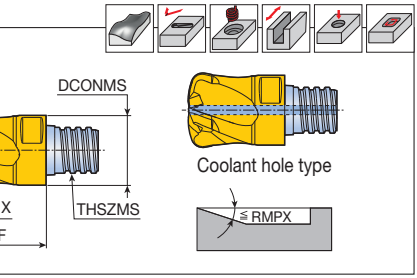
●: Standard items

MXFX-04/06

MAXIRUSH

4,6 flute, for high feed machining and small D.O.C





Designation		Feed (mm/tooth)	Dimension (mm)								Coolant hole	Grade	
			DC	NOF	RE	APMX	LF	THSZMS	DCONMS	RMPX		TT5513	TT5523
MXFX	080L0.4R16-04S05	0.12-0.48	8	4	1.62	0.4	10.0	S05	7.5	5	x	●	
	100L0.5R20-04S06	0.16-0.57	10	4	2.01	0.5	13.0	S06	9.5	5	x	●	
	100L0.4R10-06S06C	0.16-0.47	10	6	1.00	0.45	10.0	S06	9.5	3	●	●	
	120L0.6R18-04S08C	0.16-0.67	12	4	1.80	0.6	16.5	S08	11.5	5	●		●
	120L0.6R24-04S08	0.16-0.67	12	4	2.47	0.6	16.5	S08	11.5	5	x	●	
	120L0.6R12-06S08C	0.16-0.54	12	6	1.20	0.65	12.0	S08	11.5	3	●	●	
	160L0.8R22-04S10C	0.20-0.75	16	4	2.20	0.8	20.5	S10	15.4	5	●		●
	160L0.8R32-04S10	0.20-0.75	16	4	3.25	0.8	20.5	S10	15.4	5	x	●	
	200L1.0R40-04S12	0.20-0.90	20	4	4.02	1.0	25.5	S12	18.45	5	x	●	
	250L1.2R31-06S15	0.25-1.00	25	6	3.10	1.2	25.0	S15	23.9	5	x	●	

▸ Wrench should be ordered separately

▸ NOF: Number of flutes

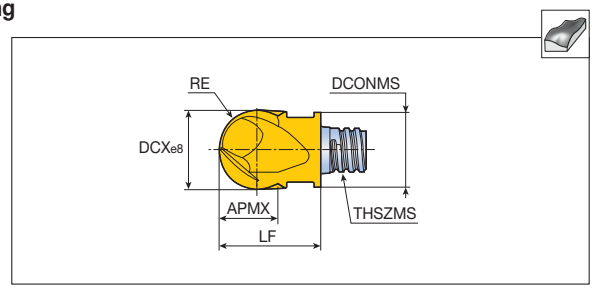
▸ RMPX: Ramping angle maximum

●: Standard items

MXBD-BG-02

2 flute, for high precision machining





Designation		Dimension (mm)						Grade
		DCX	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXBD	080L05-BG-02S05	8	3.98(1)	5	10.0	S05	7.7	●
	100L07-BG-02S06	10	4.98(1)	7	13.0	S06	9.7	●
	120L09-BG-02S08	12	5.98(2)	9	16.5	S08	11.7	●
	160L09-BG-02S10	16	7.98(2)	9	20.5	S10	15.3	●

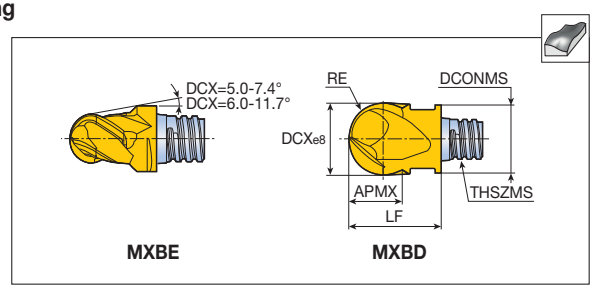
▸ Wrench should be ordered separately
▸ RE Tolerance: (1)± 0.01, (2)± 0.012

●: Standard items

MXBD(E)-BG-04

4 flute, for high precision machining





Designation		Dimension (mm)							Grade
		DCX	RE	FHA	APMX	LF	THSZMS	DCONMS	TT5523
MXBE	050L07-BG-04S05	5	2.49(1)	38	7.0	15.0	S05	8.0	●
	060L04-BG-04S04	6	2.99(1)	38	4.0	8.5	S04	5.8	●
	060L05-BG-04S05	6	2.99(1)	38	5.5	10.0	S05	8.0	●
MXBD	080L05-BG-04S05	8	3.98(1)	30	5.0	10.0	S05	7.7	●
	100L07-BG-04S06	10	4.98(1)	30	7.0	13.0	S06	9.7	●
	120L09-BG-04S08	12	5.98(2)	30	9.0	16.5	S08	11.7	●
	160L12-BG-04S10	16	7.98(2)	30	12.0	20.5	S10	15.3	●
	200L15-BG-04S12	20	9.97(2)	30	15.0	25.5	S12	18.3	●
	250L22-BG-04S15	25	12.47(3)	30	22.0	37.0	S15	23.9	●

▸ Wrench should be ordered separately
▸ RE Tolerance: (1)± 0.01, (2)± 0.012, (3)± 0.02

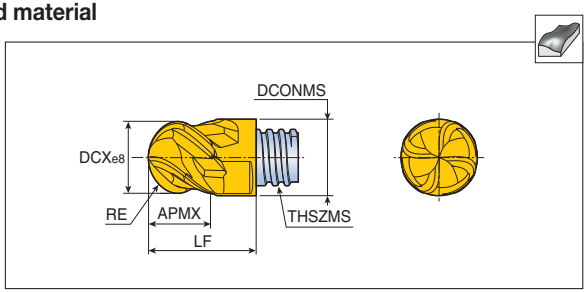
●: Standard items

MXBE-BH-04

MAXIRUSH

4 flute, for high productivity on hard material





4 | H·A 45°

Designation		Dimension (mm)						Grade
		DCX	RE	APMX	LF	THSZMS	DCONMS	TT5513
MXBE	080L05-BH-04S05	8	3.98(1)	5.4	10.0	S05	7.7	●
	100L07-BH-04S06	10	4.98(1)	7.4	13.0	S06	9.6	●
	120L09-BH-04S08	12	5.98(2)	9.3	16.5	S08	11.7	●
	160L12-BH-04S10	16	7.98(2)	12.4	20.5	S10	15.3	●
	200L16-BH-04S12	20	9.97(2)	16.0	25.5	S12	18.5	●

▸ Wrench should be ordered separately
▸ RE Tolerance: (1)± 0.01, (2)± 0.012

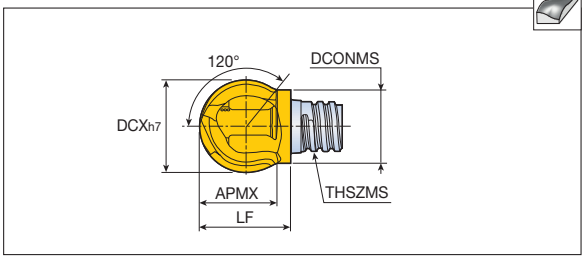
●: Standard items

MXBB-SG-02

MAXIRUSH

2 flute, spherical designed edge





2

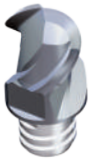
Designation		Dimension (mm)					Key	Grade
		DCX	APMX	LF	THSZMS	DCONMS		TT5523
MXBB	080L05-SG-02S04	8	5	8.2	S04	5.8	MX KEY-S04	●
	100L07-SG-02S05	10	7	10.0	S05	7.6	MX KEY-S05	●
	120L09-SG-02S06	12	9	11.6	S06	9.5	MX KEY-S08	●
	160L12-SG-02S08	16	12	15.4	S08	12.2	MX KEY-S10	●
	200L15-SG-02S10	20	15	18.4	S10	15.2	MX KEY-S10	●
	250L18-SG-02S12	25	18	23.2	S12	18.3	MX KEY-S12	●

▸ Wrench should be ordered separately

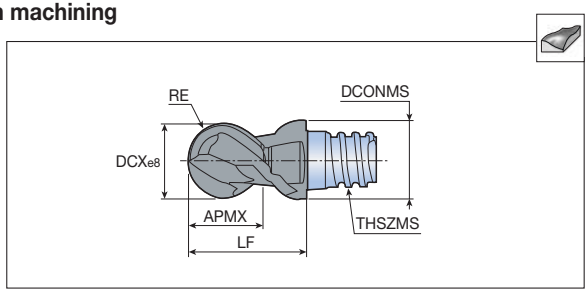
●: Standard items

MXBE-BGA02

2 flute, for high precision aluminum machining


UF10


TTA101



Designation		Dimension (mm)						Grade	
		DCX	RE	APMX	LF	THSZMS	DCONMS	UF10	TTA101
MXBE	080L05-BGA02S05	8	3.98(1)	5	10.0	S05	7.7	●	●
	100L07-BGA02S06	10	4.98(1)	7	13.0	S06	9.7	●	●
	120L09-BGA02S08	12	5.98(2)	9	16.5	S08	11.7	●	●
	160L12-BGA02S10	16	7.98(2)	12	20.5	S10	15.3	●	●
	200L15-BGA02S12	20	9.97(2)	15	25.5	S12	18.3	●	●

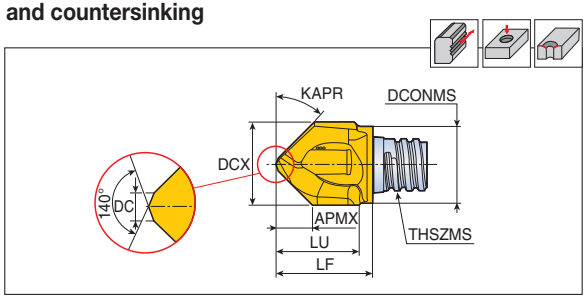
▸ Wrench should be ordered separately
▸ RE Tolerance: (1)± 0.01, (2)± 0.012

●: Standard items

MXCP-02

2 flute, for spot drilling, chamfering and countersinking





Designation		Dimension (mm)								Grade
		KAPR	DCX	DCXTOL	DC	APMX	LU	LF	THSZMS	DCONMS	TT5523
MXCP	100L09A30-02S06	30	10.0	h10	1.5	7.5	8.5	11.75	S06	9.5	●
	120L12A30-02S08	30	12.0	h10	1.5	9.2	11.0	15.4	S08	11.5	●
	160L15A30-02S10	30	16.0	h10	2.5	12	16.0	20.2	S10	15.2	●
MXCP	080L07A45-02S05	45	8.0	z9	1.0	3.7	7.5	9.75	S05	7.6	●
	083L07A45-02S05	45	8.3	z9	1.0	3.8	7.5	10.0	S05	7.6	●
	100L09A45-02S06	45	10.0	z9	1.5	4.4	9.5	11.75	S06	9.5	●
	104L09A45-02S06	45	10.4	z9	1.5	4.6	9.5	11.75	S06	9.5	●
	120L12A45-02S08	45	12.0	z9	1.5	5.4	11.5	15.4	S08	11.5	●
	124L12A45-02S08	45	12.4	z9	1.5	5.6	11.5	15.4	S08	11.5	●
	160L15A45-02S10	45	16.0	z9	1.5	7.1	15.0	18.8	S10	15.2	●
	165L15A45-02S10	45	16.5	z9	1.5	7.1	15.0	18.8	S10	15.2	●
MXCP	100L09A60-02S06	60	10.0	h10	1.5	2.7	9.5	12.7	S06	9.5	●
	120L12A60-02S08	60	12.0	h10	1.5	3.3	11.5	15.2	S08	11.5	●
	160L15A60-02S10	60	16.0	h10	1.5	4.4	16.0	19.9	S10	15.2	●

▸ Wrench should be ordered separately

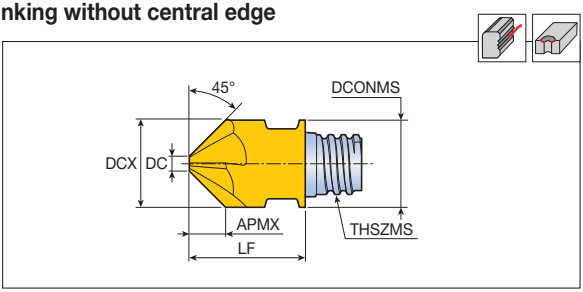
●: Standard items

MXCA-04/06

MAXIRUSH

4, 6 flute, chamfering and countersinking without central edge





4,6

Designation		Dimension (mm)							Grade
		DCX	DC	NOF	APMX	LF	THSZMS	DCONMS	TT5523
MXCA	**100L04A45-04S06**	10.0	1.95	4	4.0	13.0	S06	10.0	●
	120L05A45-04S08	12.0	1.95	4	5.0	16.5	S08	12.0	●
	127L05A45-04S08	12.7	1.98	4	5.3	16.5	S08	12.7	●
	160L06A45-06S10	16.0	3.0	6	6.5	20.3	S10	16.0	●
	200L07A45-06S12	20.0	5.0	6	7.5	25.5	S12	20.0	●

▸ Wrench should be ordered separately

●: Standard items

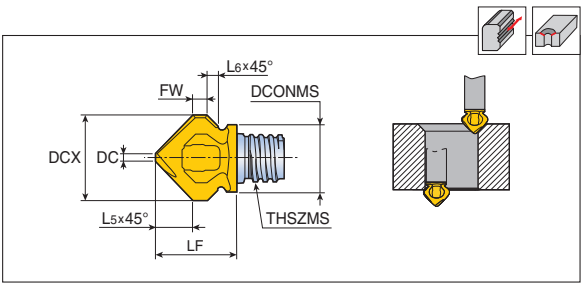
▸ NOF: Number of flutes

MXCW-02

MAXIRUSH

2 flute, for double chamfering





2

Designation		Dimension (mm)								Key	Grade
		DCX	DC	L5	LF	FW	L6	THSZMS	DCONMS		TT5523
MXCW	**098L04A45-02S05**	9.8	1.2	4.3	10.8	2.5	1.2	S05	7.6	MX KEY-S06	●
	118L05A45-02S06	11.8	1.2	5.3	11.2	2.0	1.2	S06	9.3	MX KEY-S08	●
	157L07A45-02S08	15.7	1.5	7.1	14.0	2.0	1.2	S08	11.5	MX KEY-S10	●

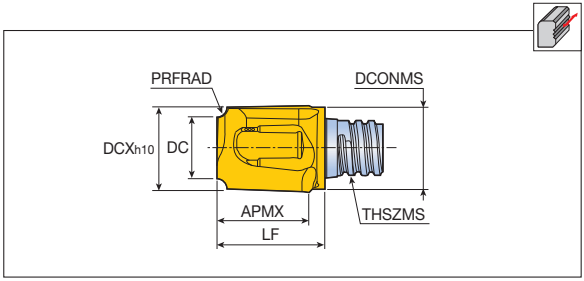
▸ Wrench should be ordered separately

●: Standard items

MXCR-02

2 flute, for concave radius milling





Designation	Feed (mm/tooth)	Dimension (mm)							Grade
		DCX	DC	PRFRAD	APMX	LF	THSZMS	DCONMS	TT5523
MXCR 080L07R10-02S05	0.03-0.08	8.0	5.8	1.0	7.5	10.5	S05	7.6	●
100L09R16-02S06	0.04-0.09	10.0	6.8	1.6	9.5	12.5	S06	9.5	●
100L09R25-02S06	0.04-0.09	10.0	5.1	2.5	9.5	12.5	S06	9.5	●
127L12R30-02S08	0.04-0.11	12.7	6.5	3.0	12.0	15.6	S08	12.2	●
127L12R40-02S08	0.04-0.11	12.7	4.7	4.0	12.0	15.6	S08	12.2	●
160L15R50-02S10	0.04-0.13	16.0	6.2	5.0	15.0	19.1	S10	15.2	●
200L07R60-02S12	0.05-0.15	20.0	8.0	6.0	7.0	17.4	S12	18.3	●

▸ Wrench should be ordered separately
▸ PRFRAD: Profile radius

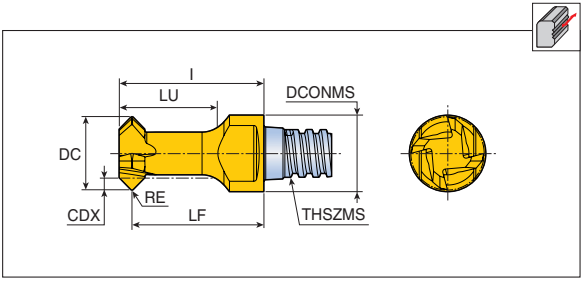
●: Standard items

MXCS-04

MAXIRUSH

4 flute, for chamfering





Designation		Dimension (mm)								Grade
		DC	CDX	RE	LF	LU	I	THSZMS	DCONMS	TT5523
MXCS	**077L10A45-04S05**	7.7	1.2	0.2	13.9	10.2	15.2	S05	8.0	●

▸ Wrench should be ordered separately

●: Standard items

MXDP-02

MAXIRUSH

2 flute, for center drilling



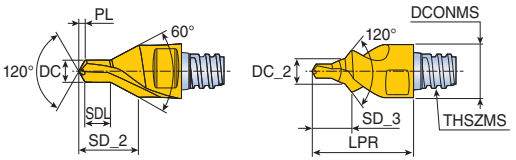


Fig. 1 Fig. 2

Designation		Dimension (mm)										Grade
		DC	DC2	SDL	SD_2	SD_3	LPR	THSZMS	DCONMS	PL	Fig	TT5523
MXDP	**107L01A30-02S04**	1.07	-	1.32	4.14	-	10.0	S04	6.0	0.28	1	●
	165L02A30-02S04	1.65	-	1.97	4.45	-	10.0	S04	6.0	0.43	1	●
	207L02A30-02S04	2.07	-	2.36	6.37	-	10.0	S04	6.0	0.54	1	●
	328L04A30-02S05	3.28	-	3.75	8.76	-	15.0	S05	8.0	0.85	1	●
	412L05A30-02S06	4.12	-	4.83	11.05	-	19.0	S06	10.0	1.07	1	●
	513L07A30-02S08	5.13	-	5.88	13.23	-	23.0	S08	12.0	1.32	1	●
	646L08A30-02S10	6.46	-	7.25	17.18	-	28.0	S10	16.0	1.65	1	●
MXDP	**324L04B30-02S08**	3.24	6.77	3.55	7.40	8.94	23.0	S08	12.0	0.83	2	●
	509L06B30-02S12	5.09	10.69	5.56	11.70	14.17	25.5	S12	18.5	1.33	2	●
	641L08B30-02S12	6.41	13.29	6.95	14.50	16.58	25.5	S12	20.0	1.68	2	●

▸ Wrench should be ordered separately

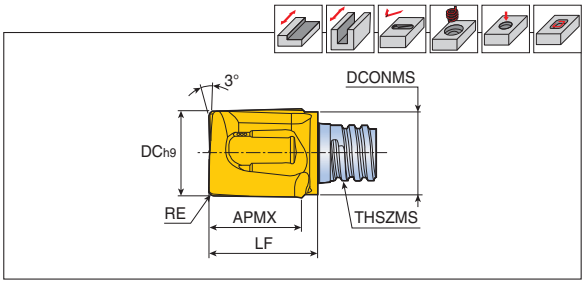
▸ SDL: Step diameter length

●: Standard items

MXGC-02

2 flute, for drilling and milling





Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	DCONMS	TT5523
MXGC	080L08R04-02S05	0.03-0.09	8	0.4	7.7	10.0	S05	7.6	●
	080L08R10-02S05	0.03-0.09	8	1.0	7.7	10.0	S05	7.6	●
	100L09R04-02S06	0.03-0.10	10	0.4	9.0	12.4	S06	9.5	●
	100L09R20-02S06	0.03-0.10	10	2.0	9.0	12.4	S06	9.5	●
	120L10R04-02S08	0.04-0.11	12	0.4	10.0	14.2	S08	11.5	●
	120L10R10-02S08	0.04-0.11	12	1.0	10.0	14.2	S08	11.5	●
	120L10R20-02S08	0.04-0.11	12	2.0	10.0	14.2	S08	11.5	●
	160L15R04-02S10	0.05-0.13	16	0.4	14.9	19.0	S10	15.2	●

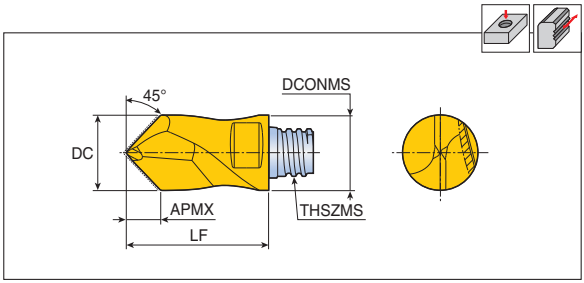
▸ Wrench should be ordered separately

●: Standard items

MXDS-02

2 flute, for spot drill & chamfer





Designation		Dimension (mm)					Grade
		DC	APMX	LF	THSZMS	DCONMS	TT5523
MXDS	060A45-02S04	6	2.7	11.0	S04	5.7	●
	080A45-02S05	8	3.7	15.0	S05	7.7	●
	100A45-02S06	10	4.4	19.0	S06	9.7	●
	120A45-02S08	12	5.4	23.0	S08	11.7	●
	160A45-02S10	16	7.1	28.0	S10	15.3	●

▸ Wrench should be ordered separately

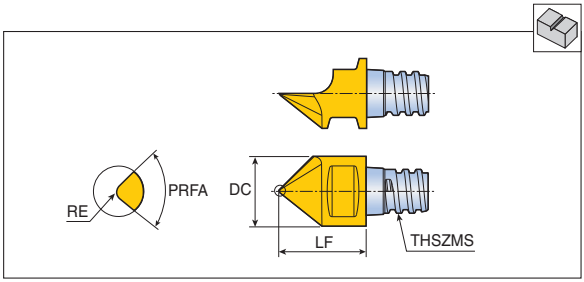
●: Standard items

MXEG-01

MAXIRUSH

Single flute, for engraving





Designation		Dimension (mm)					Grade
		DC	RE	PRFA	LF	THSZMS	TT5523
MXEG	060A60-01S04	6	0.2	60	8.5	S04	●
	080A30-01S05	8	0.2	30	10.0	S05	●
	080A45-01S05	8	0.2	45	10.0	S05	●
	080A60-01S05	8	0.2	60	10.0	S05	●
	080A90-01S05	8	0.2	90	10.0	S05	●

▸ Wrench should be ordered separately

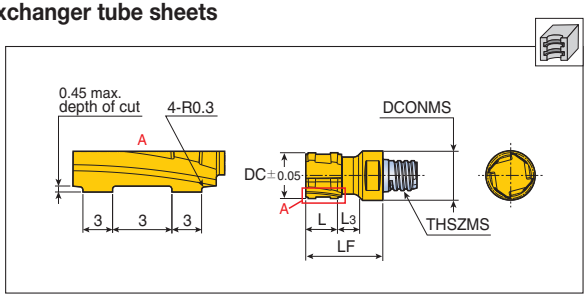
●: Standard items

MXDG-04

MAXIRUSH

4 flute, internal grooving for heat exchanger tube sheets





Designation		Dimension (mm)							Key	Grade
		DC	L	L3	LF	THSZMS	DCONMS	DMIN		TT5523
MXDG	155-04S10-8238	15.5	14.2	17.8	33.7	S10	16.0	15.88	MX KEY-S08	●
	185-04S12-8239	18.5	14.5	18.3	34.5	S12	18.5	19.05	MX KEY-S10	●
	245-04S15-8240	24.5	14.4	11.0	37.2	S15	23.8	25.40	MX KEY-S15	●

▸ Wrench should be ordered separately

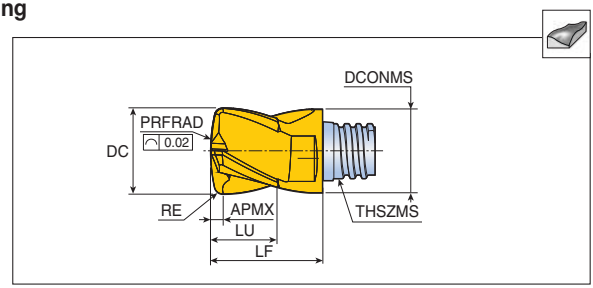
●: Standard items

MXCSL

MAXIRUSH

4 flute, lens shape for 5-axis profiling





4

Designation		Feed (mm/tooth)	Dimension (mm)								Grade
			DC	PRFRAD	RE	APMX	LU	LF	THSZMS	DCONMS	TT5523
MXCSL	4080R016-S05	0.02-0.08	8	16	0.5	0.9	5.5	10.0	S05	8	●
	4100R020-S06	0.03-0.09	10	20	1.0	1.4	7.5	13.0	S06	10	●
	4120R024-S08	0.03-0.10	12	24	1.0	1.6	9.0	16.5	S08	12	●
	4160R032-S10	0.04-0.12	16	32	1.0	1.8	12.0	20.5	S10	16	●

▸ Wrench should be ordered separately
▸ PRFRAD: Profile radius

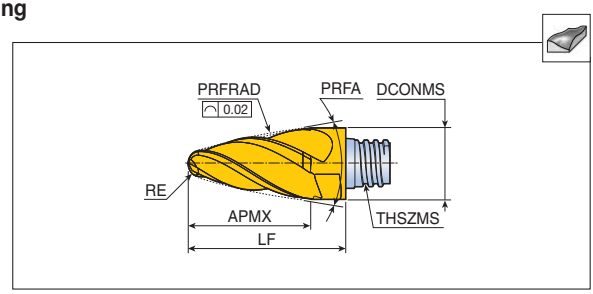
●: Standard items

MXCSO

MAXIRUSH

4 flute, oval shape for 5-axis profiling





4

Designation		Feed (mm/tooth)	Dimension (mm)							Grade
			PRFRAD	RE	APMX	LF	PRFA	THSZMS	DCONMS	TT5523
MXCSO	4080R080-S05	0.02-0.08	80	1.5	14.2	18.0	24	S05	8	●
	4100R085-S06	0.03-0.09	85	2.0	16.5	22.0	24	S06	10	●
	4120R075-S08	0.03-0.10	75	2.0	21.3	27.0	24	S08	12	●
	4160R075-S10	0.04-0.12	75	3.0	27.0	33.4	24	S10	16	●

▸ Wrench should be ordered separately
▸ PRFRAD: Profile radius

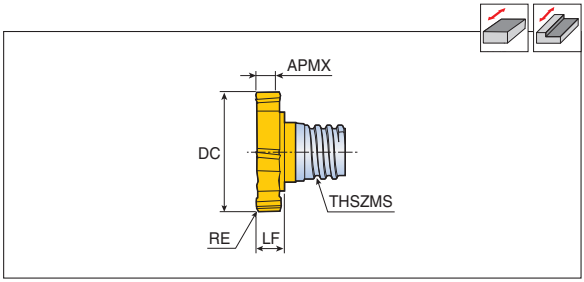
●: Standard items

MXFM-I06

MAXIRUSH

6 flute, for face milling





6

Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	APMX	LF	THSZMS	Torx	TT5523
MXFM	100L036R02I06S05	0.04-0.10	10	0.2	3.6	4.4	S05	T20	●
	120L036R02I06S05	0.04-0.10	12	0.2	3.6	4.4	S05	T20	●
	160L048R04I06S06	0.05-0.10	16	0.4	4.8	5.6	S06	T25	●
	200L060R04I06S08	0.05-0.10	20	0.4	6.0	6.8	S08	T40	●
	250L075R04I06S10	0.05-0.10	25	0.4	7.5	8.4	S10	T50	●

▸ Wrench should be ordered separately

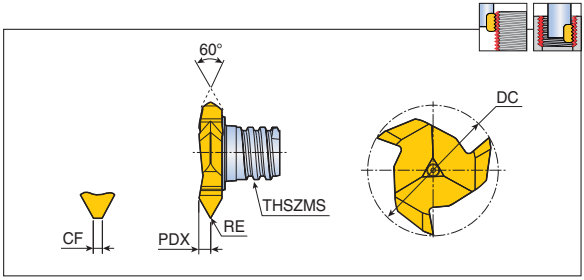
●: Standard items

TTRD-A60

MAXIRUSH

3, 4 flute, ISO threading





4

Designation		TP	Dimension (mm)							Grade
			DC	NOF	PDX	RE	CF	RANGE	THSZMS	TT5543
TTRD	16A60-0.5P-3S06	0.5-2.0	15.7	3	1.4	-	0.05	M20	S06	●
	16A60-1.5P-3S06	1.5-2.0	15.7	3	1.4	0.05	-	M22	S06	●
	22A60-3.0P-4S08	3.0-4.5	21.7	4	2.4	0.20	-	M36	S08	●

▸ Wrench should be ordered separately

▸ NOF: Number of flutes

▸ TP: Threads pitch

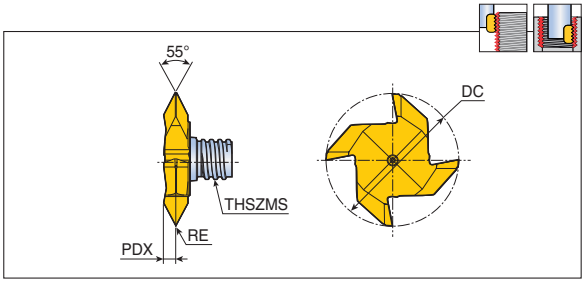
●: Standard items

TTRD-W55

MAXI RUSH

4 flute, BSW threading





	Designation	TPI	Dimension (mm)					Grade
			DC	PDX	RE	RANGE	THSZMS	TT5543
TTRD	**22W55-14P-4S08**	14-11	21.7	2.0	0.2	3/4	S08	●

▸ Wrench should be ordered separately
▸ TPI: Threads per inch

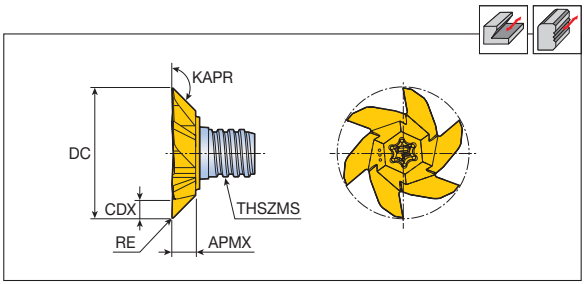
●: Standard items

TDT-06

MAXI RUSH

6 flute, dovetail





	Designation	Dimension (mm)							Grade
		DC	KAPR	CDX	APMX	RE	THSZMS	Torx	TT5523
TDT	**277A45R02-06S10**	27.7	135	4.0	5.05	0.2	S10	T40	●
	277A60R02-06S10	27.7	120	4.0	7.75	0.2	S10	T40	●
	277A75R02-06S10	27.7	105	2.2	10.15	0.2	S10	T40	●

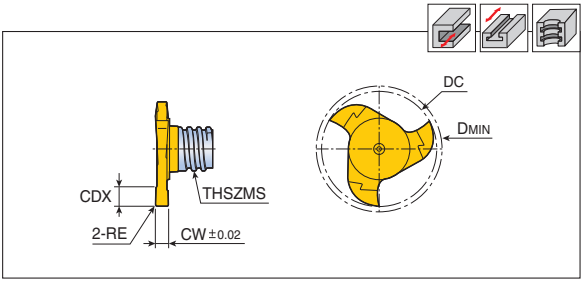
▸ Wrench should be ordered separately

●: Standard items

MAXIRUSH

3 flute, for slotting





3

Designation	Feed (mm/tooth)	Dimension (mm)						Grade
		DC	CW	CDX	RE	THSZMS	DMIN	TT5543
TST 157W1.50R010-3S06	0.03-0.12	15.7	1.5	2.8	0.1	S06	16	●
157W1.57R020-3S06	0.03-0.12	15.7	1.57	2.8	0.2	S06	16	●
157W2.0R020-3S06	0.03-0.12	15.7	2.0	2.8	0.2	S06	16	●
157W2.50R020-3S06	0.03-0.12	15.7	2.5	2.8	0.2	S06	16	●
157W3.0R020-3S06	0.03-0.13	15.7	3.0	2.8	0.2	S06	16	●
157W3.17R020-3S06	0.03-0.15	15.7	3.17	2.8	0.2	S06	16	●
177W1.20R005-3S06	0.03-0.12	17.7	1.2(1)	3.8	0.05	S06	18	●
177W1.40R005-3S06	0.03-0.12	17.7	1.4(1)	3.8	0.05	S06	18	●
177W1.50R010-3S06	0.03-0.12	17.7	1.5	3.8	0.1	S06	18	●
177W1.57R020-3S06	0.03-0.12	17.7	1.57	3.8	0.2	S06	18	●
177W1.70R005-3S06	0.03-0.12	17.7	1.7(1)	3.8	0.05	S06	18	●
177W2.0R020-3S06	0.03-0.12	17.7	2.0	3.8	0.2	S06	18	●
177W2.20R110-3S06	0.03-0.12	17.7	2.2	3.8	1.1	S06	18	●
177W2.50R020-3S06	0.03-0.12	17.7	2.5	3.8	0.2	S06	18	●
177W3.0R020-3S06	0.03-0.13	17.7	3.0	3.8	0.2	S06	18	●
177W3.17R020-3S06	0.03-0.15	17.7	3.17	3.8	0.2	S06	18	●

▸ Wrench should be ordered separately

●: Standard items

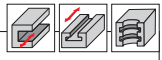
▸ (1) CW for circle clips according to DIN 471/472

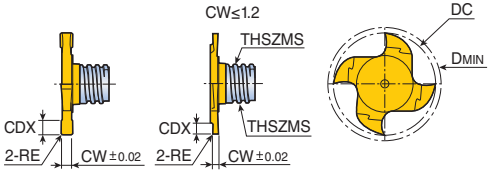
TST-4/6

MAXIRUSH

4, 6 flute, for slotting







4,6

Designation	Feed (mm/tooth)	Dimension (mm)								Grade	
		DC	NOF	CW	CDX	RE	THSZMS	DMIN	Torx	TT5523	TT5543
TST 217W0.76R000-4S08	0.03-0.10	21.7	4	0.76(1)	1.5	-	S08	22	-		●
217W0.96R000-4S08	0.03-0.10	21.7	4	0.96(1)	1.9	-	S08	22	-		●
217W1.0R005-4S08	0.03-0.10	21.7	4	1.0	2.0	0.05	S08	22	-		●
217W1.20R005-4S08	0.03-0.12	21.7	4	1.2(1)	4.5	0.05	S08	22	-		●
217W1.40R005-4S08	0.03-0.12	21.7	4	1.4(1)	4.5	0.05	S08	22	-		●
217W1.57R000-4S08	0.03-0.12	21.7	4	1.57	4.5	-	S08	22	-		●
217W1.70R010-4S08	0.03-0.12	21.7	4	1.7(1)	4.5	0.1	S08	22	-		●
217W1.95R020-4S08	0.03-0.12	21.7	4	1.95(1)	4.5	0.2	S08	22	-		●
217W2.0R020-4S08	0.03-0.12	21.7	4	2.0	4.5	0.2	S08	22	-		●
217W2.25R020-4S08	0.03-0.12	21.7	4	2.25(1)	4.5	0.2	S08	22	-		●
217W2.39R020-4S08	0.03-0.12	21.7	4	2.39	4.5	0.2	S08	22	-		●
217W2.50R020-4S08	0.03-0.12	21.7	4	2.5	4.5	0.2	S08	22	-		●
217W2.75R020-4S08	0.03-0.13	21.7	4	2.75(1)	4.5	0.2	S08	22	-		●
217W3.0R020-4S08	0.03-0.13	21.7	4	3.0	4.5	0.2	S08	22	-		●
217W3.17R020-4S08	0.03-0.15	21.7	4	3.17	4.5	0.2	S08	22	-		●
217W3.25R020-4S08	0.03-0.15	21.7	4	3.25(1)	4.5	0.2	S08	22	-		●
217W4.0R020-4S08	0.03-0.15	21.7	4	4.0	4.5	0.2	S08	22	-		●
217W4.25R020-4S08	0.03-0.15	21.7	4	4.25(1)	4.5	0.2	S08	22	-		●
217W4.75R020-4S08	0.03-0.15	21.7	4	4.75	4.5	0.2	S08	22	-		●
217W5.25R020-4S08	0.03-0.17	21.7	4	5.25(1)	4.5	0.2	S08	22	-		●
217W6.0R300-4S08	0.03-0.17	21.7	4	6.0	4.5	3	S08	22	-	●	
277W2.50R020-6S10	0.03-0.12	27.7	6	2.5	6.0	0.2	S10	28	T40		●
277W5.25R020-6S10	0.03-0.17	27.7	6	5.25	6.0	0.2	S10	28	T40		●
277W10R020-6S10	0.03-0.17	27.7	6	10.0	6.0	0.2	S10	28	T40		●

▸ Wrench should be ordered separately
▸ NOF: Number of flutes
▸ (1) CW for circle clips according to DIN 471/472

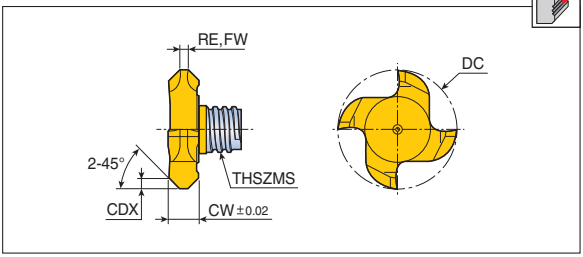
●: Standard items

TST-A45

MAXIRUSH

3-6 flute, for chamfering





3-6

Designation	Feed (mm/tooth)	Dimension (mm)								Grade	
		DC	NOF	CW	CDX	RE	FW	THSZMS	Torx	TT5523	TT5543
TST 177L01.40A45-3S06	0.03-0.15	17.7	3	3.4	1.4	0.1	-	S06	-		●
217L01.70A45-4S08	0.03-0.17	21.7	4	5.5	1.7	-	1.5	S08	-		●
277L04.00A45-6S10	0.03-0.17	27.7	6	9.8	4.0	-	0.5	S10	T40	●	

▸ Wrench should be ordered separately
▸ NOF: Number of flutes
▸ FW: Flat width

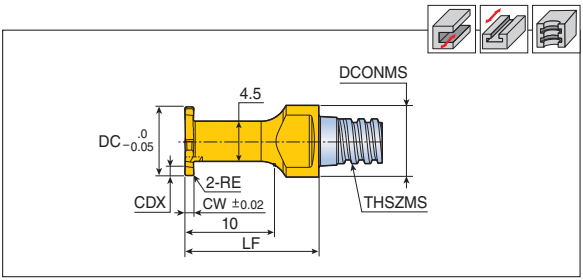
●: Standard items

TTB-04

MAXIRUSH

4 flute, for slotting





4

Designation	Feed (mm/tooth)	Dimension (mm)							Grade
		DC	CW	CDX	RE	LF	THSZMS	DCONMS	TT5523
TTB 077W1.0R02-04S05	0.02-0.08	7.7	1.0	1.2	0.2	15	S05	8.0	●
077W1.5R02-04S05	0.02-0.08	7.7	1.5	1.2	0.2	15	S05	8.0	●
077W2.0R02-04S05	0.02-0.08	7.7	2.0	1.2	0.2	15	S05	8.0	●

▸ Wrench should be ordered separately

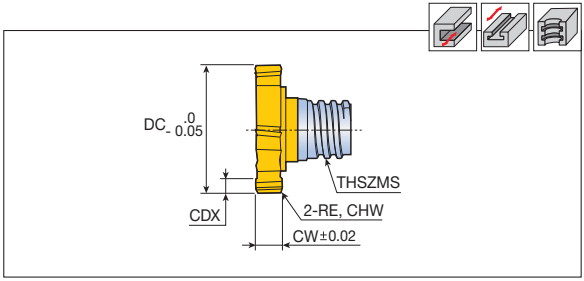
●: Standard items

TTB-06

MAXI RUSH

6 flute, for slotting





Designation		Feed (mm/tooth)	Dimension (mm)							Grade	
			DC	CW	CDX	CHW	RE	THSZMS	Torx	TT5523	TT5543
TTB	105W2.0R04-06S04	0.02-0.10	10.5	2.0	2.0	-	0.4	S04	T15		●
	127W1.58C15-06S05	0.03-0.12	12.7	1.58	2.25	0.15	-	S05	T20	●	
	127W1.98C15-06S05	0.03-0.12	12.7	1.98	2.25	0.15	-	S05	T20	●	
	135W2.0C15-06S05	0.03-0.12	13.5	2.0	2.65	0.15	-	S05	T20		●
	135W3.0R04-06S05	0.03-0.13	13.5	3.0	2.65	-	0.4	S05	T20		●
	135W4.0R04-06S05	0.03-0.15	13.5	4.0	2.65	-	0.4	S05	T20		●
	160W2.0R04-06S06	0.03-0.12	16.0	2.0	2.9	-	0.4	S06	T20		●
	160W3.0R04-06S06	0.03-0.13	16.0	3.0	2.9	-	0.4	S06	T25		●
	160W4.0R04-06S06	0.03-0.15	16.0	4.0	2.9	-	0.4	S06	T25		●
	165W2.0R04-06S06	0.03-0.12	16.5	2.0	3.15	-	0.4	S06	T20		●
	165W3.0R04-06S06	0.03-0.13	16.5	3.0	3.15	-	0.4	S06	T25		●
	165W4.0R04-06S06	0.03-0.15	16.5	4.0	3.15	-	0.4	S06	T25		●
	195W4.0R04-06S08	0.03-0.15	19.5	4.0	3.45	-	0.4	S08	T30		●
	195W5.0R04-06S08	0.03-0.15	19.5	5.0	3.45	-	0.4	S08	T30		●
	195W6.0R04-06S08	0.03-0.17	19.5	6.0	3.45	-	0.4	S08	T30		●
	225W5.0R04-06S08	0.03-0.15	22.5	5.0	4.95	-	0.4	S08	T40		●
	225W6.0R04-06S08	0.03-0.17	22.5	6.0	4.95	-	0.4	S08	T40		●
	225W8.0R04-06S08	0.03-0.17	22.5	8.0	4.95	-	0.4	S08	T40		●
	250W6.0R04-06S08	0.03-0.17	25.0	6.0	5.9	-	0.4	S08	T50		●
	250W8.0R04-06S08	0.03-0.17	25.0	8.0	5.9	-	0.4	S08	T50		●
	250W5.0R04-06S10	0.03-0.15	25.0	5.0	4.3	-	0.4	S10	T50		●
	250W6.0R04-06S10	0.03-0.17	25.0	6.0	4.3	-	0.4	S10	T50		●
	250W8.0R04-06S10	0.03-0.17	25.0	8.0	4.3	-	0.4	S10	T50		●

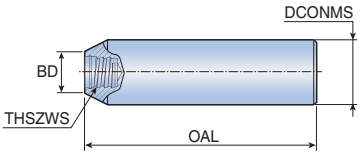
▸ Wrench should be ordered separately

●: Standard items

MXSSD

High rigidity shank



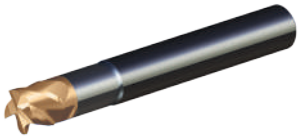


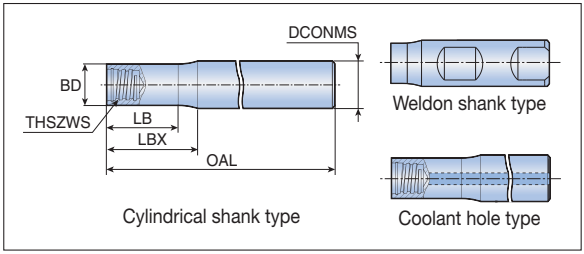
Designation	Dimension (mm)				Shank material
	THSZWS	DCONMS	BD	OAL	
MXSSD 06L050S04-S	S04	6	5.8	50	Steel
06L060S04-C	S04	6	5.8	60	Carbide
08L050S04-S	S04	8	5.8	50	Steel
08L060S04-C	S04	8	5.8	60	Carbide
10L055S05-S	S05	10	7.6	55	Steel
12L065S06-S	S06	12	9.6	65	Steel
16L065S08-S	S08	16	11.6	65	Steel
20L070S10-S	S10	20	15.3	70	Steel
25L075S12-S	S12	25	18.3	75	Steel
32L100S15-S	S15	32	23.9	100	Steel

▸ Wrench should be ordered separately

MXSSD-S

Steel shanks with step neck & internal coolant hole





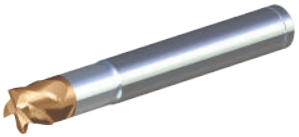
Designation		Dimension (mm)						Coolant hole	Shank type	Shank material
		THSZWS	DCONMS	BD	OAL	LB	LBX			
MXSSD	08L060S05-S	S05	8	7.6	60	12.8	15	x	Cylindrical	Steel
	10L075S06-S	S06	10	9.6	75	17.7	20	x	Cylindrical	Steel
	10L075S06-S-A	S06	10	9.6	75	10.6	12	●	Cylindrical	Steel
	12L055W05-S	S05	12	7.6	55	-	3.8	x	Weldon	Steel
	12L090S08-S	S08	12	11.5	90	13.6	16	x	Cylindrical	Steel
	12L090S08-S-A	S08	12	11.5	90	13.6	16	●	Cylindrical	Steel
	12L090LS08-S-A	S08	12	11.5	90	37	42	●	Cylindrical	Steel
	16L065W06-S	S06	16	9.6	65	-	6	x	Weldon	Steel
	16L065W08-S	S08	16	11.5	65	-	4	x	Weldon	Steel
	16L100S10-S	S10	16	15.2	100	18	20	x	Cylindrical	Steel
	16L100S10-S-A	S10	16	15.2	100	18	20	●	Cylindrical	Steel
	16L100LS10-S-A	S10	16	15.2	100	38	42	●	Cylindrical	Steel
	20L070W10-S	S10	20	15.2	70	-	4	x	Weldon	Steel
	20L120S12-S	S12	20	18.3	120	20.5	25	x	Cylindrical	Steel
	25L075W12-S	S12	25	18.3	75	-	6	x	Weldon	Steel
	25L135S15-S	S15	25	23.9	135	33	35	x	Cylindrical	Steel

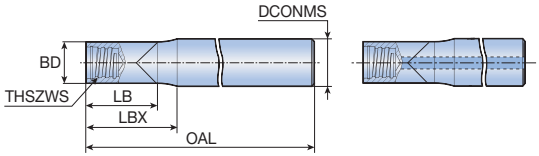
▸ THSZWS: Connection thread size

MXSSD-C

MAXIRUSH

Carbide shanks with step neck & internal coolant hole





Coolant hole type

Designation		Dimension (mm)						Coolant hole	Shank material
		THSZWS	DCONMS	BD	OAL	LB	LBX		
MXSSD	08L070S05-C	S05	8	7.6	70	19	20	x	Carbide
	08L090S05-C	S05	8	7.6	90	39	40	x	Carbide
	08L110S05-C	S05	8	7.6	110	59	60	x	Carbide
	10L070S06-C	S06	10	9.6	70	18.5	20	x	Carbide
	10L090S06-C	S06	10	9.6	90	38.5	40	x	Carbide
	10L110S06-C	S06	10	9.6	110	58.5	60	x	Carbide
	10L150S06-C	S06	10	9.6	150	98.5	100	x	Carbide
	12L070S08-C	S08	12	11.5	70	17	20	x	Carbide
	12L070S08-C-A	S08	12	11.5	70	17	20	●	Carbide
	12L090S08-C	S08	12	11.5	90	37	40	x	Carbide
	12L090LS08-C-A	S08	12	11.5	90	37	40	●	Carbide
	12L110S08-C	S08	12	11.5	110	57	60	x	Carbide
	12L110S08-C-A	S08	12	11.5	110	57	60	●	Carbide
	12L130S08-C	S08	12	11.5	130	77	80	x	Carbide
	12L130S08-C-A	S08	12	11.5	130	77	80	●	Carbide
	16L090S10-C	S10	16	15.2	90	38	40	x	Carbide
	16L090S10-C-A	S10	16	15.2	90	38	40	●	Carbide
	16L110S10-C	S10	16	15.2	110	58	60	x	Carbide
	16L110S10-C-A	S10	16	15.2	110	58	60	●	Carbide
	16L130S10-C	S10	16	15.2	130	78	80	x	Carbide
	16L130S10-C-A	S10	16	15.2	130	78	80	●	Carbide
	16L150S10-C	S10	16	15.2	150	98	100	x	Carbide
	20L090S12-C	S12	20	18.3	90	37	40	x	Carbide
	20L130S12-C	S12	20	18.3	130	77	80	x	Carbide
	20L200S12-C	S12	20	18.3	200	117	120	x	Carbide
	25L120S15-C	S15	25	23.9	120	58	60	x	Carbide
	25L170S15-C	S15	25	23.9	170	98	100	x	Carbide
	25L250S15-C	S15	25	23.9	250	148	150	x	Carbide

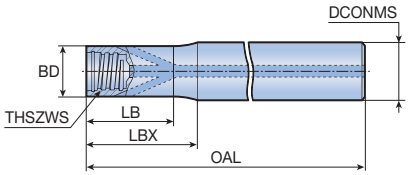
▸ THSZWS: Connection thread size

MXSSD-W-A

MAXIRUSH

Tungsten shanks with step neck & internal coolant hole





Designation		Dimension (mm)						Shank material
		THSZWS	DCONMS	BD	OAL	LB	LBX	
MXSSD	10L070S06-W-A	S06	10	9.6	70	19	20	Tungsten
	10L090S06-W-A	S06	10	9.6	90	39	40	Tungsten
	10L110S06-W-A	S06	10	9.6	110	59	60	Tungsten
	12L070S08-W-A	S08	12	11.5	70	19	20	Tungsten
	12L090S08-W-A	S08	12	11.5	90	39	40	Tungsten
	12L110S08-W-A	S08	12	11.5	110	59	60	Tungsten
	12L130S08-W-A	S08	12	11.5	130	79	80	Tungsten
	16L070S10-W-A	S10	16	15.2	70	18.5	20	Tungsten
	16L090S10-W-A	S10	16	15.2	90	36.5	40	Tungsten
	16L110S10-W-A	S10	16	15.2	110	58.5	60	Tungsten
	16L130S10-W-A	S10	16	15.2	130	78.5	80	Tungsten
	20L090S12-W-A	S12	20	18.3	90	37	40	Tungsten
	20L130S12-W-A	S12	20	18.3	130	77	80	Tungsten

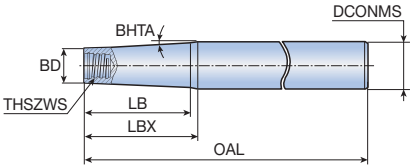
▸ THSZWS: Connection thread size

MXTSD-S

MAXIRUSH

Steel shanks with taper neck





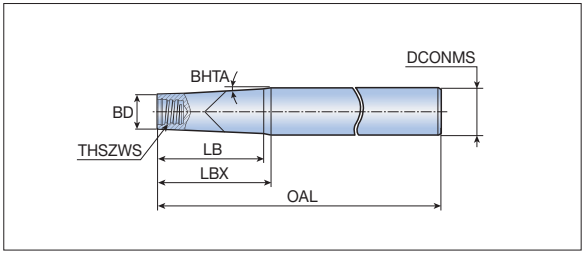
Designation		Dimension (mm)							Shank material
		THSZWS	DCONMS	BD	OAL	BHTA	LB	LBX	
MXTSD	08L080S04-S	S04	8	5.8	80	2.6°	-	24	Steel
	12L080S05-S	S05	12	7.6	80	5°	-	25	Steel
	12L100S05-S	S05	12	7.6	100	1°	31.0	35	Steel
	16L125S06-S	S06	16	9.6	125	5°	31.6	34	Steel
	16L140S08-S	S08	16	11.5	140	5°	19.3	22	Steel
	16L160S06-S	S06	16	9.6	160	1°	45.9	55	Steel
	20L140S10-S	S10	20	15.2	140	5°	-	27.5	Steel
	20L170S08-S	S08	20	11.5	170	1°	68.6	80	Steel
	20L190S10-S	S10	20	15.2	190	1°	73.0	80	Steel
	25L160S12-S	S12	25	18.3	160	5°	-	40	Steel
	25L170S10-S	S10	25	15.2	170	5°	-	56	Steel
	25L210S12-S	S12	25	18.3	210	1°	91.0	100	Steel
	32L155S15-S	S15	32	23.9	155	5°	40.0	45	Steel
	32L190S12-S	S12	32	18.3	190	5°	-	80	Steel
	32L220S15-S	S15	32	23.9	220	5°	-	100	Steel

▸ THSZWS: Connection thread size

MXTSD-C

Carbide shanks with taper neck





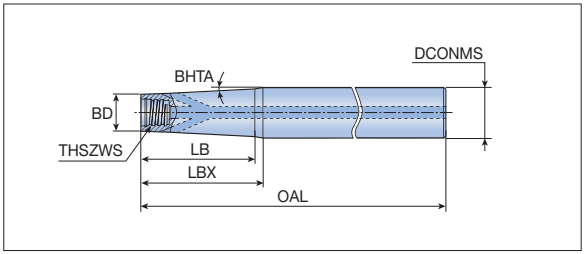
Designation		Dimension (mm)							Shank material
		THSZWS	DCONMS	BD	OAL	BHTA	LB	LBX	
MXTSD	**12L110S05-C**	S05	12	7.6	110	1°	58.0	60	Carbide
	12L130S05-C	S05	12	7.6	130	1°	79.0	80	Carbide
	16L130S08-C	S08	16	11.5	130	1°	78.8	80	Carbide
	16L150S05-C	S05	16	7.6	150	1°	96.0	100	Carbide
	16L150S06-C	S06	16	9.6	150	1°	98.0	100	Carbide
	16L150S08-C	S08	16	11.5	150	1°	-	100	Carbide
	16L170S06-C	S06	16	9.6	170	1°	119.0	120	Carbide
	20L170S08-C	S08	20	11.5	170	1°	117.0	120	Carbide
	20L170S10-C	S10	20	15.2	170	1°	-	120	Carbide
	20L190S10-C	S10	20	15.2	190	1°	-	140	Carbide
	20L210S10-C	S10	20	15.2	210	1°	-	160	Carbide
	25L180S12-C	S12	25	18.3	180	1°	-	120	Carbide
	25L250S12-C	S12	25	18.3	250	1°	-	140	Carbide
	32L250S15-C	S15	32	23.9	250	1°	-	150	Carbide
	32L300S15-C	S15	32	23.9	300	1°	-	200	Carbide

▸ THSZWS: Connection thread size

MXTSD-W-A

Tungsten shanks with taper neck & internal coolant hole



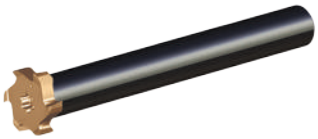


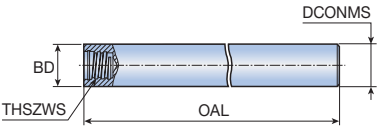
Designation		Dimension (mm)							Shank material
		THSZWS	DCONMS	BD	OAL	BHTA	LB	LBX	
MXTSD	**12L110S06-W-A**	S06	12	9.6	110	1°	59	60	Tungsten
	16L170S06-W-A	S06	16	9.6	170	1°	116	120	Tungsten

▸ THSZWS: Connection thread size

MXSTD-S

Straight steel shanks





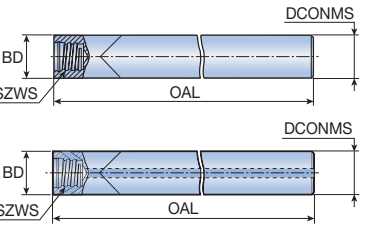
Designation		Dimension (mm)				Shank material
		THSZWS	DCONMS	BD	OAL	
MXSTD	**06L070S04-S**	S04	6	6	70	Steel
	08L050S05-S	S05	8	8	50	Steel
	08L070S05-S	S05	8	8	70	Steel
	10L050S06-S	S06	10	10	50	Steel
	10L080S06-S	S06	10	10	80	Steel
	12L090S08-S	S08	12	12	90	Steel
	16L100S10-S	S10	16	16	100	Steel

▸ THSZWS: Connection thread size

MXSC-C

Straight carbide shanks





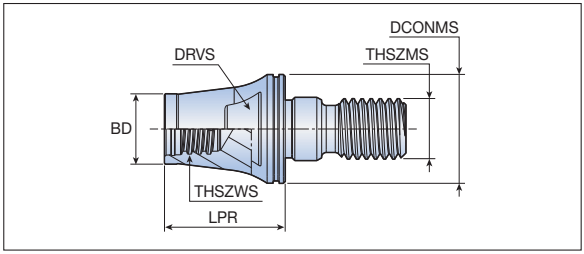
Designation		Dimension (mm)				Coolant hole	Shank material
		THSZWS	DCONMS	BD	OAL		
MXSC	**100L100S06-C**	S06	10	10	100	x	Carbide
	120L100S08-C-A	S08	12	12	100	●	Carbide

▸ THSZWS: Connection thread size

MXAD-M

Adapters for T-FLEXTEC





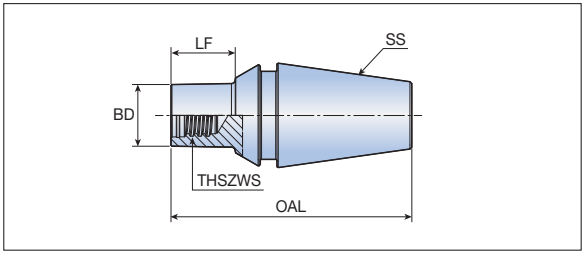
Designation		Dimension (mm)						Shank material
		THSZWS	THSZMS	DCONMS	BD	LPR	DRVS	
MXAD	130L016S08-S-M8	S08	M8	13	11.7	16	11	Steel
	130L025S08-S-M8	S08	M8	13	11.7	25	11	Steel
	180L020S08-S-M10	S08	M10	18	11.7	20	13	Steel
	180L025S08-S-M10	S08	M10	18	11.7	25	11	Steel
	210L020S08-S-M12	S08	M12	21	11.7	20	13	Steel
	210L025S08-S-M12	S08	M12	21	11.7	25	13	Steel

▸ THSZWS: Connection thread size
▸ DRVS: Clamping wrench size

MXER

ER collet chucks conversion adaptor with MAXI-RUSH





Designation		Dimension (mm)					Shank material
		THSZWS	SS	BD	LF	OAL	
MXER	11AL006S04-S	S04	ER11	5.8	6	24.0	Steel
	11CL006S05-S	S05	ER11	7.92	6	24.0	Steel
	11CL020S05-S	S05	ER11	7.92	20	38.0	Steel
	16CL012S05-S	S05	ER16	7.92	12	39.5	Steel
	16CL020S05-S	S05	ER16	7.92	20	47.5	Steel
	16CL010S06-S	S06	ER16	9.92	10	37.5	Steel
	16CL020S06-S	S06	ER16	9.92	20	47.5	Steel
	16CL006S08-S	S08	ER16	11.6	6	33.5	Steel
	16CL020S08-S	S08	ER16	11.6	20	47.5	Steel
	25CL004S08-S	S08	ER25	11.6	4	38.0	Steel
	25CL010S08-S	S08	ER25	11.6	10	44.5	Steel

▸ THSZWS: Connection thread size

Wrench

Head designation	Head type	Wrench type	Designation	Thread size	Torque (Nm)
Cylindrical & 2 flute eco type • MX... • TTB-04			MX KEY-S04	S04	4
			MX KEY-S05	S05	7
			MX KEY-S06	S06	10
			MX KEY-S08	S08	15
			MX KEY-S10	S10	28
			MX KEY-S12	S12	28
			MX KEY-S15	S15	40
T-cutter type • T... • MXFM			MX SKEY-T15	S04	4
			MX SKEY-T20	S05, S06	7, 10
			MX SKEY-T25	S06	10
			MX SKEY-T30L	S08	15
			MX SKEY-T40L	S08, S10	15, 28
			MX SKEY-T50L	S08, S10	15, 28
			MX SKEY-S06	S06	10
			MX SKEY-S08	S08	15

▸ Wrench should be ordered separately

Torque wrench

Handle			
Handle appearance	Designation	Thread size	Torque (Nm)
	TORQUE WRENCH 3-25NM 9X12	S04-S08	3-25
	TORQUE WRENCH 5-50NM 9X12	S05-S15	5-50

Wrenches and torx bits					
Head designation	Head type	Wrench type	Designation	Thread size	Torque (Nm)
Cylindrical & 2 flute eco type • MX... • TTB-04			MX WRENCH 6-05	S04, S05	4, 7
			MX WRENCH 8-06	S06	10
			MX WRENCH 10-08	S08	15
			MX WRENCH 13-10	S10	28
			MX WRENCH 16-12	S12	28
			MX WRENCH 20-15	S15	40
			MX WRENCH 4E-05	S05	7
			MX WRENCH 5E-06	S06	10
			MX WRENCH 7E-08	S08	15
			MX WRENCH 8E-10	S10	28
			MX WRENCH 9E-12	S12	28
T-cutter type • T... • MXFM			INSERT TOOL 9X12MM	-	-
			BIT SOCKET T20 DRIVE	S04, S05, S06	4, 7, 10
			BIT SOCKET T25 DRIVE	S06	10
			BIT SOCKET T30 DRIVE	S08	15
			BIT SOCKET T40 DRIVE	S08, S10	15, 28
			BIT SOCKET T50 DRIVE	S08, S10	15, 28

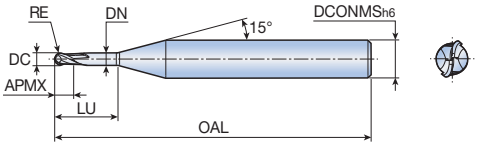
▸ Wrench should be ordered separately

HSB 2

HARDMILL

2 flute long neck ball





RE	DC	Tolerance
	DC≤6	0 - -0.012
	DC>6	0 - -0.015

2 | H•A 30°

Designation		Dimension (mm)							Grade
		DC	RE	OAL	APMX	LU	DN	DCONMS	TT5505
HSB	2003 003 010	0.3	0.15	45	0.3	1.0	0.27	4.0	●
	2003 003 020	0.3	0.15	45	0.3	2.0	0.27	4.0	●
	2003 003 030	0.3	0.15	45	0.3	3.0	0.27	4.0	●
	2004 004 010	0.4	0.2	45	0.4	1.0	0.36	4.0	●
	2004 004 015	0.4	0.2	45	0.4	1.5	0.36	4.0	●
	2004 004 020	0.4	0.2	45	0.4	2.0	0.36	4.0	●
	2004 004 025	0.4	0.2	45	0.4	2.5	0.36	4.0	●
	2004 004 030	0.4	0.2	45	0.4	3.0	0.36	4.0	●
	2004 004 040	0.4	0.2	45	0.4	4.0	0.36	4.0	●
	2005 005 010	0.5	0.25	45	0.5	1.0	0.45	4.0	●
	2005 005 015	0.5	0.25	45	0.5	1.5	0.45	4.0	●
	2005 005 020	0.5	0.25	45	0.5	2.0	0.45	4.0	●
	2005 005 025	0.5	0.25	45	0.5	2.5	0.45	4.0	●
	2005 005 030	0.5	0.25	45	0.5	3.0	0.45	4.0	●
	2005 005 040	0.5	0.25	45	0.5	4.0	0.45	4.0	●
	2005 005 050	0.5	0.25	45	0.5	5.0	0.45	4.0	●
	2005 005 060	0.5	0.25	45	0.5	6.0	0.45	4.0	●
	2005 005 080	0.5	0.25	45	0.5	8.0	0.45	4.0	●
	2006 006 020	0.6	0.3	45	0.6	2.0	0.55	4.0	●
	2006 006 030	0.6	0.3	45	0.6	3.0	0.55	4.0	●
	2006 006 040	0.6	0.3	45	0.6	4.0	0.55	4.0	●
	2006 006 050	0.6	0.3	45	0.6	5.0	0.55	4.0	●
	2006 006 060	0.6	0.3	45	0.6	6.0	0.55	4.0	●
	2006 006 080	0.6	0.3	45	0.6	8.0	0.55	4.0	●
	2006 006 100	0.6	0.3	45	0.6	10.0	0.55	4.0	●
	2008 008 020	0.8	0.4	45	0.8	2.0	0.75	4.0	●
	2008 008 030	0.8	0.4	45	0.8	3.0	0.75	4.0	●
	2008 008 040	0.8	0.4	45	0.8	4.0	0.75	4.0	●
	2008 008 050	0.8	0.4	45	0.8	5.0	0.75	4.0	●
	2008 008 060	0.8	0.4	45	0.8	6.0	0.75	4.0	●
	2008 008 080	0.8	0.4	45	0.8	8.0	0.75	4.0	●
	2008 008 100	0.8	0.4	45	0.8	10.0	0.75	4.0	●
	2008 008 120	0.8	0.4	45	0.8	12.0	0.75	4.0	●

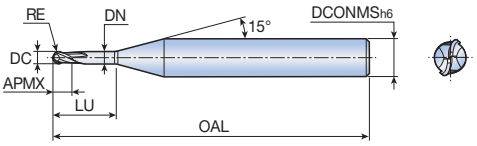
●: Standard items

HSB 2...S6

HARDMILL

2 flute long neck ball (Shank 6mm)





RE	
DC≤6	±0.005
DC>6	±0.010

DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 | H•A 30°

Designation	Dimension (mm)							Grade
	DC	RE	OAL	APMX	LU	DN	DCONMS	TT5505
HSB 2006 006 020 S6	0.6	0.3	45	0.6	2	0.55	6.0	●
2006 006 040 S6	0.6	0.3	45	0.6	4	0.55	6.0	●
2006 006 060 S6	0.6	0.3	45	0.6	6	0.55	6.0	●
2008 008 020 S6	0.8	0.4	45	0.8	2	0.75	6.0	●
2008 008 040 S6	0.8	0.4	45	0.8	4	0.75	6.0	●
2008 008 060 S6	0.8	0.4	45	0.8	6	0.75	6.0	●
2008 008 080 S6	0.8	0.4	45	0.8	8	0.75	6.0	●

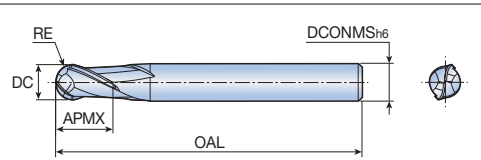
●: Standard items

HSB 2...M

HARDMILL

2 flute medium ball





RE	
DC≤6	±0.005
DC>6	±0.010

DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 | H•A 30°

Designation	Dimension (mm)					Grade
	DC	RE	OAL	APMX	DCONMS	TT5505
HSB 2003M 006	0.3	0.15	45	0.6	4.0	●
2004M 008	0.4	0.2	45	0.8	4.0	●
2005M 010	0.5	0.25	45	1.0	4.0	●
2006M 012	0.6	0.3	45	1.2	4.0	●
2007M 014	0.7	0.35	45	1.4	4.0	●
2008M 016	0.8	0.4	45	1.6	4.0	●
2009M 018	0.9	0.45	45	1.8	4.0	●

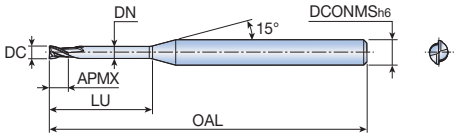
●: Standard items

HSF 2

HARDMILL

2 flute long neck flat





DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 H•A 30°

Designation	Feed (mm/tooth)	Dimension (mm)						Grade
		DC	OAL	APMX	LU	DN	DCONMS	TT5505
HSF 2003 004 010	0.001-0.005	0.3	45	0.4	1.0	0.27	4.0	●
2003 004 015	0.001-0.005	0.3	45	0.4	1.5	0.27	4.0	●
2003 004 020	0.001-0.005	0.3	45	0.4	2.0	0.27	4.0	●
2003 004 025	0.001-0.005	0.3	45	0.4	2.5	0.27	4.0	●
2003 004 030	0.001-0.005	0.3	45	0.4	3.0	0.27	4.0	●
2003 004 040	0.001-0.005	0.3	45	0.4	4.0	0.27	4.0	●
2003 004 050	0.001-0.005	0.3	45	0.4	5.0	0.27	4.0	●
2004 006 010	0.001-0.007	0.4	45	0.6	1.0	0.37	4.0	●
2004 006 015	0.001-0.007	0.4	45	0.6	1.5	0.37	4.0	●
2004 006 020	0.001-0.007	0.4	45	0.6	2.0	0.37	4.0	●
2004 006 025	0.001-0.007	0.4	45	0.6	2.5	0.37	4.0	●
2004 006 030	0.001-0.007	0.4	45	0.6	3.0	0.37	4.0	●
2004 006 040	0.001-0.007	0.4	45	0.6	4.0	0.37	4.0	●
2004 006 050	0.001-0.007	0.4	45	0.6	5.0	0.37	4.0	●
2004 006 060	0.001-0.007	0.4	45	0.6	6.0	0.37	4.0	●
2005 007 010	0.001-0.008	0.5	45	0.7	1.0	0.45	4.0	●
2005 007 015	0.001-0.008	0.5	45	0.7	1.5	0.45	4.0	●
2005 007 020	0.001-0.008	0.5	45	0.7	2.0	0.45	4.0	●
2005 007 025	0.001-0.008	0.5	45	0.7	2.5	0.45	4.0	●
2005 007 030	0.001-0.008	0.5	45	0.7	3.0	0.45	4.0	●
2005 007 040	0.001-0.008	0.5	45	0.7	4.0	0.45	4.0	●
2005 007 050	0.001-0.008	0.5	45	0.7	5.0	0.45	4.0	●
2005 007 060	0.001-0.008	0.5	45	0.7	6.0	0.45	4.0	●
2005 007 080	0.001-0.008	0.5	45	0.7	8.0	0.45	4.0	●
2006 009 020	0.001-0.010	0.6	45	0.9	2.0	0.55	4.0	●
2006 009 030	0.001-0.010	0.6	45	0.9	3.0	0.55	4.0	●
2006 009 040	0.001-0.010	0.6	45	0.9	4.0	0.55	4.0	●
2006 009 050	0.001-0.010	0.6	45	0.9	5.0	0.55	4.0	●
2006 009 060	0.001-0.010	0.6	45	0.9	6.0	0.55	4.0	●
2006 009 080	0.001-0.010	0.6	45	0.9	8.0	0.55	4.0	●
2006 009 100	0.001-0.010	0.6	45	0.9	10.0	0.55	4.0	●
2007 012 020	0.001-0.010	0.7	45	1.2	2.0	0.65	4.0	●
2007 012 040	0.001-0.010	0.7	45	1.2	4.0	0.65	4.0	●
2007 012 060	0.001-0.010	0.7	45	1.2	6.0	0.65	4.0	●
2007 012 080	0.001-0.010	0.7	45	1.2	8.0	0.65	4.0	●
2007 012 100	0.001-0.010	0.7	45	1.2	10.0	0.65	4.0	●
2007 012 120	0.001-0.010	0.7	45	1.2	12.0	0.65	4.0	●

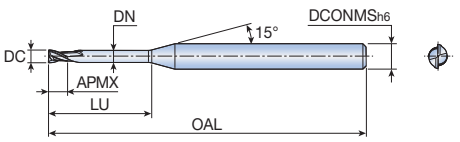
●: Standard items

HSF 2

HARDMILL

2 flute long neck flat





DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 H•A 30°

Designation	Feed (mm/tooth)	Dimension (mm)						Grade
		DC	OAL	APMX	LU	DN	DCONMS	TT5505
HSF 2008 012 020	0.001-0.015	0.8	45	1.2	2.0	0.75	4.0	●
2008 012 030	0.001-0.015	0.8	45	1.2	3.0	0.75	4.0	●
2008 012 040	0.001-0.015	0.8	45	1.2	4.0	0.75	4.0	●
2008 012 050	0.001-0.015	0.8	45	1.2	5.0	0.75	4.0	●
2008 012 060	0.001-0.015	0.8	45	1.2	6.0	0.75	4.0	●
2008 012 080	0.001-0.015	0.8	45	1.2	8.0	0.73	4.0	●
2008 012 100	0.001-0.015	0.8	45	1.2	10.0	0.73	4.0	●
2008 012 120	0.001-0.015	0.8	45	1.2	12.0	0.73	4.0	●

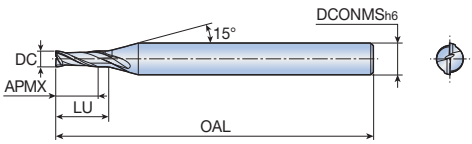
●: Standard items

HSF 2...M

HARDMILL

2 flute medium flat





DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 H•A 30°

Designation	Feed (mm/tooth)	Dimension (mm)					Grade
		DC	OAL	APMX	LU	DCONMS	TT5505
HSF 2003M 003	0.001-0.005	0.3	45	0.3	0.6	4.0	●
2003M 006	0.001-0.005	0.3	45	0.6	0.9	4.0	●
2004M 004	0.001-0.007	0.4	45	0.4	0.7	4.0	●
2004M 008	0.001-0.007	0.4	45	0.8	1.1	4.0	●
2005M 005	0.001-0.008	0.5	45	0.5	0.8	4.0	●
2005M 010	0.001-0.008	0.5	45	1.0	1.3	4.0	●
2006M 006	0.001-0.010	0.6	45	0.6	0.9	4.0	●
2006M 012	0.001-0.010	0.6	45	1.2	1.5	4.0	●
2008M 008	0.001-0.015	0.8	45	0.8	1.2	4.0	●
2008M 016	0.001-0.015	0.8	45	1.6	2	4.0	●

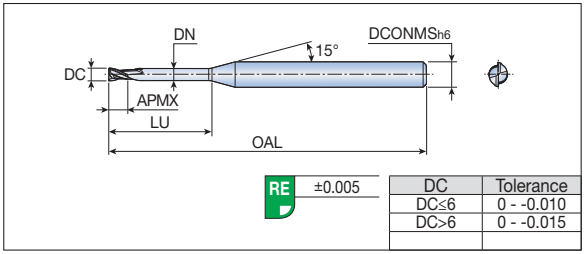
●: Standard items

HSR 2

HARDMILL

2 flute long neck corner radius





DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 H•A 30°

Designation	Feed (mm/tooth)	Dimension (mm)							Grade
		DC	RE	OAL	APMX	LU	DN	DCONMS	TT5505
HSR 2003 005 010	0.001-0.005	0.3	0.05	45	0.4	1.0	0.27	4.0	●
2003 005 020	0.001-0.005	0.3	0.05	45	0.4	2.0	0.27	4.0	●
2003 005 030	0.001-0.005	0.3	0.05	45	0.4	3.0	0.27	4.0	●
2004 005 010	0.001-0.007	0.4	0.05	45	0.6	1.0	0.37	4.0	●
2004 005 015	0.001-0.007	0.4	0.05	45	0.6	1.5	0.37	4.0	●
2004 005 025	0.001-0.007	0.4	0.05	45	0.6	2.5	0.37	4.0	●
2004 005 030	0.001-0.007	0.4	0.05	45	0.6	3.0	0.37	4.0	●
2004 005 040	0.001-0.007	0.4	0.05	45	0.6	4.0	0.37	4.0	●
2005 005 010	0.001-0.008	0.5	0.05	45	0.7	1.0	0.45	4.0	●
2005 005 015	0.001-0.008	0.5	0.05	45	0.7	1.5	0.45	4.0	●
2005 005 025	0.001-0.008	0.5	0.05	45	0.7	2.5	0.45	4.0	●
2005 005 030	0.001-0.008	0.5	0.05	45	0.7	3.0	0.45	4.0	●
2005 005 040	0.001-0.008	0.5	0.05	45	0.7	4.0	0.45	4.0	●
2006 005 020	0.001-0.010	0.6	0.05	45	0.9	2.0	0.55	4.0	●
2006 005 040	0.001-0.010	0.6	0.05	45	0.9	4.0	0.55	4.0	●
2006 005 060	0.001-0.010	0.6	0.05	45	0.9	6.0	0.55	4.0	●
2006 010 020	0.001-0.010	0.6	0.10	45	0.9	2.0	0.55	4.0	●
2006 010 040	0.001-0.010	0.6	0.10	45	0.9	4.0	0.55	4.0	●
2006 010 060	0.001-0.010	0.6	0.10	45	0.9	6.0	0.55	4.0	●
2006 020 020	0.001-0.010	0.6	0.20	45	0.9	2.0	0.55	4.0	●
2006 020 040	0.001-0.010	0.6	0.20	45	0.9	4.0	0.55	4.0	●
2006 020 060	0.001-0.010	0.6	0.20	45	0.9	6.0	0.55	4.0	●
2008 005 020	0.001-0.015	0.8	0.05	45	1.2	2.0	0.75	4.0	●
2008 005 040	0.001-0.015	0.8	0.05	45	1.2	4.0	0.75	4.0	●
2008 005 060	0.001-0.015	0.8	0.05	45	1.2	6.0	0.75	4.0	●
2008 005 080	0.001-0.015	0.8	0.05	45	1.2	8.0	0.73	4.0	●
2008 010 020	0.001-0.015	0.8	0.10	45	1.2	2.0	0.75	4.0	●
2008 010 040	0.001-0.015	0.8	0.10	45	1.2	4.0	0.75	4.0	●
2008 010 060	0.001-0.015	0.8	0.10	45	1.2	6.0	0.75	4.0	●
2008 010 080	0.001-0.015	0.8	0.10	45	1.2	8.0	0.73	4.0	●
2008 020 020	0.001-0.015	0.8	0.20	45	1.2	2.0	0.75	4.0	●
2008 020 040	0.001-0.015	0.8	0.20	45	1.2	4.0	0.75	4.0	●
2008 020 060	0.001-0.015	0.8	0.20	45	1.2	6.0	0.75	4.0	●
2008 020 080	0.001-0.015	0.8	0.20	45	1.2	8.0	0.73	4.0	●

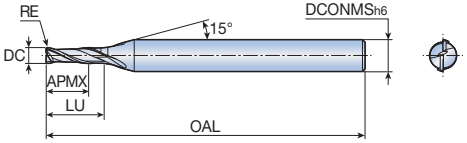
●: Standard items

HSR 2...M

HARDMILL

2 flute medium corner radius





RE ±0.005

DC	Tolerance
DC≤6	0 - -0.010
DC>6	0 - -0.015

2 H•A 30°

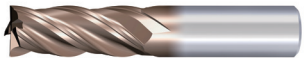
Designation		Feed (mm/tooth)	Dimension (mm)						Grade
			DC	RE	OAL	APMX	LU	DCONMS	TT5505
HSR	2003M 002	0.001-0.005	0.3	0.02	45	0.6	0.9	4.0	●
	2003M 005	0.001-0.005	0.3	0.05	45	0.6	0.9	4.0	●
	2004M 005	0.001-0.007	0.4	0.05	45	0.8	1.1	4.0	●
	2004M 010	0.001-0.007	0.4	0.10	45	0.8	1.1	4.0	●
	2005M 005	0.001-0.008	0.5	0.05	45	1.0	1.3	4.0	●
	2005M 010	0.001-0.008	0.5	0.10	45	1.0	1.3	4.0	●
	2006M 005	0.001-0.010	0.6	0.05	45	1.2	1.5	4.0	●
	2006M 010	0.001-0.010	0.6	0.10	45	1.2	1.5	4.0	●
	2006M 020	0.001-0.010	0.6	0.20	45	1.2	1.5	4.0	●
	2008M 005	0.001-0.015	0.8	0.05	45	1.6	2	4.0	●
	2008M 010	0.001-0.015	0.8	0.10	45	1.6	2	4.0	●
	2008M 020	0.001-0.015	0.8	0.20	45	1.6	2	4.0	●

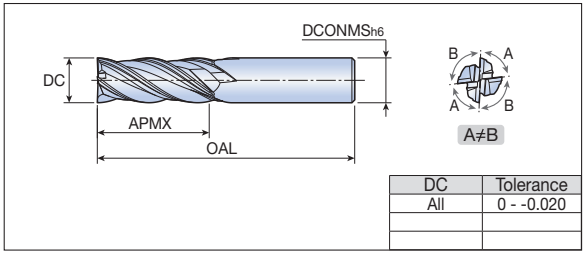
●: Standard items

UHP 4

SLIKSOLID

4 flute medium flat





DC	Tolerance
All	0 - -0.020

4 H•A Various

Designation		Feed (mm/tooth)	Dimension (mm)				Grade
			DC	OAL	APMX	DCONMS	TT5520
UHP	4020X6X42	0.010-0.015	2	42	6	6	●
	4030X10X57	0.010-0.020	3	57	10	6	●
	4040X12X57	0.010-0.035	4	57	12	6	●
	4040X20X70	0.010-0.025	4	70	20	6	●
	4050X14X57	0.015-0.040	5	57	14	6	●
	4060X16X57	0.020-0.060	6	57	16	6	●
	4060X25X80	0.020-0.050	6	80	25	6	●
	4070X20X63	0.020-0.070	7	63	20	8	●
	4080X20X63	0.020-0.080	8	63	20	8	●
	4080X35X90	0.020-0.060	8	90	35	8	●
	4090X25X72	0.025-0.090	9	72	25	10	●
	4100X25X72	0.025-0.100	10	72	25	10	●
	4100X45X100	0.025-0.080	10	100	45	10	●
	4110X30X83	0.030-0.110	11	83	30	12	●
	4120X30X83	0.030-0.130	12	83	30	12	●
	4120X55X110	0.030-0.100	12	110	55	12	●
	4140X40X92	0.030-0.120	14	92	40	16	●
	4160X40X92	0.040-0.140	16	92	40	16	●
	4160X70X125	0.040-0.100	16	125	70	16	●
	4180X45X110	0.040-0.140	18	110	45	20	●
	4200X45X110	0.050-0.140	20	110	45	20	●
	4200X75X150	0.050-0.120	20	150	75	20	●
	4250X65X140	0.060-0.140	25	140	65	25	●

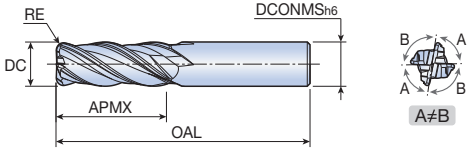
●: Standard items

UHP 4...R

SLIK SOLID

4 flute medium corner radius





DC	Tolerance
All	0 - -0.020

4 | H•A Various

Designation		Feed (mm/tooth)	Dimension (mm)					Grade
			DC	RE	OAL	APMX	DCONMS	TT5520
UHP	4030X10X57R0.3	0.010-0.020	3	0.3	57	10	6	●
	4030X10X57R0.5	0.010-0.020	3	0.5	57	10	6	●
	4040X12X57R0.3	0.010-0.035	4	0.3	57	12	6	●
	4040X12X57R0.5	0.010-0.035	4	0.5	57	12	6	●
	4040X12X57R1.0	0.010-0.035	4	1.0	57	12	6	●
	4050X14X57R0.3	0.015-0.040	5	0.3	57	14	6	●
	4060X16X57R0.5	0.020-0.060	6	0.5	57	16	6	●
	4060X16X57R1.0	0.020-0.060	6	1.0	57	16	6	●
	4080X20X63R0.5	0.020-0.080	8	0.5	63	20	8	●
	4080X20X63R1.0	0.020-0.080	8	1.0	63	20	8	●
	4080X20X63R2.0	0.020-0.080	8	2.0	63	20	8	●
	4100X25X72R0.5	0.025-0.100	10	0.5	72	25	10	●
	4100X25X72R1.0	0.025-0.100	10	1.0	72	25	10	●
	4100X25X72R2.0	0.025-0.100	10	2.0	72	25	10	●
	4100X25X72R3.0	0.025-0.100	10	3.0	72	25	10	●
	4120X30X83R0.5	0.030-0.130	12	0.5	83	30	12	●
	4120X30X83R1.0	0.030-0.130	12	1.0	83	30	12	●
	4120X30X83R2.0	0.030-0.130	12	2.0	83	30	12	●
	4120X30X83R3.0	0.030-0.130	12	3.0	83	30	12	●
	4160X40X92R0.5	0.040-0.140	16	0.5	92	40	16	●
	4160X40X92R1.0	0.040-0.140	16	1.0	92	40	16	●
	4160X40X92R3.0	0.040-0.140	16	3.0	92	40	16	●
	4200X45X110R0.5	0.050-0.140	20	0.5	110	45	20	●
	4200X45X110R3.0	0.050-0.140	20	3.0	110	45	20	●

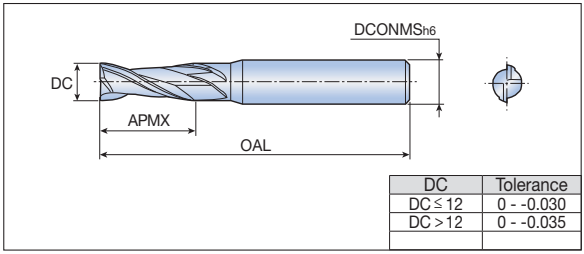
●: Standard items

TSE 2...M

APEXMILL

2 flute medium flat





DC	Tolerance
DC ≤ 12	0 - -0.030
DC > 12	0 - -0.035



Designation	Feed (mm/tooth)	Dimension (mm)				Grade		
		DC	OAL	APMX	DCONMS	TT5515	TT5525	UF10
TSE 2010M-4	0.008-0.030	1.0	40	3	4	●	●	●
2010M	0.008-0.030	1.0	42	3	6	●	●	●
2012M	0.008-0.030	1.2	42	3	6	●		
2015M-4	0.008-0.030	1.5	40	4	4	●	●	●
2015M	0.008-0.030	1.5	42	4	6	●	●	●
2020M-4	0.010-0.030	2.0	40	6	4	●	●	●
2020M	0.010-0.030	2.0	42	6	6	●	●	●
2025M-4	0.010-0.030	2.5	40	8	4	●	●	●
2025M	0.010-0.030	2.5	42	8	6	●	●	●
2030M	0.010-0.030	3.0	57	10	6	●	●	●
2035M-4	0.010-0.030	3.5	50	12	4	●		●
2035M	0.010-0.030	3.5	47	10	6	●	●	●
2040M-4	0.010-0.050	4.0	50	12	4	●	●	●
2040M	0.010-0.050	4.0	57	12	6	●	●	●
2045M	0.010-0.050	4.5	57	14	6	●	●	●
2050M-5	0.015-0.060	5.0	50	14	5	●	●	●
2050M	0.015-0.060	5.0	57	14	6	●	●	●
2055M	0.015-0.060	5.5	57	16	6	●	●	
2060M	0.020-0.060	6.0	57	16	6	●	●	●
2065M-7	0.020-0.060	6.5	60	20	7		●	
2065M	0.020-0.060	6.5	60	20	8	●	●	●
2070M	0.030-0.070	7.0	60	20	8	●	●	●
2075M	0.030-0.070	7.5	63	20	8	●	●	
2080M	0.030-0.100	8.0	63	20	8	●	●	●
2085M	0.030-0.100	8.5	72	22	10	●	●	●
2090M	0.030-0.100	9.0	68	25	10	●	●	●
2095M	0.030-0.100	9.5	72	24	10	●	●	
2100M(25X68)	0.030-0.120	10.0	68	25	10	●	●	
2100M	0.030-0.120	10.0	72	22	10	●	●	●
2105M	0.030-0.120	10.5	76	26	12	●	●	
2110M	0.030-0.120	11.0	76	30	12	●	●	●
2115M	0.030-0.120	11.5	83	30	12	●		
2120M(30X76)	0.030-0.120	12.0	76	30	12	●		
2120M	0.030-0.120	12.0	83	25	12	●	●	●

▸ Weldon shank is available on request (Ordering example: TSEW 2...M)

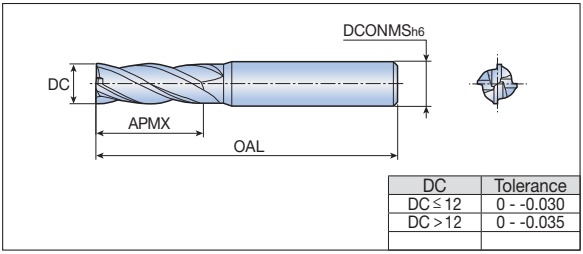
●: Standard items

TSE 4...M

APEXMILL

4 flute medium flat





DC	Tolerance
DC ≤ 12	0 - -0.030
DC > 12	0 - -0.035

4 H•A 30°

Designation	Feed (mm/tooth)	Dimension (mm)				Grade		
		DC	OAL	APMX	DCONMS	TT5515	TT5525	UF10
TSE 4010M	0.005-0.010	1.0	42	2.5	6	●	●	
4015M	0.005-0.012	1.5	42	4	6	●	●	
4020M	0.008-0.017	2.0	42	6	6	●	●	●
4025M-4	0.008-0.017	2.5	40	8	4	●	●	●
4025M	0.008-0.017	2.5	42	8	6	●	●	●
4030M	0.009-0.020	3.0	57	10	6	●	●	●
4035M-4	0.010-0.028	3.5	50	12	4	●		●
4035M	0.010-0.028	3.5	47	10	6	●	●	●
4040M-4	0.010-0.042	4.0	50	12	4	●	●	●
4040M	0.010-0.042	4.0	57	12	6	●	●	●
4045M	0.010-0.042	4.5	57	12	6	●		
4050M	0.020-0.059	5.0	57	14	6	●	●	●
4055M	0.020-0.059	5.5	57	14	6	●	●	
4060M	0.020-0.075	6.0	57	16	6	●	●	●
4065M	0.020-0.075	6.5	60	20	8	●	●	
4070M	0.020-0.075	7.0	60	20	8	●	●	●
4075M	0.020-0.075	7.5	60	20	8	●	●	
4080M	0.030-0.100	8.0	63	20	8	●	●	●
4085M	0.030-0.100	8.5	68	25	10	●	●	
4090M	0.030-0.100	9.0	68	25	10	●	●	●
4095M	0.030-0.100	9.5	68	25	10	●	●	
4100M(25X68)	0.030-0.120	10.0	68	25	10	●	●	●
4100M	0.030-0.120	10.0	72	22	10	●	●	●
4105M	0.030-0.120	10.5	76	30	12	●	●	
4110M	0.030-0.120	11.0	76	30	12	●	●	●
4115M	0.030-0.120	11.5	76	30	12	●	●	
4120M(30X76)	0.030-0.136	12.0	76	30	12	●	●	
4120M	0.030-0.136	12.0	83	25	12	●	●	●

▸ Weldon shank is available on request (Ordering example: TSEW 4...M)

●: Standard items

FSM 4...M

APEXMILL

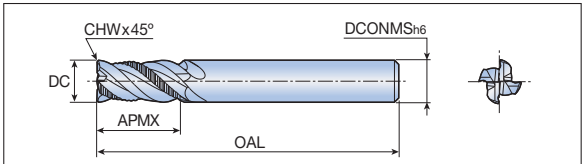
4 flute medium corner chamfer



MULTIMILL

- MULTI-MILL (Rough + Finish)

4 | H•A 45°



DC	Tolerance	DC	Tolerance
3 < DC≤ 6	-0.020 - -0.038	10 < DC≤ 18	-0.032 - -0.059
6 < DC≤ 10	-0.025 - -0.047		

Designation	Feed (mm/tooth)	Dimension (mm)					Grade
		DC	CHW	OAL	APMX	DCONMS	TT5525
FSM 4060M	0.03-0.06	6	0.25	57	14	6	●
4080M	0.03-0.08	8	0.3	63	18	8	●
4100M	0.03-0.09	10	0.3	72	22	10	●
4120M	0.04-0.11	12	0.4	83	26	12	●

●: Standard items

CEM 2...-C60

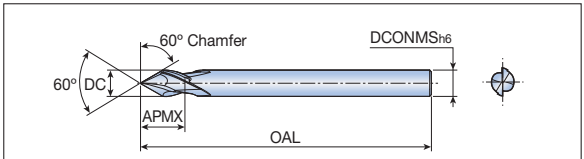
APEXMILL

2 flute, 60° chamfering



- Multi-function
  - Chamfer boring, chamfer milling, side milling

2 | H•A 30°



DC	Tolerance
All	0 - -0.030

Designation	Feed (mm/tooth)	Dimension (mm)				Grade
		DC	OAL	APMX	DCONMS	UF10
CEM 2040-C60	0.02-0.04	4	70	7.5	6	●
2060-C60	0.02-0.04	6	80	11.2	6	●
2080-C60	0.03-0.06	8	90	14.9	8	●
2100-C60	0.03-0.08	10	100	18.7	10	●
2120-C60	0.04-0.09	12	110	22.4	12	●

●: Standard items

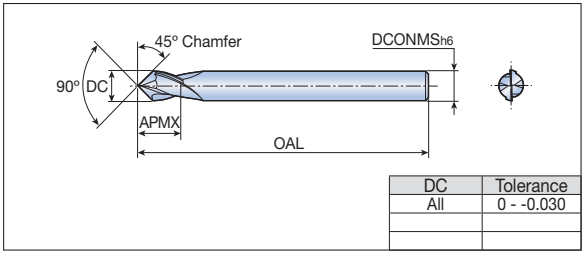
CEM 2

2 flute, 45° chamfering



- Multi-function
  - Chamfer boring, chamfer milling, side milling, ⋆centering, V-slot milling





DC	Tolerance
All	0 - -0.030

Designation	Feed (mm/tooth)	Dimension (mm)				Grade	
		DC	OAL	APMX	DCONMS	UF10	TT5525
CEM 2040	0.02-0.05	4	70	6	6	●	●
2060	0.02-0.05	6	80	9	6	●	●
2080	0.03-0.07	8	90	12	8	●	●
2100	0.03-0.10	10	100	15	10	●	●
2120	0.04-0.10	12	110	18	12	●	●

▸ ⋆Centering of 45° is only applicable on cast iron & non-ferrous material

●: Standard items

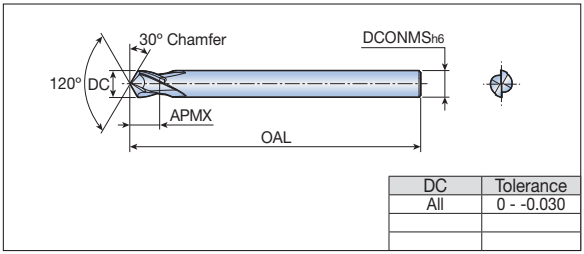
CEM 2...-C120

2 flute, 30° chamfering



- Multi-function
  - Chamfer boring, chamfer milling, side milling, centering, V-slot milling, Drilling





DC	Tolerance
All	0 - -0.030

Designation	Feed (mm/tooth)	Dimension (mm)				Grade
		DC	OAL	APMX	DCONMS	UF10
CEM 2040-C1204	0.02-0.05	4	70	5.2	6	●
2060-C120	0.02-0.05	6	80	7.7	6	●
2080-C120	0.03-0.07	8	90	10.3	8	●
2100-C120	0.03-0.10	10	100	12.9	10	●
2120-C120	0.04-0.10	12	110	15.5	12	●

●: Standard items

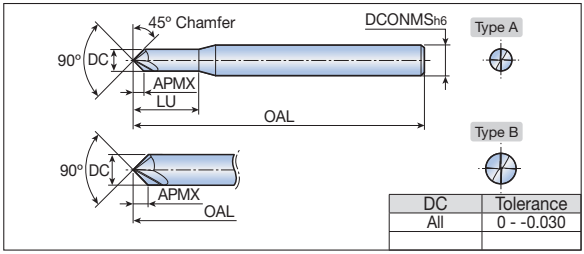
ECEM 2

2 flute, 45° chamfering - Economical type



- Multi-function
  - Chamfer boring, chamfer milling, centering, V-slot milling





DC	Tolerance
All	0 - -0.030

Designation		Feed (mm/tooth)	Dimension (mm)					Grade
			DC	OAL	APMX	LU	DCONMS	Type	UF10
ECEM	2020	0.01-0.03	2	57	1.0	6	6	A	●
	2030	0.01-0.04	3	57	1.5	9	6	A	●
	2040	0.02-0.05	4	57	2.0	12	6	A	●
	2060	0.02-0.05	6	57	2.9	-	6	B	●
	2080	0.03-0.07	8	63	3.8	-	8	B	●
	2100	0.03-0.10	10	72	4.9	-	10	B	●
	2120	0.04-0.10	12	83	5.9	-	12	B	●

●: Standard items

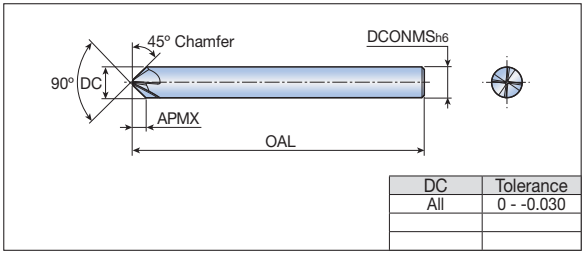
ECEM 4

4 flute, 45° chamfering - Economical type



- Chanfer milling





DC	Tolerance
All	0 - -0.030

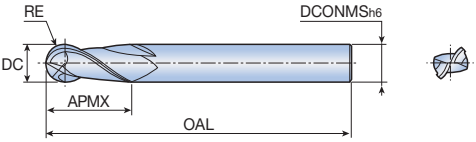
Designation		Feed (mm/tooth)	Dimension (mm)				Grade
			DC	OAL	APMX	DCONMS	UF10
ECEM	4060	0.02-0.04	6	57	2.5	6	●
	4080	0.02-0.05	8	63	3.4	8	●
	4100	0.03-0.08	10	72	4.4	10	●
	4120	0.03-0.08	12	83	5.1	12	●

●: Standard items

SBE 2...T

2 flute medium ball





RE	
DC≤6	±0.005
DC>6	±0.010

DC	Tolerance
DC≤6	0 - -0.012
DC>6	0 - -0.015

Designation		Dimension (mm)					Grade
		DC	RE	OAL	APMX	DCONMS	TT5515
SBE	2010T	1.0	0.5	50	1.5	4	●
	2010T-6	1.0	0.5	50	1.5	6	●
	2012T	1.2	0.6	50	1.8	4	●
	2015T	1.5	0.75	50	2.3	4	●
	2015T-5X70	1.5	0.75	70	5.0	6	●
	2015T-6	1.5	0.75	50	2.3	6	●
	2016T	1.6	0.8	50	2.4	4	●
	2020T	2.0	1.0	50	3.0	4	●
	2020T-6	2.0	1.0	50	3.0	6	●
	2020T-7X70	2.0	1.0	70	7.0	6	●
	2025T	2.5	1.25	50	3.8	4	●
	2025T-6	2.5	1.25	50	3.8	6	●
	2030T	3.0	1.5	70	8.0	6	●
	2030T-10X70	3.0	1.5	70	10.0	6	●
	2035T	3.5	1.75	70	8.0	6	●
	2040T	4.0	2.0	70	8.0	6	●
	2040T-12X70	4.0	2.0	70	12.0	6	●
	2045T	4.5	2.25	80	8.0	6	●
	2050T	5.0	2.5	80	12.0	6	●
	2050T-15X80	5.0	2.5	80	15.0	6	●
	2060T	6.0	3.0	80	12.0	6	●
	2060T-15X80	6.0	3.0	80	15.0	6	●
	2065T	6.5	3.25	90	12.0	8	●
	2070T	7.0	3.5	90	15.0	8	●
	2080T	8.0	4.0	90	15.0	8	●
	2080T-20X90	8.0	4.0	90	20.0	8	●
	2090T	9.0	4.5	100	20.0	10	●
	2100T	10.0	5.0	100	20.0	10	●
	2100T-25X100	10.0	5.0	100	25.0	10	●
	2110T	11.0	5.5	110	25.0	12	●
	2120T	12.0	6.0	110	25.0	12	●

▸ Weldon shank is available on request (Ordering example: SBEW 4...M)

●: Standard items

SED 4...U

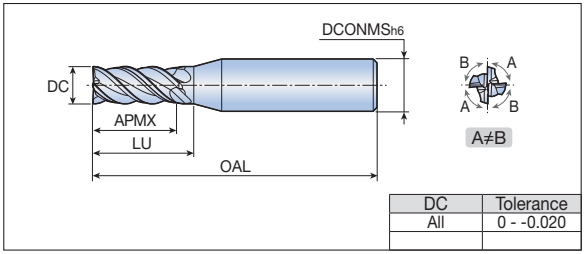
STARMILL

4 flute medium flat



- Excellent chatter damping credit to unequal spacing of cutting edges





DC	Tolerance
All	0 - -0.020

Designation		Feed (mm/tooth)	Dimension (mm)					Grade
			DC	OAL	APMX	LU	DCONMS	TT5515
SED	4030U	0.015-0.030	3	57	10	12	6	●
	4040U	0.020-0.040	4	57	12	14	6	●
	4050U	0.020-0.040	5	57	15	16	6	●
	4060U	0.025-0.070	6	57	15	-	6	●
	4080U	0.030-0.090	8	70	25	-	8	●
	4100U	0.030-0.100	10	72	25	-	10	●
	4120U	0.035-0.110	12	83	30	-	12	●

●: Standard items

SER

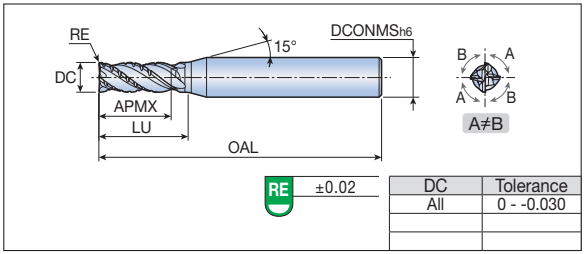
STARMILL

3-4 flute chip splitter type



- Excellent chatter damping credit to unequal spacing of cutting edges





DC	Tolerance
All	0 - -0.030

Designation		Feed (mm/tooth)		Dimension (mm)						Grade
				DC	RE	OAL	APMX	LU	DCONMS	TT5525
SER	3030M 020	0.010-0.030	3	3	0.2	52	8	10	6	●
	3040M 020	0.020-0.040	3	4	0.2	52	10	12	6	●
	4050M 020	0.020-0.040	4	5	0.2	57	13	18	6	●
	4060M 020	0.025-0.070	4	6	0.2	57	13	-	6	●
	4060M 050	0.025-0.070	4	6	0.5	57	13	-	6	●
	4070M 020	0.025-0.070	4	7	0.2	63	18	25	8	●
	4080M 020	0.030-0.090	4	8	0.2	63	19	-	8	●
	4080M 100	0.030-0.090	4	8	1.0	63	19	-	8	●
	4090M 030	0.030-0.090	4	9	0.3	72	20	30	10	●
	4100M 030	0.030-0.100	4	10	0.3	72	22	-	10	●
	4100M 100	0.030-0.100	4	10	1.0	72	22	-	10	●
	4110M 030	0.030-0.100	4	11	0.3	83	25	35	12	●
	4120M 030	0.035-0.110	4	12	0.3	83	26	-	12	●
	4120M 100	0.035-0.110	4	12	1.0	83	26	-	12	●

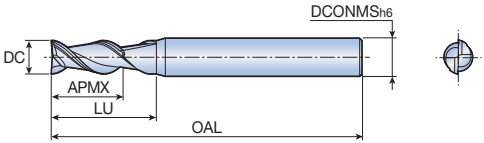
●: Standard items

AES 2

ALUMILL

2 flute medium flat





DC	Tolerance
All	0 - -0.012

2 H•A 45°

Designation	Feed (mm/tooth)	Dimension (mm)					Grade
		DC	OAL	APMX	LU	DCONMS	UF10
AES 2010	0.02-0.04	1.0	40	3	5	4	●
2010-6	0.02-0.04	1.0	47	3	5	6	●
2015-6	0.02-0.04	1.5	47	3	5	6	●
2020	0.02-0.04	2.0	40	6	8	4	●
2020-6	0.02-0.04	2.0	47	6	8	6	●
2025	0.02-0.05	2.5	40	8	10	4	●
2025-6	0.02-0.05	2.5	47	8	10	6	●
2030	0.02-0.05	3.0	47	10	13	6	●
2035	0.02-0.05	3.5	47	10	13	6	●
2040	0.02-0.05	4.0	47	12	15	6	●
2050	0.02-0.06	5.0	52	15	20	6	●
2060	0.03-0.07	6.0	52	15	-	6	●
2070	0.03-0.09	7.0	60	20	26	8	●
2080	0.03-0.09	8.0	60	20	-	8	●
2090	0.03-0.10	9.0	68	25	31	10	●
2100	0.03-0.10	10.0	68	25	31	10	●
2110	0.03-0.12	11.0	76	30	37	12	●
2120	0.03-0.12	12.0	76	30	-	12	●
2130	0.03-0.12	13.0	85	35	40	14	●
2140	0.05-0.14	14.0	85	35	40	14	●
2150	0.05-0.14	15.0	90	40	50	16	●
2160	0.05-0.14	16.0	90	40	-	16	●
2170	0.05-0.15	17.0	110	45	55	18	●
2180	0.05-0.15	18.0	110	45	55	18	●
2190	0.05-0.15	19.0	110	45	55	20	●
2200	0.05-0.15	20.0	110	45	-	20	●

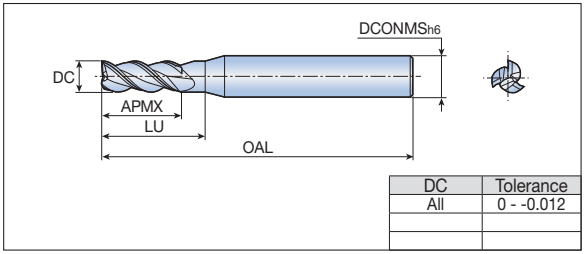
●: Standard items

AES 3

ALUMILL

3 flute medium flat





DC	Tolerance
All	0 - -0.012

Designation	Feed (mm/tooth)	Dimension (mm)					Grade
		DC	OAL	APMX	LU	DCONMS	UF10
AES 3010(4X50)-4	0.01-0.015	1	50	4	5	4	●
3015(6X50)-6	0.01-0.02	1.5	50	6	7	6	●
3020(7X50)-6	0.02-0.04	2	50	7	9	6	●
3020-6	0.02-0.04	2	47	6	8	6	●
3030	0.02-0.05	3	47	10	13	6	●
3030(12X57)	0.02-0.05	3	57	12	14.5	6	●
3040	0.02-0.05	4	47	12	15	6	●
3040(14X57)	0.02-0.05	4	57	14	17	6	●
3050	0.02-0.06	5	52	15	20	6	●
3050(18X57)	0.02-0.06	5	57	18	22	6	●
3060	0.03-0.07	6	52	15	-	6	●
3060(18X60)	0.03-0.07	6	60	18	-	6	●
3070	0.03-0.09	7	60	20	26	8	●
3080	0.03-0.09	8	60	20	-	8	●
3080(23X70)	0.03-0.09	8	70	23	-	8	●
3090	0.03-0.10	9	68	25	31	10	●
3100	0.03-0.10	10	68	25	-	10	●
3100(28X75)	0.03-0.10	10	75	28	-	10	●
3110	0.03-0.12	11	76	30	37	12	●
3120	0.03-0.12	12	76	30	-	12	●
3120(33X80)	0.03-0.12	12	80	33	-	12	●
3130	0.03-0.12	13	85	35	40	14	●
3140	0.05-0.14	14	85	35	40	14	●
3150	0.05-0.14	15	90	40	50	16	●
3160	0.05-0.14	16	90	40	-	16	●
3160(43X100)	0.05-0.14	16	100	43	-	16	●
3180	0.05-0.15	18	110	45	55	18	●
3200	0.05-0.15	20	110	45	-	20	●
3200(49X100)	0.05-0.15	20	100	49	-	20	●
3250	0.05-0.15	25	140	65	-	25	●

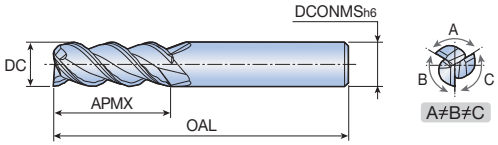
●: Standard items

AWE 3

ALUMILL

3 flute wave flat





DC	Tolerance
All	0 - -0.012

• Wave cutting edge



Designation		Feed (mm/tooth)	Dimension (mm)				Grade
			DC	OAL	APMX	DCONMS	UF10
AWE	3060	0.03-0.07	6	52	14	6	●
	3080	0.03-0.09	8	60	14	8	●
	3100	0.03-0.10	10	68	19	10	●
	3120	0.03-0.12	12	76	22	12	●

●: Standard items

07

Tooling System

Shank Type Holder & Collet

Tool Selection Guide 346

Holders & Collets

- ER Shank Collet Chuck 347
- ER Collet 350

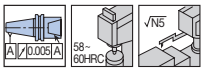
Series	ST-ER-M	ST-ER-MF	ST-ER-MF D
			
Collet	ER11-ER20	ER11-ER25	ER11-ER20
Shank	Ø12-Ø20	Ø16-Ø32	Ø16-Ø32
Pages	347	348	349

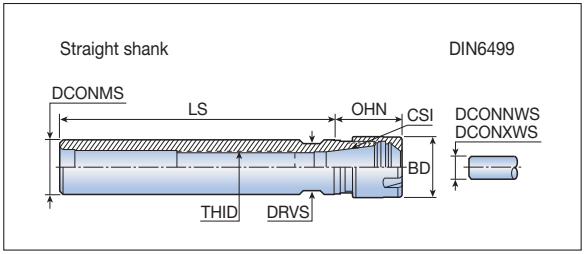
Series	ER-SPR	ER-SPR-AA	EROH
			
Min. Dia	Ø0.5	Ø0.5	Ø4
Precision	0.01	0.005	0.01
Pages	350	351	352

ST-ER-M

ER mini collet chuck





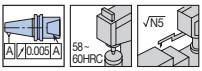


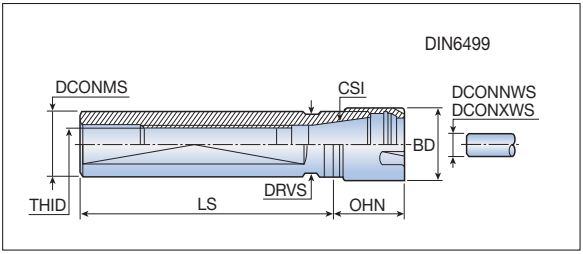
Designation	Dimension (mm)								
	DCONMS	CSI	DCONNWS	DCONXWS	BD	OHN	LS	THID	DRVS
ST **12x80 ER11 M**	12	ER11	0.5	7.0	16	26.5	80	-	11
16x100 ER11 M	16	ER11	0.5	7.0	16	18.5	100	M8	13
16x150 ER11 M	16	ER11	0.5	7.0	16	18.5	150	M8	13
12x80 ER16 M	12	ER16	0.5	10.0	22	36.5	80	-	17
20x100 ER16 M	20	ER16	0.5	10.0	22	25.0	100	M12	17
20x150 ER16 M	20	ER16	0.5	10.0	22	25.0	150	M12	17
20x100 ER20 M	20	ER20	1.0	13.0	28	40.0	100	M12	21
20x150 ER20 M	20	ER20	1.0	13.0	28	40.0	150	M12	21

ST-ER-MF

Straight shanks - Mini collet







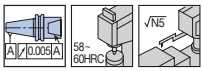
Designation	Dimension (mm)								
	DCONMS	CSI	DCONNWS	DCONXWS	BD	OHN	LS	THID	DRVS
ST 16x38 ER11 MF	16	ER11	0.5	7.0	16	18.5	38	M8x1	14
16x50 ER11 MF	16	ER11	0.5	7.0	16	18.5	50	M8x1	13
16x140 ER11 MF	16	ER11	0.5	7.0	16	18.5	140	M8x1	14
16x35 ER16 MF	16	ER16	0.5	10.0	22	36.0	35	M8x1	17
20x50 ER16 MF	20	ER16	0.5	10.0	22	26.0	50	M12x1	17
20x70 ER16 MF	20	ER16	0.5	10.0	22	26.0	70	M12x1	17
20x120 ER16 MF	20	ER16	0.5	10.0	22	26.0	120	M12x1	17
20x140 ER16 MF	20	ER16	0.5	10.0	22	26.0	140	M12x1	17
22x38 ER16 MF	22	ER16	0.5	10.0	22	26.0	38	M12x1	19
22x70 ER16 MF	22	ER16	0.5	10.0	22	26.0	70	M12x1	19
22x100 ER16 MF	22	ER16	0.5	10.0	22	28.0	100	M12x1	19
25x65 ER16 MF	25	ER16	0.5	10.0	22	28.0	65	M14x1	22
22x80 ER20 MF	22	ER20	1.0	13.0	28	39.0	80	M12x1	21
25x100 ER20 MF	25	ER20	1.0	13.0	28	28.0	100	M14x1	22
25x154 ER20 MF	25	ER20	1.0	13.0	28	28.0	154	M14x1	22
22x70 ER25 MF	22	ER25	1.0	16.0	35	47.0	70	M12x1	27
25x75 ER25 MF	25	ER25	1.0	16.0	35	48.0	75	M14x1	27
25x145 ER25 MF	25	ER25	1.0	16.0	35	36.0	145	M14x1	27
32x70 ER25 MF	32	ER25	1.0	16.0	35	30.0	70	M18x1	27

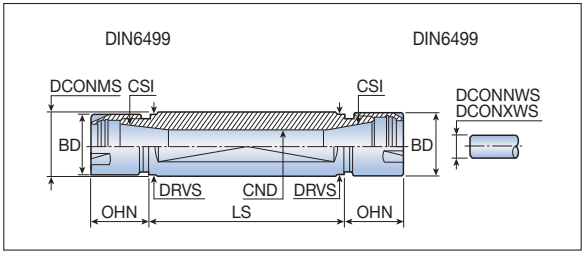
▸ MF: Mini flat double

ST-ER-MF D

Straight shanks - Double mini collet







Designation	Dimension (mm)								
	DCONMS	CSI	DCONNWS	DCONXWS	CND	BD	OHN	LS	DRVS
ST 16x50 ER11 MF D	16	ER11	0.5	7.0	7.5	16	18.5	50	14
20x30 ER11 MF D	20	ER11	0.5	7.0	7.5	16	18.5	30	17
20x50 ER11 MF D	20	ER11	0.5	7.0	7.5	16	18.5	50	17
20x55 ER16 MF D	20	ER16	0.5	10.0	10.5	22	25.0	55	17
22x55 ER16 MF D	22	ER16	0.5	10.0	10.5	22	28.0	55	19
22x75 ER16 MF D	22	ER16	0.5	10.0	10.5	22	28.0	75	19
25x62 ER16 MF D	25	ER16	0.5	10.0	10.5	22	28.0	62	22
32x55 ER20 MF D	32	ER20	1.0	13.0	13.5	28	28.0	55	27
32x75 ER20 MF D	32	ER20	1.0	13.0	13.5	28	28.0	75	27

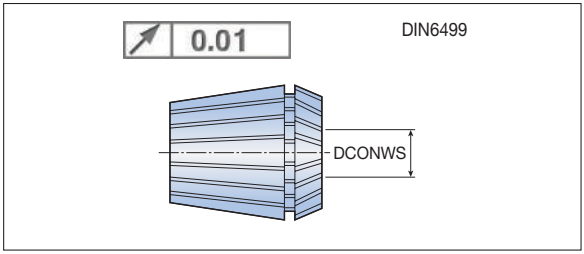
▸ MF D: Mini flat double

ER-SPR

ER spring collets - Precision







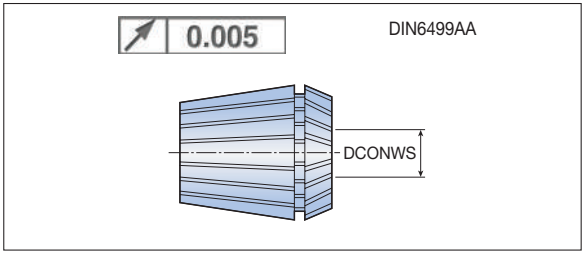
DCONWSrange		ER11	ER16	ER20	ER25	ER32	ER40	ER50
0.5-1		ER11 SPR 0.5-1.0	ER16 SPR 0.5-1.0					
1-2	**1-1.5**	1.0-1.5	1.0-1.5	ER20 SPR 1.0-1.5	ER25 SPR1.0-1.5			
	1.5-2	1.5-2.0	1.5-2.0	1.5-2.0	ER25 SPR1.5-2.0			
2-3	**2-2.5**	2.0-2.5	2-3	2-3	2-3	ER32 SPR 2-3		
	2.5-3	2.5-3.0						
3-4	**3-3.5**	3.0-3.5	3-4	3-4	3-4	3-4	ER40 SPR 3-4	
	3.5-4	3.5-4.0						
4-5	**4-4.5**	4.0-4.5	4-5	4-5	4-5	4-5	4-5	
	4.5-5	4.5-5.0						
5-6	**5-5.5**	5.0-5.5	5-6	5-6	5-6	5-6	5-6	
	5.5-6	5.5-6.0						
6-7	**6-6.5**	6.0-6.5	6-7	6-7	6-7	6-7	6-7	
	6.5-7	6.5-7.0						
7-8			7-8	7-8	7-8	7-8	7-8	
8-9			8-9	8-9	8-9	8-9	8-9	
9-10			9-10	9-10	9-10	9-10	9-10	
10-11				10-11	10-11	10-11	10-11	ER50 SPR 10-12
11-12				11-12	11-12	11-12	11-12	ER50 SPR 10-12
12-13				12-13	12-13	12-13	12-13	12-14
13-14					13-14	13-14	13-14	12-14
14-15					14-15	14-15	14-15	14-16
15-16					15-16	15-16	15-16	14-16
16-17						16-17	16-17	16-18
17-18						17-18	17-18	16-18
18-19						18-19	18-19	18-20
19-20						19-20	19-20	18-20
20-21							20-21	20-22
21-22							21-22	20-22
22-23							22-23	22-24
23-24							23-24	22-24
24-25							24-25	24-26
25-26							25-26	24-26
26-28								26-28
28-30								28-30
30-32								30-32
32-34								32-34

ER-SPR-AA

ER spring collets - Ultra precision “AA”





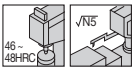


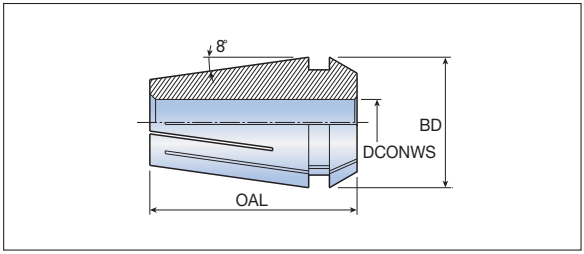
DCONWSrange		ER11	ER16	ER20	ER25	ER32	ER40
0.5-1		ER11 SPR 0.5-1.0AA	ER16 SPR 0.5-1AA				
1-2	**1-1.5**	1.0-1.5AA					
	1.5-2	1.5-2.0AA	1.5-2.0 AA	ER20 SPR 1.5-2.0 AA	ER25 SPR 1.5-2.0 AA		
2-3	**2-2.5**	2.0-2.5AA	2-3AA	2-3AA	2-3AA	ER32 SPR 2-3AA	
	2.5-3	2.5-3.0AA					
3-4	**3-3.5**	3.0-3.5AA	3-4AA	3-4AA	3-4AA	3-4AA	ER40 SPR 3-4AA
	3.5-4	3.5-4.0AA					
4-5	**4-4.5**	4.0-4.5AA	4-5AA	4-5AA	4-5AA	4-5AA	4-5AA
	4.5-5	4.5-5.0AA					
5-6	**5-5.5**	5.0-5.5AA	5-6AA	5-6AA	5-6AA	5-6AA	5-6AA
	5.5-6	5.5-6.0AA					
6-7	**6-6.5**	6.0-6.5AA	6-7AA	6-7AA	6-7AA	6-7AA	6-7AA
	6.5-7	6.5-7.0AA					
7-8			7-8AA	7-8AA	7-8AA	7-8AA	7-8AA
8-9			8-9AA	8-9AA	8-9AA	8-9AA	8-9AA
9-10			9-10AA	9-10AA	9-10AA	9-10AA	9-10AA
10-11				10-11AA	10-11AA	10-11AA	10-11AA
11-12				11-12AA	11-12AA	11-12AA	11-12AA
12-13				12-13AA	12-13AA	12-13AA	12-13AA
13-14					13-14AA	13-14AA	13-14AA
14-15					14-15AA	14-15AA	14-15AA
15-16					15-16AA	15-16AA	15-16AA
16-17						16-17AA	16-17AA
17-18						17-18AA	17-18AA
18-19						18-19AA	18-19AA
19-20						19-20AA	19-20AA
20-21							20-21AA
21-22							21-22AA
22-23							22-23AA
23-24							23-24AA
24-25							24-25AA
25-26							25-26AA

EROH

ER collets for internal coolant







Designation	Dimension (mm)		
	DCONWSrange	BD	OAL
EROH 16	4.0-10.0	17	27.5
EROH 20	6.0-13.0	21	31.5
EROH 25	6.0-16.0	26	34.0
EROH 32	8.0-20.0	33	40.0
EROH 40	10.0-26.0	41	46.0

DCONWS	ER16	ER20	ER25	ER32	ER40
4	EROH 16-4				
5	EROH 16-5				
6	EROH 16-6	EROH 20-6	EROH 25-6		
7	EROH 16-7	EROH 20-7	EROH 25-7		
8	EROH 16-8	EROH 20-8	EROH 25-8	EROH 32-8	
9	EROH 16-9	EROH 20-9	EROH 25-9	EROH 32-9	
10	EROH 16-10	EROH 20-10	EROH 25-10	EROH 32-10	EROH 40-10
11		EROH 20-11	EROH 25-11	EROH 32-11	EROH 40-11
12		EROH 20-12	EROH 25-12	EROH 32-12	EROH 40-12
13		EROH 20-13	EROH 25-13	EROH 32-13	EROH 40-13
14			EROH 25-14	EROH 32-14	EROH 40-14
15			EROH 25-15	EROH 32-15	EROH 40-15
16			EROH 25-16	EROH 32-16	EROH 40-16
17				EROH 32-17	EROH 40-17
18				EROH 32-18	EROH 40-18
19				EROH 32-19	EROH 40-19
20				EROH 32-20	EROH 40-20
21					EROH 40-21
22					EROH 40-22
23					EROH 40-23
24					EROH 40-24
25					EROH 40-25
26					EROH 40-26

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