

Vertical Inserts and Toolholders for threading, chamfering, grooving and turning

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:

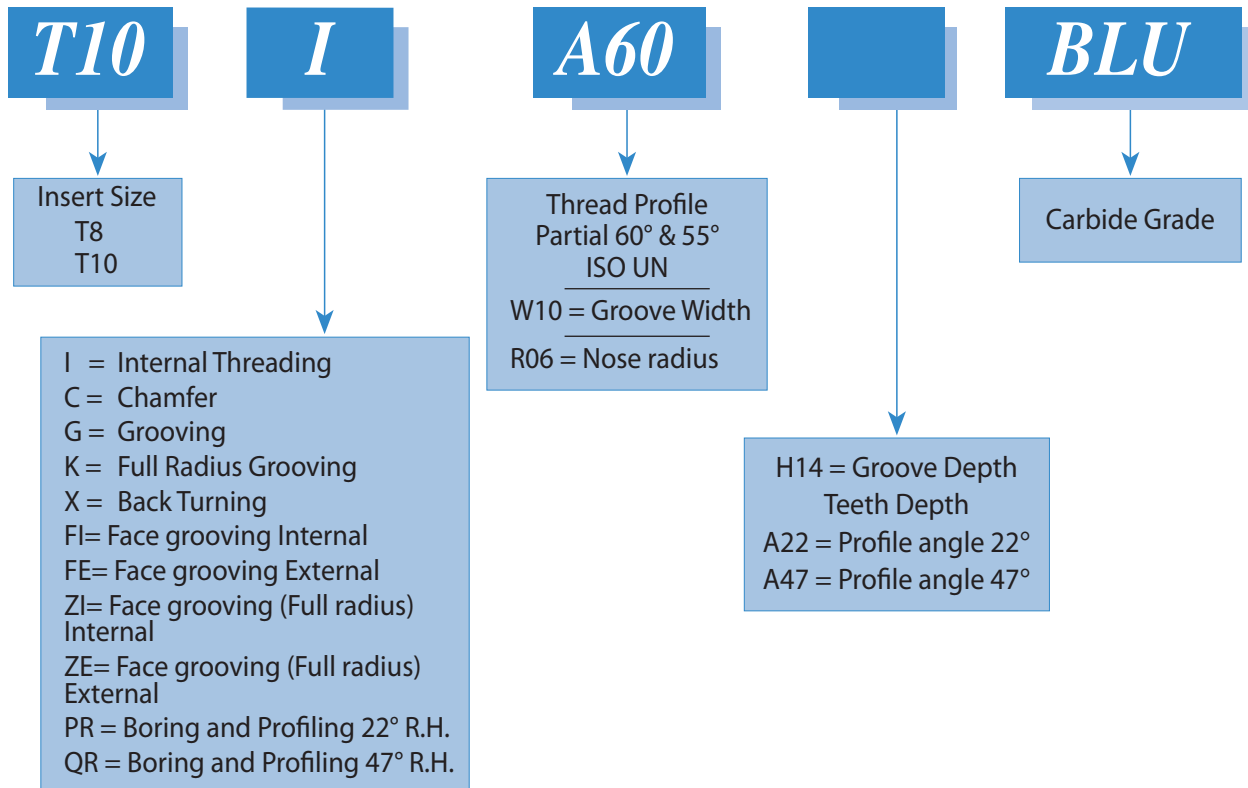
- Long threads or applications requiring over-hang.
- Enables production of threads with large pitch/profile.
- Threading, grooving, boring, profiling and chamfering - It's possible to offer most of the Tiny Tools profiles on the insert.

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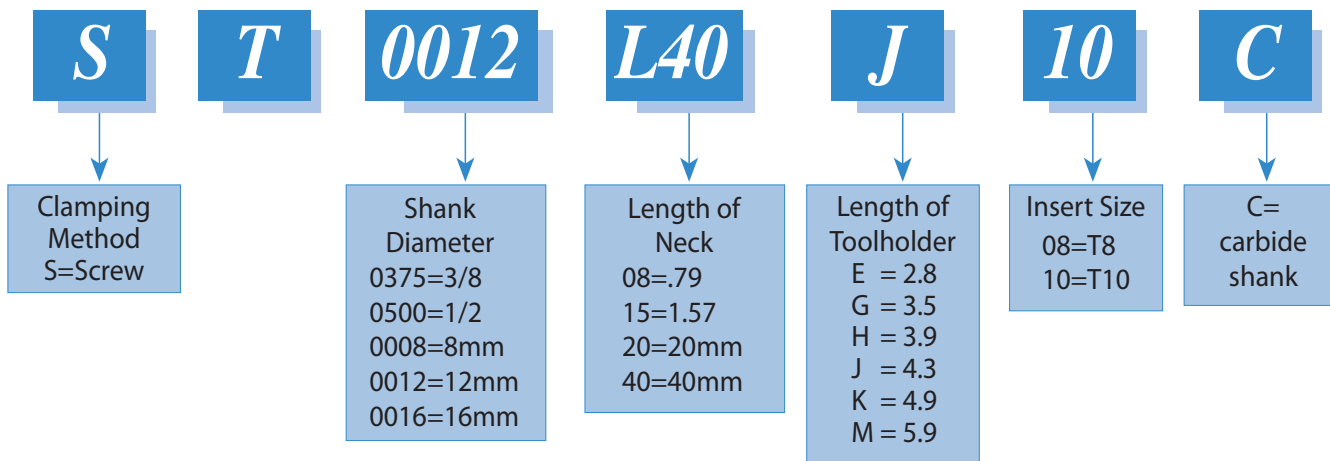
Product Identification

Mini Tools Ordering Code

Inserts

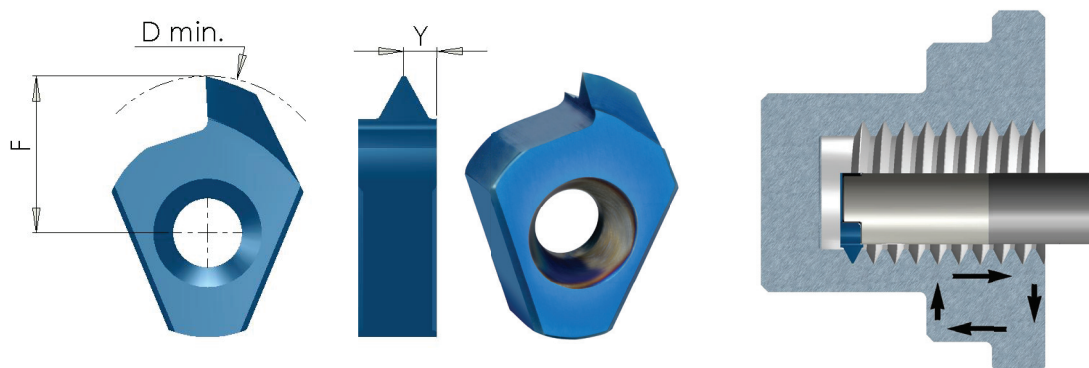


Toolholders



Partial Profile 60°

Same insert for internal and external thread



Insert Type	Ordering Code	Pitch Range mm	Pitch Range TPI	D min	F	Y
T8	T8 A60	Int 0.5 -0.75 Ex 0.4 -0.75	56-32 64-32	.31	.15	.02
	T8 G60	Int 1.0 -1.25 Ex 0.8 -1.0	28-20 32-28	.33	.16	.03
T10	T10 A60	Int 0.5 -0.8 Ex 0.4 -0.8	56-28 64-32	.46	.25	.02
	T10 G60	Int 1.0 -2.0 Ex 0.8 -1.75	28-13 32-15	.48	.28	.05
	T10 D60	Int 2.0 -3.0 Ex 1.75-2.5	13- 8 15-10	.52	.31	.06

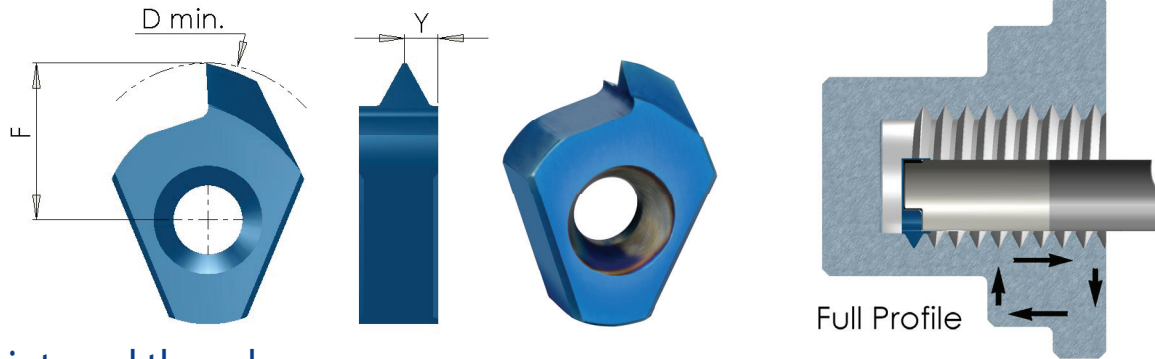
Order exaple: T8 G60 BLU

Partial Profile 55°

Same insert for internal and external thread

Insert Type	Ordering Code	Pitch Range mm	Pitch Range TPI	D min	F	Y
T8	T8 G55	1.25-1.5	19-18	.36	.19	.04
	T8 U55	1.75-2.0	16-14	.34	.17	.05
T10	T10 G55	1.25-2.0	19-14	.49	.28	.05

Full Profile



ISO

Inserts for internal thread

Insert Type	Ordering Code	Pitch mm	M coarse	M fine	D min	F	Y
T8	T8 I 0.5 ISO	0.5		M8.5	.31	.14	.02
	T8 I 0.75 ISO	0.75		M9	.32	.15	.02
	T8 I 1.0 ISO	1.0		M9	.31	.15	.03
	T8 I 1.25 ISO	1.25		M10	.32	.15	.03
	T8 I 1.5 ISO	1.5	M10	M12	.33	.16	.04
	T8 I 1.75 ISO	1.75	M12	-	.34	.17	.04
	T8 I 2.0 ISO	2.0	M14	M17	.35	.18	.05
T10	T10 I 0.5 ISO	0.5		M12	.44	.24	.02
	T10 I 0.75 ISO	0.75		M12	.44	.24	.02
	T10 I 1.0 ISO	1.0		M13	.46	.26	.03
	T10 I 1.5 ISO	1.5		M14	.46	.26	.04
	T10 I 2.0 ISO	2.0	M16	M17	.47	.27	.05
	T10 I 2.5 ISO	2.5	M18, M20	-	.50	.29	.06
	T10 I 3.0 ISO	3.0	M24	M28	.50	.29	.06

UN

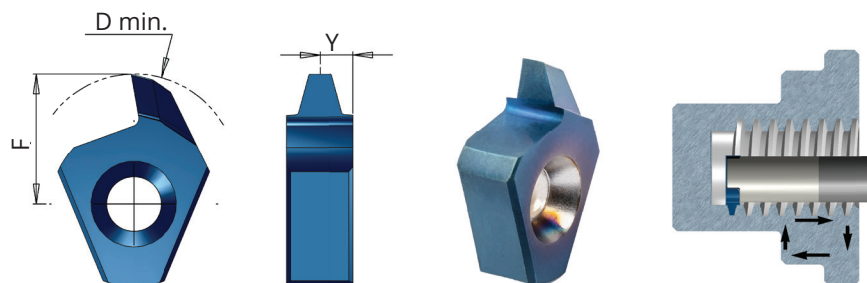
Inserts for internal thread

Insert Type	Ordering Code	Pitch TPI	Nominal size	UNC	UNF	UNEF	D min	F	Y
T8	T8 I 32UN	32	7/16, 1/2			3/8	.33	.16	.02
	T8 I 28UN	28	3/8			7/16, 1/2	.33	.16	.03
	T8 I 24UN	24			3/8		.33	.16	.03
	T8 I 20UN	20	3/8		7/16, 1/2		.32	.15	.04
	T8 I 16UN	16	7/16, 1/2				.34	.17	.04
	T8 I 14UN	14		7/16			.35	.18	.05
	T8 I 13UN	13		1/2			.35	.18	.05
T10	T10 I 20UN	20	9/16, 5/8, 11/16			3/4	.47	.27	.04
	T10 I 18UN	18			9/16, 5/8		.47	.27	.04
	T10 I 16UN	16	9/16, 5/8, 11/16		3/4		.47	.27	.04
	T10 I 14UN	14			7/8		.48	.27	.05
	T10 I 12UN	12	5/8, 11/16, 3/4	9/16			.48	.27	.06
	T10 I 11UN	11		5/8			.49	.29	.06
	T10 I 10UN	10		3/4			.50	.29	.06

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Acme

Inserts for internal thread

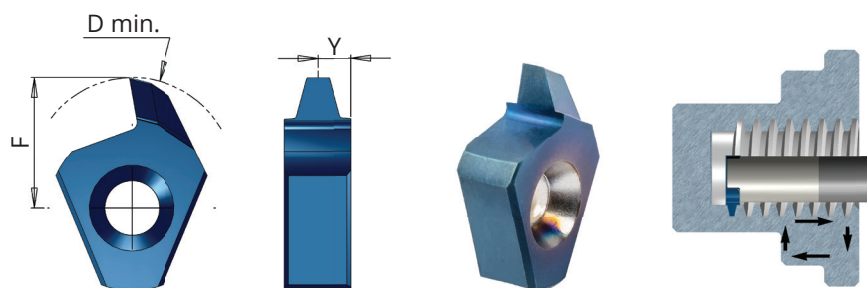


Insert Type	Ordering Code	Pitch TPI	Thread size	D min	F	Y
T8	T8 I 10 ACME	10	1/2-10	.40	.22	.05
T10	T10 I 8 ACME	8	5/8-8	.50	.29	.06
	T10 I 6 ACME	6	3/4-6	.58	.31	.08

Order example: T8 I 10 ACME BLU

Trapez - DIN103

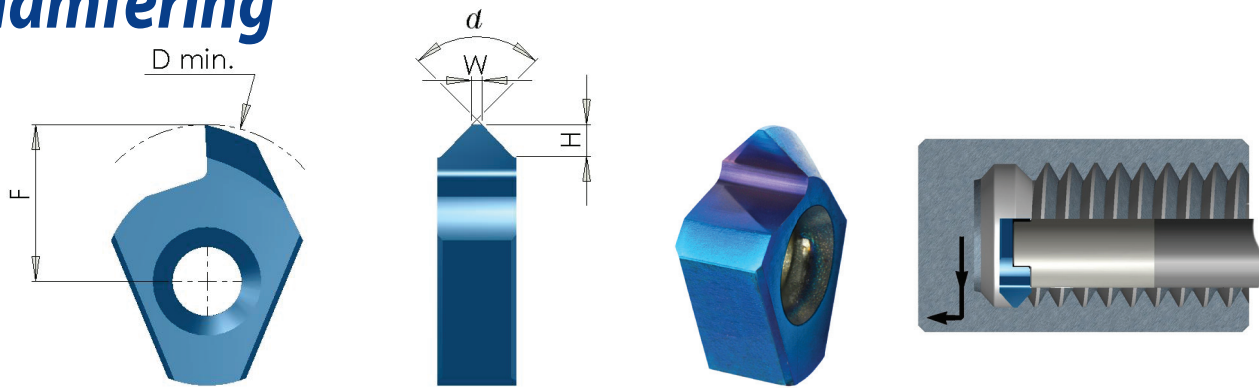
Inserts for internal thread



Insert Type	Ordering Code	Pitch mm	Thread size	D min	F	Y
T8	T8 I 2TR	2	Tr12x2, Tr14x2	.39	.19	.04
	T8 I 3TR	3	Tr14x3	.43	.23	.06
T10	T10 I 2TR	2	Tr16x2, Tr18x2, Tr20x2	.55	.28	.04
	T10 I 3TR	3	Tr22x3	.75	.31	.06
	*T10 I 4TR	4	Tr16x4, Tr18x4	.47	.26	.08

*To use with T10 toolholders version B

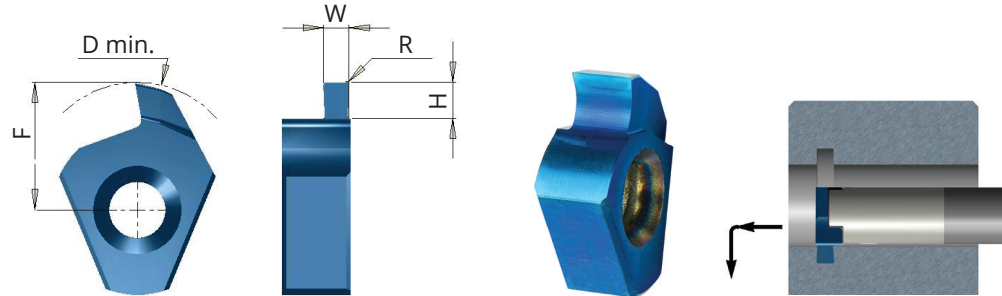
Chamfering



Insert Type	Ordering Code	W	H max	α	D min	F
T8	T8 C90	.008	.06	90°	.35	.18
T10	T10 C90	.008	.07	90°	.50	.30

Same insert for right and left hand cutting
Order exmple: T8 C90 BLU

Grooving



Insert Type	Ordering Code	W		R	H max	D min	F
		mm	inch				
T8	T8 G W08 H20	0.79	.031	.004	.08	.37	.20
	T8 G W10 H20	1.0	.039	.004	.08	.37	.20
	T8 G W12 H20	1.19	.047	.004	.08	.37	.20
	T8 G W15 H20	1.5	.059	.004	.08	.37	.20
	T8 G W16 H20	1.59	.063	.004	.08	.37	.20
	T8 G W20 H20	2.0	.079	.004	.08	.37	.20
	T8 G W24 H20	2.38	.094	.004	.08	.37	.20
	T8 G W25 H20	2.5	.098	.004	.08	.37	.20
	T8 G W30 H20	3.0	.118	.004	.08	.37	.20
T10	T10 G W08 H28	0.79	.031	.004	.11	.53	.31
	T10 G W10 H14	1.0	.039	.004	.06	.48	.28
	T10 G W10 H23	1.0	.039	.004	.09	.52	.31
	T10 G W12 H28	1.19	.047	.004	.11	.53	.31
	T10 G W15 H14	1.5	.059	.004	.06	.48	.28
	T10 G W15 H23	1.5	.059	.004	.09	.52	.31
	*T10 G W15 H40	1.5	.059	.004	.16	.53	.31
	T10 G W16 H28	1.59	.063	.004	.11	.53	.31
	T10 G W20 H14	2.0	.079	.004	.06	.48	.28
	T10 G W20 H23	2.0	.079	.004	.09	.52	.31
	*T10 G W20 H40	2.0	.079	.004	.16	.53	.31
	T10 G W24 H28	2.38	.094	.004	.11	.53	.31
	T10 G W25 H23	2.5	.098	.004	.09	.52	.31
	*T10 G W25 H40	2.5	.098	.004	.16	.53	.31
	T10 G W30 H23	3.0	.118	.004	.09	.52	.31
*T10 G W30 H40	3.0	.118	.004	.16	.53	.31	

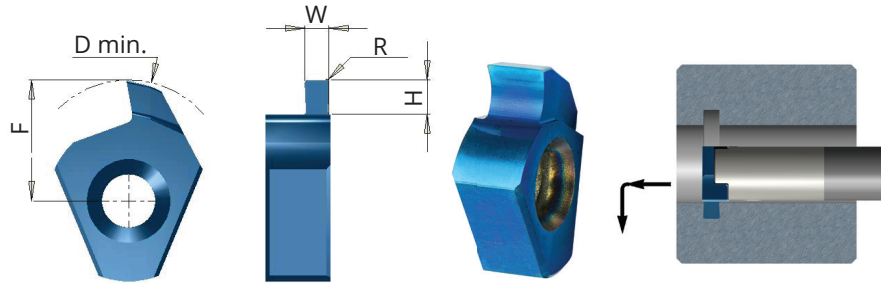
*To use with T10 toolholders version B

Tolerance: $W \pm 0.02 \text{ mm} / .001''$

Order exmple: T10 G W08 H28 BLU

Grooving, Circlip Ring Grooves

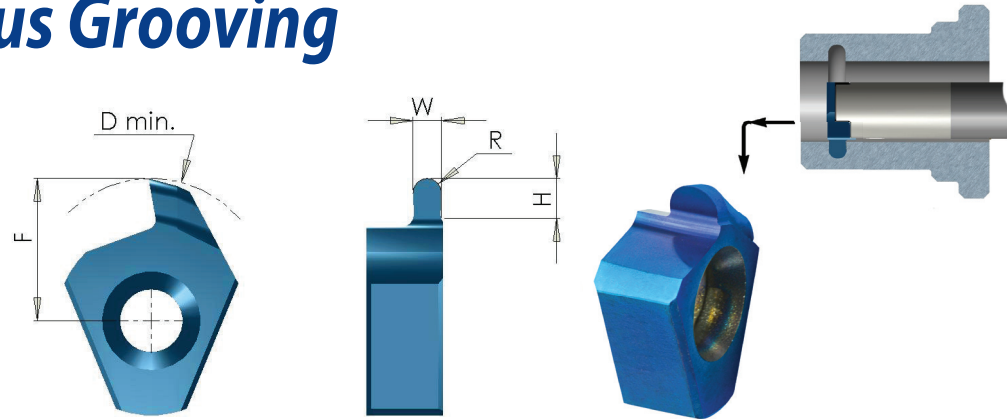
DIN 471/472



Insert Type	Ordering Code	Nom` groove width		W +.0012	R	H max	D min	F
		mm	in					
T8	TD8 G W07 H12	0.7	.028	.029	0	.05	.35	.17
	TD8 G W08 H13	0.8	.031	.033	0	.05	.35	.17
	TD8 G W09 H18	0.9	.035	.037	0	.07	.37	.19
	TD8 G W12 H18	1.1	.043	.047	0	.07	.37	.19
	TD8 G W14 H18	1.3	.051	.055	0	.07	.37	.19
	TD8 G W17 H18	1.6	.063	.067	0	.07	.37	.19
T10	TD10 G W07 H12	0.7	.028	.029	0	.05	.47	.25
	TD10 G W08 H13	0.8	.031	.033	0	.05	.47	.26
	TD10 G W09 H15	0.9	.035	.037	0	.06	.48	.26
	TD10 G W12 H28	1.1	.043	.047	0	.11	.53	.31
	TD10 G W14 H28	1.3	.051	.055	0	.11	.53	.31
	TD10 G W17 H28	1.6	.063	.067	0	.11	.53	.31

Order example: TD10 G W17 H28 BLU

Full Radius Grooving

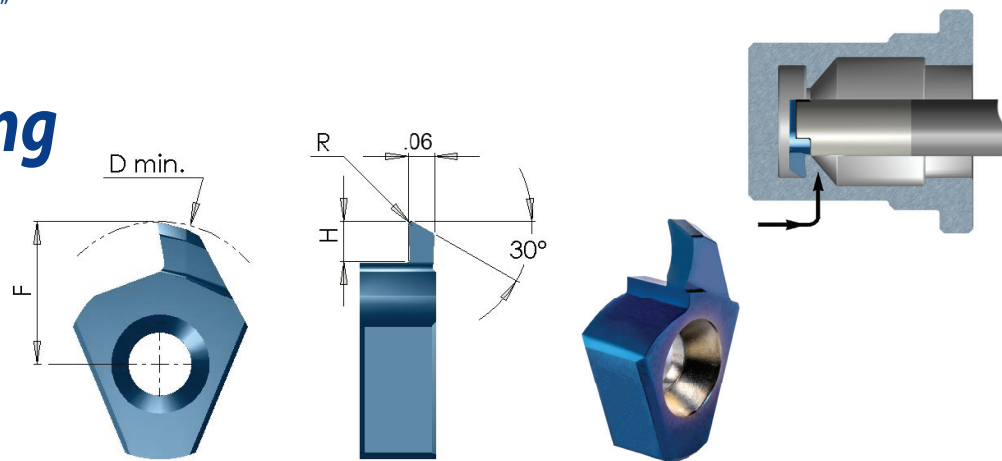


Insert Type	Ordering Code	W		R		H max	D min	F
		mm	in	mm	in			
T8	T8 K R04 H10	0.8	.031	0.4	.016	.04	.33	.16
	T8 K R06 H10	1.2	.047	0.6	.024	.04	.33	.16
	T8 K R09 H10	1.8	.071	0.9	.035	.04	.33	.16
T10	T10 K R04 H22	0.8	.031	0.4	.016	.09	.52	.31
	*T10 K R04 H40	0.8	.031	0.4	.016	.16	.53	.31
	T10 K R06 H22	1.2	.047	0.6	.024	.09	.52	.31
	*T10 K R06 H40	1.2	.047	0.6	.024	.16	.53	.31
	T10 K R09 H22	1.8	.071	0.9	.035	.09	.52	.31
	*T10 K R09 H40	1.8	.071	0.9	.035	.16	.53	.31
	T10 K R10 H22	2.0	.079	1.0	.039	.09	.52	.31
*T10 K R10 H40	2.0	.079	1.0	.039	.16	.53	.31	

*To use with T10 toolholders version B

Tolerance: W±0.02 mm/.0008"

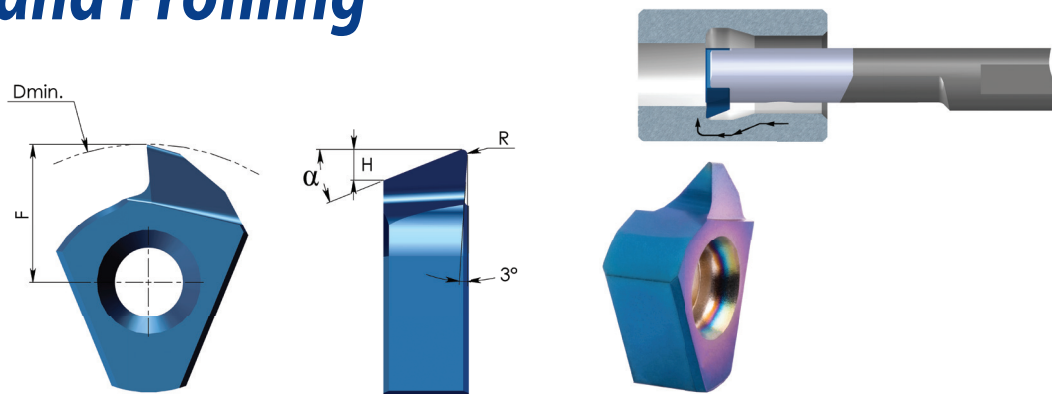
Back Turning



Insert Type	Ordering Code	R	H max	D min	F
T8	T8 X R02 H20	.008	.08	.37	.20
T10	T10 X R02 H23	.008	.09	.52	.31
	*T10 X R02 H35	.008	.14	.53	.31
	T10 X R04 H23	.016	.09	.52	.31

*To use with T10 toolholders version B

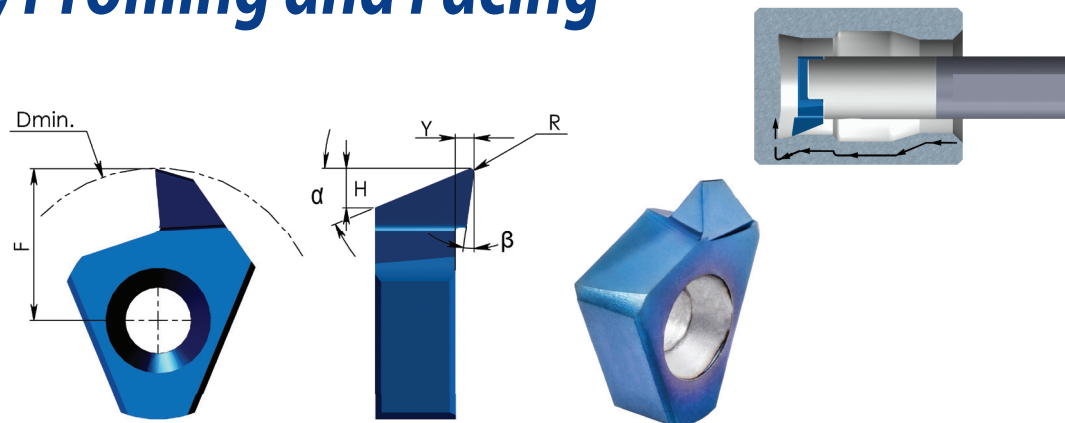
Boring and Profiling



Insert Type	Ordering Code	α	R	H	D min	F
T8	T8 PR R01 A22	22°	.004	.039	.36	.20
	T8 PR R02 A22	22°	.008	.039	.36	.20
	T8 QR R01 A47	47°	.004	.075	.36	.20
	T8 QR R02 A47	47°	.008	.075	.36	.20

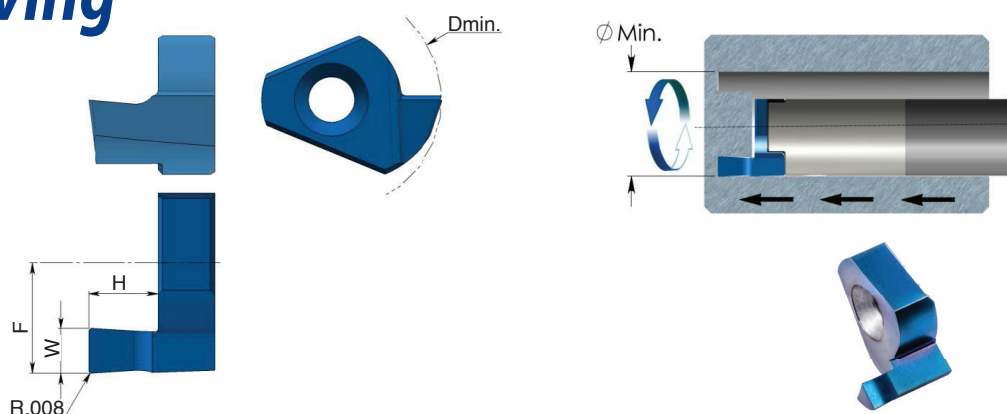
Order exmple: T8 PR R01 A22 BLU

Boring, Profiling and Facing



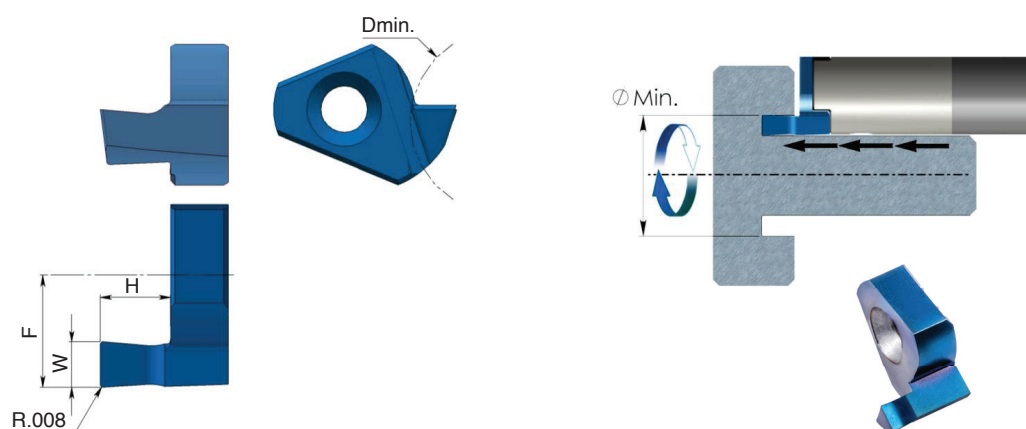
Insert Type	Ordering Code	α	β	R	H	Y	D min	F
T10	T10 PR R01 A22	22°	8°	.004	.075	.04	.51	.30
	T10 PR R02 A22	22°	8°	.008	.075	.04	.51	.30
	T10 QR R01 A47	47°	3°	.004	.102	.02	.51	.30
	T10 QR R02 A47	47°	3°	.008	.102	.02	.51	.30

Face Grooving Internal



Insert Type	Ordering Code	W ± .0008	H max	D min	F
T10	T10 FI W10 H15	.039	.06	.55	.31
	T10 FI W15 H25	.059	.10		
	T10 FI W20 H30	.079	.12		
	T10 FI W20 H50	.079	.20		
	T10 FI W25 H30	.098	.12		
	T10 FI W25 H50	.098	.20		
	T10 FI W30 H30	.118	.12		
	T10 FI W30 H50	.118	.20		

External

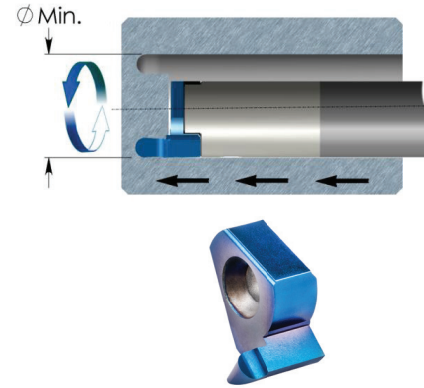
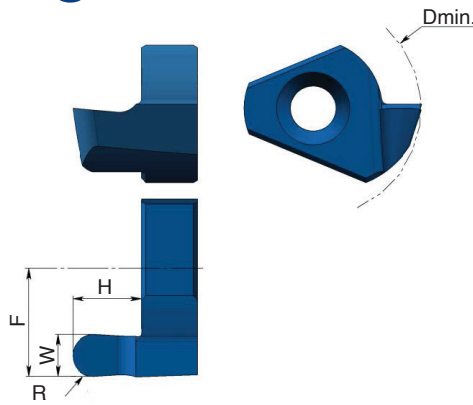


Insert Type	Ordering Code	W ± .0008	H max	D min	F
T10	T10 FE W10 H15	.039	.06	.47	.31
	T10 FE W15 H25	.059	.10		
	T10 FE W20 H30	.079	.12		
	T10 FE W20 H50	.079	.20		
	T10 FE W25 H30	.098	.12		
	T10 FE W25 H50	.098	.20		
	T10 FE W30 H30	.118	.12		
	T10 FE W30 H50	.118	.20		

Order exmple: T10 FE W20 H30 BLU

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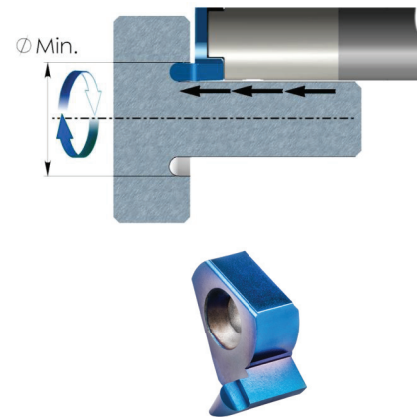
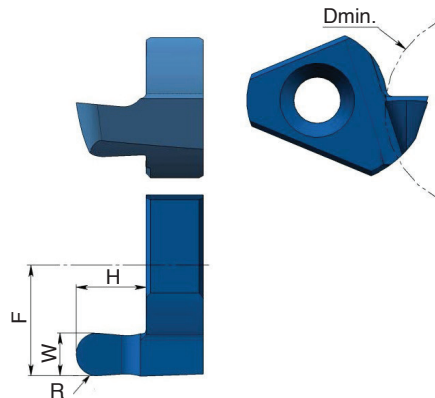
Face Grooving, Full Radius Internal



Insert Type	Ordering Code	W ± .0008	R	H max	D min	F
T10	T10 ZI R05 H15	.039	.020	.06	.55	.31
	T10 ZI R08 H25	.063	.031	.10		
	T10 ZI R10 H30	.079	.039	.12		
	T10 ZI R125 H30	.098	.049	.12		
	T10 ZI R15 H30	.118	.059	.12		

Order example: T10 ZI R15 H30 BLU

External

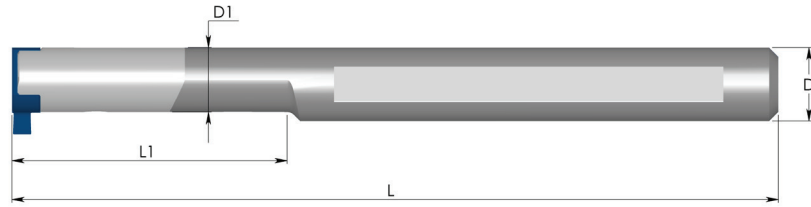


Insert Type	Ordering Code	W ± .0008	R	H max	D min	F
T10	T10 ZE R05 H15	.039	.020	.06	.47	.31
	T10 ZE R08 H25	.063	.031	.10		
	T10 ZE R10 H30	.079	.039	.12		
	T10 ZE R125 H30	.098	.049	.12		
	T10 ZE R15 H30	.118	.059	.12		

Mini Tools

Carbide Shank Toolholders

With through coolant

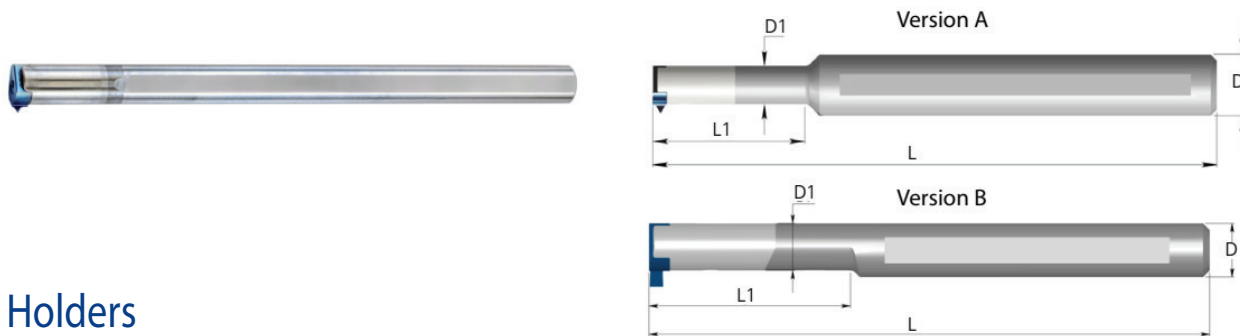


Inch Holders

Insert Type	Ordering Code	D	D1	L1	L	Insert Screw	Torx Key
T8	ST 0312 L08 F08C	5/16	.28	.79	3.1	S5	K5
	ST 0312 L11 G08C	5/16	.28	1.18	3.7	S5	K5
	ST 0312 L15 H08C	5/16	.28	1.57	4.1	S5	K5

Metric Holders

Insert Type	Ordering Code	D mm	D1	L1	L	Insert Screw	Torx Key
T8	ST 0008 L20 F08C	8	.28	.79	3.1	S5	K5
	ST 0008 L30 G08C	8	.28	1.18	3.7	S5	K5
	ST 0008 L40 H08C	8	.28	1.57	4.1	S5	K5



Inch Holders

Insert Type	Ordering Code	D	D1	L1	L	Insert Screw	Torx Key	Tool holder Version
T10	ST 0375 M10C	3/8	.38	-	5.9	S11	K11	A
	ST 0500 L16 J10C	1/2	.40	1.6	4.3	S11	K11	A
	ST 0500 L22 K10C	1/2	.40	2.2	4.9	S11	K11	A

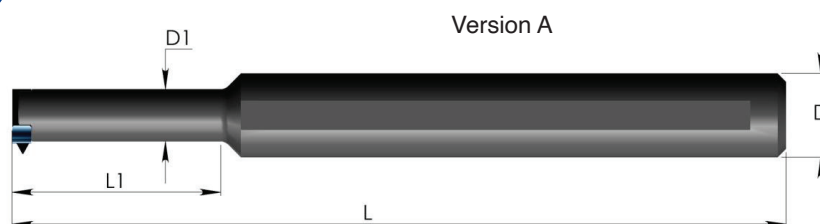
Metric Holders

Insert Type	Ordering Code	D mm	D1	L1	L	Insert Screw	Torx Key	Tool holder Version
T10	ST 0010 L29 H10C	10	.35	1.1	3.9	S11	K11	B
	ST 0010 L40 J10C	10	.35	1.6	4.3	S11	K11	B
	ST 0010 M10C	10	.39	---	5.9	S11	K11	A
	ST 0012 L37 J10C	12	.35	1.5	4.3	S11	K11	B
	ST 0012 L40 J10C	12	.39	1.6	4.3	S11	K11	A
	ST 0012 L50 K10C	12	.35	2.0	4.9	S11	K11	B
	ST 0012 L55 K10C	12	.39	2.2	4.9	S11	K11	A

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Steel Toolholders

With through coolant



Inch Holders

Insert Type	Ordering Code	D	D1	L1	L	Insert Screw	Torx Key
T10	ST 0500 L10 E10	1/2	.40	1.0	2.8	S11	K11
	ST 0625 L10 G10	5/8	.40	1.0	3.5	S11	K11
	ST 0625 L14 H10	5/8	.40	1.4	3.9	S11	K11

Metric Holders

Insert Type	Ordering Code	D mm	D1	L1	L	Insert Screw	Torx Key
T10	ST 0012 L25 E10	12	.40	1.0	2.8	S11	K11
	ST 0016 L25 G10	16	.40	1.0	3.5	S11	K11
	ST 0016 L35 H10	16	.40	1.4	3.9	S11	K11

Order example: ST 0625 L14 H10

Technical Section

Cutting Data

ISO	Materials	Cutting Speed ft/min	Recommended feed rate inch/rev
P	Low and Medium Carbon Steels <0.55%C	80-230	Grooving: .0004 - .001 Back turning: .001 - .004 Face grooving: .0004 - .003 Chamfering: .001 - .003
	High Carbon Steels ≥0.55%C	65-165	
	Alloy Steels, Treated Steels	50-100	
M	Stainless Steels - Free Cutting	80-230	
	Stainless Steels - Austenitic	65-130	
	Cast Steels	100-230	
K	Cast Iron	50-100	
N	Aluminum ≤12%Si, Copper	100-300	
	Aluminum >12% Si	65-230	
	Synthetics, Duroplastics, Thermoplastics	65-230	
S	Nickel Alloys, Titanium Alloys	65-165	
H	Hardened Steel 45 - 50HRc	30-130	

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	14-5
Number of Passes		6-12	7-14	7-16	8-18	8-20	10-22	20-38