

Mini Tools



Advantages

Carbide grade:

BLU-Sub-micron grade with advanced PVD triple layer coating delivering high heat resistance and smooth cutting operation.

- Carbide shank toolholder provides excellent vibration resistance.
- Long reach.
- Through coolant.
- For threading, grooving, boring and chamfering.
- Quick indexing.

Typical applications:

- Long threads or applications requiring over-hang.
- Enables production of threads with large pitch/profile.
- Threading, grooving, boring, profiling & chamfering - It's possible to offer most of the Tiny tools profiles on the insert.

Contents:

Page:

Contents:

Page:

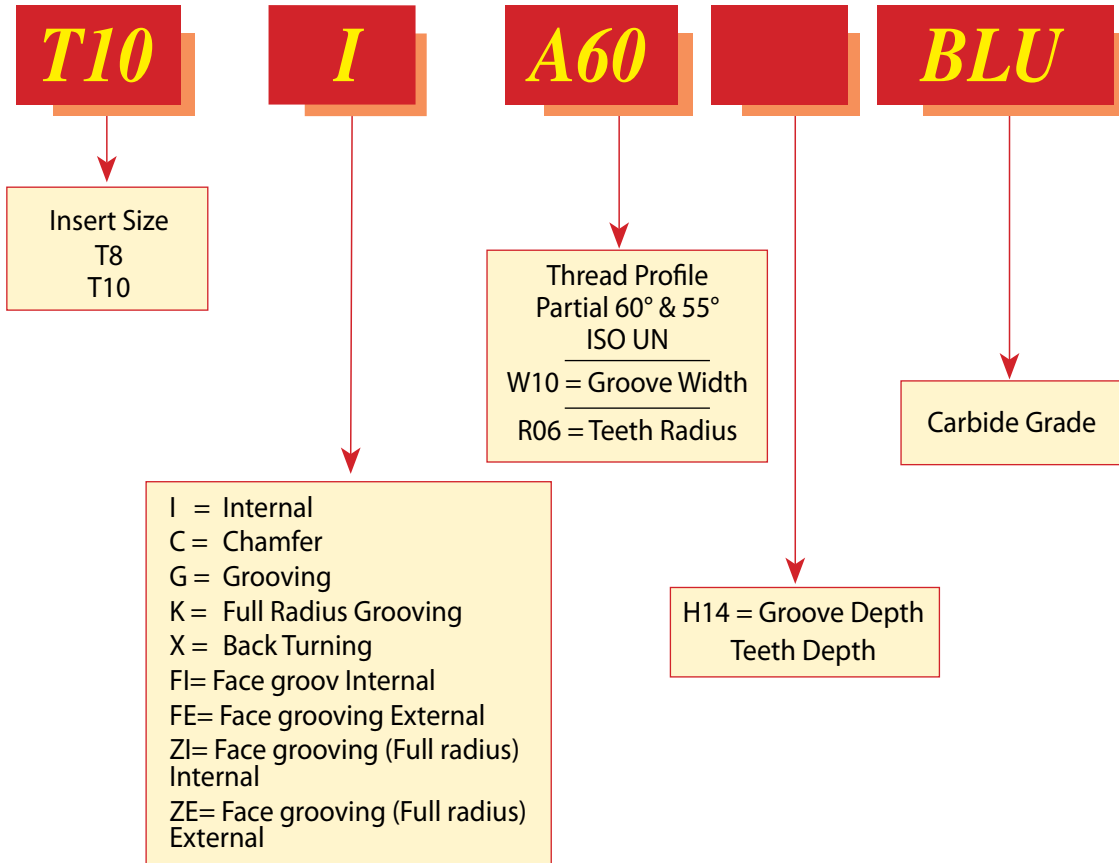
Product Identification
Partial Profile 60°
Partial Profile 55°
ISO
UN
Chamfering
Grooving

106
107
107
108
108
109
109

Full Radius Grooving
Back Turning
Face Grooving
Face Grooving Full Radius
Carbide shank Toolholder
Toolholders
Technical Section

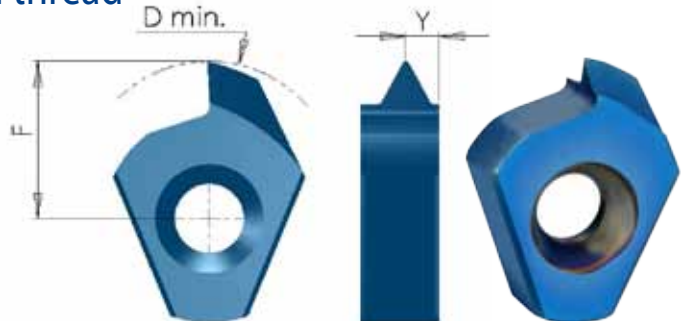
110
110
111
111
112
113
114

Product Identification



Partial Profile 60°

Same insert for internal and external thread



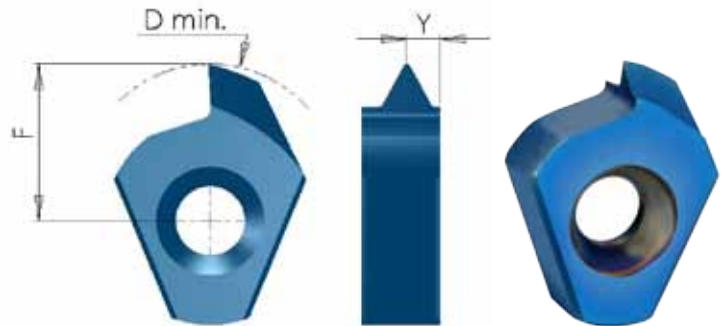
Ordering Code	Pitch Range mm	Pitch Range TPI	D min	F	Y
T8 A60	Int 0.5-0.75 Ex 0.4- 0.75	56-32 64-32	8.0	3.7	0.6
T8 G60	Int 1.0-1.25 Ex 0.8- 1.0	28-20 32-28	8.4	4.1	0.8
T10 A60	Int 0.5-0.8 Ex 0.4-0.8	56-28 64-32	11.6	6.4	0.6
T10 G60	Int 1.0-2.0 Ex 0.8-1.75	28-13 32-15	12.3	7.1	1.3
T10 D60	Int 2.0-3.0 Ex 1.75-2.5	13-8 15-10	13.1	7.9	1.5

Partial Profile 55°

Same insert for internal and external thread

Ordering Code	Pitch Range mm	Pitch Range TPI	D min	F	Y
T8 G55	1.25-1.5	19-18	9.1	4.8	1.0
T8 U55	1.75-2.0	16-14	8.7	4.4	1.2
T10 G55	1.25-2.0	19-14	12.4	7.2	1.2

Full Profile



ISO

Inserts for internal thread

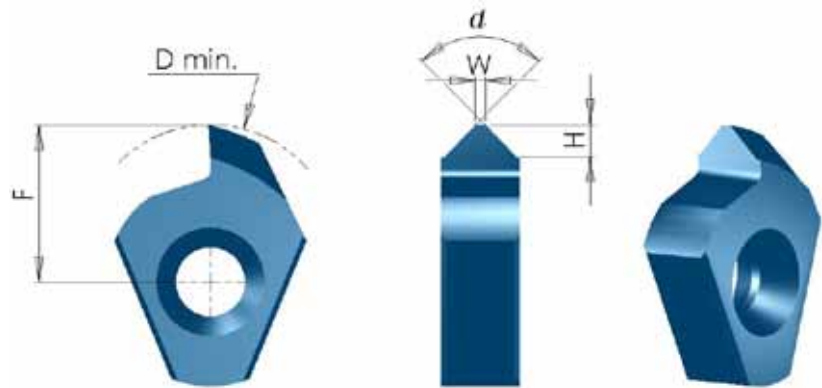
Ordering Code	Pitch mm	M coarse	M fine	D min	F	Y
T8 I 0.5 ISO	0.5		M8.5	8.0	3.6	0.5
T8 I 0.75 ISO	0.75		M9	8.1	3.8	0.6
T8 I 1.0 ISO	1.0		M9	8.0	3.7	0.7
T8 I 1.25 ISO	1.25		M10	8.2	3.9	0.8
T8 I 1.5 ISO	1.5	M10	M12	8.4	4.1	1.0
T8 I 1.75 ISO	1.75	M12	-	8.6	4.3	1.1
T8 I 2.0 ISO	2.0	M14	M17	8.8	4.5	1.3
T10 I 0.5 ISO	0.5		M12	11.3	6.1	0.5
T10 I 0.75 ISO	0.75		M12	11.3	6.1	0.6
T10 I 1.0 ISO	1.0		M13	11.7	6.5	0.7
T10 I 1.5 ISO	1.5		M14	11.7	6.5	1.0
T10 I 2.0 ISO	2.0	M16	M17	12.0	6.8	1.3
T10 I 2.5 ISO	2.5	M18, M20	-	12.6	7.4	1.4
T10 I 3.0 ISO	3.0	M24	M28	12.6	7.4	1.6

UN

Inserts for internal thread

Ordering Code	Pitch TPI	Nominal size	UNC	UNF	UNEF	D min	F	Y
T8 I 32UN	32	7/16, 1/2			3/8	8.3	4.0	0.6
T8 I 28UN	28	3/8			7/16, 1/2	8.3	4.0	0.7
T8 I 24UN	24			3/8		8.3	4.0	0.7
T8 I 20UN	20	3/8		7/16, 1/2		8.2	3.9	0.9
T8 I 16UN	16	7/16, 1/2				8.7	4.4	1.0
T8 I 14UN	14		7/16			8.8	4.5	1.2
T10 I 20UN	20	9/16, 5/8, 11/16			3/4	12.0	6.8	0.9
T10 I 18UN	18			9/16, 5/8		12.0	6.8	1.0
T10 I 16UN	16	9/16, 5/8, 11/16		3/4		12.0	6.8	1.1
T10 I 14UN	14			7/8		12.1	6.9	1.2
T10 I 12UN	12	5/8, 11/16, 3/4	9/16			12.1	6.9	1.4
T10 I 11UN	11		5/8			12.5	7.3	1.5

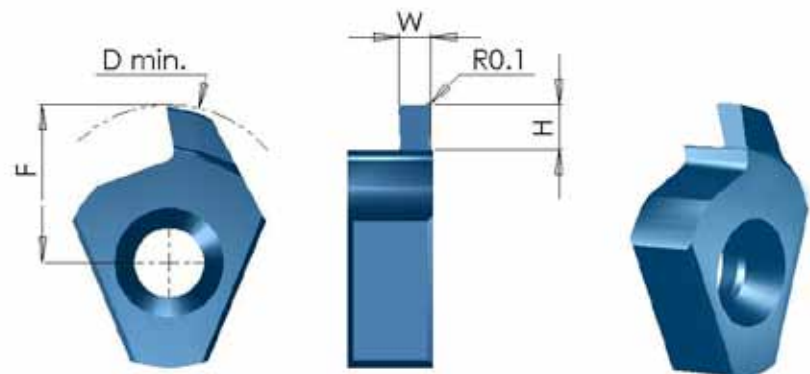
Chamfering



Ordering Code	W	H max	α	D min	F
T8 C90	0.2	1.4	90°	8.8	4.5
T10 C90	0.2	1.8	90°	12.7	7.5

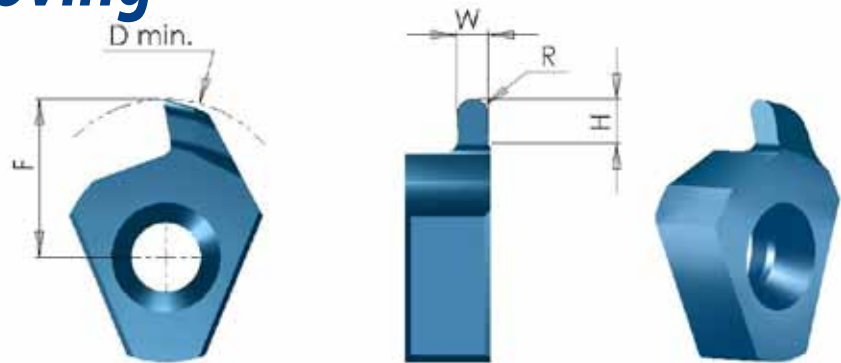
Same insert for right and left hand chamfers

Grooving



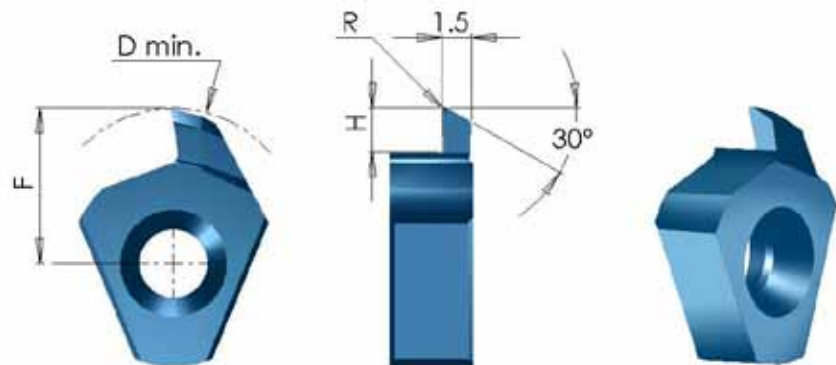
Ordering Code	W ± 0.02	H max	D min	F
T8 G W10 H20	1.0			
T8 G W15 H20	1.5			
T8 G W20 H20	2.0	2.0	9.4	5.1
T8 G W25 H20	2.5			
T8 G W30 H20	3.0			
T10 G W10 H14	1.0			
T10 G W15 H14	1.5	1.4	12.3	7.1
T10 G W20 H14	2.0			
T10 G W10 H23	1.0			
T10 G W15 H23	1.5			
T10 G W20 H23	2.0	2.3	13.1	7.9
T10 G W25 H23	2.5			
T10 G W30 H23	3.0			

Full Radius Grooving



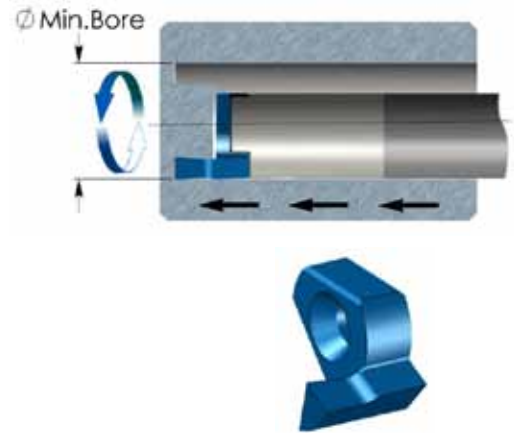
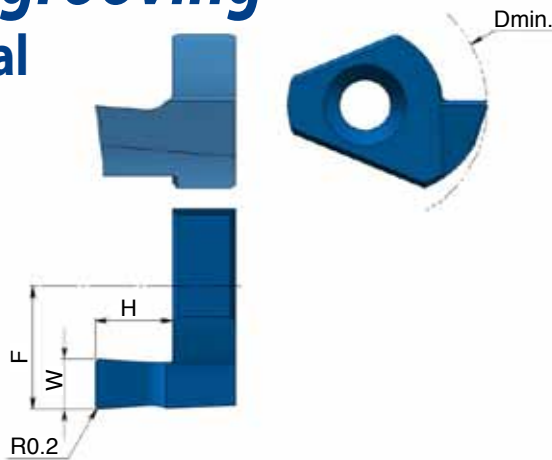
Ordering Code	W ±0.02	R	H max	D min	F
T8 K R04 H10	0.8	0.4	1.0	8.4	4.1
T8 K R06 H10	1.2	0.6			
T8 K R09 H10	1.8	0.9			
T10 K R04 H22	0.8	0.4	2.2	13.1	7.9
T10 K R06 H22	1.2	0.6			
T10 K R09 H22	1.8	0.9			
T10 K R10 H22	2.0	1.0			

Back Turning



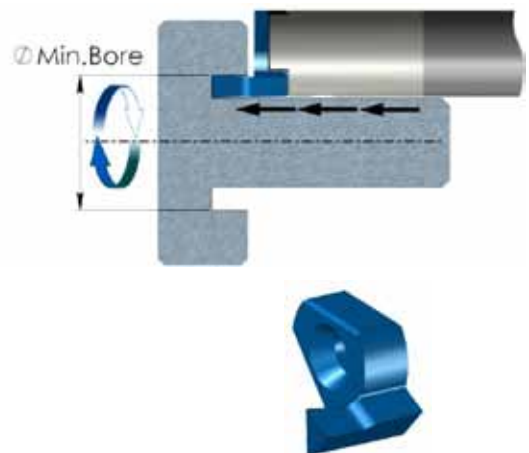
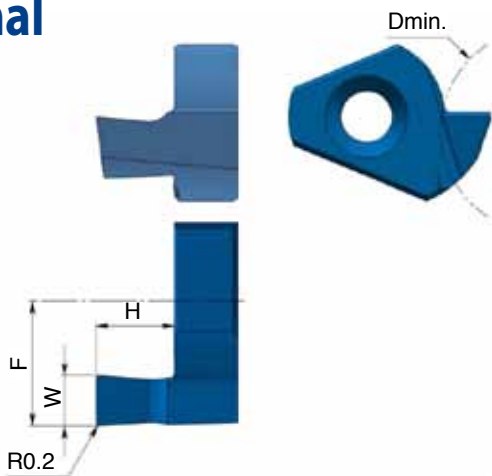
Ordering Code	R	H max	D min	F
T8 X R02 H20	0.2	2.0	9.4	5.1
T10 X R02 H23	0.2	2.3	13.1	7.9
T10 X R04 H23	0.4			

Face grooving Internal



Ordering Code	Insert Type	W ±0.02	H max	D min	F
T10 FI W10 H15	T10	1.0	1.5	14.0	8.0
T10 FI W15 H25	T10	1.5	2.5		
T10 FI W20 H30	T10	2.0	3.0		
T10 FI W20 H50	T10		5.0		
T10 FI W25 H30	T10	2.5	3.0		
T10 FI W25 H50	T10		5.0		
T10 FI W30 H30	T10	3.0	3.0		
T10 FI W30 H50	T10		5.0		

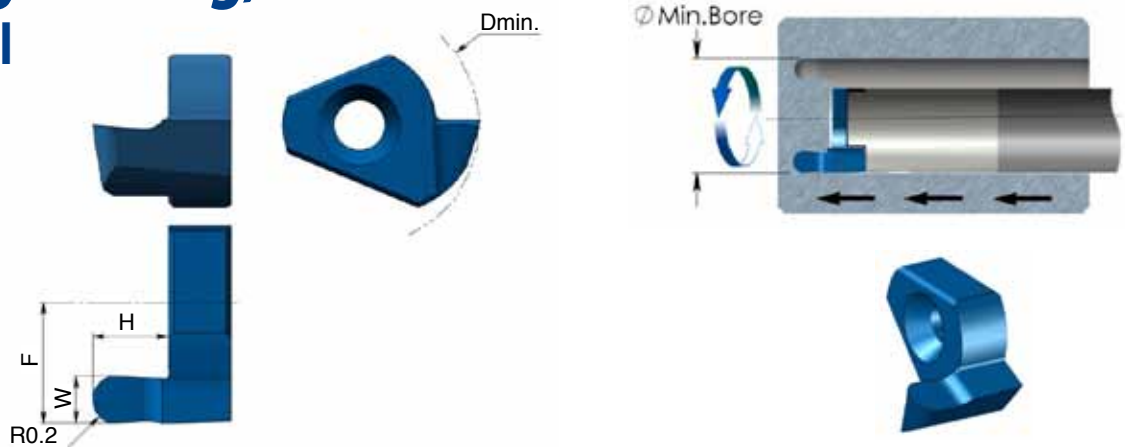
External



Ordering Code	Insert Type	W ±0.02	H max	D min	F
T10 FE W10 H15	T10	1.0	1.5	12.0	8.0
T10 FE W15 H25	T10	1.5	2.5		
T10 FE W20 H30	T10	2.0	3.0		
T10 FE W20 H50	T10		5.0		
T10 FE W25 H30	T10	2.5	3.0		
T10 FE W25 H50	T10		5.0		
T10 FE W30 H30	T10	3.0	3.0		
T10 FE W30 H50	T10		5.0		

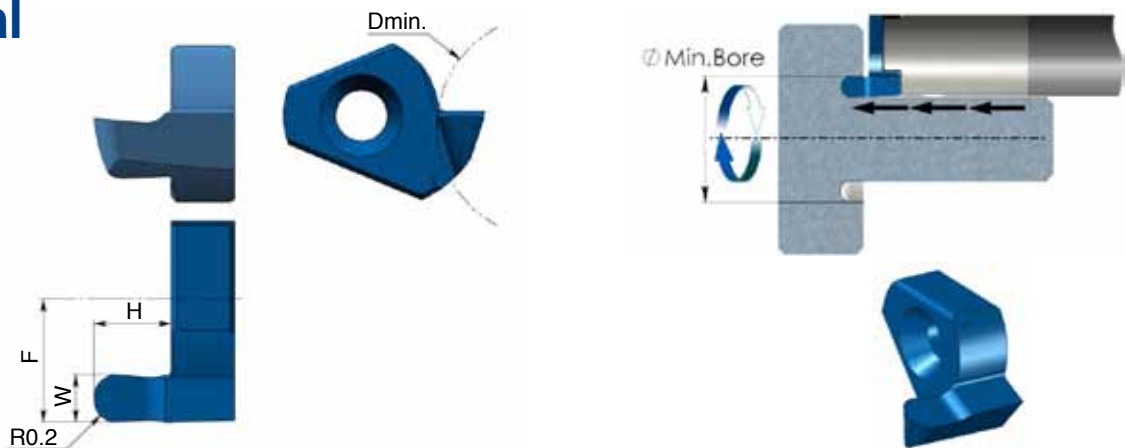
Face grooving, Full radius

Internal



Ordering Code	Insert Type	W ± 0.02	R	H max	D min	F
T10 ZI R05 H15	T10	1.0	0.5	1.5	14.0	8.0
T10 ZI R08 H25	T10	1.6	0.8	2.5		
T10 ZI R10 H30	T10	2.0	1.0	3.0		
T10 ZI R125 H30	T10	2.5	1.25	3.0		
T10 ZI R15 H30	T10	3.0	1.5	3.0		

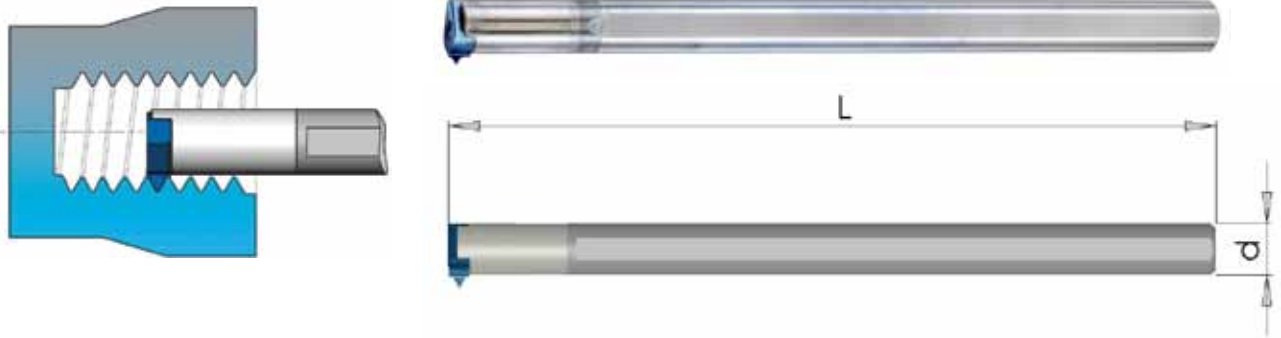
External



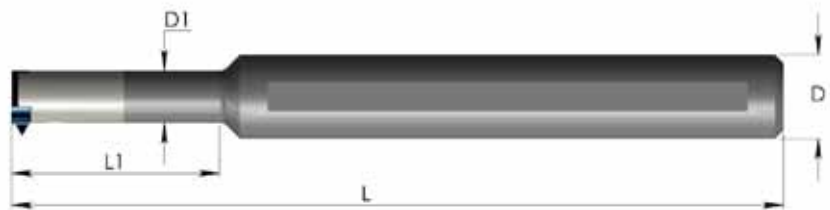
Ordering Code	Insert Type	W ± 0.02	R	H max	D min	F
T10 ZE R05 H15	T10	1.0	0.5	1.5	12.0	8.0
T10 ZE R08 H25	T10	1.6	0.8	2.5		
T10 ZE R10 H30	T10	2.0	1.0	3.0		
T10 ZE R125 H30	T10	2.5	1.25	3.0		
T10 ZE R15 H30	T10	3.0	1.5	3.0		

Carbide shank Toolholder

With through coolant



Ordering Code	Insert Type	D	D1	L1	L	Insert Screw	Torx Key
ST 0008 L20 F08C	T8	8	7	20	80	S5	K5
ST 0008 L30 G08C				30	95		
ST 0008 L40 H08C				40	105		



Ordering Code	Insert Type	D	D1	L1	L	Insert Screw	Torx Key
ST 0010 M10C	T10	10	10	-	150	S11	K11
ST 0012 L40 J10C				40	110		
ST 0012 L55 K10C				55	125		

Steel Toolholders

With through coolant



Ordering Code	Insert Type	D	D1	L1	L	Insert Screw	Torx Key
ST 0012 L25 E10	T10	16	10	25	70	S11	K11
ST 0016 L25 G10				25	90		
ST 0016 L35 H10				35	100		

Technical Section

ISO	Materials	Cutting Speed m/min	Recommended feed rate mm/rev
P	Low and Medium Carbon Steels <0.55%C	25 - 70	Grooving: 0.01-0.03 Back turning: 0.03-0.10 Face grooving: 0.01-0.08 Chamfering: 0.02-0.08
	High Carbon Steels ≥0.55%C	20 - 50	
	Alloy Steels, Treated Steels	15 - 30	
M	Stainless Steels - Free Cutting	25 - 70	
	Stainless Steels - Austenitic	20 - 40	
	Cast Steels	30 - 70	
K	Cast Iron	15 - 30	
N	Aluminum ≤12%Si, Copper	30 - 50	
	Aluminum >12% Si	20 - 70	
	Synthetics, Duroplastics, Thermoplastics	20 - 70	
S	Nickel Alloys, Titanium Alloys	20 - 50	
H	Hardened Steel 45 - 50HRc	10 - 40	

Threading Passes

Pitch:	mm	0.5	0.7	0.8	1.0	1.25	1.5	2-5
	TPI	48	36	32	24	20	16	
Number of Passes		6-12	7-14	7-16	8-18	8-20	10-22	20-38