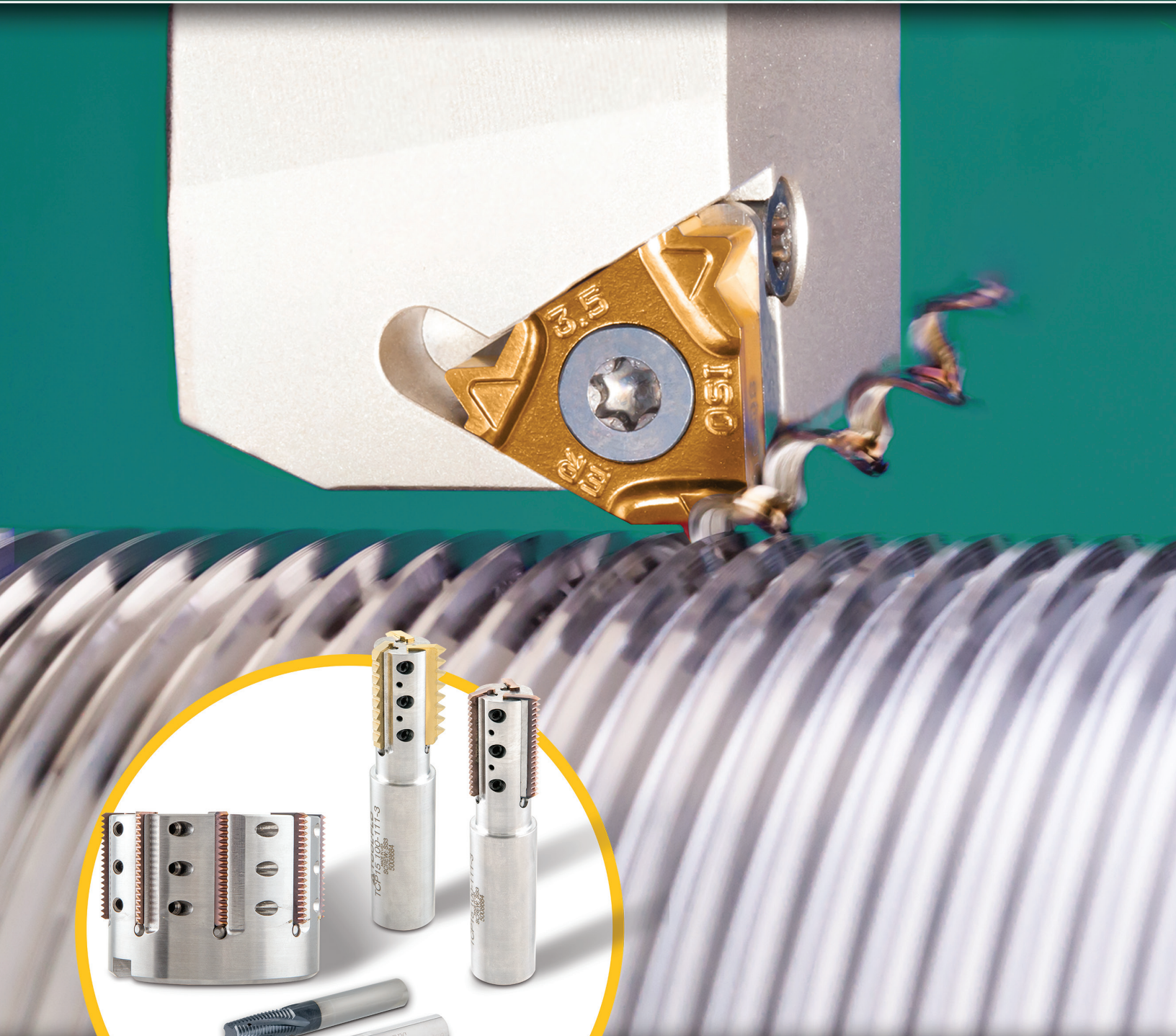


Threading Catalog



TOOLFLO
Member IMC Group
www.toolflo.com



LAYDOWN 03-67

BANTAM..... 68-86

CHASERS..... 83-90

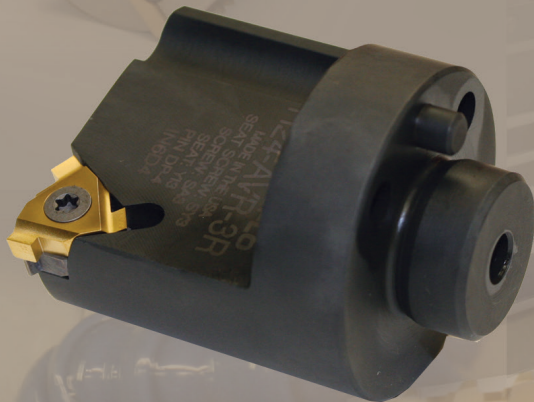
ONEDGE 91-105

FLOLOCK..... 106-127

VEEBOTTOM..... 128-140

THREAD MILLING..... 141-184

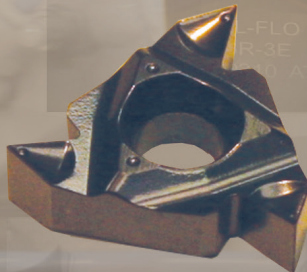
PARTS 185-203



TOOL-FLO
CR-5B75-4E
TF22675 G50

TOOL-FLO
CR-8R-3E
TF19310 GP50

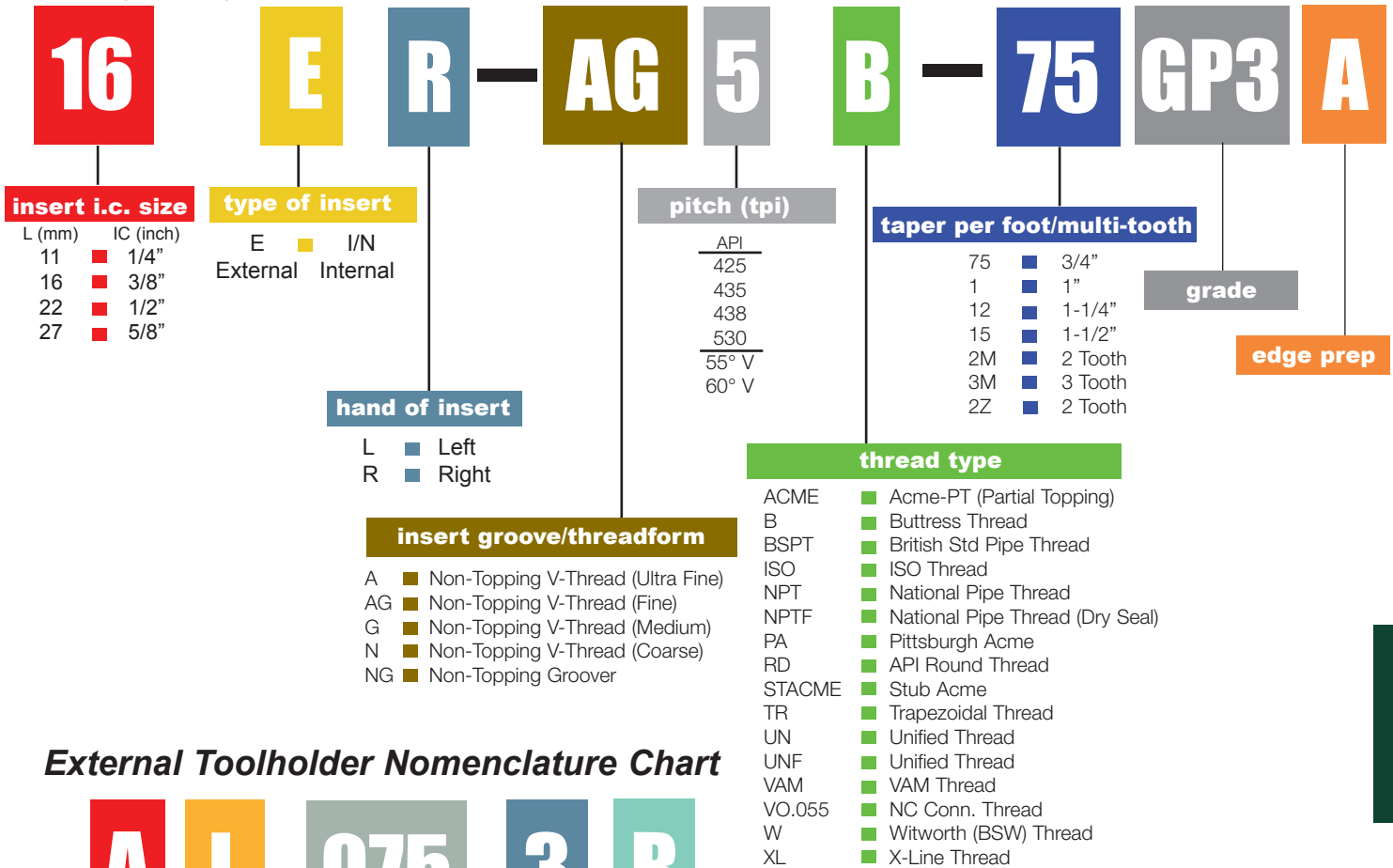
TOOL-FLO
CR-8R-3E
TF19310 GP50



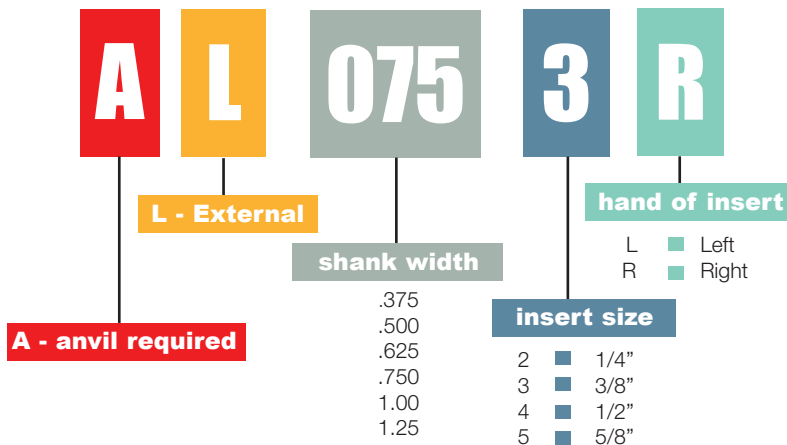
LAYDOWN
Threading & Grooving



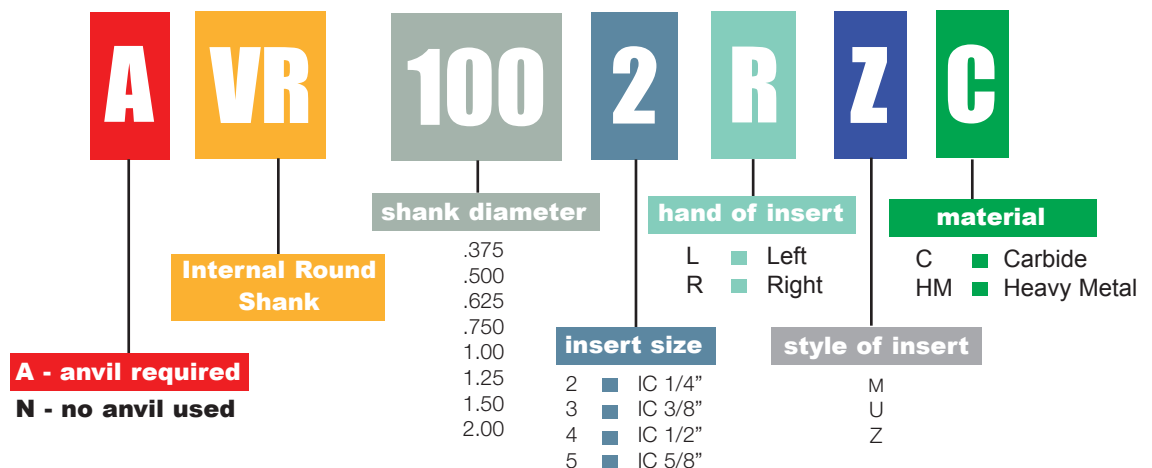
LT Style Laydown Insert Nomenclature Chart



External Toolholder Nomenclature Chart



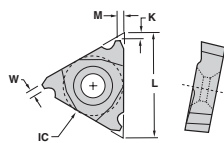
Internal Bar Nomenclature Chart



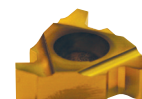


ACME

16, 22 & 27NR/ER - 3/8", 1/2", 5/8" I.C.



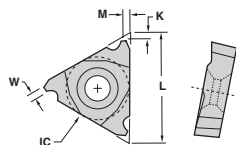
INT RH SHOWN
EXT OPPOSITE



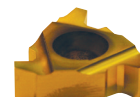
Description	TPI	W	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 16ACME-PT	16	0.52	3/8	16.00	1.02	1.02	●	●	●	●	●
16EL 16ACME-PT	16	0.52	3/8	16.00	1.02	1.02	●	●	●	●	●
16ER 14ACME-PT	14	0.61	3/8	16.00	1.27	1.02	●	●	●	●	●
16EL 14ACME-PT	14	0.61	3/8	16.00	1.27	1.02	●	●	●	●	●
16ER 12ACME-PT	12	0.72	3/8	16.00	1.27	1.02	●	●	●	●	●
16EL 12ACME-PT	12	0.72	3/8	16.00	1.27	1.02	●	●	●	●	●
16ER 10ACME-PT	10	0.81	3/8	16.00	1.52	1.27	●	●	●	●	●
16EL 10ACME-PT	10	0.81	3/8	16.00	1.52	1.27	●	●	●	●	●
16ER 8ACME-PT	8	1.04	3/8	16.00	1.52	1.52	●	●	●	●	●
16EL 8ACME-PT	8	1.04	3/8	16.00	1.52	1.52	●	●	●	●	●
22ER 6ACME-PT	6	1.44	1/2	22.10	2.03	1.78	●	●	●	●	●
22EL 6ACME-PT	6	1.44	1/2	22.10	2.03	1.78	●	●	●	●	●
22ER 5ACME-PT	5	1.75	1/2	22.10	2.29	2.03	●	●	●	●	●
22EL 5ACME-PT	5	1.75	1/2	22.10	2.29	2.03	●	●	●	●	●
27ER 4ACME-PT	4	2.22	5/8	26.92	2.79	2.29	●	●	●	●	●
27EL 4ACME-PT	4	2.22	5/8	26.92	2.79	2.29	●	●	●	●	●
16NR 16ACME-PT	16	0.52	3/8	16.00	1.02	1.02	●	●	●	●	●
16NL 16ACME-PT	16	0.52	3/8	16.00	1.02	1.02	●	●	●	●	●
16NR 14ACME-PT	14	0.61	3/8	16.00	1.27	1.02	●	●	●	●	●
16NL 14ACME-PT	14	0.61	3/8	16.00	1.27	1.02	●	●	●	●	●
16NR 12ACME-PT	12	0.72	3/8	16.00	1.27	1.27	●	●	●	●	●
16NL 12ACME-PT	12	0.72	3/8	16.00	1.27	1.27	●	●	●	●	●
16NR 10ACME-PT	10	0.81	3/8	16.00	1.27	1.27	●	●	●	●	●
16NL 10ACME-PT	10	0.81	3/8	16.00	1.27	1.27	●	●	●	●	●
16NR 8ACME-PT	8	1.04	3/8	16.00	1.52	1.52	●	●	●	●	●
16NL 8ACME-PT	8	1.04	3/8	16.00	1.52	1.52	●	●	●	●	●
22NR 6ACME-PT	6	1.44	1/2	22.10	2.03	1.78	●	●	●	●	●
22NL 6ACME-PT	6	1.44	1/2	22.10	2.03	1.78	●	●	●	●	●
22NR 5ACME-PT	5	1.75	1/2	22.10	2.29	2.03	●	●	●	●	●
22NL 5ACME-PT	5	1.75	1/2	22.10	2.29	2.03	●	●	●	●	●
27NR 4ACME-PT	4	2.22	5/8	26.92	2.54	2.29	●	●	●	●	●
27NL 4ACME-PT	4	2.22	5/8	26.92	2.54	2.29	●	●	●	●	●

ACME STUB

16, 22 & 27NR/ER - 3/8", 1/2", 5/8" I.C.



INT RH SHOWN
EXT OPPOSITE



Description	TPI	W	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 16STACME-PT	16	0.60	3/8	16.00	1.02	1.02	●	●	●	●	●
16EL 16STACME-PT	16	0.60	3/8	16.00	1.02	1.02	●	●	●	●	●
16ER 14STACME-PT	14	0.70	3/8	16.00	1.02	1.02	●	●	●	●	●
16EL 14STACME-PT	14	0.70	3/8	16.00	1.02	1.02	●	●	●	●	●
16ER 12STACME-PT	12	0.83	3/8	16.00	1.27	1.27	●	●	●	●	●
16EL 12STACME-PT	12	0.83	3/8	16.00	1.27	1.27	●	●	●	●	●
16ER 10STACME-PT	10	0.94	3/8	16.00	1.27	1.27	●	●	●	●	●
16EL 10STACME-PT	10	0.94	3/8	16.00	1.27	1.27	●	●	●	●	●
16ER 8STACME-PT	8	1.21	3/8	16.00	1.52	1.52	●	●	●	●	●
16EL 8STACME-PT	8	1.21	3/8	16.00	1.52	1.52	●	●	●	●	●
22ER 6STACME-PT	6	1.66	1/2	22.10	1.78	1.78	●	●	●	●	●
22EL 6STACME-PT	6	1.66	1/2	22.10	1.78	1.78	●	●	●	●	●
22ER 5STACME-PT	5	2.01	1/2	22.10	2.03	2.03	●	●	●	●	●
22EL 5STACME-PT	5	2.01	1/2	22.10	2.03	2.03	●	●	●	●	●
27ER 4STACME-PT	4	2.55	5/8	26.92	2.29	2.79	●	●	●	●	●
27EL 4STACME-PT	4	2.55	5/8	26.92	2.29	2.79	●	●	●	●	●
16NR 16STACME-PT	16	0.60	3/8	16.00	1.02	1.02	●	●	●	●	●
16NL 16STACME-PT	16	0.60	3/8	16.00	1.02	1.02	●	●	●	●	●
16NR 14STACME-PT	14	0.70	3/8	16.00	1.02	1.02	●	●	●	●	●
16NL 14STACME-PT	14	0.70	3/8	16.00	1.02	1.02	●	●	●	●	●
16NR 12STACME-PT	12	0.83	3/8	16.00	1.27	1.02	●	●	●	●	●
16NL 12STACME-PT	12	0.83	3/8	16.00	1.27	1.02	●	●	●	●	●
16NR 10STACME-PT	10	0.94	3/8	16.00	1.27	1.27	●	●	●	●	●
16NL 10STACME-PT	10	0.94	3/8	16.00	1.27	1.27	●	●	●	●	●
16NR 8STACME-PT	8	1.21	3/8	16.00	1.52	1.52	●	●	●	●	●
16NL 8STACME-PT	8	1.21	3/8	16.00	1.52	1.52	●	●	●	●	●
22NR 6STACME-PT	6	1.66	1/2	22.10	1.78	1.78	●	●	●	●	●
22NL 6STACME-PT	6	1.66	1/2	22.10	1.78	1.78	●	●	●	●	●
22NR 5STACME-PT	5	2.01	1/2	22.10	2.29	2.03	●	●	●	●	●
22NL 5STACME-PT	5	2.01	1/2	22.10	2.29	2.03	●	●	●	●	●
27NR 4STACME-PT	4	2.55	5/8	26.92	2.29	2.29	●	●	●	●	●
27NL 4STACME-PT	4	2.55	5/8	26.92	2.29	2.29	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

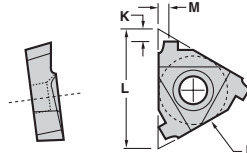
- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions

Cast Iron	▲	●	●	●
Non-Ferrous	▲	●	●	●
Stainless/High Temp	▲	●	●	●
Steel	▲	▲	●	●

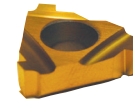


LAYDOWN

API BUTTRESS 22NR/ER - 1/2" I.C.

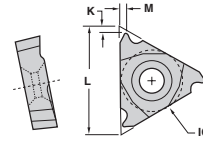


EXT SHOWN
INT OPPOSITE

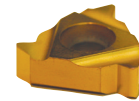


Description	TPI	TPF	IC	L	M	K	Conn. No.	GP22	GP50	AC22	AC3	AC50
22ER 8B75	8	3/4	1/2	22.10	2.59	1.85	U.S. Improved Buttress	●	●	●	●	●
22ER 5B75	5	3/4	1/2	22.10	2.21	2.21	4-1/2 - 13-3/8	●	●	●	●	●
22ER 5B1	5	1	1/2	22.10	2.41	2.21	16 and larger	●	●	●	●	●
22NR 8B75	8	3/4	1/2	22.10	2.59	1.85	U.S. Improved Buttress	●	●	●	●	●
22NR 5B75	5	3/4	1/2	22.10	2.06	2.21	4-1/2 - 13-3/8	●	●	●	●	●
22NR 5B1	5	1	1/2	22.10	2.06	2.29	16 and larger	●	●	●	●	●

API ROTARY SHOULDER CONNECTION 22 & 27NR/ER - 1/2" & 5/8" I.C.



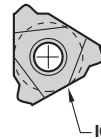
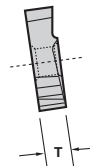
EXT RH SHOWN
INT OPPOSITE



Description	TPI	TPF	IC	L	M	K	Conn. No.	GP22	GP50	AC22	AC3	AC50
22ER 530	5	3	1/2	22.10	2.54	2.03	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
22ER 4PAC	4	1-1/2	1/2	22.10	2.79	2.03	American Open Hole	●	●	●	●	●
22ER 438	4	3	1/2	22.10	2.79	2.79	NC56 - NC71	●	●	●	●	●
22ER 435	4	3	1/2	22.10	2.79	2.03	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
22ER 42F*	4	2	1/2	22.10	2.79	2.03	VO.065*	●	●	●	●	●
22ER 428	4	2	1/2	22.10	2.54	2.03	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
22ER 425	4	2	1/2	22.10	2.54	2.03	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
22NR 530	5	3	1/2	22.10	2.54	2.03	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
22NR 4PAC	4	1-1/2	1/2	22.10	2.79	2.03	American Open Hole	●	●	●	●	●
22NR 438	4	3	1/2	22.10	2.79	2.79	NC56 - NC71	●	●	●	●	●
22NR 435	4	3	1/2	22.10	2.79	2.03	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
22NR 42F*	4	2	1/2	22.10	2.79	2.03	VO.065*	●	●	●	●	●
22NR 428	4	2	1/2	22.10	2.54	2.03	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
22NR 425	4	2	1/2	22.10	2.54	2.03	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
27ER 530	5	3	5/8	3.20	2.79	1.78	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
27ER 438	4	3	5/8	3.20	2.79	2.03	NC56 - NC71	●	●	●	●	●
27ER 435	4	3	5/8	3.20	3.05	2.03	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
27ER 428	4	2	5/8	3.20	2.79	2.03	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
27ER 425	4	2	5/8	3.20	3.05	2.03	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
27NR 530	5	3	5/8	3.20	2.79	2.03	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
27NR 438	4	3	5/8	3.20	2.79	2.03	NC56 - NC71	●	●	●	●	●
27NR 435	4	3	5/8	3.20	3.05	2.03	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
27NR 428	4	2	5/8	3.20	2.79	2.03	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
27NR 425	4	2	5/8	3.20	3.05	2.03	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●

* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

API HUGHES H90



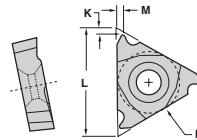
EXT SHOWN
INT OPPOSITE



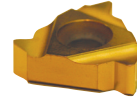
Description	TPI	TPF	IC	T	Conn. No.	GP22	GP50	GP54	AC22	AC3	AC50
27ER H902	3-1/2	2	5/8	4.80	3-1/2 - 6-5/8 H90	●	●	●	●	●	●
27ER H903	3-1/2	3	5/8	4.80	7 - 8-5/8 H90	●	●	●	●	●	●
27IR H902	3-1/2	2	5/8	4.80	3-1/2 - 6-5/8 H90	●	●	●	●	●	●
27IR H903	3-1/2	3	5/8	4.80	7 - 8-5/8 H90	●	●	●	●	●	●

AMERICAN BUTTRESS

45° Lead



EXT RH SHOWN
INT OPPOSITE



Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
11IR 20ABUT	20	1/4	11.00	1.3	1.0					
11IR 16ABUT	16	1/4	11.00	1.5	1.0					
11IL 16ABUT	16	1/4	11.00	1.5	1.0					
16ER 20ABUT	20	3/8	16.00	1.1	1.1					
16ER 16ABUT	16	3/8	16.00	1.1	1.1					
16EL 16ABUT	16	3/8	16.00	1.1	1.1					
16ER 12ABUT	12	3/8	16.00	1.4	1.4					
16EL 12ABUT	12	3/8	16.00	1.4	1.4					
16ER 10ABUT	10	3/8	16.00	2.3	1.5					
16EL 10ABUT	10	3/8	16.00	2.3	1.5					
16IR 20ABUT	20	3/8	16.00	1.1	1.1					
16IR 16ABUT	16	3/8	16.00	1.1	1.1					
16IL 16ABUT	16	3/8	16.00	1.1	1.1					
16IR 12ABUT	12	3/8	16.00	1.4	1.4					
16IL 12ABUT	12	3/8	16.00	1.4	1.4					
16IR 10ABUT	10	3/8	16.00	2.3	1.5					
16IL 10ABUT	10	3/8	16.00	2.3	1.5					
22ER 8ABUT	8	1/2	22.00	3.3	2.1					
22ER 6ABUT	6	1/2	22.00	3.4	2.1					
22IR 8ABUT	8	1/2	22.00	3.3	2.1					
22IR 6ABUT	6	1/2	22.00	3.4	2.1					

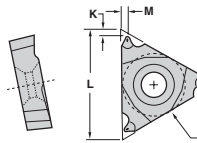
LAYDOWN

API ROUND

16NR/ER - 3/8" I.C.

w/patented chipbreaker

Exclusive patented chipbreaker!



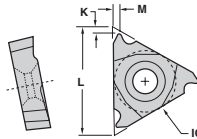
EXT RH SHOWN
INT OPPOSITE



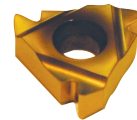
Description	TPI	IC	L	M	K	C22	GP22	GP50	AC22	AC3	AC50
16ER 8RD-CB	8	3/8	16.00	1.30	1.50						
16ER 10RD-CB	10	3/8	16.00	1.19	1.50						
16NR 8RD-CB	8	3/8	16.00	1.30	1.50						
16NR 10RD-CB	10	3/8	16.00	1.19	1.50						

API ROUND

16 & 22NR/ER - 3/8" & 1/2" I.C.



EXT RH SHOWN
INT OPPOSITE

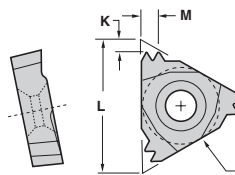


Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 8RD	8	3/8	16.51	1.50	1.42					
16ER 10RD	10	3/8	16.51	1.50	1.42					
22ER 8RD	8	1/2	22.10	1.52	1.42					
22ER 10RD	10	1/2	22.10	1.17	1.22					
16NR 8RD	8	3/8	16.51	1.50	1.42					
16NR 10RD	10	3/8	16.51	1.50	1.42					
22NR 8RD	8	1/2	22.10	1.52	1.42					
22NR 10RD	10	1/2	22.10	1.17	1.22					

API ROUND

22 & 27NR/ER - 1/2" & 5/8" I.C.

Multi-tooth



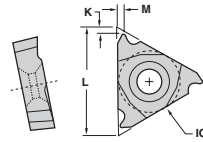
EXT RH SHOWN
INT OPPOSITE



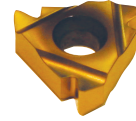
Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
27ER 8RD2M	8	5/8	27.43	4.50	2.90					
22ER 10RD2M	10	1/2	22.10	3.71	2.39					
27NR 8RD2M	8	5/8	27.43	4.50	2.90					
22NR 10RD2M	10	1/2	22.10	3.71	2.39					



ROUND (DIN)



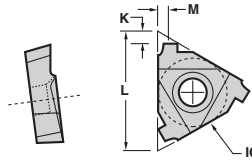
EXT RH SHOWN
INT OPPOSITE



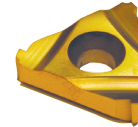
Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 10 RND	10	3/8	16.00	1.50	1.42		●	●		
16EL 10 RND	10	3/8	16.00	1.50	1.42		●	●		
16ER 8 RND	8	3/8	16.00	1.50	1.42		●	●		
16ERM 8 RND ¹	8	3/8	16.00	1.50	1.42		●	●		
16EL 8 RND	8	3/8	16.00	1.50	1.42		●	●		
16ER 6 RND	6	3/8	16.00	1.50	1.42		●	●		
16ERM 6 RND ¹	6	3/8	16.00	1.50	1.42		●	●		
16EL 6 RND	6	3/8	16.00	1.50	1.42		●	●		
22ER 6 RND	6	1/2	22.10	1.52	1.42		●	●		
22EL 6 RND	6	1/2	22.10	1.52	1.42		●	●		
22ER 4 RND	6	1/2	22.10	1.52	1.42		●	●		
22EL 4 RND	6	1/2	22.10	1.52	1.42		●	●		
27ER 4 RND	8	5/8	27.43	4.50	2.90		●	●		
16IR 10 RND	10	3/8	16.00	1.50	1.42		●	●		
16IR 8 RND	8	3/8	16.00	1.50	1.42		●	●		
16IL 8 RND	8	3/8	16.00	1.50	1.42		●	●		
16IR 6 RND	6	3/8	16.00	1.50	1.42		●	●		
16IRM 6 RND ¹	6	3/8	16.00	1.50	1.42		●	●		
16IL 6 RND	6	3/8	16.00	1.50	1.42		●	●		
22IR 6 RND	6	1/2	22.10	1.52	1.42		●	●		
22IR 4 RND	4	1/2	22.10	1.52	1.42		●	●		
22IL 4 RND	4	1/2	22.10	1.52	1.42		●	●		
27IR 4 RND	4	5/8	27.43	4.50	2.90		●	●		
27IL 4 RND	4	5/8	27.43	4.50	2.90		●	●		

¹ Pressed to size

API VAM 22NR/ER - 1/2" I.C.

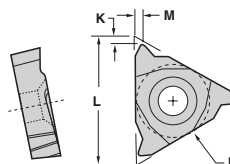


EXT RH SHOWN
INT OPPOSITE



Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
22ER 8VAM	8	1/2	22.10	1.50	1.50		●	●	●	
22ER 6VAM	6	1/2	22.10	2.01	2.01		●	●	●	
22ER 5VAM	5	1/2	22.10	2.01	2.01		●	●	●	
22NR 8VAM	8	1/2	22.10	1.50	1.50		●	●	●	
22NR 6VAM	6	1/2	22.10	2.01	2.01		●	●	●	
22NR 5VAM	5	1/2	22.10	2.01	2.01		●	●	●	

API VO.055 American MT, AMT, AMMT* 16 & 22NR/ER - 3/8" & 1/2" I.C.



EXT RH SHOWN
INT OPPOSITE

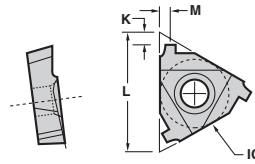


Description	TPI	TPF	IC	L	M	IC	Connection	GP22	GP50	AC22	AC3	AC50
16ER 6P VO.055 MT	6	1-1/2	3/8	16.51	1.50	1.30	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	
22ER 6P VO.055 MT	6	1-1/2	1/2	22.10	1.83	1.52	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	
16NR 6P VO.055 MT	6	1-1/2	3/8	16.51	1.50	1.30	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	
22NR 6P VO.055 MT	6	1-1/2	1/2	22.10	1.83	1.52	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	

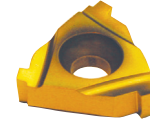
* MT is Macaroni Tubing, AMT is American Macaroni Tubing and AMMT is American Mining Macaroni Tubing.



API X-LINE 22NR/ER - 1/2" I.C.

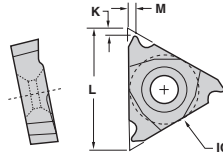


EXT RH SHOWN

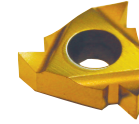


Description	TPI	TPF	IC	L	M	K	Conn. No.	GP22	GP50	AC22	AC3	AC50
22ER 6XL75	6	3/4	1/2	22.10	1.91	1.98	5 - 7-5/8		●	●	●	
22ER 6XL15	6	1-1/2	1/2	22.10	1.91	2.18			●	●	●	
22ER 5XL12	5	1-1/4	1/2	22.10	2.21	2.11	8-5/8 - 10-3/4		●	●	●	
22NR 6XL75	6	3/4	1/2	22.10	1.91	1.98	5 - 7-5/8		●	●	●	
22NR 6XL15	6	1-1/2	1/2	22.10	1.91	2.18			●	●	●	
22NR 5XL12	5	1-1/4	1/2	22.10	2.21	2.11			●	●	●	

PG

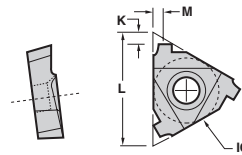


EXT RH SHOWN

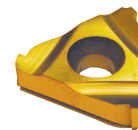


Description	EDP Code	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
11IR 18PG	4928518	18	1/4	11.00	.035 (0.9)	.03 (0.8)		●	●		
16IR 16PG	5026516	16	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		
16IL 16PG	5066416	16	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		
16IR 18PG	5026618	18	3/8	.63 (16.00)	.035 (.09)	.03 (.08)			●		
16IR 20PG	5026620	20	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		
16IL 20PG	5066620	20	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		
16ER 16PG	5006616	16	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		
16ER 18PG	5006618	18	3/8	.63 (16.00)	.035 (.09)	.03 (.08)			●		
16ER 20PG	5006620	20	3/8	.63 (16.00)	.04 (1.0)	.03 (.08)			●		

SLIM LINE BUTTRESS



EXT RH SHOWN
INT OPPOSITE



Description	EDP Code	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 12SLB	5003012	12	3/8	.515 (13.08)	.062 (1.57)	.03 (0.76)			●		
16IR 12SLB	5023012	12	3/8	.515 (13.08)	.062 (1.57)	.03 (0.76)		●			

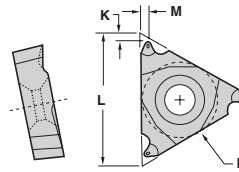


BSPT

16NR/ER - 3/8" I.C.

55° w/patented chipbreaker

Exclusive patented chipbreaker!



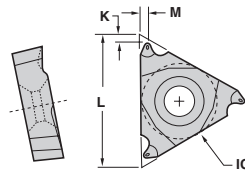
EXT RH SHOWN



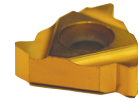
Designation	TPI	IC	L	M	K	Tough ↔ Hard			
						GP22	GP50	AC22	AC3
16ER 28BSPT-CB	28.0	3/8	16	0.79	0.71	●	●	●	●
16ER 19BSPT-CB	19.0	3/8	16	0.79	0.71	●	●	●	●
16ER 14BSPT-CB	14.0	3/8	16	1.5	1.5	●	●	●	●
16ER 11BSPT-CB	11.0	3/8	16	1.5	1.5	●	●	●	●
16NR 28BSPT-CB	28.0	3/8	16	0.79	0.79	●	●	●	●
16NR 19BSPT-CB	19.0	3/8	16	0.79	0.79	●	●	●	●
16NR 14BSPT-CB	14.0	3/8	16	0.79	0.79	●	●	●	●
16NR 11BSPT-CB	11.0	3/8	16	0.79	0.79	●	●	●	●

ER/L-BSPT

External BSPT (British Standard Pipe) B.S.21-1957,
Full Profile, Laydown Threading Inserts



External right-hand (internal left-hand) shown

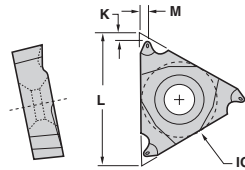


Designation	di	TPI	L	R	K	M	Tough ↔ Hard		
							GP50	AC22	GP3
16ER 28 BSPT	9.53	28.0	16.00	0.11	0.6	0.6	●	●	
16ER/L 19 BSPT	9.53	19.0	16.00	0.16	0.8	0.9	●	●	
16ER/L 14 BSPT	9.53	14.0	16.00	0.21	1.0	1.2	●	●	
16ER 14 BSPT-CP ⁽¹⁾	9.53	14.0	16.00	0.21	1.0	1.2		●	●
16ER/L 11 BSPT	9.53	11.0	16.00	0.28	1.1	1.5	●	●	
16ER 11 BSPT-CP ⁽¹⁾	9.53	11.0	16.00	0.28	1.1	1.5		●	●

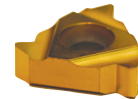
⁽¹⁾ With pressed chipformer.

IR/L-BSPT

Internal BSPT (British Standard Pipe) B.S.21-1957,
Full Profile, Laydown Threading Inserts



Internal left-hand (external right-hand) shown

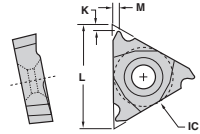


Designation	di	TPI	L	R	K	M	Tough ↔ Hard			
							GP313	GP50	AC22	GP3
06IR 28 BSPT	3.97	28.0	6.00	0.11	0.7	0.6	●			
08IR 28 BSPT	4.76	28.0	8.00	0.11	0.6	0.6	●			
08IR 19 BSPT	4.76	19.0	8.00	0.16	0.6	0.6	●			
11IR 19 BSPT	6.35	19.0	11.00	0.16	0.8	0.9		●	●	
11IR/L 14 BSPT	6.35	14.0	11.00	0.21	0.9	1.0		●	●	
16IR 28 BSPT	9.53	28.0	16.00	0.11	0.6	0.6		●		
16IR 19 BSPT	9.53	19.0	16.00	0.16	0.8	0.9		●		
16IR/L 14 BSPT	9.53	14.0	16.00	0.21	1.0	1.2		●	●	
16IR/L 11 BSPT	9.53	11.0	16.00	0.28	1.1	1.5	●	●	●	

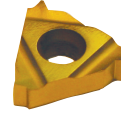
⁽¹⁾ With pressed chipformer.

ISO Metric Full Profile

External ISO Metric (DIN13 12-1986 class: 6G),
Laydown Threading Inserts, for General Industry



External right-hand (internal
left-hand) shown



ER/L-ISO

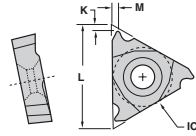
Designation	di	Pitch	L	Z	R	K	M	Tough ↔ Hard				
								GP313	GP50	C22	AC22	GP3
11ER/L 0.35 ISO	6.35	0.35	11.00	1	0.04	0.8	0.4				●	
11ER 0.40 ISO	6.35	0.40	11.00	1	0.04	0.7	0.4				●	
11ER 0.45 ISO	6.35	0.45	11.00	1	0.05	0.7	0.4	●				
11ER/L 0.50 ISO	6.35	0.50	11.00	1	0.05	0.6	0.6	●	●		●	
11ER 0.60 ISO	6.35	0.60	11.00	1	0.07	0.6	0.6				●	
11ER 0.70 ISO	6.35	0.70	11.00	1	0.07	0.6	0.6		●		●	
11ER/L 0.75 ISO	6.35	0.75	11.00	1	0.08	0.6	0.6				●	
11ER 0.80 ISO	6.35	0.80	11.00	1	0.09	0.6	0.6		●		●	
11ER/L 1.00 ISO	6.35	1.00	11.00	1	0.12	0.7	0.7		●		●	
11ER 1.25 ISO	6.35	1.25	11.00	1	0.15	0.8	0.9		●		●	
11ER/L 1.50 ISO	6.35	1.50	11.00	1	0.18	0.8	1.0		●	●	●	
11ER 1.75 ISO	6.35	1.75	11.00	1	0.21	0.8	1.1		●			
16ER/L 0.35 ISO	9.52	0.35	16.00	1	0.04	0.8	0.4		●		●	
16ER/L 0.40 ISO	9.52	0.40	16.00	1	0.04	0.7	0.4				●	
16ER 0.45 ISO	9.52	0.45	16.00	1	0.05	0.7	0.4		●		●	
16ER/L 0.50 ISO	9.52	0.50	16.00	1	0.04	0.6	0.6		●	●	●	
16ER 0.60 ISO	9.52	0.60	16.00	1	0.07	0.6	0.6		●		●	
16ER/L 0.70 ISO	9.52	0.70	16.00	1	0.07	0.6	0.6		●		●	
16ER/L 0.75 ISO	9.52	0.75	16.00	1	0.08	0.6	0.6		●	●	●	
16ER 0.75 ISO 3M-CP ⁽¹⁾	9.52	0.75	16.00	3	0.08	1.3	1.9				●	
16ER 0.75 ISO-CP ⁽²⁾	9.52	0.75	16.00	1	0.08	0.6	0.6				●	
16ER/L 0.80 ISO	9.52	0.80	16.00	1	0.09	0.6	0.6		●		●	
16ER/L 1.00 ISO	9.52	1.00	16.00	1	0.12	0.7	0.7	●	●	●	●	●
16ER 1.00 ISO 3M-CP ⁽¹⁾	9.52	1.00	16.00	3	0.12	1.7	2.5				●	
16ER 1.00 ISO-CP ⁽²⁾	9.52	1.00	16.00	1	0.11	0.7	0.7		●		●	●
16ER/L 1.25 ISO	9.52	1.25	16.00	1	0.15	0.8	0.9		●	●	●	
16ER 1.25 ISO-CP ⁽²⁾	9.52	1.25	16.00	1	0.14	0.8	0.9		●		●	●
16ER/L 1.50 ISO	9.52	1.50	16.00	1	0.18	0.8	1.0	●	●	●	●	●
16ER 1.50 ISO 2M-CP ⁽¹⁾	9.52	1.50	16.00	2	0.18	1.5	2.3				●	
16ER 1.50 ISO-CP ⁽²⁾	9.52	1.50	16.00	1	0.19	0.8	1.0		●		●	●
16ER/L 1.75 ISO	9.52	1.75	16.00	1	0.21	0.9	1.2	●	●	●	●	
16ER 1.75 ISO-CP ⁽²⁾	9.52	1.75	16.00	1	0.20	0.9	1.2		●		●	●
16ER/L 2.00 ISO	9.52	2.00	16.00	1	0.25	1.0	1.3	●	●		●	●
16ER 2.00 ISO 2M-CP ⁽¹⁾	9.52	2.00	16.00	2	0.25	2.0	3.0				●	
16ER 2.00 IF0 2M-CP ⁽¹⁾	9.52	2.00	16.00	2	0.25	2.0	3.0	●				
16ER 2.00 ISO-CP ⁽²⁾	9.52	2.00	16.00	1	0.24	1.0	1.3		●		●	●
16ER/L 2.50 ISO	9.52	2.50	16.00	1	0.31	1.1	1.5		●		●	

⁽¹⁾ With pressed chipformer ⁽²⁾ Multi-tooth

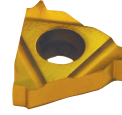


ISO Metric Full Profile

External ISO Metric (DIN13 12-1986 class: 6G),
Laydown Threading Inserts, for General Industry



External right-hand (internal
left- hand) shown



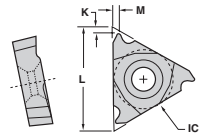
ER/L-ISO (continued)

Designation	di	Pitch	L	R	Z	K	M	GP313	Tough	Hard	GP50	C22	AC22	GP3
16IR 1.50 ISO 2M ⁽²⁾	9.52	1.50	16.00	0.08	2	1.5	2.3		●		●		●	
16IR 1.50 ISO-CP ⁽¹⁾	9.52	1.50	16.00	0.08	1	0.8	1.0		●				●	●
16IR/L 1.75 ISO	9.52	1.75	16.00	0.10	1	0.9	1.2		●		●		●	
16IR 1.75 ISO-CP ⁽¹⁾	9.52	1.75	16.00	0.10	1	0.9	1.2		●				●	
16IR/L 2.00 ISO	9.52	2.00	16.00	0.12	1	1.0	1.3	●	●				●	
16IR 2.00 ISO 2M ⁽²⁾	9.52	2.00	16.00	0.12	2	2.0	3.0						●	
16IR 2.00 ISO-CP ⁽¹⁾	9.52	2.00	16.00	0.11	1	1.0	1.3		●				●	●
16IR/L 2.50 ISO	9.52	2.50	16.00	0.15	1	1.1	1.5	●	●				●	
16IR 2.50 ISO-CP ⁽¹⁾	9.52	2.50	16.00	0.14	1	1.1	1.5		●				●	●
16IR/L 3.00 ISO	9.52	3.00	16.00	0.18	1	1.1	1.5	●	●				●	
16IR 3.00 ISO-CP ⁽¹⁾	9.52	3.00	16.00	0.17	1	1.1	1.5		●				●	●
22IR 1.50 ISO 3M ⁽²⁾	12.70	1.50	22.00	0.08	3	2.3	3.7		●				●	
22IR 2.00 ISO 2M ⁽²⁾	12.70	2.00	22.00	0.08	2	2.0	3.0						●	
22IR 2.00 ISO 3M ⁽²⁾	12.70	2.00	22.00	0.08	3	3.1	5.0		●				●	
22IL 3.00 ISO	9.52	3.00	16.00	0.17	1	1.1	1.5	●						
22IR/L 3.50 ISO	12.70	3.50	22.00	0.22	1	1.6	2.3		●				●	
22IR/L 4.00 ISO	12.70	4.00	22.00	0.25	1	1.6	2.3		●				●	
22IR/L 4.50 ISO	12.70	4.50	22.00	0.29	1	1.6	2.4		●				●	
22IR/L 5.00 ISO	12.70	5.00	22.00	0.32	1	1.6	2.3		●				●	
27IR 3.00 ISO 2M ⁽²⁾	15.88	3.00	27.00	0.18	2	2.9	4.6						●	
27IR/L 5.50 ISO	15.88	5.50	27.00	0.35	1	1.6	2.3	●	●				●	
27IR/L 6.00 ISO	15.88	6.00	22.00	0.39	1	1.8	2.5		●				●	

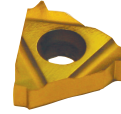
⁽¹⁾ With pressed chipformer ⁽²⁾ Multi-tooth

ISO Metric Full Profile

Internal ISO Metric (DIN13 12-1986 class 6H) Laydown
Threading Inserts, for General Industry



Internal left-hand (external right-hand) shown



IR/L-ISO

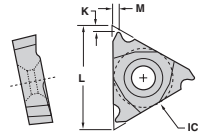
Designation	di	Pitch	L	R	Z	K	M	Tough ↔ Hard				
								GP313	GP50	C22	AC22	GP3
06IR/L 0.50 ISO	3.97	0.50	6.00	0.03	1	0.9	0.5	●				
06IR/L 0.75 ISO	3.97	0.75	6.00	0.04	1	0.8	0.5	●				
06IR/L 1.00 ISO	3.97	1.00	6.00	0.05	1	0.7	0.6	●				
06IR/L 1.25 ISO	3.97	1.25	6.00	0.07	1	0.6	0.6	●				
08IR/L 0.50 ISO	4.76	0.50	8.00	0.05	1	0.6	0.5	●				
08IR 0.75 ISO	4.76	0.75	8.00	0.04	1	0.6	0.5	●				
08IR/L 1.00 ISO	4.76	1.00	8.00	0.05	1	0.6	0.6	●			●	
08IR/L 1.25 ISO	4.76	1.25	8.00	0.07	1	0.6	0.7	●				
08IR/L 1.50 ISO	4.76	1.50	8.00	0.08	1	0.6	0.7	●				
08IR/L 1.75 ISO	4.76	1.75	8.00	0.10	1	0.6	0.8	●				
11IR/L 0.35 ISO	6.35	0.35	11.00	0.02	1	0.8	0.3			●	●	
11IR 0.40 ISO	6.35	0.40	11.00	0.02	1	0.8	0.4				●	
11IR/L 0.50 ISO	6.35	0.50	11.00	0.03	1	0.6	0.6		●	●	●	
11IR 0.70 ISO	6.35	0.70	11.00	0.04	1	0.6	0.6				●	
11IR/L 0.75 ISO	6.35	0.75	11.00	0.08	1	0.6	0.6		●		●	
11IR 0.80 ISO	6.35	0.80	11.00	0.04	1	0.6	0.6		●			
11IR/L 1.00 ISO	6.35	1.00	11.00	0.05	1	0.6	0.7	●	●	●	●	
11IR 1.00 ISO-CP ⁽¹⁾	6.35	1.00	11.00	0.05	1	0.6	0.7				●	
11IR/L 1.25 ISO	6.35	1.25	11.00	0.07	1	0.8	0.8		●		●	
11IR/L 1.50 ISO	6.35	1.50	11.00	0.08	1	0.8	1.0	●	●		●	●
11IR 1.50 ISO-CP ⁽¹⁾	6.35	1.50	11.00	0.08	1	0.8	1.0		●		●	●
11IR/L 1.75 ISO	6.35	1.75	11.00	0.10	1	0.8	1.1		●		●	
11IR/L 2.00 ISO	6.35	2.00	11.00	0.12	1	0.8	0.9	●	●		●	
16IR 0.35 ISO	9.52	0.35	16.00	0.02	1	0.8	0.3				●	
16IR/L 0.40 ISO	9.52	0.40	16.00	0.02	1	0.8	0.4				●	
16IL 0.45 ISO	9.52	0.45	16.00	0.02	1	0.8	0.4				●	
16IR/L 0.50 ISO	9.52	0.50	16.00	0.03	1	0.6	0.6		●	●	●	
16IR/L 0.60 ISO	9.52	0.60	16.00	0.03	1	0.6	0.6				●	
16IR/L 0.70 ISO	9.52	0.70	16.00	0.04	1	0.6	0.6		●		●	
16IR/L 0.75 ISO	9.52	0.75	16.00	0.04	1	0.6	0.6	●	●	●	●	
16IR/L 0.80 ISO	9.52	0.80	16.00	0.04	1	0.6	0.6		●			
16IR/L 1.00 ISO	9.52	1.00	16.00	0.05	1	0.6	0.7		●	●	●	
16IR 1.00 ISO 3M ⁽²⁾	9.52	1.00	16.00	0.05	3	1.7	2.5				●	
16IR 1.00 ISO-CP ⁽¹⁾	9.52	1.00	16.00	0.05	1	0.6	0.7		●		●	●
16IR/L 1.25 ISO	9.52	1.25	16.00	0.07	1	0.8	0.9	●	●	●	●	
16IR 1.25 ISO-CP ⁽¹⁾	9.52	1.25	16.00	0.06	1	0.8	0.9		●		●	
16IR/L 1.50 ISO	9.52	1.50	16.00	0.08	1	0.8	1.0	●	●	●	●	●

⁽¹⁾ With pressed chipformer ⁽²⁾ Multi-tooth

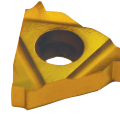


ISO Metric Full Profile

External American UN Full Profile (UN, UNC, UNF, UNEF) Laydown
Threading Inserts, for General Industry



External right-hand (internal
left-hand) shown



ER/L-UN

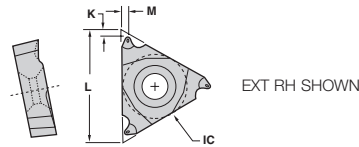
Designation	di	TPI	L	R	K	M	Z	Tough $\longleftrightarrow$ Hard				
								GP313	GP50	C22	AC22	GP3
11ER 44 UN	6.35	44.0	11.00	0.05	0.6	0.6	1				●	
11ER 36 UN	6.35	36.0	11.00	0.07	0.6	0.6	1				●	
11ER 32 UN	6.35	32.0	11.00	0.09	0.6	0.6	1				●	
11ER/L 28 UN	6.35	28.0	11.00	0.10	0.6	0.7	1				●	
11ER/L 24 UN	6.35	24.0	11.00	0.12	0.7	0.8	1				●	
11ER/L 20 UN	6.35	20.0	11.00	0.15	0.8	0.9	1		●		●	
11ER 18 UN	6.35	18.0	11.00	0.17	0.8	1.0	1				●	
11ER 16 UN	6.35	16.0	11.00	0.18	0.9	1.1	1		●		●	
16ER 72 UN	9.52	72.0	16.00	0.04	0.8	0.4	1				●	
16ER 56 UN	9.52	56.0	16.00	0.04	0.7	0.4	1				●	
16ER 48 UN	9.52	48.0	16.00	0.05	0.6	0.6	1				●	
16ER 40 UN	9.52	40.0	16.00	0.06	0.6	0.6	1	●			●	
16ER/L 36 UN	9.52	36.0	16.00	0.07	0.6	0.6	1				●	
16ER/L 32 UN	9.52	32.0	16.00	0.09	0.6	0.6	1		●	●	●	
16ER/L 28 UN	9.52	28.0	16.00	0.10	0.6	0.7	1		●	●	●	
16ER 27 UN	9.52	27.0	16.00	0.10	0.7	0.8	1					
16ER/L 24 UN	9.52	24.0	16.00	0.12	0.7	0.8	1		●	●	●	
16ER 24 UN-CP ⁽¹⁾	9.52	24.0	16.00	0.11	0.7	0.8	1		●		●	
16ER/L 20 UN	9.52	20.0	16.00	0.15	0.8	0.9	1		●	●	●	
16ER 20 UN-CP ⁽¹⁾	9.52	20.0	16.00	0.14	0.8	0.9	1		●		●	●
16ER/L 18 UN	9.52	18.0	16.00	0.17	0.8	1.0	1		●		●	
16ER 18 UN-CP ⁽¹⁾	9.52	18.0	16.00	0.15	0.8	1.0	1		●		●	●
16ER/L 16 UN	9.52	16.0	16.00	0.18	0.9	1.1	1	●	●		●	
16ER 16 UN 2M ⁽²⁾	9.52	16.0	16.00	0.18	1.5	2.3	2				●	
16ER 16 UN-CP ⁽¹⁾	9.52	16.0	16.00	0.19	0.9	1.1	1		●		●	●
16ER/L 14 UN	9.52	14.0	16.00	0.22	1.0	1.2	1		●		●	
16ER 14 UN 2M ⁽²⁾	9.52	14.0	16.00	0.22	1.5	2.3	2				●	
16ER 14 UN-CP ⁽¹⁾	9.52	14.0	16.00	0.22	1.0	1.2	1		●		●	●
16ER/L 13 UN	9.52	13.0	16.00	0.24	1.0	1.3	1		●		●	
16ER 13 UN-CP ⁽¹⁾	9.52	13.0	16.00	0.24	1.0	1.3	1				●	
16ER/L 12 UN	9.52	12.0	16.00	0.26	1.1	1.4	1		●	●	●	
16ER 12 UN 2M ⁽²⁾	9.52	12.0	16.00	0.26	2.2	3.4	2				●	
16ER 12 UN-CP ⁽¹⁾	9.52	12.0	16.00	0.25	1.1	1.4	1		●		●	●
16ER 11.5 UN	9.52	11.5	16.00	0.27	1.1	1.5	1		●		●	
16ER/L 11 UN	9.52	11.0	16.00	0.28	1.1	1.5	1		●		●	
16ER/L 10 UN	9.52	10.0	16.00	0.32	1.1	1.5	1		●		●	
16ER/L 9 UN	9.52	9.0	16.00	0.36	1.2	1.7	1				●	
16ER/L 8 UN	9.52	8.0	16.00	0.41	1.2	1.6	1		●		●	
16ER 8 UN-CP ⁽¹⁾	9.52	8.0	16.00	0.41	1.2	1.6	1		●		●	
22ER 16 UN 3M ⁽²⁾	12.70	16.0	22.00	0.18	2.5	4.0	3				●	



NPT

16NR/ER - 3/8" I.C.

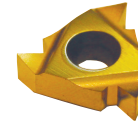
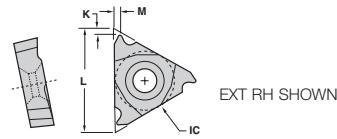
w/patented chipbreaker *Exclusive patented chipbreaker!*



Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 27NPT-CB	27	3/8	16.00	0.76	0.51	●	●	●	●	●
16ER 18NPT-CB	18	3/8	16.00	0.76	0.51	●	●	●	●	●
16ER 14NPT-CB	14	3/8	16.00	1.52	1.02	●	●	●	●	●
16ER 11.5NPT-CB	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16ER 8NPT-CB	8	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 27NPT-CB	27	3/8	16.00	0.76	0.51	●	●	●	●	●
16NR 18NPT-CB	18	3/8	16.00	0.76	0.51	●	●	●	●	●
16NR 14NPT-CB	14	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 11.5NPT-CB	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 8NPT-CB	8	3/8	16.00	1.52	1.02	●	●	●	●	●

NPT

11 & 16NR/ER - 1/4" & 3/8" I.C.



Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 27NPT	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16EL 27NPT	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16ER 18NPT	18	3/8	16.00	1.02	0.76	●	●	●	●	●
16EL 18NPT	18	3/8	16.00	1.02	0.76	●	●	●	●	●
16ER 14NPT	14	3/8	16.00	1.27	1.02	●	●	●	●	●
16EL 14NPT	14	3/8	16.00	1.27	1.02	●	●	●	●	●
16ER 11.5NPT	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16EL 11.5NPT	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16ER 8NPT	8	3/8	16.00	1.78	1.27	●	●	●	●	●
16EL 8NPT	8	3/8	16.00	1.78	1.27	●	●	●	●	●
11NR 18NPT	18	1/4	10.92	1.02	0.76	●	●	●	●	●
11NR 27NPT	27	1/4	10.92	0.76	0.76	●	●	●	●	●
16NR 27NPT	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16NL 27NPT	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16NR 18NPT	18	3/8	16.00	1.02	0.76	●	●	●	●	●
16NL 18NPT	18	3/8	16.00	1.02	0.76	●	●	●	●	●
16NR 14NPT	14	3/8	16.00	1.27	1.02	●	●	●	●	●
16NL 14NPT	14	3/8	16.00	1.27	1.02	●	●	●	●	●
16NR 11.5NPT	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16NL 11.5NPT	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 8NPT	8	3/8	16.00	1.52	1.27	●	●	●	●	●
16NL 8NPT	8	3/8	16.00	1.52	1.27	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

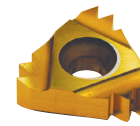
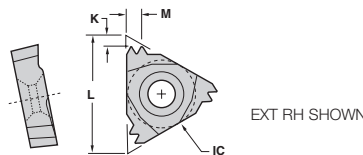
- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	▲	●	●	●	●
Non-Ferrous	▲	●	●	●	●
Stainless/High Temp	▲	●	●	●	●
Steel	▲	●	●	●	●

NPT

22 & 27NR/ER - 1/2" & 5/8" I.C.

Multi-tooth

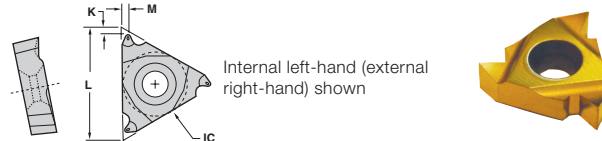


Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
22ER 11.5NPT2M	11.5	1/2	22.10	3.30	2.29	●	●	●	●	●
27ER 11.5NPT3M	11.5	5/8	26.92	5.59	3.56	●	●	●	●	●
27ER 8NPT2M	8	5/8	26.92	4.83	2.79	●	●	●	●	●
22NR 11.5NPT2M	11.5	1/2	22.10	3.30	2.29	●	●	●	●	●
27NR 11.5NPT3M	11.5	5/8	26.92	5.59	3.56	●	●	●	●	●
27NR 8NPT2M	8	5/8	26.92	4.83	2.79	●	●	●	●	●



IR/L-NPT

Internal NPT (National Pipe Threads) Full Profile Laydown
Threading Inserts for Steam, Gas and Water Pipes



Designation	di	TPI	L	R	X	K	M	Tough ↔ Hard			
06IR 27 NPT	3.97	27.0	6.00	0.04	0.6	0.6	1	GP313	GP50	AC22	GP3
08IR/L 18 NPT	4.76	18.0	8.00	0.06	0.6	0.6	1				
11IR 27 NPT	6.35	27.0	11.00	0.04	0.7	0.8	1				
11IR/L 18 NPT	6.35	18.0	11.00	0.06	0.8	1.0	1				
11IR/L 14 NPT	6.35	14.0	11.00	0.07	0.8	1.0	1				
16IR 27 NPT	9.53	27.0	16.00	0.04	0.7	0.8	1				
16IR 18 NPT	9.53	18.0	16.00	0.06	0.8	1.0	1				
16IR 14 NPT-CP ⁽¹⁾	9.53	14.0	16.00	0.05	0.9	1.2	1				
16IR/L 14 NPT	9.53	14.0	16.00	0.07	0.9	1.2	1				
16IR 11.5 NPT-CP ⁽¹⁾	9.53	11.5	16.00	0.09	1.1	1.5	1				
16IR/L 11.5 NPT	9.53	11.5	16.00	0.09	1.1	1.5	1				
16IR 8 NPT-CP ⁽¹⁾	9.53	8.0	16.00	0.12	1.3	1.8	1				
16IR/L 8 NPT	9.53	8.0	16.00	0.12	1.3	1.8	1				
22IR 11.5 NPT 2M ⁽²⁾	12.70	11.5	22.00	0.09	2.3	3.5	2				
27IR 11.5 NPT 3M ⁽²⁾	15.88	11.5	27.00	0.09	3.3	5.5	3				
27IR 8 NPT 2M ⁽²⁾	15.88	8.0	27.00	0.12	3.1	5.0	2				

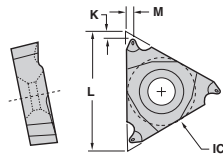
Multi-toot ⁽²⁾ .With pressed chipformer ⁽¹⁾

NPTF DRY SEAL

16NR/ER - 3/8" I.C.

w/ patented chipbreaker

Exclusive patented chipbreaker!



Description	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 27NPTF-CB	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16ER 18NPTF-CB	18	3/8	16.00	1.02	0.76	●	●	●	●	●
16ER 14NPTF-CB	14	3/8	16.00	1.27	1.02	●	●	●	●	●
16ER 11.5NPTF-CB	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16ER 8NPTF-CB	8	3/8	16.00	1.78	1.27	●	●	●	●	●
16NR 27NPTF-CB	27	3/8	16.00	0.76	0.76	●	●	●	●	●
16NR 18NPTF-CB	18	3/8	16.00	0.76	0.51	●	●	●	●	●
16NR 14NPTF-CB	14	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 11.5NPTF-CB	11.5	3/8	16.00	1.52	1.02	●	●	●	●	●
16NR 8NPTF-CB	8	3/8	16.00	1.52	1.02	●	●	●	●	●

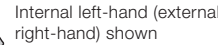
ER-NPTF

External NPTF (National Pipe Threads) Full Profile Laydown
Threading Inserts for Steam, Gas and Water Pipes



Designation	di	TPI	L	R	K	M	Z	Tough ↔ Hard	
11ER 18 NPTF	6.35	18.0	11.00	0.05	0.8	1.0	1	GP50	AC22
11ER 14 NPTF	6.35	14.0	11.00	0.07	0.8	1.0	1		
16ER 27 NPTF	9.53	27.0	16.00	0.04	0.7	0.7	1		
16ER 18 NPTF	9.53	18.0	16.00	0.06	0.8	1.0	1		
16ER 14 NPTF	9.53	14.0	16.00	0.07	0.9	1.2	1		
16ER 11.5 NPTF	9.53	11.5	16.00	0.09	1.1	1.5	1		

Internal NPTF (National Pipe Threads) Full Profile Laydown Threading Inserts for Steam, Gas and Water Pipes



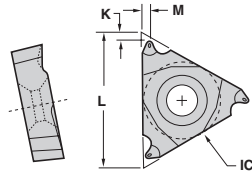
Tough ↔ Hard

2	TiN Coated
0	
2	AlTiN Coated
0	

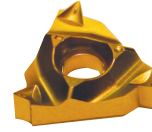


ER/L-UN

External American UN Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts, for General Industry



External right-hand (internal left-hand) shown



Tough $\longleftrightarrow$ Hard

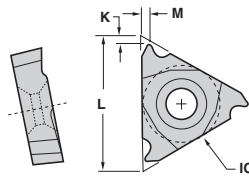
Designation	di	TPI	L	R	K	M	Z	GP313	GP50	C22	AC22	GP3
11ER 44 UN	6.35	44.0	11.00	0.05	0.6	0.6	1				●	
11ER 36 UN	6.35	36.0	11.00	0.07	0.6	0.6	1				●	
11ER 32 UN	6.35	32.0	11.00	0.09	0.6	0.6	1				●	
11ER/L 28 UN	6.35	28.0	11.00	0.10	0.6	0.7	1				●	
11ER/L 24 UN	6.35	24.0	11.00	0.12	0.7	0.8	1				●	
11ER/L 20 UN	6.35	20.0	11.00	0.15	0.8	0.9	1		●		●	
11ER 18 UN	6.35	18.0	11.00	0.17	0.8	1.0	1				●	
11ER 16 UN	6.35	16.0	11.00	0.18	0.9	1.1	1		●		●	
16ER 72 UN	9.52	72.0	16.00	0.04	0.8	0.4	1				●	
16ER 56 UN	9.52	56.0	16.00	0.04	0.7	0.4	1				●	
16ER 48 UN	9.52	48.0	16.00	0.05	0.6	0.6	1				●	
16ER 40 UN	9.52	40.0	16.00	0.06	0.6	0.6	1	●			●	
16ER/L 36 UN	9.52	36.0	16.00	0.07	0.6	0.6	1				●	
16ER/L 32 UN	9.52	32.0	16.00	0.09	0.6	0.6	1		●	●	●	
16ER/L 28 UN	9.52	28.0	16.00	0.10	0.6	0.7	1		●	●	●	
16ER 27 UN	9.52	27.0	16.00	0.10	0.7	0.8	1				●	
16ER/L 24 UN	9.52	24.0	16.00	0.12	0.7	0.8	1		●	●	●	
16ER 24 UN-CP ⁽¹⁾	9.52	24.0	16.00	0.11	0.7	0.8	1		●		●	
16ER/L 20 UN	9.52	20.0	16.00	0.15	0.8	0.9	1		●	●	●	
16ER 20 UN-CP ⁽¹⁾	9.52	20.0	16.00	0.14	0.8	0.9	1		●		●	●
16ER/L 18 UN	9.52	18.0	16.00	0.17	0.8	1.0	1		●		●	
16ER 18 UN-CP ⁽¹⁾	9.52	18.0	16.00	0.15	0.8	1.0	1		●		●	●
16ER/L 16 UN	9.52	16.0	16.00	0.18	0.9	1.1	1	●	●		●	
16ER 16 UN 2M ⁽²⁾	9.52	16.0	16.00	0.18	1.5	2.3	2				●	
16ER 16 UN-CP ⁽¹⁾	9.52	16.0	16.00	0.19	0.9	1.1	1		●		●	●
16ER/L 14 UN	9.52	14.0	16.00	0.22	1.0	1.2	1		●		●	
16ER 14 UN 2M ⁽²⁾	9.52	14.0	16.00	0.22	1.5	2.3	2				●	
16ER 14 UN-CP ⁽¹⁾	9.52	14.0	16.00	0.22	1.0	1.2	1		●		●	●
16ER/L 13 UN	9.52	13.0	16.00	0.24	1.0	1.3	1		●		●	
16ER 13 UN-CP ⁽¹⁾	9.52	13.0	16.00	0.24	1.0	1.3	1				●	
16ER/L 12 UN	9.52	12.0	16.00	0.26	1.1	1.4	1		●	●	●	
16ER 12 UN 2M ⁽²⁾	9.52	12.0	16.00	0.26	2.2	3.4	2				●	
16ER 12 UN-CP ⁽¹⁾	9.52	12.0	16.00	0.25	1.1	1.4	1		●		●	●
16ER 11.5 UN	9.52	11.5	16.00	0.27	1.1	1.5	1		●		●	
16ER/L 11 UN	9.52	11.0	16.00	0.28	1.1	1.5	1		●		●	
16ER/L 10 UN	9.52	10.0	16.00	0.32	1.1	1.5	1		●		●	
16ER/L 9 UN	9.52	9.0	16.00	0.36	1.2	1.7	1				●	
16ER/L 8 UN	9.52	8.0	16.00	0.41	1.2	1.6	1		●		●	
16ER 8 UN-CP ⁽¹⁾	9.52	8.0	16.00	0.41	1.2	1.6	1		●		●	
22ER 16 UN 3M ⁽²⁾	12.70	16.0	22.00	0.18	2.5	4.0	3				●	

⁽¹⁾ With pressed chipformer. ⁽²⁾ Multi-tooth

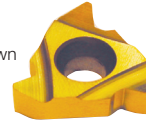


ER/L-UN (continued)

External American UN Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts, for General Industry



External right-hand
(internal left-hand) shown



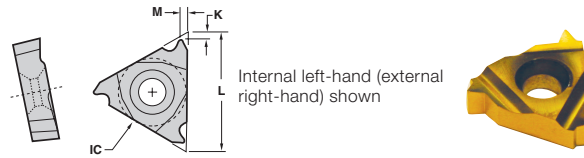
Designation	di	TPI	L	R	K	M	Z	Tough ↔ Hard				
								GP313	GP50	C22	AC22	GP3
22ER 12 UN 2M ⁽²⁾	12.70	12.0	22.00	0.25	2.2	3.4	2				●	
22ER 12 UN 3M ⁽²⁾	12.70	12.0	22.00	0.25	3.3	5.3	3				●	
22ER 7 UN	12.70	7.0	22.00	0.47	1.6	2.3	1		●			
22ER/L 6 UN	12.70	6.0	22.00	0.67	1.6	2.3	1				●	
22ER 5 UN	12.70	5.0	22.00	0.67	1.7	2.5	1		●		●	
27ER 8 UN 2M ⁽²⁾	15.88	8.0	27.00	0.41	3.1	4.9	2				●	
27ER 4.5 UN	15.88	4.5	27.00	0.75	1.9	2.7	1				●	
27ER/L 4 UN	15.88	4.0	27.00	0.85	2.1	3.0	1		●			

⁽¹⁾ With pressed chipformer. ⁽²⁾ Multi-tooth



IR/L-UN

Internal American UN, Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts, for General Industry



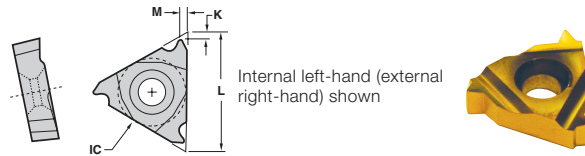
Designation	di	TPI	L	R	K	M	Z	Tough ↔ Hard				
								GP313	GP50	C22	AC22	GP3
06IR 32 UN	3.97	32.0	6.00	0.04	0.8	0.5	1	●				
06IL 28 UN	3.97	28.0	6.00	0.04	0.8	0.6	1	●				
06IR/L 24 UN	3.97	24.0	6.00	0.05	0.7	0.6	1	●				
06IR/L 20 UN	3.97	20.0	6.00	0.06	0.6	0.6	1	●				
06IR/L 18 UN	3.97	18.0	6.00	0.07	0.6	0.7	1	●				
08IR 32 UN	4.76	32.0	8.00	0.04	0.6	0.5	1	●				
08IR/L 28 UN	4.76	28.0	8.00	0.04	0.6	0.6	1	●				
08IR/L 24 UN	4.76	24.0	8.00	0.05	0.6	0.6	1	●				
08IR/L 20 UN	4.76	20.0	8.00	0.06	0.6	0.7	1	●				
08IR 18 UN	4.76	18.0	8.00	0.07	0.6	0.7	1	●				
08IR/L 16 UN	4.76	16.0	8.00	0.09	0.6	0.7	1	●				
08IR 14 UN	4.76	14.0	8.00	0.10	0.6	0.8	1	●			●	
11IR 64 UN	6.35	64.0	11.00	0.02	0.8	0.4	1				●	
11IR 36 UN	6.35	36.0	11.00	0.04	0.6	0.6	1				●	
11IR/L 32 UN	6.35	32.0	11.00	0.04	0.6	0.6	1				●	
11IR/L 28 UN	6.35	28.0	11.00	0.04	0.6	0.7	1			●	●	
11IR/L 24 UN	6.35	24.0	11.00	0.05	0.7	0.8	1				●	
11IR/L 20 UN	6.35	20.0	11.00	0.06	0.8	0.9	1			●	●	
11IR/L 18 UN	6.35	18.0	11.00	0.07	0.8	1.0	1		●		●	
11IR/L 16 UN	6.35	16.0	11.00	0.09	0.9	1.1	1	●	●		●	
11IR/L 14 UN	6.35	14.0	11.00	0.10	0.9	1.1	1		●		●	
11IR 12 UN	6.35	12.0	11.00	0.12	0.9	1.1	1		●			
11IR 11 UN	6.35	11.0	11.00	0.14	0.8	1.1	1		●		●	
16IR 32 UN	9.52	32.0	16.00	0.04	0.6	0.6	1		●		●	
16IR/L 28 UN	9.52	28.0	16.00	0.04	0.6	0.7	1				●	
16IR 27 UN	9.52	27.0	16.00	0.04	0.7	0.8	1					
16IR 24 UN	9.52	24.0	16.00	0.05	0.7	0.8	1		●	●	●	
16IR/L 20 UN	9.52	20.0	16.00	0.06	0.8	0.9	1		●	●	●	
16IR 20 UN-CP ⁽¹⁾	9.52	20.0	16.00	0.06	0.8	0.9	1				●	
16IR/L 18 UN	9.52	18.0	16.00	0.07	0.8	1.0	1		●		●	
16IR 18 UN-CP ⁽¹⁾	9.52	18.0	16.00	0.08	0.8	1.0	1				●	
16IR/L 16 UN	9.52	16.0	16.00	0.09	0.9	1.1	1		●		●	
16IR 16 UN 2M ⁽²⁾	9.52	16.0	16.00	0.09	1.5	2.3	2					
16IR 16 UN-CP ⁽¹⁾	9.52	16.0	16.00	0.09	0.9	1.1	1		●		●	●
16IR/L 14 UN	9.52	14.0	16.00	0.10	0.9	1.2	1		●		●	
16IR 14 UN-CP ⁽¹⁾	9.52	14.0	16.00	0.11	0.9	1.2	1		●		●	
16IR/L 13 UN	9.52	13.0	16.00	0.11	1.0	1.3	1				●	
16IR/L 12 UN	9.52	12.0	16.00	0.12	1.1	1.4	1	●	●	●	●	
16IR 12 UN-CP ⁽¹⁾	9.52	12.0	16.00	0.12	1.1	1.4	1		●		●	●
16IR 11.5 UN	9.52	11.5	16.00	0.13	1.1	1.5	1				●	
16IR 11 UN	9.52	11.0	16.00	0.14	1.1	1.5	1		●		●	
16IR/L 10 UN	9.52	10.0	16.00	0.15	1.1	1.5	1		●		●	
16IR 9 UN	9.52	9.0	16.00	0.17	1.2	1.7	1				●	
16IR/L 8 UN	9.52	8.0	16.00	0.19	1.1	1.5	1		●		●	

Multi-tooth ⁽²⁾ .With pressed chipformer ⁽¹⁾



IR/L-UN (continued)

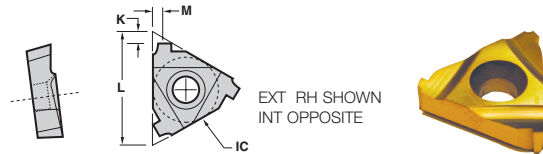
Internal American UN, Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts, for General Industry



Designation	di	TPI	L	R	K	M	Z	Tough ← Hard				
								GP313	GP50	C22	AC22	GP3
16IR 8 UN-CP ⁽¹⁾	9.52	8.0	16.00	0.20	1.1	1.5	1		●		●	
22IR 16 UN 3M ⁽²⁾	12.70	16.0	22.00	0.09	2.5	4.0	3				●	
22IR 12 UN 2M ⁽²⁾	12.70	12.0	22.00	0.12	2.2	3.4	2				●	
22IR 12 UN 3M ⁽²⁾	12.70	12.0	22.00	0.12	3.3	5.3	3				●	
22IR/L 7 UN	12.70	7.0	22.00	0.22	1.6	2.3	1	●	●		●	
22IR 6 UN	12.70	6.0	22.00	0.26	1.6	2.3	1		●		●	
22IR 5 UN	12.70	5.0	22.00	0.32	1.6	2.3	1		●			
27IR 8 UN 2M ⁽²⁾	15.88	8.0	27.00	0.19	3.1	4.9	2				●	
27IR 4.5 UN	15.88	4.5	27.00	0.36	1.7	2.4	1		●			
27IR/L 4 UN	15.88	4.0	27.00	0.41	1.8	2.7	1		●		●	

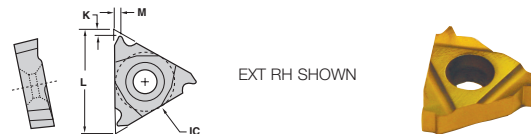
⁽¹⁾ With pressed chipformer. ⁽²⁾ Multi-tooth

MAYHEW



Description	EDP Code	TPI	IC	L	M	K	TIN Coated				
							GP22	GP50	AC22	AC3	AC50
22ER 2-3/8 MAYHEW JR	5103004	4	1/2	.632 (16.05)	.110 (2.79)	.08 (2.03)		●			
27ER 2-3/8 MAYHEW JR	5203004	4	5/8	.796 (20.21)	.130 (3.30)	.09 (2.28)		●			

MJ



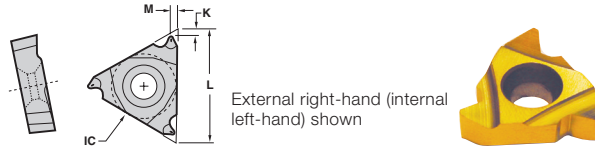
Description	EDP Code	Pitch	IC	L	M	K	TIN Coated				
							GP22	GP50	AC22	AC3	AC50
11IR 1.00MJ	4926910	1.00	1/4	11.00	.03 (0.8)	.027 (0.7)			●		
11IRB 1.00MJ*	492B6910	1.00	1/4	11.00	.03 (0.8)	.027 (0.7)			●		
11IR 1.25MJ	49269125	1.25	1/4	11.00	.035 (0.9)	.03 (0.8)			●		
11IR 1.50MJ	4926915	1.50	1/4	11.00	.04 (1.0)	.03 (0.8)			●		
11IRB 1.50MJ	492B6915	1.50	1/4	11.00	.04 (1.0)	.03 (0.8)			●		
11IR 2.00MJ	4926920	2.00	1/4	11.00	.04 (1.0)	.035 (0.9)			●		
16IR 1.00MJ	5026910	1.00	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16IR 1.25MJ	50269125	1.25	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16IR 1.50MJ	50269150	1.50	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16ER 1.00MJ	5006910	1.00	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16ER 1.25MJ	50069125	1.25	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16ER 1.50MJ	50069150	1.50	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		
16ER 2.00MJ	5006920	2.00	3/8	.63 (16.00)	.031 (0.79)	.031 (0.79)			●		

* With chipformer



ER/L-UNJ

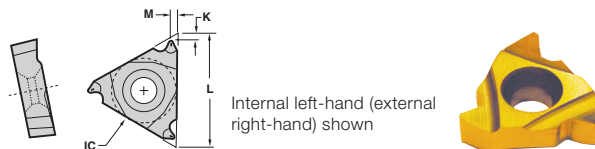
External UNJ Profile, Laydown Threading Inserts,
for Aviation and Aerospace Industry



Designation	di	TPI	L	R	K	M	Tough ↔ Hard		
							GP50	C22	AC22
11ER 28 UNJ	6.35	28.0	11.00	0.04	0.6	0.6			●
11ER 24 UNJ	6.35	24.0	11.00	0.05	0.7	0.8			●
11ER/L 20 UNJ	6.35	20.0	11.00	0.06	0.8	0.9			●
11EL 18 UNJ	6.35	18.0	11.00	0.07	0.8	1.0			●
16ER 48 UNJV	9.53	48.0	16.00	0.03	0.6	0.6			●
16ER 44 UNJ	9.53	44.0	16.00	0.03	0.6	0.6			●
16ER 40 UNJ	9.53	40.0	16.00	0.03	0.6	0.6			●
16ER 36 UNJ	9.53	36.0	16.00	0.04	0.6	0.6			●
16ER/L 32 UNJ	9.53	32.0	16.00	0.04	0.6	0.6			●
16ER 28 UNJ	9.53	28.0	16.00	0.04	0.6	0.6	●		●
16ER/L 24 UNJ	9.53	24.0	16.00	0.05	0.7	0.8	●		●
16ER/L 20 UNJ	9.53	20.0	16.00	0.06	0.8	0.9	●		●
16ER/L 18 UNJ	9.53	18.0	16.00	0.07	0.8	1.0	●	●	●
16ER/L 16 UNJ	9.53	16.0	16.00	0.09	0.8	1.0	●		●
16ER/L 14 UNJ	9.53	14.0	16.00	0.10	1.0	1.2	●		●
16ER 13 UNJ	9.53	13.0	16.00	0.12	1.1	1.3			●
16ER/L 12 UNJ	9.53	12.0	16.00	0.12	1.1	1.4	●		●
16ER 10 UNJ	9.53	10.0	16.00	0.15	1.1	1.5			●
16ER/L 8 UNJ	9.53	8.0	16.00	0.51	1.2	1.6	●		

IR/L-UNJ

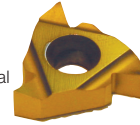
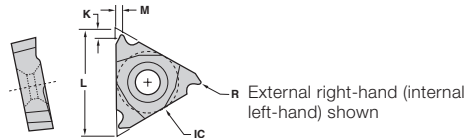
Internal UNJ Profile, Laydown Threading Inserts,
for Aviation and Aerospace Industry



Designation	di	TPI	L	R	K	M	Tough ↔ Hard		
							GP313	GP50	AC22
08IR 20 UNJ	4.76	20.0	8.00	0.06	0.8	0.9	●		
08IR 18 UNJ	4.76	18.0	8.00	0.07	0.8	1.0	●		
11IR 32 UNJ	6.35	32.0	11.00	0.04	0.6	0.6			●
11IR 28 UNJ	6.35	28.0	11.00	0.04	0.6	0.6			●
11IR 24 UNJ	6.35	24.0	11.00	0.05	0.7	0.8			●
11IR 20 UNJ	6.35	20.0	11.00	0.06	0.8	0.9			●
11IR 18 UNJ	6.35	18.0	11.00	0.07	0.8	1.0			●
11IR 16 UNJ	6.35	16.0	11.00	0.09	0.8	1.0			●
16IR 32 UNJ	9.53	32.0	16.00	0.04	0.6	0.6			
16IR 28 UNJ	9.53	28.0	16.00	0.04	0.6	0.6			
16IR 24 UNJ	9.53	24.0	16.00	0.05	0.7	0.8			
16IR 20 UNJ	9.53	20.0	16.00	0.06	0.8	0.9			●
16IR 18 UNJ	9.53	18.0	16.00	0.07	0.8	1.0			●
16IR/L 16 UNJ	9.53	16.0	16.00	0.09	0.8	1.0		●	●
16IR 14 UNJ	9.53	14.0	16.00	0.10	1.0	1.2			●
16IR/L 12 UNJ	9.53	12.0	16.00	0.12	1.1	1.4		●	●
16IR 10 UNJ	9.53	10.0	16.00	0.15	1.1	1.5			●
16IR/L 8 UNJ	9.53	8.0	16.00	0.19	1.2	1.6			●

ER/L-60°

External 60° Partial Profile,
Laydown Threading Inserts,
for General Industry

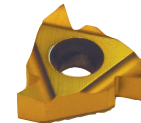
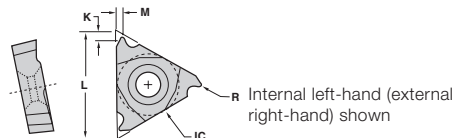


Designation	di	P _{min}	P _{max}	TPI _{min}	TPI _{max}	L	R	K	M	Tough ↔ Hard				
										GP313	GP50	C22	AC22	GP3
11ER/L A 60	6.35	0.50	1.50	16	48	11.00	0.05	0.8	0.9		●		●	
16ER/L A 60	9.53	0.50	1.50	16	48	16.00	0.05	0.8	0.9	●	●	●	●	
16ER A 60-CP ⁽¹⁾	9.53	0.50	1.50	16	48	16.00	0.05	0.8	0.9	●	●		●	
16ER/L AG 60	9.53	0.50	3.00	8	48	16.00	0.05	1.2	1.7	●	●		●	●
16ER AG 60-CP ⁽¹⁾	9.53	0.50	3.00	8	48	16.00	0.06	1.2	1.7	●	●		●	
16ER/L G 60	9.53	1.75	3.00	8	14	16.00	0.17	1.2	1.7		●		●	
16ER G 60-CP ⁽¹⁾	9.53	1.75	3.00	8	14	16.00	0.17	1.2	1.7		●		●	
22ER/L N 60	12.70	3.50	5.00	5	7	22.00	0.32	1.7	2.5		●		●	
22ER N 60-CP ⁽¹⁾	12.70	3.50	5.00	5	7	22.00	0.32	1.7	2.5		●		●	
22UEIRL U 60	12.70	5.50	8.00	3.25	4.5	22.00	0.28	0.6	11.0		●		●	
27ER Q 60	15.88	5.50	6.00	4.5	4	27.00	0.63	2.1	3.1	●	●		●	

⁽¹⁾ With pressed chipformer.

IR/L-60°

Internal 60° Partial Profile,
Laydown Threading Inserts,
for General Industry



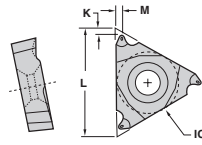
Designation	di	P _{min}	P _{max}	TPI _{min}	TPI _{max}	L	R	K	M	Tough ↔ Hard			
										GP313	GP50	AC22	GP3
06IR/L A 60	3.97	0.50	1.25	48	20	6.00	0.05	0.6	0.6	●			
06IR A 60-CP ⁽¹⁾	3.97	0.50	1.25	48	20	6.00	0.05	0.5	0.6	●			
08IR/L A 60	4.76	0.50	1.50	48	16	8.00	0.05	0.6	0.7	●			
08IR A 60-CP ⁽¹⁾	4.76	0.50	1.50	48	16	8.00	0.05	0.6	0.7	●			
11IR/L A 60	6.35	0.50	1.50	16	48	11.00	0.05	0.8	0.9	●	●	●	
11IR A 60-CP ⁽¹⁾	6.35	0.50	1.50	16	48	11.00	0.05	0.7	0.9	●	●	●	
16IR/L A 60	9.52	0.50	1.50	16	48	16.00	0.05	0.8	0.9	●	●	●	●
16IR A 60-CP ⁽¹⁾	9.52	0.50	1.50	16	48	16.00	0.05	0.8	0.9	●	●	●	
16IR/L AG 60	9.52	0.50	3.00	8	48	16.00	0.05	1.2	1.7		●	●	●
16IR AG 60-CP ⁽¹⁾	9.52	0.50	3.00	8	48	16.00	0.05	1.2	1.7		●	●	●
16IR/L G 60	9.52	1.75	3.00	8	14	16.00	0.12	1.2	1.7		●	●	
16IR G 60-CP ⁽¹⁾	9.52	1.75	3.00	8	14	16.00	0.10	1.2	1.7		●	●	
22IR/L N 60	12.70	3.50	5.00	5	7	22.00	0.22	1.7	2.5		●	●	
22IR N 60-CP ⁽¹⁾	12.70	3.50	5.00	5	7	22.00	0.19	1.7	2.5		●	●	
27IR/L Q 60	15.88	5.50	6.00	4.5	4	27.00	0.31	2.1	3.1	●			

⁽¹⁾ With a pressed chipformer

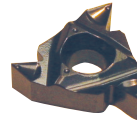


ER/L-55°

External 55° Partial Profile,
Laydown Threading Inserts,
for General Industry



External right-hand (internal
left-hand) shown

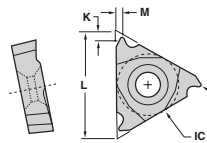


Designation	di	P _{min}	P _{max}	TPI _{min}	TPI _{max}	L	R	K	M	Tough ↔ Hard			
11ER/L A 55	6.35	0.50	1.50	16	48	11.00	0.05	0.8	0.9			●	●
16ER/L A 55	9.53	0.50	1.50	16	48	16.00	0.05	0.8	0.9			●	●
16ER/L AG 55	9.53	0.50	3.00	8	48	16.00	0.05	1.2	1.7	●		●	●
16ER AG 55-CP ⁽¹⁾	9.53	0.50	3.00	8	48	16.00	0.07	1.2	1.7			●	●
16ER/L G 55	9.53	1.75	3.00	8	14	16.00	0.20	1.2	1.7			●	●
16ER G 55-CP ⁽¹⁾	9.53	1.75	3.00	8	14	16.00	0.23	1.2	1.7			●	●
22ER/L N 55	12.70	3.50	5.00	5	7	22.00	0.42	1.7	2.5			●	●
27ER Q 55	15.88	5.50	6.00	4.5	4	27.00	0.60	2.0	2.9			●	●

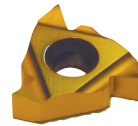
⁽¹⁾ With pressed chipformer

IR/L-55°

Internal 55° Partial Profile,
Laydown Threading Inserts, for
General Industry



Internal left-hand (external right-
hand) shown

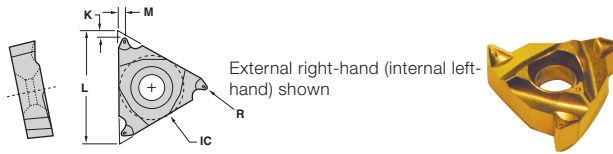


Designation	di	P _{min}	P _{max}	TPI _{min}	TPI _{max}	L	R	K	M	Tough ↔ Hard			
06IR/L A 55	3.97	0.50	1.25	48	20	6.00	0.05	0.5	0.6	●			
08IR/L A 55	4.76	0.50	1.50	48	16	8.00	0.05	0.6	0.7	●			
11IR/L A 55	6.35	0.50	1.50	16	48	11.00	0.05	0.8	0.9		●	●	
16IR A 55	9.53	0.50	1.50	16	48	16.00	0.05	0.8	0.9		●	●	
16IR/L AG 55	9.53	0.50	3.00	8	48	16.00	0.05	1.2	1.7	●		●	●
16IR AG 55-CP ⁽¹⁾	9.53	0.50	3.00	8	48	16.00	0.05	1.2	1.7			●	●
16IR/L G 55	9.53	1.75	3.00	8	14	16.00	0.20	1.2	1.7			●	●
16IR G 55-CP ⁽¹⁾	9.53	1.75	3.00	8	14	16.00	0.20	1.2	1.7			●	●
22IR N 55	12.70	3.50	5.00	5	7	22.00	0.42	1.7	2.5			●	●
27IR Q 55	15.88	5.50	6.00	4.5	4	27.00	0.60	2.0	2.9			●	●

⁽¹⁾ With pressed chipformer

ER/L-WHITWORTH

External Whitworth (BSW, BSF, BSP), B.S.84-1956 DIN
259 Medium Class, Full Profile
Laydown Threading Inserts



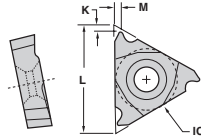
Designation	di	TPI	L	R	K	M	Z	Tough ↔ Hard			
								GP313	GP50	AC22	GP3
11ER 36 W	6.35	36.0	11.00	0.07	0.6	0.6	1			●	
11ER 20 W	6.35	20.0	11.00	0.14	8.0	0.9	1				
11ER/L 19 W	6.35	19.0	11.00	0.15	0.8	1.0	1			●	
11ER 18 W	6.35	18.0	11.00	0.16	0.8	1.0	1		●		
11ER 16 W	6.35	16.0	11.00	0.18	0.9	1.1	1				
11ER 14 W	6.35	14.0	11.00	0.21	0.9	1.1	1		●	●	
16ER 40 W	9.52	40.0	16.00	0.06	0.6	0.6	1				
16ER 32 W	9.52	32.0	16.00	0.09	0.6	0.6	1				
16ER/L 28 W	9.52	28.0	16.00	0.09	0.6	0.7	1		●	●	
16ER 26 W	9.52	26.0	16.00	0.10	0.7	0.7	1		●	●	
16ER/L 24 W	9.52	24.0	16.00	0.11	0.7	0.8	1		●	●	
16ER/L 22 W	9.52	22.0	16.00	0.13	0.8	0.9	1		●	●	
16ER 20 W	9.52	20.0	16.00	0.14	0.8	0.9	1		●	●	
16ER/L 19 W	9.52	19.0	16.00	0.15	0.8	1.0	1	●	●	●	
16ER 19 W-CP ⁽¹⁾	9.52	19.0	16.00	0.16	0.8	1.0	1		●	●	●
16ER/L 18 W	9.52	18.0	16.00	0.16	0.8	1.0	1		●	●	
16ER 16 W	9.52	16.0	16.00	0.18	0.9	1.1	1		●	●	
16ER 16 W-CP ⁽¹⁾	9.52	16.0	16.00	0.20	0.9	1.1	1		●	●	
16ER/L 14 W	9.52	14.0	16.00	0.21	1.0	1.2	1	●	●	●	
16ER 14 W 2M ⁽²⁾	9.52	14.0	16.00	0.21	1.7	2.7	2			●	
16ER 14 W-CP ⁽¹⁾	9.52	14.0	16.00	0.24	1.0	1.2	1		●	●	●
16ER/L 12 W	9.52	12.0	16.00	0.25	1.1	1.4	1		●	●	
16ER/L 11 W	9.52	11.0	16.00	0.27	1.1	1.5	1	●	●	●	
16ER 11 W-CP ⁽¹⁾	9.52	11.0	16.00	0.27	1.1	1.5	1		●	●	●
16ER/L 10 W	9.52	10.0	16.00	0.31	1.1	1.5	1		●	●	
16ER 9 W	9.52	9.0	16.00	0.34	1.2	1.7	1		●		
16ER/L 8 W	9.52	8.0	16.00	0.39	1.2	1.5	1		●	●	
22ER 14 W 3M ⁽²⁾	12.70	14.0	22.00	0.21	2.8	4.5	3			●	
22ER 11 W 2M ⁽²⁾	12.70	11.0	22.00	0.27	2.3	3.4	2			●	
22ER 7 W	12.70	7.0	22.00	0.45	1.6	2.3	1			●	
22ER 6 W	12.70	6.0	22.00	0.52	1.6	2.3	1		●	●	
22ER 5 W	12.70	5.0	22.00	0.65	1.7	2.4	1		●		
27ER 4.5 W	15.88	4.5	27.00	0.73	1.8	2.6	1				
27ER 4 W	15.88	4.0	27.00	0.15	2.0	2.9	1			●	

⁽¹⁾ With pressed chipformer. ⁽²⁾ Multi-tooth

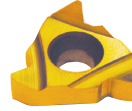


IR/L-WHITWORTH

Internal Whitworth (BSW, BSF, BSP), B.S.84-1956 DIN 259
Medium Class, Full Profile
Laydown Threading Inserts



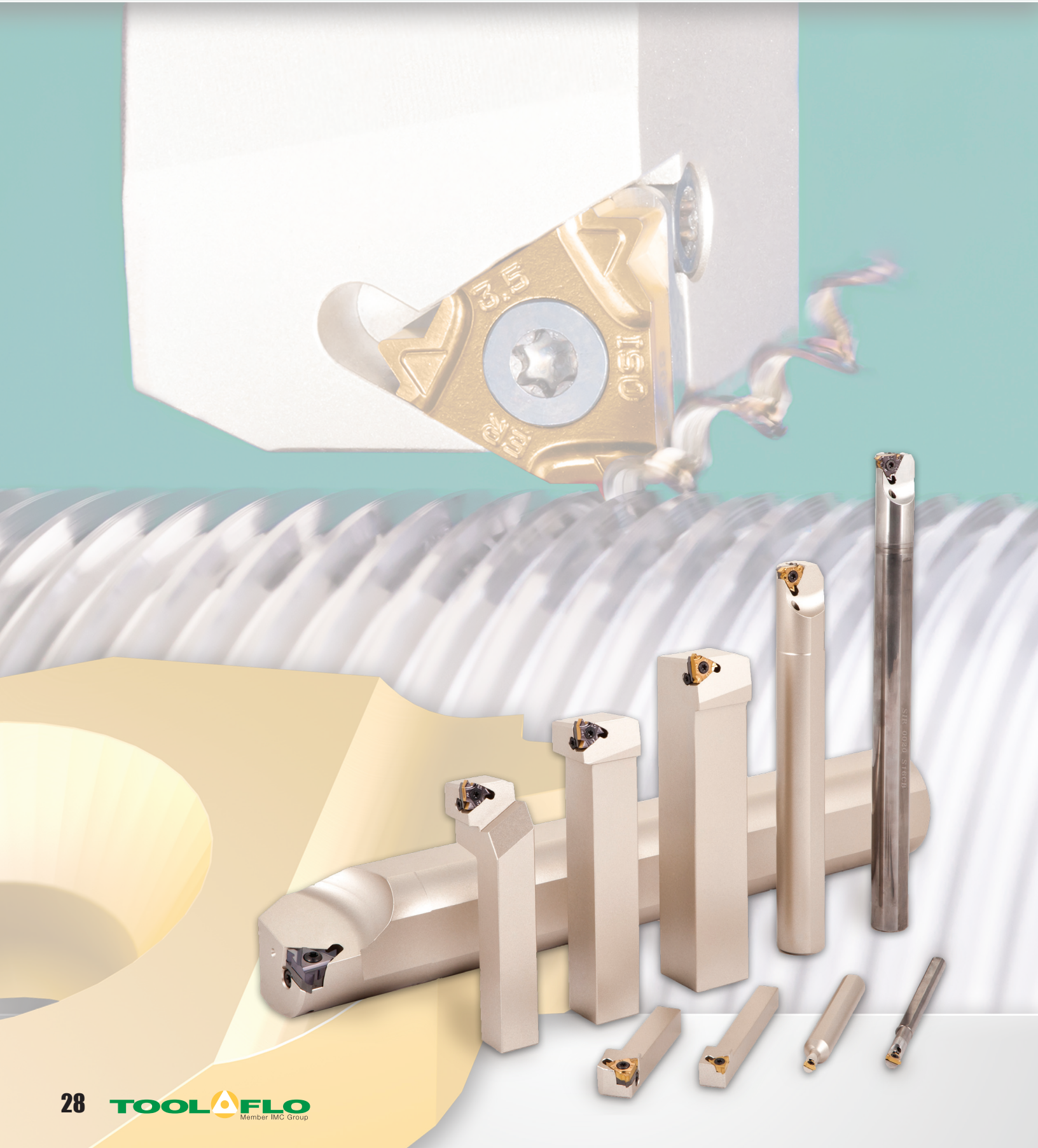
Internal left-hand (external right-hand) shown



Designation	di	TPI	L	R	K	M	Z	Tough $\longleftrightarrow$ Hard				
								GP313	GP50	C22	AC22	GP3
06IR 26 W	3.97	26.0	6.00	0.10	0.7	0.6	1	●				
06IR 20 W	3.97	20.0	6.00	0.14	0.6	0.7	1	●				
08IR 24 W	4.76	24.0	8.00	0.11	0.6	0.6	1	●				
08IR/L 19 W	4.76	19.0	8.00	0.15	0.6	0.7	1	●				
08IR 18 W	4.76	18.0	8.00	0.16	0.6	0.7	1	●				
08IR 16 W	4.76	16.0	8.00	0.18	0.6	0.7	1	●				
11IR 36 W	6.35	36.0	11.00	0.07	0.6	0.6	1			●		
11IR 28 W	6.35	28.0	11.00	0.10	0.6	0.7	1		●			
11IR 26 W	6.35	26.0	11.00	0.10	0.7	0.7	1	●				
11IR/L 24 W	6.35	24.0	11.00	0.11	0.7	0.8	1		●		●	
11IR 20 W	6.35	20.0	11.00	0.14	0.8	0.9	1		●		●	
11IR 19 W	6.35	19.0	11.00	0.15	0.8	1.0	1		●		●	
11IR/L 18 W	6.35	18.0	11.00	0.16	0.8	1.0	1		●		●	
11IR 16 W	6.35	16.0	11.00	0.18	0.9	1.1	1		●			
11IR/L 14 W	6.35	14.0	11.00	0.21	0.9	1.1	1	●	●	●	●	
11IL 12 W	6.35	12.0	11.00	0.27	1.0	1.1	1				●	
16IR 40 W	9.53	40.0	16.00	0.06	0.6	0.6	1					
16IR/L 32 W	9.53	32.0	16.00	0.09	0.6	0.6	1					
16IR/L 28 W	9.53	28.0	16.00	0.09	0.6	0.7	1		●			
16IR 26 W	9.53	26.0	16.00	0.10	0.7	0.7	1		●		●	
16IR/L 24 W	9.53	24.0	16.00	0.11	0.7	0.8	1		●		●	
16IR/L 22 W	9.53	22.0	16.00	0.13	0.8	0.9	1		●		●	
16IR/L 20 W	9.53	20.0	16.00	0.14	0.8	0.9	1		●		●	
16IR 20 W-CP	9.53	20.0	16.00	0.14	0.8	0.9	1				●	
16IR/L 19 W	9.53	19.0	16.00	0.15	0.8	1.0	1		●		●	
16IR 19 W-CP ⁽¹⁾	9.53	19.0	16.00	0.15	0.8	1.0	1		●			
16IR/L 18 W	9.53	18.0	16.00	0.16	0.8	1.0	1		●		●	
16IR/L 16 W	9.53	16.0	16.00	0.18	0.9	1.1	1					
16IR 16 W-CP ⁽¹⁾	9.53	16.0	16.00	0.18	0.9	1.1	1		●		●	
16IR/L 14 W	9.53	14.0	16.00	0.21	1.0	1.2	1	●	●		●	
16IR 14 W 2M ⁽²⁾	9.53	14.0	16.00	0.23	1.7	2.7	2				●	
16IR 14 W-CP ⁽¹⁾	9.53	14.0	16.00	0.21	1.0	1.2	1		●		●	●
16IR/L 12 W	9.53	12.0	16.00	0.25	1.1	1.4	1		●		●	
16IR/L 11 W	9.53	11.0	16.00	0.27	1.1	1.5	1	●	●	●	●	
16IR 11 W-CP ⁽¹⁾	9.53	11.0	16.00	0.27	1.1	1.5	1		●		●	●
16IR/L 10 W	9.53	10.0	16.00	0.31	1.1	1.5	1		●		●	
16IR/L 9 W	9.53	9.0	16.00	0.34	1.2	1.7	1		●			
16IR/L 8 W	9.53	8.0	16.00	0.39	1.2	1.5	1		●		●	
22IR 14 W 3M ⁽²⁾	12.70	14.0	22.00	0.00	2.8	4.5	3				●	
22IR 11 W 2M ⁽²⁾	12.70	11.0	22.00	0.00	2.3	3.4	2				●	
22IR 7 W	12.70	7.0	22.00	0.45	1.6	2.3	1				●	
22IR 6 W	12.70	6.0	22.00	0.52	1.6	2.3	1		●			
22IR/L 5 W	12.70	5.0	22.00	0.65	1.7	2.4	1		●			
27IR 4.5 W	15.88	4.5	27.00	0.73	1.8	2.6	1		●			
27IR 4 W	15.88	4.0	27.00	0.82	2.0	2.9	1				●	

⁽¹⁾ With pressed chipformer. ⁽²⁾ Multi-tooth

LAYDOWN TOOL HOLDERS





1. Clamping System

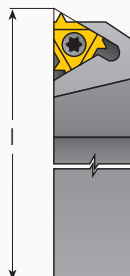
S — Screw Clamping

2. Application

E — External
I — Internal

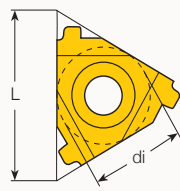
5. Tool Length

	mm
D	60
F	80
H	100
K	125
L	140
M	150
P	170
R	200
S	250
T	300
U	350
V	400



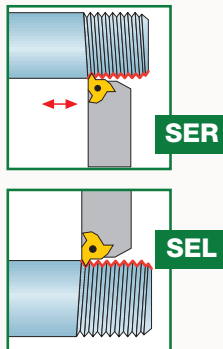
6. Insert Size

l (mm)	d
11	1/4"
16	3/8"
22	1/2"
22U	1/2"
27	5/8"
27U	5/8"




3. Hand of Tool

R — Right-hand
L — Left-hand



4. Shank Size

External Toolholders
Shank: hxb
2020 - 20x20 mm

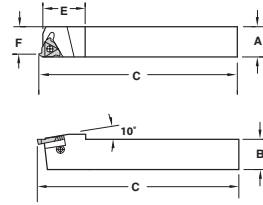
7. Optional Specifications

U - For U-type inserts
B - Bore for coolant
C - Carbide shank
G - Gang tool
SP - Special

EXTERNAL HOLDER AL

For Threading and Grooving

RH Holder uses RH Inserts



RH SHOWN

Designation	Insert	A	B	C	F
SER 0808 H11-CP ⁽¹⁾	11 ER..	8.0	8.0	100.00	11.0
SER/L 1010 H11-CP ⁽¹⁾	11 ER/L..	10.0	10.0	100.00	11.0
SER/L 1212 F16	16 ER/L..	12.0	12.0	80.00	16.0
SER/L 1616 H16	16 ER/L..	16.0	16.0	100.00	16.0
SER 1616 K16G	16 ER..	16.0	16.0	125.00	21.7
SER/L 2020 K16	16 ER/L..	20.0	20.0	125.00	20.0
SER/L 2525 M16	16 ER/L..	25.0	25.0	150.00	25.0
SER/L 3232 P16	16 ER/L..	32.0	32.0	170.00	32.0
SER/L 2525 M22	22 ER/L..	25.0	25.0	150.00	25.0
SER/L 3232 P22	22 ER/L..	32.0	32.0	170.00	32.0
SER/L 4040 R22	22 ER/L..	40.0	40.0	200.00	40.0
SER/L 2525 M22U	22 UER/L..	25.0	25.0	150.00	28.0
SER/L 3232 P22U	22 UER/L..	32.0	32.0	170.00	32.0
SEL 4040 R22U	22 UER/L..	40.0	40.0	200.00	40.0
SER/L 2525 M27	27 ER/L..	25.0	25.0	150.00	25.0
SER/L 3232 P27	27 ER/L..	32.0	32.0	170.00	32.0
SER/L 2525 M27U	27 UER/L..	25.0	25.0	150.00	32.0
SER/L 3232 P27U	27 UER/L..	32.0	32.0	170.00	32.0
SER/L 4040 R27U	27 UER/L..	40.0	40.0	200.00	40.0
SER 4040 R27U	27 UER/L..	40.0	40.0	200.00	40.0

- All toolholders are made for 1.5 helix angle.
- For multi-tooth inserts use anvils AE16M-TF or AI16M-TF.
- Right-hand inserts (ER) for right-hand tools (SER) ⁽¹⁾ Toolholder without anvil

SPARE PARTS



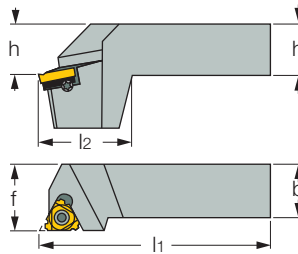
Designation	Insert Screw	Seat Screw	Anvil Ext. R/Int. L	Anvil Ext. L/Int. R	Wrench
SER 0808 H11	S-11TF				T-5/8-TF
SER/L 1010 H11	S-11TF				T-5/8-TF
SEL 1212 F16	S-16TF	A-16TF		AI-16TF	T-5/10-TF
SER 1212 F16	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SEL 1616 H16	S-16TF	A-16TF		AI-16TF	T-5/10-TF
SER 1616 H16	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SER 1616 K16G	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SEL 2020 K16	S-16TF	A-16TF		AI-16TF	T-5/10-TF
SER 2020 K16	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SEL 2525 M16	S-16TF	A-16TF		AI-16TF	T-5/10-TF
SER 2525 M16	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SEL 3232 P16	S-16TF	A-16TF		AI-16TF	T-5/10-TF
SER 3232 P16	S-16TF	A-16TF	AE-16TF		T-5/10-TF
SEL 2525 M22	S-22TF	A-22TF		AI-22TF	T-5/20-TF
SER 2525 M22	S-22TF	A-22TF	AE-22TF		T-5/20-TF
SEL 3232 P22	S-22TF	A-22TF		AI-22TF	T-5/20-TF
SER 3232 P22	S-22TF	A-22TF	AE-22TF		T-5/20-TF
SEL 4040 R22	S-22TF	A-22TF		AI-22TF	T5/20-
SER 4040 R22	S-22TF	A-22TF	AE-22TF		T5/20-



SPARE PARTS (continued)

					
Designation	Insert Screw	Seat Screw	Anvil Ext. R/Int. L	Anvil Ext. L/Int. R	Wrench
SEL 2525 M22U	S-22TF	A-22TF		AI22U-TF	T5/20-
SER 2525 M22U	S-22TF	A-22TF	AE22U-TF		T5/20-
SEL 3232 P22U	S-22TF	A-22TF		AI22U-TF	T5/20-
SER 3232 P22U	S-22TF	A-22TF	AE22U-TF		T5/20-
SEL 4040 R22U	S-22TF	A-22TF		AI22U-TF	T5/20-
SEL 2525 M27	S-27TF	A-27TF		AI-27TF	K27
SER 2525 M27	S-27TF	A-27TF	AE-27TF		K27
SEL 3232 P27	S-27TF	A-27TF		AI-27TF	K27
SER 3232 P27	S-27TF	A-27TF	AE-27TF		K27
SER 4040 R27	S-27TF	A-27TF	AE-27TF		K27
SEL 2525 M27U	S-27TF	A-27TF		AI27U-TF	K27
SER 2525 M27U	S-27TF	A-27TF	AE27U-TF		K27
SEL 3232 P27U	S-27TF	A-27TF		AI27U-TF	K27
SER 3232 P27U	S-27TF	A-27TF	AE27U-TF		K27
SEL 4040 R27U	S-27TF	A-27TF		AI27U-TF	K27
SER 4040 R27U	S-27TF	A-27TF	AE27U-TF		K27

DROPHEAD TOOLHOLDERS SER-D



Right-hand shown

Designation	Insert	h	h ₁	b	l ₁	f	l ₂
SER 2525 M16D	16 ER..	25.0	25.0	25.0	150.00	32.0	38.0
SER 2525 M22D	22 ER..	25.0	25.0	25.0	150.00	32.0	38.0

• All toolholders are made for 1.5 helix angle. • For GTGA inserts, use anvil AE 0-16

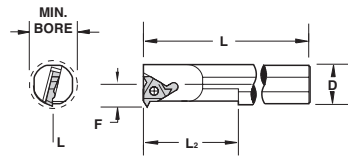
SPARE PARTS

				
Designation	Anvil Int./Ext. Right	Anvil Screw	Key	Screw
SER 2525 M16D	AE16	A16	T-10/5	S16
SER 2525 M22D	AE22	A22	T-20/5	S22

INTERNAL BARS

SIR/L

Internal Threading Bars



RH SHOWN



Designation	Insert ⁽¹⁾	d	D ₂	L ₁	L ₂	D _{min}	f	Coolant	Shank m. ⁽⁴⁾
SIR/L 0005 H06 ⁽¹⁾	06 IR/IL..	12.00	5.10	100.00	12.0	6.40	4.3	N	-
SIR/L 0005 H06CB ⁽²⁾	06 IR/IL..	6.00	5.10	100.00	25.0	6.40	4.3	Y	C
SIR 0005 H06-W ⁽³⁾	06 IR/IL..	12.00	5.10	100.00	12.0	6.40	4.3	N	-
SIR/L 0007 K08 ⁽¹⁾	08 IR/IL..	16.00	6.60	125.00	18.0	7.80	5.3	N	-
SIR/L 0007 K08CB ⁽²⁾	08 IR/IL..	8.00	6.60	125.00	30.0	7.80	5.3	Y	C
SIR/L 0008 K08U ⁽¹⁾	08 UIRL..	16.00	7.40	125.00	21.0	9.00	6.4	N	-
SIR 0008 K08UCB ⁽²⁾	08 UIRL..	8.00	7.30	125.00	35.0	9.00	6.4	Y	C
SIR/L 0010 H11 ⁽¹⁾	11 IR/IL..	10.00	10.00	100.00	-	12.00	7.4	N	-
SIR 0010 H11B ⁽¹⁾	11 IR/IL..	10.00	10.00	100.00	-	12.00	7.4	Y	-
SIR/L 0010 K11 ⁽¹⁾	11 IR/IL..	16.00	10.00	125.00	25.0	12.00	6.5	N	-
SIR/L 0010 K11B ⁽¹⁾	11 IR/IL..	16.00	10.00	125.00	25.0	12.00	7.4	Y	-
SIR/L 0010 M11CB ⁽²⁾	11 IR/IL..	10.00	10.00	150.00	-	12.00	7.4	Y	C
SIR/L 0012 P11CB ⁽²⁾	11 IR/IL..	12.00	12.00	170.00	-	15.00	8.4	Y	C
SIR/L 0013 L11 ⁽¹⁾	11 IR/IL..	16.00	13.00	140.00	32.0	15.00	8.9	N	-
SIR/L 0013 M16 ⁽¹⁾	16 IR/L..	16.00	13.00	150.00	32.0	16.00	10.0	N	-
SIR/L 0013 M16B ⁽¹⁾	16 IR/L..	16.00	13.00	150.00	32.0	16.00	10.2	Y	-
SIR/L 0016 P16 ⁽¹⁾	16 IR/L..	20.00	16.00	170.00	40.0	19.00	11.4	N	-
SIR/L 0016 P16B ⁽¹⁾	16 IR/L..	20.00	16.00	170.00	40.0	19.00	11.7	Y	-
SIR 0016 R16CB ⁽²⁾	16 IR/IL..	16.00	16.00	200.00	-	19.00	11.7	Y	C
SIR/L 0020-16-AD	16 IR/L..	20.00	20.00	80.00	-	24.00	13.7	N	-
SIR/L 0020 P16	16 IR/L..	20.00	20.00	170.00	-	24.00	13.7	N	-
SIR/L 0020 P16B	16 IR/L..	20.00	20.00	170.00	-	24.00	13.7	Y	-
SIR 0020 S16CB ⁽²⁾	16 IR/L..	20.00	20.00	250.00	-	28.00	13.7	Y	C
SIR/L 0025-16-AD	16 IR/L..	25.00	25.00	120.00	-	29.00	16.3	N	-
SIR/L 0025 R16	16 IR/L..	25.00	25.00	200.00	-	29.00	16.3	N	-
SIR/L 0025 R16B	16 IR/L..	25.00	25.00	200.00	-	29.00	16.2	Y	-
SIR 0025 S16CB	16 IR/L..	25.00	25.00	250.00	-	28.00	16.2	Y	C
SIR/L 0032 S16	16 IR/L..	32.00	32.00	250.00	-	36.00	19.7	N	-
SIR/L 0040 T16	16 IR/L..	40.00	40.00	300.00	-	44.00	23.7	N	-
SIR/L 0050 U16	16 IR/L..	50.00	50.00	350.00	-	54.00	28.7	N	-
SIR/L 0020 P22 ⁽¹⁾	22 IR/L..	20.00	20.00	170.00	-	24.00	15.6	N	-
SIR/L 0025 R22	22 IR/L..	25.00	25.00	200.00	-	29.00	17.2	N	-
SIR/L 0025 R22B	22 IR/L..	25.00	25.00	200.00	-	29.00	18.1	Y	-
SIR/L 0032 S22	22 IR/L..	32.00	32.00	250.00	-	38.00	21.5	N	-
SIR/L 0040 T22	22 IR/L..	40.00	40.00	300.00	-	46.00	25.8	N	-
SIR/L 0050 U22	22 IR/L..	50.00	50.00	350.00	-	56.00	30.6	N	-
SIR/L 0032 S22U	22 UIRL..	32.00	32.00	250.00	-	38.00	25.5	N	-
SIR 0040 T22U	22 UIRL..	40.00	40.00	300.00	-	46.00	29.5	N	-
SIR/L 0032 S27	27 IR/L..	32.00	32.00	250.00	-	40.00	22.4	N	-
SIR/L 0040 T27	27 IR/L..	40.00	40.00	300.00	-	48.00	26.6	N	-
SIR/L 0050 U27	27 IR/L..	50.00	50.00	350.00	-	58.00	31.6	N	-
SIR/L 0060 V27	27 IR/L..	60.00	60.00	400.00	-	68.00	36.6	N	-
SIR/L 0032 S27U	27 UIRL..	32.00	32.00	250.00	-	40.00	24.7	N	-
SIR 0040 T27U	27 UIRL..	40.00	40.00	300.00	-	48.00	29.4	N	-
SIR/L 0050 U27U	27 UIRL..	50.00	50.00	350.00	-	58.00	34.3	N	-
SIR/L 0060 V27U	27 UIRL..	60.00	60.00	400.00	-	68.00	39.3	N	-

• All toolholders are made for 1.5 helix angle • Right-hand inserts (IR) for right-hand tools (SIR) • For multi-tooth inserts use anvils AE16M-TF or AI16M-TF.

⁽¹⁾ Toolholder without anvil ⁽²⁾ Carbide shank without anvil ⁽³⁾ C-Carbide shank



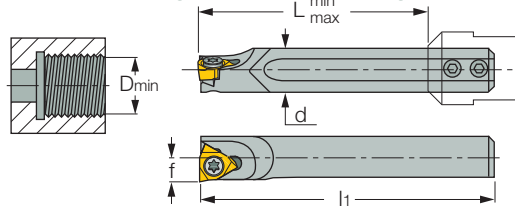
SPARE PARTS



Designation	Insert Screw	Anvil Int. R/Ext. L	Anvil Int. L/Ext. R	Anvil Screw	Key
SIR/L 0010 H11	S11-BLACK-TF				T-8/5
SIR 0010 H11B	S11-BLACK-TF				T-6/5
SIR/L 0010 K11	S11-BLACK-TF				T-8/5
SIR/L 0010 K11B	S11-BLACK-TF				T-8/5
SIR/L 0010 M11CB	S11-BLACK-TF				T-8/5
SIR/L 0012 P11CB	S11-BLACK-TF				T-8/5
SIR/L 0013 L11	S11-BLACK-TF				T-8/5
SIR/L 0013 M16	S16S-TF				T-10/5
SIR/L 0013 M16B	S16S-TF				T-10/5
SIR/L 0016 P16	S16S-TF				T-10/5
SIR/L 0016 P16B	S16S-TF				T-10/5
SIR 0016 R16CB	S16S-TF				T-10/5
SIL 0020 P16	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0020 P16	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0020 P16B	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0020 P16B	S16-TF	AI16-TF		A16-TF	T-10/5
SIR 0020 S16CB	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0025 R16	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0025 R16	S16-TF	AI16-TF		A16-TF	T-10/5
SIR 0025 R16B	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0025 R16B	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0025 S16CB	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0032 S16	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0032 S16	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0040 T16	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0040 T16	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0050 U16	S16-TF		AE16-TF	A16-TF	T-10/5
SIR 0050 U16	S16-TF	AI16-TF		A16-TF	T-10/5
SIL 0020 P22	S22S-TF				T-20/5
SIR 0020 P22	S22S-TF				T-20/5
SIL 0025 R22	S22-TF		AE22-TF	A22-TF	T-20/5
SIR 0025 R22	S22-TF	AI22-TF		A22-TF	T-20/5
SIL 0025 R22B	S22-TF		AE22-TF	A22-TF	T-20/5
SIR 0025 R22B	S22-TF	AI22-TF		A22-TF	T-20/5
SIL 0032 S22	S22-TF		AE22-TF	A22-TF	T-20/5
SIR 0032 S22	S22-TF	AI22-TF		A22-TF	T-20/5
SIL 0040 T22	S22-TF		AE22-TF	A22-TF	T-20/5
SIR 0040 T22	S22-TF	AI22-TF		A22-TF	T-20/5
SIL 0050 U22	S22-TF		AE22-TF	A22-TF	T-20/5
SIR 0050 U22	S22-TF	AI22-TF		A22-TF	T-20/5
SIL 0032 S22U	S22-TF		AE22U-TF	A22-TF	T-20/5
SIR 0032 S22U	S22-TF	AI22U-TF		A22-TF	T-20/5
SIR 0040 T22U	S22-TF	AI22U-TF		A22-TF	T-20/5
SIL 0032 S27	S40-TF		AE27-TF	A27-TF	K27
SIR 0032 S27	S40-TF	AI27-TF		A27-TF	K27
SIL 0040 T27	S40-TF		AE27-TF	A27-TF	K27
SIR 0040 T27	S40-TF	AI27-TF		A27-TF	K27
SIL 0050 U27	S40-TF		AE27-TF	A27-TF	K27
SIR 0050 U27	S40-TF	AI27-TF		A27-TF	K27
SIL 0060 V27	S40-TF		AE27-TF	A27-TF	K27
SIR 0060 V27	S40-TF	AI27-TF		A27-TF	K27
SIL 0032 S27U	S40-TF		AE27U-TF	A27-TF	K27
SIR 0032 S27U	S40-TF	AI27U-TF		A27-TF	K27
SIR 0040 T27U	S40-TF	AI27U-TF		A27-TF	K27
SIL 0050 U27U	S40-TF		AE27U-TF	A27-TF	K27
SIR 0050 U27U	S40-TF	AI27U-TF		A27-TF	K27
SIL 0060 V27U	S40-TF		AE27U-TF	A27-TF	K27
SIR 0060 V27U	S40-TF	AI27U-TF		A27-TF	K27

MGSIR/L

Solid Carbide Bars for Internal Turning and Threading



Right-hand shown

Designation	d	l ₁	L _{min} ⁽³⁾	L _{max} ⁽³⁾	f	D _{min}	Insert
MGSIR/L 0606-W⁽¹⁾	6.00	59.00	16.0	42.0	3.9	7.00	06 IR../IRM..
MGSIR/L 0806-W⁽²⁾	8.00	72.00	20.0	56.0	5.0	9.20	06 IR../IRM..

• 91° for shoulder depth up to 2 mm • Use right-hand WBMT 06...R inserts on left-hand tools and left-hand WBMT 06...L inserts on right-hand tools. • In order to maintain high machining reliability we strongly recommend replacing the clamping screw every 10 insert indexes.

⁽¹⁾ For WBMT 060102 Dmin=6.6 mm f=4.13 mm ⁽²⁾ For WBMT 060102 Dmin=8.8 mm f=5.20 mm ⁽³⁾ Adjustment range

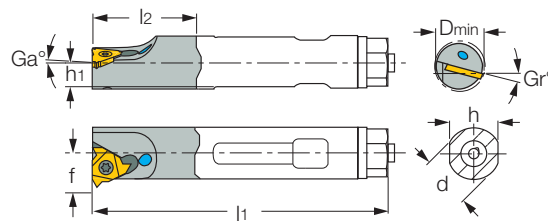
SPARE PARTS



Designation	Screw	Key
MGSIR/L	SR -552-14TF	T-6/5

E-SIR-HEAD

Interchangeable Threading Heads for Carbide Bars



Right-hand shown

Designation	d	l ₁	l ₂	h	h ₁	f	G _a °	G _r °	D _{min}	Insert
E12 SIR-11 HEAD	12.00	179.00	24.8	11.0	5.5	8.3	1.5	15-	14.90	11 IRM../11 IR
E16 SIR-16 HEAD	16.00	200.00	37.0	15.0	8.0	10.3	1.5	15-	20.00	16 IRM../16 IR

SPARE PARTS

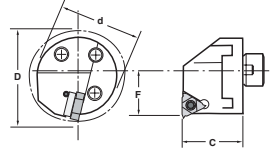


Designation	Screw	Key
E12 SIR-11 HEAD	S11-TF	T-8/5
E16 SIR-16 HEAD	S16S_TF	T-10/5



INTERCHANGEABLE HEADS

H-AVR/L*



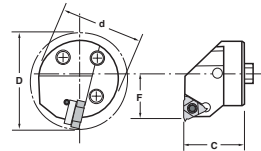
RH SHOWN

PARTS

Description	Insert	D	C	F	Min. Bore	Insert Screw	Seat Screw	Seat
H25M-AVR-3R	16NR	25.00	41.28	16.51	30.48	SAM3	SYM3	YI3
H32M-AVR-3R	16NR	32.00	41.28	19.43	36.83	SAM3	SYM3	YI3
H40M-AVR-3R	16NR	40.00	41.28	22.61	44.70	SAM3	SYM3	YI3
H50M-AVR-3R	16NR	50.00	41.28	32.54	60.96	SAM3	SYM3	YI3
H40M-AVR-4R	22NR	40.00	41.28	24.84	44.70	SAM4	SYM4	YI4
H50M-AVR-4R	22NR	50.00	41.28	32.54	60.96	SAM4	SYM4	YI4

*Left Hand quoted on request.

HS-AVR/L*



RH SHOWN

PARTS

Description	Insert	D	C	F	Min. Bore	Insert Screw	Seat Screw	Seat
HS25-AVR-3R	16NR	25.00	24.89	16.99	32.00	SAM3	SYM3	YI3
HS32-AVR-3R	16NR	32.00	32.00	22.00	39.88	SAM3	SYM3	YI3
HS40-AVR-3R	16NR	40.00	32.00	27.00	50.04	SAM3	SYM3	YI3
HS50-AVR-3R	16NR	50.00	39.88	35.00	62.99	SAM3	SYM3	YI3
HS40-AVR-4R	22NR	40.00	32.00	27.00	50.04	SAM4	SYM4	YI4
HS50-AVR-4R	22NR	50.00	39.88	35.00	62.99	SAM4	SYM4	YI4

*Left Hand quoted on request.

ANVILS

Resultant Helix Angle	4.5°	3.5°	2.5°	1.5°	0.5°	0°	-0.5°	-1.5°
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IC	L	Holder	Anvil Description							
3/8"	.63 .63	ER/NL EL/NR	YE3-3P YI3-3P	YE3-2P YI3-2P	YE3-1P YI3-1P	YE3 YI3	YE3-1N YI3-1N	YE3-1.5N YI3-1.5N	YE3-2N YI3-2N	YE3-3N YI3-3N
1/2"	.87 .87	ER/NL EL/NR	YE4-3P YI4-3P	YE4-2P YI4-2P	YE4-1P YI4-1P	YE4 YI4	YE4-1N YI4-1N	YE4-1.5N YI4-1.5N	YE4-2N YI4-2N	YE4-3N YI4-3N
5/8"	1.06 1.06	ER/NL EL/NR	YE5-3P YI5-3P	YE5-2P YI5-2P	YE5-1P YI5-1P	YE5 YI5	YE5-1N YI5-1N	YE5-1.5N YI5-1.5N	YE5-2N YI5-2N	YE5-3N YI5-3N
3/8"M	.63 .63	ER/NL EL/NR				YE3M YI3M	YE3M-1N YI3M-1N	YE3M-1.5N YI3M-1.5N	YE3M-2N	
1/2"M	.87 .87	ER/NL EL/NR				YE4M YI4M	YE4M-1N YI4M-1N	YE4M-1.5N YI4M-1.5N	YE4M-2N	
5/8"M	1.06 1.06	ER/NL EL/NR				YE5M YI5M	YE5M-1N YI5M-1N	YE5M-1.5N YI5M-1.5N		
1/2"Z	.87	EL/NR			YI4Z-1P					
1/2"U	.87 .87	ER/NL EL/NR	YE4U-3P YI4U-3P	YE4U-2P YI4U-2P	YE4U-1P YI4U-1P	YE4U YI4U	YE4U-1N YI4U-1N	YE4U-1.5N YI4U-1.5N	YE4U-2N YI4U-2N	YE4U-1N YI4U-1N

IC	L	TF #	Included Anvils
3/8"	.63	KTY3	YE3-2P, 1P, 1N, 2N, 3N
	.63		YI3-2P, 1P, 1N, 2N, 3N
1/2"	.87	KTY4	YE4-2P, 1P, 1N, 2N, 3N
	.87		YI4-2P, 1P, 1N, 2N, 3N
1/2"U	.87	KTY4U	YE4U-2P, 1P, 1N, 2N, 3N
	.87		YI4U-2P, 1P, 1N, 2N, 3N
5/8"	1.06	KTYE5	YE5-2P, 1P, 1N, 2N, 3N
	1.06	KTYI5	YI5-2P, 1P, 1N, 2N, 3N
5/8"U	1.06	KTYE5U	YE5U-2P, 1P, 1N, 2N, 3N
	1.06	KTYI5U	YI5U-2P, 1P, 1N, 2N, 3N

Standard Anvil	M Style Anvil	Z Style Anvil
ER/NL	EL/NR	ER/NL EL/NR

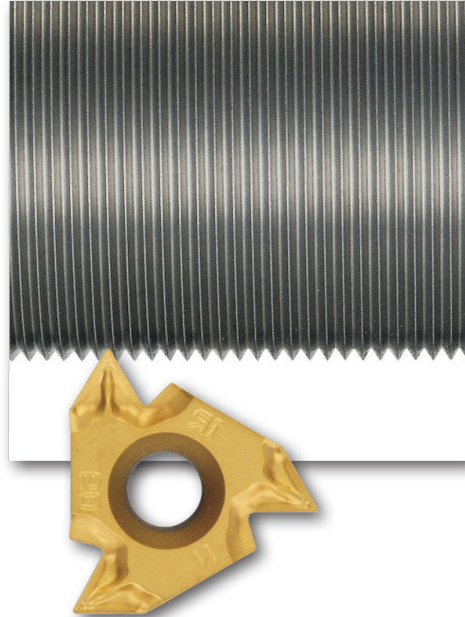
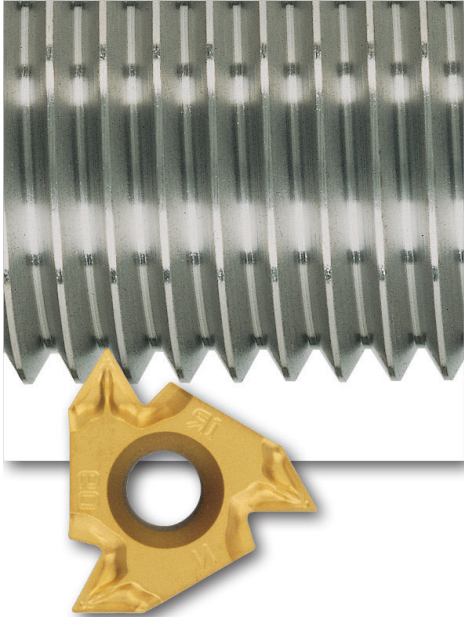
ANVIL FORMS

1/2"	YE4-11.5NPT-2M YI4-11.5NPT-2M
5/8"	YE5-8NPT-2M, YE5-8RD-2M YI5-8NPT-2M, YI5-8RD-2M

User Guide and Cutting Data

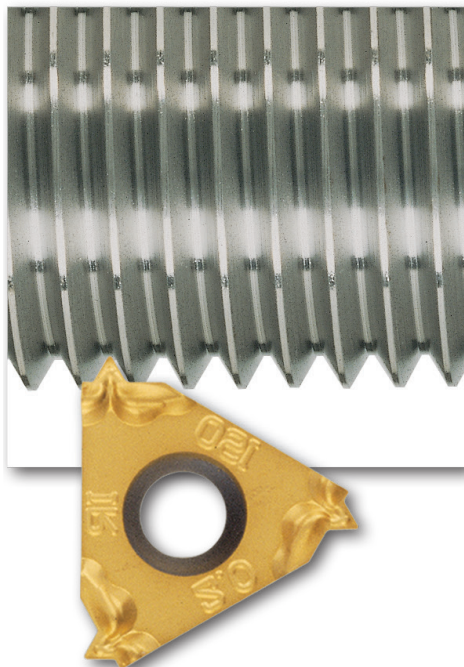
Types and Profiles of Threading Inserts

Partial Profile



- Performs different thread standards and suitable for a wide range of pitches which have a common angle (60° or 55°).
- Inserts with small root-corner radius suitable for the smallest pitch of the range.
- Additional operation to complete the outer/internal diameter is necessary.
- Not recommended for mass production.
- Eliminates the need for different inserts.

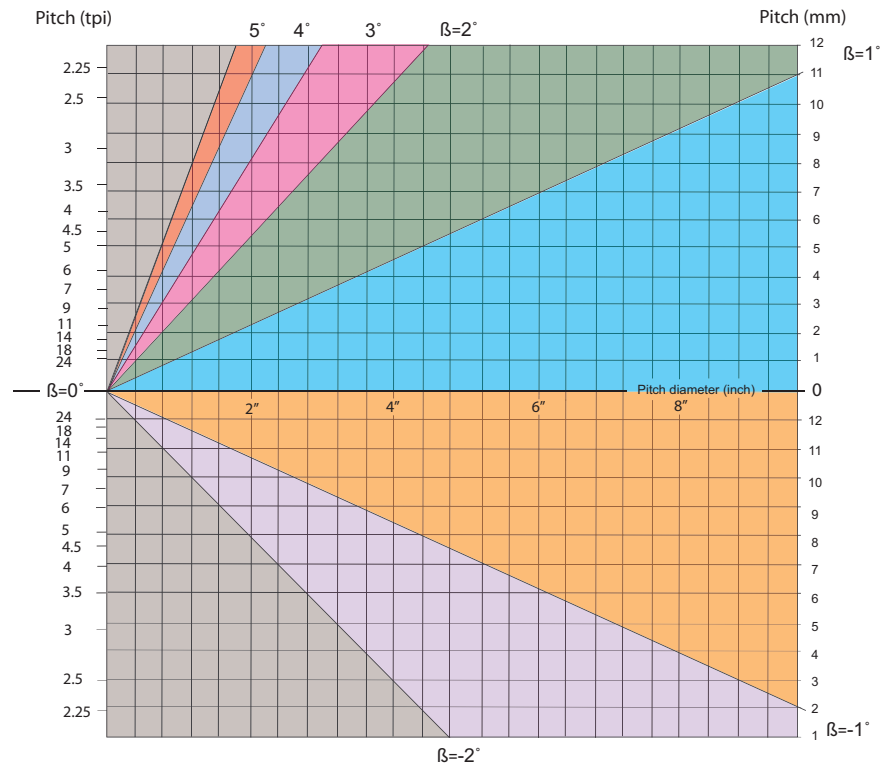
Full Profile



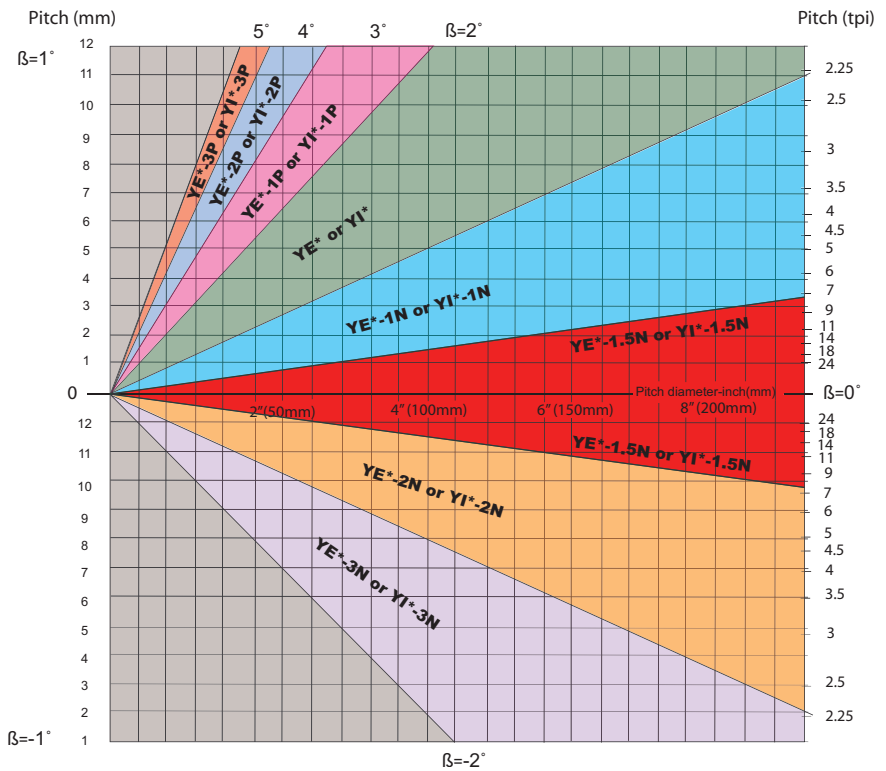
- Performs complete thread profile.
- Root corner radius is suitable only for the relevant pitch.
- Recommended for mass production.
- Suitable for one profile only.



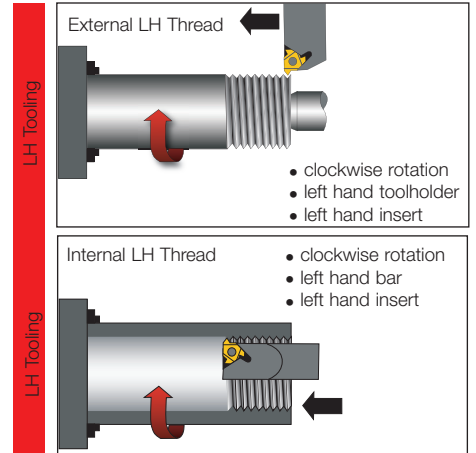
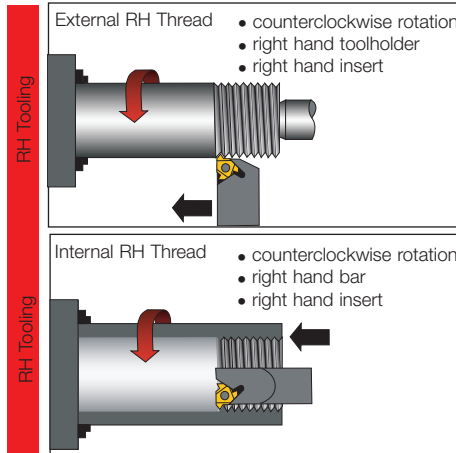
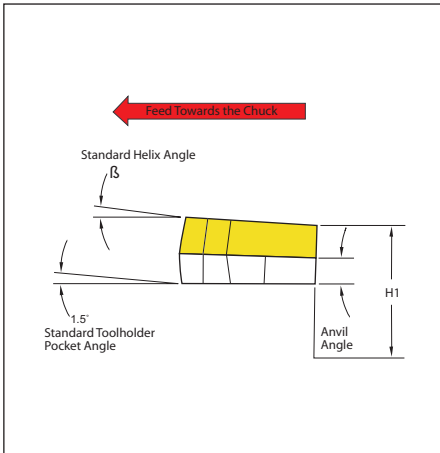
Helix Angle Diagram



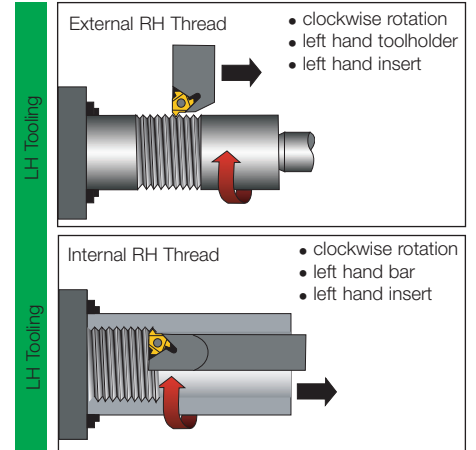
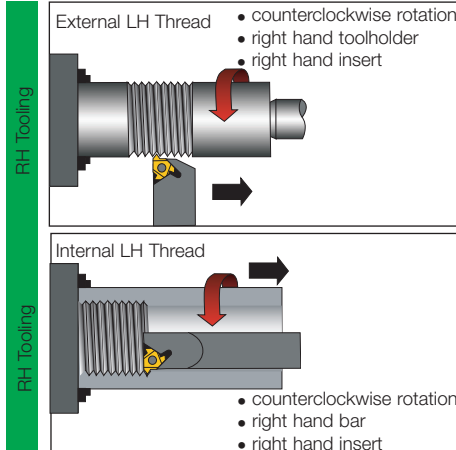
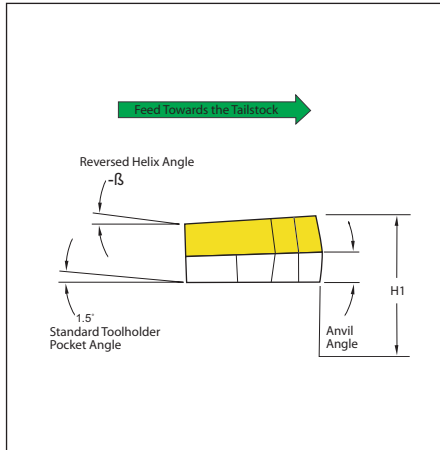
Helix Angle Diagram



Feed direction towards the chuck



Feed direction towards the tailstock



SELECTION OF SHIMS

To calculate the lead angle of a given thread, use this formula:

$$\beta = \text{Arctan} \frac{P \times S}{\pi D_e}$$

β = Thread lead angle

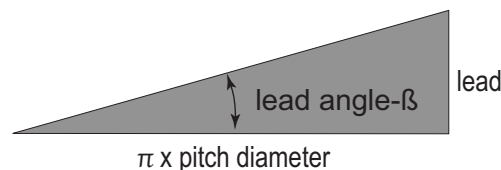
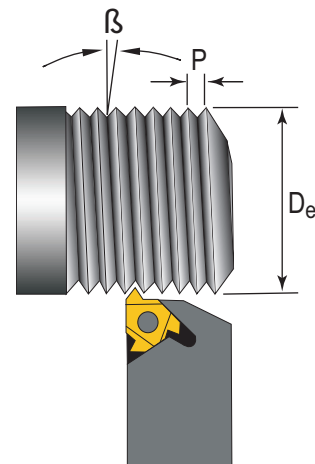
D_e = effective pitch diameter of thread
where $P = 1/\text{tpi}$

tpi = Threads per inch

S = number of starts (=1 for standard thread)

P = pitch

multiple-start, lead = $P \times S$





L-Style Laydown Insert Nomenclature Chart

L

43

NT

5

B

75

EXT

GP3

A

type of insert

L Laydown
 LDS Double sided
 LPGC Laydown
 TPGC T-style

insert ic size

32 3/8"
 42 1/2"
 43 1/2"
 53 5/8"
 54 5/8"

pitch (tpi)

threaders
 4
 5
 8
 10

taper per foot

75 3/4"
 1 1"
 12 1-1/4"
 15 1-1/2"

grade

edge prep

threading type

B Butress Thread
 NPT National Pipe Thread
 PA Pittsburgh Acme
 RD API Round Thread
 UN Unified Thread
 VAM VAM Thread
 XL X-Line Thread

type of insert

EXT External
 INT Internal

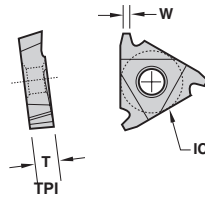
thread form

NT Non-Topping Acme Thread
 NV Non-Topping 60° V-Thread
 H90 API Hughes H90 Thread

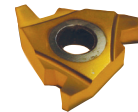
cat no.	tpi	tpf
425	4	2
428	4	2
435	4	3
438	4	3
530	5	3
4PAC	4	1-1/2
H902	3-1/2	2
H903	3-1/2	3
H90S	3	1-1/4

ACME

L43/L53 - 1/2" & 5/8" I.C.



EXT SHOWN
INT OPPOSITE

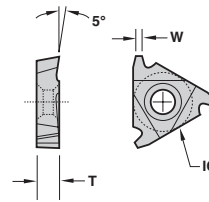


Description	EDP Code	TPI	W	IC	T	GP22	GP50	GP50	AC22	AC3	AC50
L43 NT 8P EXT	0215C080	8	1.04	1/2	4.80		●				●
L43 NT 6P EXT	0215C060	6	1.44	1/2	4.80		●				●
L43 NT 5P EXT	0215C050	5	1.75	1/2	4.80		●				●
L53 NT 4P EXT	0247C040	4	2.22	5/8	4.80		●				●
L43 NT 8P INT	0215A080	8	1.04	1/2	4.80		●				●
L43 NT 6P INT	0215A060	6	1.44	1/2	4.80		●				●
L43 NT 5P INT	0215A050	5	1.75	1/2	4.80		●				●
L53 NT 4P INT	0247A040	4	2.22	5/8	4.80		●				●
In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.											
						● High performance choice in optimal conditions. ▲ Recommended grade under general conditions.					
						▲ Cast Iron ▲ Non-Ferrous ▲ Stainless/High Temp ▲ Steel					

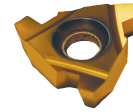


ACME

LPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



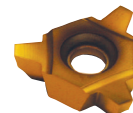
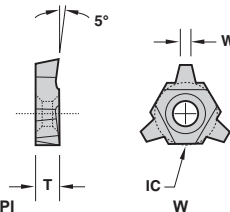
EXT SHOWN
INT OPPOSITE



Description	TPI	W	IC	T	GP22	GP50	AC22	AC3	AC50
LPGC 32 NT 12P INT RH	12	0.72	3/8	3.23		●			
LPGC 32 NT 10P INT RH	10	0.81	3/8	3.23		●			
LPGC 32 NT 8P INT RH	8	1.04	3/8	3.23		●			
LPGC 42 NT 8P INT RH	8	1.04	1/2	3.23		●			
LPGC 42 NT 6P INT RH	6	1.44	1/2	3.23		●			
LPGC 42 NT 5P INT RH	5	1.75	1/2	3.23		●			
LPGC 42 NT 4P INT RH*	4	2.22	1/2	3.23		●			
LPGC 43 NT 8P INT RH	8	1.04	1/2	4.80		●			
LPGC 43 NT 6P INT RH	6	1.44	1/2	4.80		●			
LPGC 43 NT 5P INT RH	5	1.75	1/2	4.80		●			
LPGC 43 NT 4P INT RH*	4	2.22	1/2	4.80		●			

*Bar must be modified to clear depth.

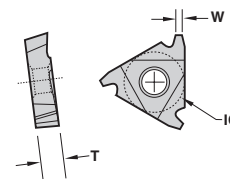
TPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



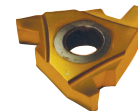
Description	TPI	W	IC	T	GP22	GP50	AC22	AC3	AC50
TPGC 32 NT 10P	10	0.81	3/8	3.23		●			
TPGC 32 NT 8P	8	1.04	3/8	3.23		●			
TPGC 32 NT 6P	6	1.44	3/8	3.23		●			
TPGC 32 NT 5P	5	1.75	3/8	3.23		●			
TPGC 42 NT 8P	8	1.04	1/2	3.23		●			
TPGC 42 NT 6P	6	1.44	1/2	3.23		●			
TPGC 42 NT 5P	5	1.75	1/2	3.23		●			
TPGC 42 NT 4P	4	2.22	1/2	3.23		●			
TPGC 43 NT 5P	5	1.75	1/2	4.80		●			
TPGC 43 NT 4P	4	2.22	1/2	4.80		●			

ACME STUB

L43/L53 - 1/2" & 5/8" I.C.



INT SHOWN
EXT OPPOSITE

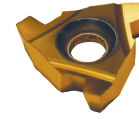
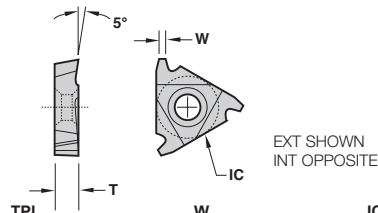


Description	TPI	W	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 NT 8P STUB EXT	8	1.21	1/2	4.80		●				
L43 NT 6P STUB EXT	6	1.66	1/2	4.80		●				
L43 NT 5P STUB EXT	5	2.01	1/2	4.80		●				
L53 NT 4P STUB EXT	4	2.55	5/8	4.80		●				
L43 NT 8P STUB INT	8	1.21	1/2	4.80		●				
L43 NT 6P STUB INT	6	1.66	1/2	4.80		●				
L43 NT 5P STUB INT	5	2.01	1/2	4.80		●				
L53 NT 4P STUB INT	4	2.55	5/8	4.80		●				



ACME STUB

LPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



Description	TPI	W	IC	T	GP22	GP50	AC25	AC3	AC50
LPGC 32 NT 8P STUB INT RH	8	1.21	3/8	3.23		●			
LPGC 42 NT 8P STUB INT RH	8	1.21	1/2	3.23		●			
LPGC 42 NT 6P STUB INT RH	6	1.66	1/2	3.23		●			
LPGC 42 NT 5P STUB INT RH	5	2.01	1/2	3.23		●			
LPGC 42 NT 4P STUB INT RH	4	2.55	1/2	3.23		●			
LPGC 43 NT 8P STUB INT RH	8	1.21	1/2	4.80		●			
LPGC 43 NT 6P STUB INT RH	6	1.66	1/2	4.80		●			
LPGC 43 NT 5P STUB INT RH	5	2.01	1/2	4.80		●	●		
LPGC 43 NT 4P STUB INT RH	4	2.55	1/2	4.80		●			

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- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron

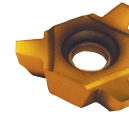
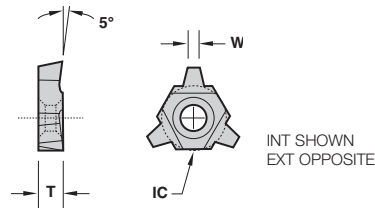
Non-Ferrous

Stainless/High Temp

Steel

ACME STUB

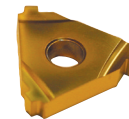
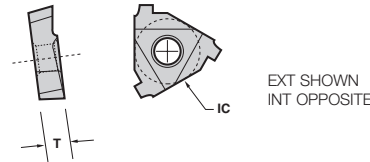
TPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



Description	TPI	W	IC	T	GP22	GP50	AC22	AC3	AC50
TPGC 32 NT 8P STUB	8	1.21	3/8	3.23		●			
TPGC 32 NT 6P STUB	6	1.66	3/8	3.23		●			
TPGC 32 NT 5P STUB	5	2.01	3/8	3.23		●			
TPGC 42 NT 8P STUB	8	1.21	1/2	3.23		●			
TPGC 42 NT 6P STUB	6	1.66	1/2	3.23		●			
TPGC 42 NT 5P STUB	5	2.01	1/2	3.23		●			
TPGC 42 NT 4P STUB	4	2.55	1/2	3.23		●			
TPGC 43 NT 5P STUB	5	2.01	1/2	4.80		●			
TPGC 43 NT 4P STUB	4	2.55	1/2	4.80		●			

API BUTTRESS

L43/L53 - 1/2" & 5/8" I.C.



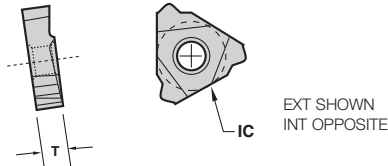
Description	TPI	TPF	IC	T	Conn. No.	GP22	GP50	GP504	AC22	AC3	AC50
L43 5B75 EXT-FC	5	3/4	1/2	4.80	4-1/2 - 13-3/8		●			●	●
L43 5B1 EXT -FC	5	1	1/2	4.80	16 and larger		●			●	
L43 8B75 EXT-FC	8	3/4	1/2	4.80	US Improved Buttress		●			●	
L53 5B75 EXT-FC	5	3/4	5/8	4.80	4-1/2 - 13-3/8		●			●	●
L53 5B1 EXT-FC	5	1	5/8	4.80	16 and larger		●			●	
L53 8B75 EXT-FC	8	3/4	5/8	4.80	US Improved Buttress		●			●	
L43 5B75 INT-FC	5	3/4	1/2	4.80	4-1/2 - 13-3/8		●			●	
L43 5B1 INT-FC	5	1	1/2	4.80	16 and larger		●			●	
L43 8B75 INT-FC	8	3/4	1/2	4.80	US Improved Buttress		●			●	
L53 5B75 INT-FC	5	3/4	5/8	4.80	4-1/2 - 13-3/8		●			●	
L53 5B1 INT-FC	5	1	5/8	4.80	16 and larger		●			●	
L53 8B75 INT-FC	8	3/4	5/8	4.80	US Improved Buttress		●			●	

FC designates 5° flank clearance



API HUGHES H90

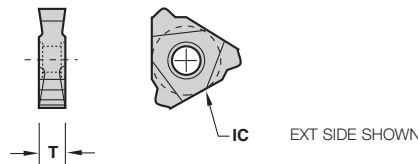
L53 - 5/8" I.C.



Description	TPI	TPF	IC	T	Conn. No.	GP22	GP50	GP504	AC22	AC3	AC50
L53 H902 EXT	3-1/2	2	5/8	4.80	3-1/2 - 6-5/8 H90		●				
L53 H903 EXT	3-1/2	3	5/8	4.80	7 - 8-5/8 H90		●				
L53 H90S EXT	3	1-1/4	5/8	4.80	2-3/8 - 3-1/2 Slimline		●				
L53 H902 INT	3-1/2	2	5/8	4.80	3-1/2 - 6-5/8 H90		●				
L53 H903 INT	3-1/2	3	5/8	4.80	7 - 8-5/8 H90		●				
L53 H90S INT	3	1-1/4	5/8	4.80	2-3/8 - 3-1/2 Slimline		●				

LDS 54 - 5/8 I.C.

Double Sided



Description	TPI	TPF	IC	T	Conn. No.	GP22	GP50	GP504	AC22	AC3	AC50
LDS 54 H902	3-1/2	2	5/8	6.40	3-1/2 - 6-5/8 H90			●			
LDS 54 H903	3-1/2	3	5/8	6.40	7 - 8-5/8 H90			●			
LDS 54 H90S	3	1-1/4	5/8	6.40	2-3/8 - 3-1/2 Slimline			●			

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- ▲ Recommended grade under general conditions.

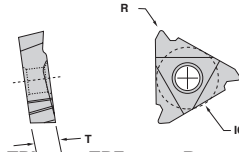
Cast Iron											
Non-Ferrous											
Stainless/High Temp											
Steel								▲			



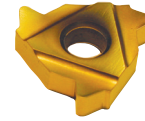
API ROTARY SHOULDER CONNECTION

L43/53 - 1/2" & 5/8" I.C.

■ Must be used with API bars.



EXT SHOWN
INT OPPOSITE



Description	TPI	TPF	R	IC	T	Connection	GP50	GP504	AC22	AC3	AC50
L43 425 EXT	4	2	0.64	1/2	4.80	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●		●	●	●
L43 428 EXT	4	2	0.97	1/2	4.80	NC 23-NC50 2-3/8 - 5-1/2 IF	●		●	●	●
L43 42F EXT*	4	2	---	1/2	4.80	V0.065*					
L43 435 EXT	4	3	0.64	1/2	4.80	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●			●	●
L43 438 EXT	4	3	0.97	1/2	4.80	NC56 - NC71	●			●	●
L43 530 EXT	5	3	0.51	1/2	4.80	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●			●	●
L43 4PAC EXT	4	1-1/2	---	1/2	4.80	American Open Hole	●				
L53 425 EXT	4	2	0.64	5/8	4.80	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●		●	●	●
L53 428 EXT	4	2	0.97	5/8	4.80	NC 23-NC50 2-3/8 - 5-1/2 IF	●		●	●	●
L53 42F EXT*	4	2	---	5/8	4.80	V0.065*					
L53 435 EXT	4	3	0.64	5/8	4.80	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●			●	●
L53 438 EXT	4	3	0.97	5/8	4.80	NC56 - NC71	●			●	●
L53 530 EXT	5	3	0.51	5/8	4.80	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●			●	●
L53 4PAC EXT	4	1-1/2	---	5/8	4.80	American Open Hole	●				
L43 425 INT	4	2	0.64	1/2	4.80	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●		●	●	●
L43 428 INT	4	2	0.97	1/2	4.80	NC 23-NC50 2-3/8 - 5-1/2 IF	●		●	●	●
L43 42F INT*	4	2	---	1/2	4.80	V0.065*					
L43 435 INT	4	3	0.64	1/2	4.80	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●			●	●
L43 438 INT	4	3	0.97	1/2	4.80	NC56 - NC71	●			●	●
L43 530 INT	5	3	0.51	1/2	4.80	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●			●	●
L43 4PAC INT	4	1-1/2	---	1/2	4.80	American Open Hole	●				
L53 425 INT	4	2	0.64	5/8	4.80	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●		●	●	●
L53 428 INT	4	2	0.97	5/8	4.80	NC 23-NC50 2-3/8 - 5-1/2 IF	●		●	●	●
L53 42F INT*	4	2	---	5/8	4.80	V0.065*					
L53 435 INT	4	3	0.64	5/8	4.80	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●			●	●
L53 438 INT	4	3	0.97	5/8	4.80	NC56 - NC71	●			●	●
L53 530 INT	5	3	0.51	5/8	4.80	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●			●	●
L53 4PAC INT	4	1-1/2	---	5/8	4.80	American Open Hole	●				

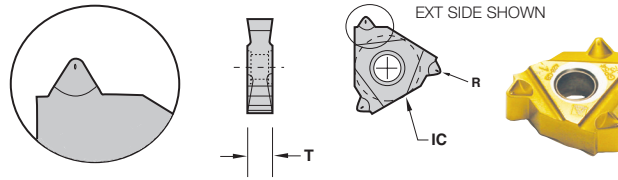
* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4



LDS 54 Double Sided Lead Follow Topping Internal/External with patented chipbreaker

Exclusive patented design!

■ For holders see pg. 136, 138

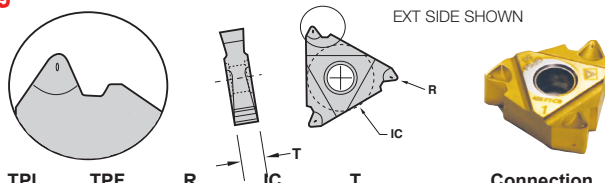


Description	TPI	TPF	R	IC	T	Connection	GP504	AC22	AC3	AC50	AC54
LDS 54 428-CB #1	4	2	0.97	5/8	6.40	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●
LDS 54 438-CB #2	4	3	0.97	5/8	6.40	NC56-NC71	●	●	●	●	●
LDS 54 425-CB #3	4	2	0.64	5/8	6.40	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●
LDS 54 435-CB #4	4	3	0.64	5/8	6.40	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●
LDS 54 530-CB #5	5	3	0.51	5/8	6.40	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●

LDS 54 Double Sided Follow Topping Internal/External with patented chipbreaker

Exclusive patented design!

■ For holders see pg. 136, 138



Description	TPI	TPF	R	IC	T	Connection	GP504	AC22	AC3	AC50	AC54
LDS 54 428 FT-CB #1	4	2	0.97	5/8	6.40	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●
LDS 54 438 FT-CB #2	4	3	0.97	5/8	6.40	NC56-NC71	●	●	●	●	●
LDS 54 425 FT-CB #3	4	2	0.64	5/8	6.40	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●
LDS 54 435 FT-CB #4	4	3	0.64	5/8	6.40	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●
LDS 54 530 FT-CB #5	5	3	0.51	5/8	6.40	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●

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- ▲ Recommended grade under general conditions.

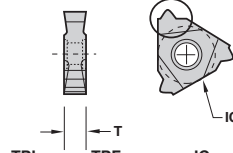
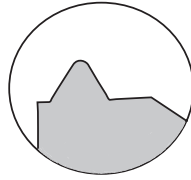
Cast Iron		●		
Non-Ferrous		●		
Stainless/High Temp		●		
Steel	▲	●	●	



API ROTARY SHOULDER CONNECTION

LDS 54 - 5/8" I.C.

Double Sided
Full Topping



EXT SIDE SHOWN

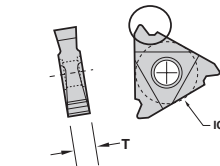
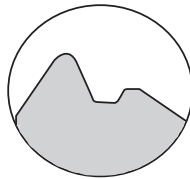


Description	TPI	TPF	IC	T	Conn. No.	GP22	GP504	AC22	AC3	AC50	AC54
LDS 54 428 #1	4	2	5/8	6.40	NC23-NC50, 2-3/8-5-1/2 IF		●	●	●	●	●
LDS 54 438 #2	4	3	5/8	6.40	NC56-NC71		●	●	●	●	●
LDS 54 425 #3	4	2	5/8	6.40	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.		●	●	●	●	●
LDS 54 435 #4	4	3	5/8	6.40	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.		●	●	●	●	●
LDS 54 530 #5	5	3	5/8	6.40	3-1/2 FH 2-3/8 - 4-1/2 Reg.		●	●	●	●	●
LDS 54 42F*	4	2	5/8	6.40	V0.065*		●				
LDS 54 4PAC	4	1-1/2	5/8	6.40	American Open Hole		●	●			

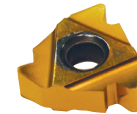
* Obsolete thread form,
See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

LDS 54 - 5/8" I.C.

Double Sided
Follow Topping



EXT SIDE SHOWN

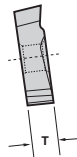


Description	TPI	TPF	IC	T	Conn. No.	GP22	GP504	AC22	AC3	AC50	AC54
LDS 54 428 #1 FT	4	2	5/8	6.40	NC23-NC50, 2-3/8-5-1/2 IF		●	●	●	●	●
LDS 54 438 #2 FT	4	3	5/8	6.40	NC56-NC71		●	●	●	●	●
LDS 54 425 #3 FT	4	2	5/8	6.40	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.		●	●	●	●	●
LDS 54 435 #4 FT	4	3	5/8	6.40	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.		●	●	●	●	●
LDS 54 530 #5 FT	5	3	5/8	6.40	3-1/2 FH 2-3/8 - 4-1/2 Reg.		●	●	●	●	●
LDS 54 42F* FT	4	2	5/8	6.40	V0.065*		●		●		
LDS 54 4PAC FT	4	1-1/2	5/8	6.40	American Open Hole		●		●		

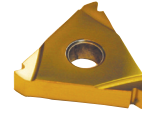
* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4



API ROUND L43/L53 - 1/2" & 5/8" I.C.

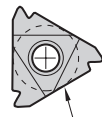
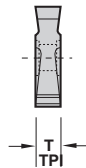


EXT SIDE SHOWN



Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 10RD EXT	10	3/4	1/2	4.80		●			●	●
L43 8RD EXT	8	3/4	1/2	4.80		●			●	●
L53 8RD EXT	8	3/4	5/8	4.80		●			●	●
L43 8RD INT	8	3/4	1/2	4.80		●			●	●
L43 10RD INT	10	3/4	1/2	4.80		●			●	●
L53 8RD INT	8	3/4	5/8	4.80		●			●	●

LDS 43 & 54 - 1/2" & 5/8" I.C. Double Sided



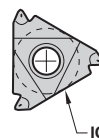
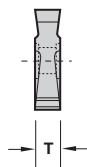
EXT SIDE SHOWN



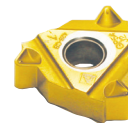
Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
LDS 43 10RD	10	3/4	1/2	4.80			●	●	●	●
LDS 43 8RD	8	3/4	1/2	4.80			●	●	●	●
LDS 54 10RD	10	3/4	5/8	6.40			●	●	●	●
LDS 54 8RD	8	3/4	5/8	6.40			●	●	●	●

LDS 54 - 5/8" I.C. Double Sided Internal/External with patented chipbreaker

Exclusive patented design!



EXT SIDE SHOWN

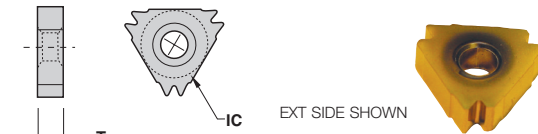


Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
LDS 54 10RD-CB	10	3/4	5/8	6.40			●	●	●	●
LDS 54 8RD-CB	8	3/4	5/8	6.40			●	●	●	●



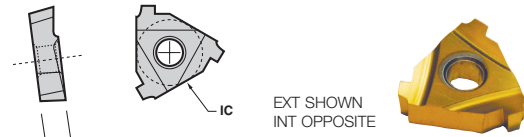
LAYDOWN

API ROUND TNFA 43 - 1/2" I.C.



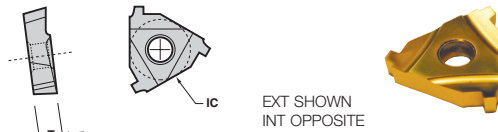
Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
TNFA 43 8RD	8	3/4	1/2	4.75	●	●	●	●	●	●

API VAM L43 - 1/2" I.C.



Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 5VAM EXT	5	3/4	1/2	4.80	●	●	●	●	●	●
L43 6VAM EXT	6	3/4	1/2	4.80	●	●	●	●	●	●
L43 8VAM EXT	8	3/4	1/2	4.80	●	●	●	●	●	●
L43 5VAM INT	5	3/4	1/2	4.80	●	●	●	●	●	●
L43 6VAM INT	6	3/4	1/2	4.80	●	●	●	●	●	●
L43 8VAM INT	8	3/4	1/2	4.80	●	●	●	●	●	●

API X-LINE L43/L53 - 1/2" & 5/8" I.C.

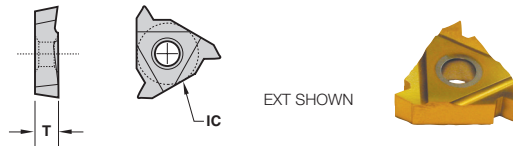


Description	TPI	TPF	IC	T	Conn. No.	GP22	GP50	GP504	AC22	AC3	AC50
L43 6XL15 EXT	6	1-1/2	1/2	4.80	5 - 7-5/8	●	●	●	●	●	●
L43 6XL75 EXT	6	3/4	1/2	4.80	-	●	●	●	●	●	●
L43 5XL12 EXT	5	1-1/4	1/2	4.80	8-5/8 - 10-3/4	●	●	●	●	●	●
L53 6XL15 EXT	6	1-1/2	5/8	4.80	5 - 7-5/8	●	●	●	●	●	●
L53 6XL75 EXT	6	3/4	5/8	4.80	-	●	●	●	●	●	●
L53 5XL12 EXT	5	1-1/4	5/8	4.80	8-5/8 - 10-3/4	●	●	●	●	●	●
L43 6XL15 INT	6	1-1/2	1/2	4.80	5 - 7-5/8	●	●	●	●	●	●
L43 6XL75 INT	6	3/4	1/2	4.80	-	●	●	●	●	●	●
L43 5XL12 INT	5	1-1/4	1/2	4.80	8-5/8 - 10-3/4	●	●	●	●	●	●
L53 6XL15 INT	6	1-1/2	5/8	4.80	5 - 7-5/8	●	●	●	●	●	●
L53 6XL75 INT	6	3/4	5/8	4.80	-	●	●	●	●	●	●
L53 5XL12 INT	5	1-1/4	5/8	4.80	8-5/8 - 10-3/4	●	●	●	●	●	●

LAYDOWN

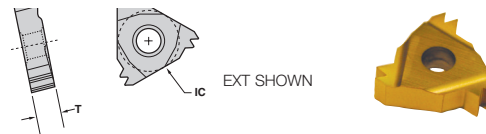


NPT L43 - 1/2" I.C.



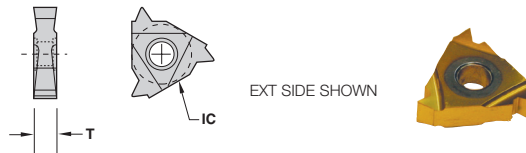
Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 11.5NPT EXT	11.5	3/4	1/2	4.80		●				
L43 8NPT EXT	8	3/4	1/2	4.80		●				
L43 11.5NPT INT	11.5	3/4	1/2	4.80		●				●
L43 8NPT INT	8	3/4	1/2	4.80		●				

L43 - 1/2" I.C. Multi-Tooth



Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 11.5NPT2M EXT	11.5	3/4	1/2	4.80		●		●		
L43 11.5NPT2M INT	11.5	3/4	1/2	4.80		●		●		●

LDS 43 - 1/2" I.C. Double Sided



Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
LDS 43 14NPT	14	3/4	1/2	4.80			●			
LDS 43 11.5NPT	11.5	3/4	1/2	4.80			●			
LDS 43 8NPT	8	3/4	1/2	4.80			●			

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron

Non-Ferrous

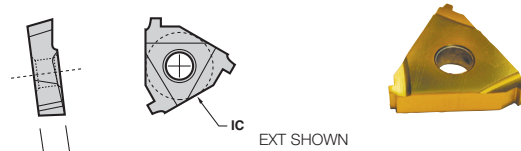
Stainless/High Temp Steel

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PITTSBURGH ACME

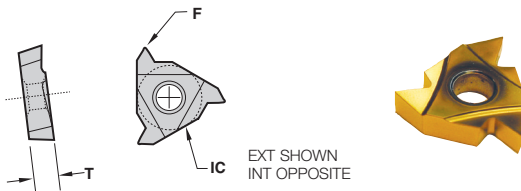
L43/L53 - 1/2" & 5/8" I.C.



Description	TPI	TPF	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 8PA75 EXT	8	3/4	1/2	4.80		●				
L53 8PA75 EXT	8	3/4	5/8	4.80		●				
L43 8PA75 INT	8	3/4	1/2	4.80		●				
L53 8PA75 INT	8	3/4	5/8	4.80		●				

V THREADING - 60°

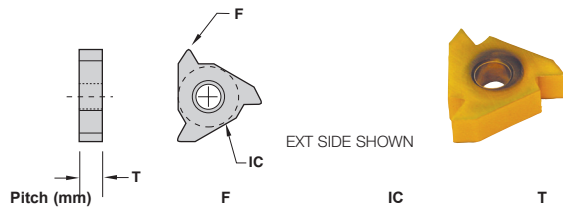
L43 & 53- 1/2" & 5/8" I.C.



Description	Pitch (mm)	F	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
L43 NV EXT	0.50-3.0	0.15/0.20	1/2	4.80		●			●	●
L53 NV EXT	1.00-5.0	0.15/0.20	5/8	4.80		●			●	●
L43 NV INT	0.50-3.0	0.15/0.20	1/2	4.80		●			●	●
L53 NV INT	1.00-5.0	0.15/0.20	5/8	4.80		●			●	●

LN 43 - 1/2" I.C.

Double Sided

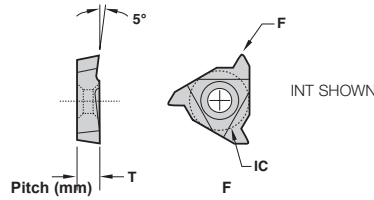


Description	Pitch (mm)	F	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
LN 43 NV	0.50-3.0	0.15/0.20	1/2	4.80		●				



V THREADING - 60°

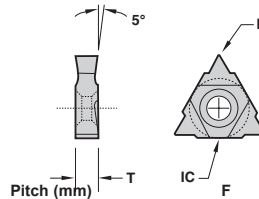
LPGC 32, 42 & 43 - 3/8" & 1/2" I.C.



Description	Pitch (mm)	F	IC	T	GP22	GP50	GP504	AC25	AC3	AC50
LPGC 32 NV INT RH	0.50-3.0	0.10/0.15	3/8	3.23		●				
LPGC 32 NV INT LH	0.50-3.0	0.10/0.15	3/8	3.23		●				
LPGC 42 NV INT RH	1.20-3.0	0.15/0.20	1/2	3.23		●		●		
LPGC 42 NV INT LH	1.20-3.0	0.15/0.20	1/2	3.23		●		●		
LPGC 43 NV INT RH	1.50-5.0	0.15/0.20	1/2	4.80		●		●		
LPGC 43 NV INT LH	1.50-5.0	0.15/0.20	1/2	4.80		●		●		

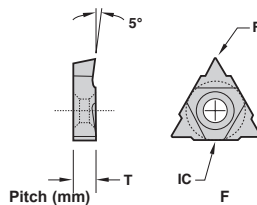
TNPGC 43 - 1/2" I.C.

Double Sided



Description	Pitch (mm)	F	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
TNPGC 43 NV	0.50-3.0	0.13/0.18	1/2	4.80		●				

TPGC 32, 42 & 43 - 3/8" & 1/2" I.C.



Description	Pitch (mm)	F	IC	T	GP22	GP50	GP504	AC22	AC3	AC50
TPGC 32 NV	0.50-3.0	0.13/0.18	3/8	3.23		●		●		
TPGC 42 NV	1.00-5.0	0.13/0.18	1/2	3.23		●				
TPGC 43 NV	1.50-6.5	0.13/0.18	1/2	4.80		●				

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron										
Non-Ferrous										
Stainless/High Temp										
Steel		▲								

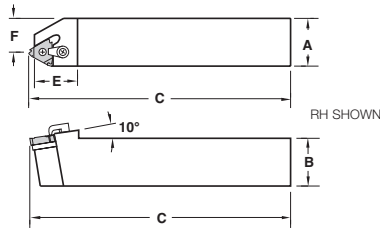


EXTERNAL HOLDER

MTENR/L

Threading

Most holders available with coolant port
(ie: Add CP to end of description)



PARTS

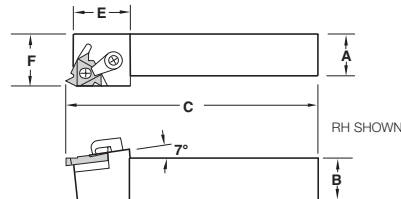
Description	Insert	A	B	C	E	F*	Seat	Lock Pin	Clamp	Clamp Screw
MTENR-2525M4	TNPGC 43	25.00	25.00	152.40	37.34	16.00	TS 43*	NLM46	CLM-6	XNSM0515
MTENR-3232M4	TNPGC 43	32.00	32.00	177.80	37.34	22.35	TS 43*	NLM46	CLM-6	XNSM0515

*Seats can be ordered as NO FORM or a FORM can be specified. Ex: TS 43 API EXT Seat.

MTVNR/L

Threading & Grooving
Inch

Most holders available with coolant port
(ie: Add CP to end of description)



PARTS

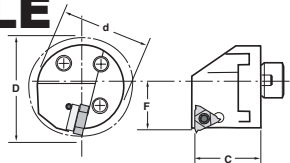
Description	Insert	A	B	C	E	F*	Seat	Lock Pin	Clamp	Clamp Screw
MTVNR-2525M4	L43	25.00	25.00	152.40	32.26	31.75	LS43*	NLM46	CLM-6	XNSM0515
MTVNL-2525M4	L43	25.00	25.00	152.40	32.26	31.75	LS43*	NLM46	CLM-6	XNSM0515
MTVNR-3232M4	L43	32.00	32.00	177.80	32.26	38.10	LS43*	NLM46	CLM-6	XNSM0515
MTVNR-2525M5	L53	25.00	25.00	152.40	38.86	31.75	LS53*	NLM58	CLM-20	STCM11
MTVNL-2525M5	L53	25.00	25.00	152.40	38.86	31.75	LS53*	NLM58	CLM-20	STCM11
MTVNR-3232M5	L53	32.00	32.00	177.80	38.86	38.10	LS53*	NLM58	CLM-20	STCM11
MTVNR-3232M54	LDS 54	32.00	32.00	177.80	38.86	38.10	LS53*	NLM58	CLM-20	STCM11

*Seats can be ordered as NO FORM or a FORM can be specified. Ex: LS 43 API EXT. Seat.



INTERCHANGEABLE HEADS

H-LNFR/L *



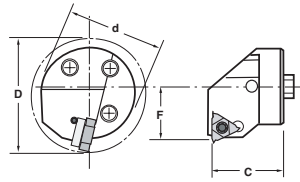
RH SHOWN

PARTS

Description	Insert	d	C	F	Min. Bore (D)	Seat	Clamp	Clamp Screw	Lock Pin
H32M-LNFR-43	L43	32	41.28	19.43	36.83	-	CLM-6	STCM9	NLM44
H40M-LNFR-43	L43	40	41.28	22.61	44.70	-	CLM-6	STCM9	NLM44
H50M-LNFR-43	L43	50	41.28	32.54	60.96	LS43	CLM-6	XNSM0515	NLM46
H40M-LNFR-53API	L53	40	41.28	22.61	44.70	-	CLM-20	STCM11	NLM56
H50M-LNFR-53API	L53	50	41.28	32.54	60.96	-	CLM-20	STCM11	NLM56
H40M-LNFR-54API	LDS 54	40	41.28	22.61	44.70	-	CLM-20	STCM11	H410-1
H50M-LNFR-54API	LDS 54	50	41.28	32.54	60.96	-	CLM-20	STCM11	NLM56

*Non API heads only for 8RD, 10RD, 5B75, 5B1 threads. API heads required for rotary shoulder connections threads.

HS-LNFR/L *



RH SHOWN

PARTS

Description	Insert	d	C	F	Min. Bore (D)	Clamp	Clamp Screw	Lock Pin
HS25-LNFR-43								
HS32-LNFR-43	L43	32.00	32.00	22.00	39.88	CLM-6	STCM9	NLM44
HS40-LNFR-43	L43	40.00	32.00	27.00	50.04	CLM-6	STCM9	NLM44
HS50-LNFR-43	L43	50.00	39.88	35.00	62.99	CLM-6	STCM9	NLM44
HS32-LNFR-53								
HS40-LNFR-53								
HS50-LNFR-53								
HS40-LNFR-54								
HS50-LNFR-54								
HS50-LNFR-43API								
HS40-LNFR-53API	L53	40.00	32.00	27.00	50.04	CLM-20	STCM11	NLM56
HS50-LNFR-53API	L53	50.00	39.88	35.00	62.99	CLM-20	STCM11	NLM56
HS40-LNFR-54API	LDS 54	40.00	32.00	27.00	50.04	CLM-20	STCM11	H410-1
HS50-LNFR-54API	LDS 54	50.00	39.88	35.00	62.99	CLM-20	STCM11	NLM56

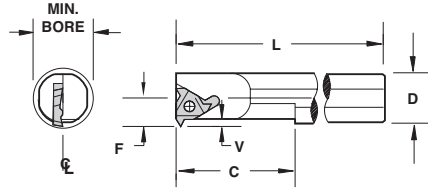
*Non API heads only for 8RD, 10RD, 5B75, 5B1 threads. API heads required for rotary shoulder connections threads.



INTERNAL BAR

LFR/L

Threading & Grooving



RH SHOWN

Description	Insert	Min. Bore	L	D	C	F	V	Torx Screw
LFR 16M-32	LPGC 32	16.00	200.00	16.00	2-1/2	7.92	2.54	SFM30
LFL 16M-32	LPGC 32	16.00	200.00	16.00	2-1/2	7.92	2.54	SFM30
LFR 20M-32	LPGC 32	20.00	200.00	20.00	2-3/4	9.53	2.54	SFM30
LFL 20M-32	LPGC 32	20.00	200.00	20.00	2-3/4	9.53	2.54	SFM30
LFR 25M-32	LPGC 32	25.00	250.00	25.00	2-3/4	12.70	2.54	SFM30
LFL 25M-32	LPGC 32	25.00	250.00	25.00	2-3/4	12.70	2.54	SFM40
LFR 20M-42	LPGC 42	20.00	200.00	20.00	2-3/4	9.53	2.54	SFM50
LFL 20M-42	LPGC 42	20.00	200.00	20.00	2-3/4	9.53	2.54	SFM60
LFR 25M-43	LPGC 43	25.00	250.00	25.00	2-3/4	12.70	3.18	SFM60
LFL 25M-43	LPGC 43	25.00	250.00	25.00	2-3/4	12.70	3.18	SFM60
LFR 32M-43	LPGC 43	32.00	300.00	32.00	2-3/4	15.88	3.18	SFM60
LFL 32M-43	LPGC 43	32.00	300.00	32.00	2-3/4	15.88	3.18	SFM60
LFR 40M-43	LPGC 43	40.00	350.00	40.00	3-3/4	19.05	3.18	SFM60
LFL 40M-43	LPGC 43	40.00	350.00	40.00	3-3/4	19.05	3.18	SFM60
LFR 50M-43	LPGC 43	50.00	350.00	50.00	3-3/4	25.40	3.18	SFM60
LFL 50M-43	LPGC 43	50.00	350.00	50.00	3-3/4	25.40	3.18	SFM60
LFR 40M-53	LPGC 53	40.00	350.00	40.00	3-3/4	19.05	3.81	SFM67
LFL 40M-53	LPGC 53	40.00	350.00	40.00	3-3/4	19.05	3.81	SFM67
LFR 50M-53	LPGC 53	50.00	350.00	50.00	3-3/4	25.40	3.81	SFM85

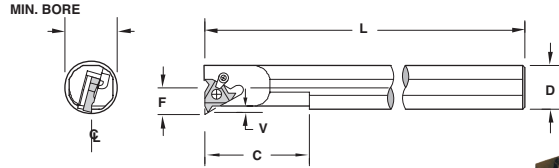
*Over NV Insert



INTERNAL BAR

LNFR/L

Threading & Grooving
Inch



PARTS

Description	Insert	Min. Bore	L	D	C	F	V*	Screw/Seat	Lock Pin	Clamp Clamp	Screw
LNFR 32M-43	L43	35,0	304,8	32,0	69,5	17,5	3,2	-	NLM44	CLM6	XNSM0515
LNFL 32M-43	L43	35,0	304,8	32,0	69,5	17,5	3,2	-	NLM44	CLM6	XNSM0515
LNFR 40M-43	L43	43,2	355,6	40,0	95,2	21,6	3,2	-	NLM44	CLM6	STCM9
LNFL 40M-43	L43	43,2	355,6	40,0	95,2	21,6	3,2	-	NLM44	CLM6	STCM9
LNFR 50M-43	L43	54,1	355,6	50,0	101,6	27,0	3,2	LS43*	NLM46	CLM6	XNSM0515
LNFL 50M-43	L43	54,1	355,6	50,0	101,6	27,0	3,2	LS43*	NLM46	CLM6	XNSM0515
LNFR 40M-53	L53	44,1	355,6	40,0	101,6	22,0	3,8	-	NLM56	CLM20	STCM11
LNFL 40M-53	L53	44,1	355,6	40,0	101,6	22,0	3,8	-	NLM56	CLM20	STCM11
LNFR 50M-53	L53	54,1	355,6	50,0	101,6	27,4	3,8	LS53*	NLM58	CLM20	STCM11
LNFL 50M-53	L53	54,1	355,6	50,0	101,6	27,4	3,8	LS53*	NLM58	CLM20	STCM11
LNFR 40M-54	LDS54	44,1	355,6	40,0	101,6	22,0	3,8	-	NLM56	CLM20	STCM11
LNFL 40M-54	LDS54	44,1	355,6	40,0	101,6	22,0	3,8	-	NLM56	CLM20	STCM11
LNFR 50M-54	LDS54	54,1	355,6	50,0	101,6	27,4	3,8	-	NLM56	CLM20	STCM11
LNFL 50M-54	LDS54	54,1	355,6	50,0	101,6	27,4	3,8	-	NLM56	CLM20	STCM11

*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT ** Over Sharp

**Non API bars will work for 8/10RD and 5B75/5B1 threadforms. API bars required for rotary shoulder connection threadforms.



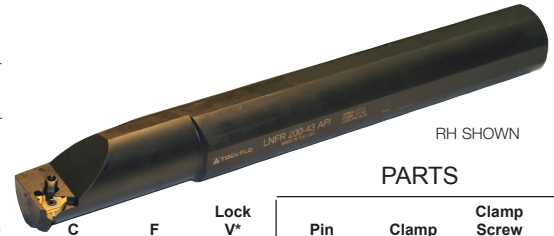
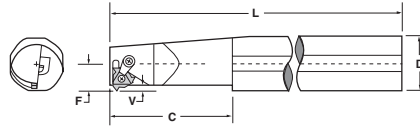
LAYDOWN

INTERNAL BAR

LNFR/L-API

Threading
Inch

Tapered Head for
API Forms



PARTS

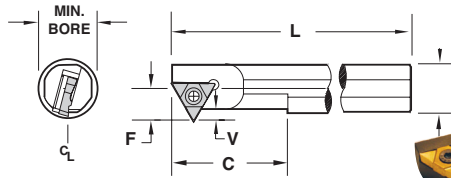
Description	Insert	Min. Bore	L	D	C	F	Lock V*	Pin	Clamp	Clamp Screw
LNFR 40M-43API	L43	41,9	355,6	40,0	114,3	20,9	4,2	NLM44	CLM6	XNSM0515
LNFR 50M-43API	L43	55,0	355,6	50,0	114,3	27,4	4,2	NLM44	CLM6	XNSM0515
LNFR 40M-53API	L53	42,1	355,6	40,0	114,3	20,9	5,8	NLM56	CLM20	STCM11
LNFR 50M-53API	L53	55,2	406,4	50,0	114,3	27,6	5,8	NLM56	CLM20	STCM11
LNFR 50M-54API	LDS 54	55,2	406,4	50,0	114,3	27,6	5,8	NLM56	CLM20	STCM11
LNFR-65M-54API										
LNFR-75M-54API										

*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT if required.

**Required for rotary shoulder connection threading inserts.

LNTR/L

Threading



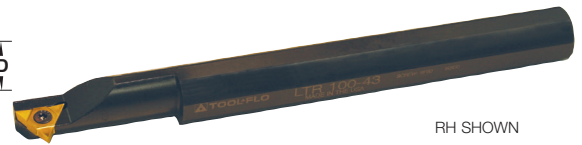
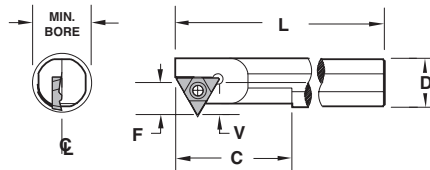
Description	Insert	Min. Bore	L	D	C	F*	V	Torx Screw
LNTR 22M-43	TNPGC 43	22.35	200.00	25.00	69.85	11.18	5.05	SFM60
LNTL 22M-43	TNPGC 43	22.35	200.00	25.00	69.85	11.18	5.05	SFM60
LNTR 25M-43	TNPGC 43	25.00	250.00	25.00	69.85	12.45	5.41	SFM60
LNTL 25M-43	TNPGC 43	25.00	250.00	25.00	69.85	12.45	5.41	SFM60
LNTR 32M-43	TNPGC 43	32.00	300.00	32.00	69.85	16.26	5.41	SFM60
LNTL 32M-43	TNPGC 43	32.00	300.00	32.00	69.85	16.26	5.41	SFM60
LNTR 40M-43	TNPGC 43	40.00	350.00	40.00	95.25	18.80	5.41	SFM60
LNTL 40M-43	TNPGC 43	40.00	350.00	40.00	95.25	18.80	5.41	SFM60
LNTR 50M-43	TNPGC 43	50.00	350.00	50.00	95.25	25.15	5.41	SFM60
LNTL 50M-43	TNPGC 43	50.00	350.00	50.00	95.25	25.15	5.41	SFM60

*Over NV Insert

LAYDOWN



LTR/L Threading & Grooving



RH SHOWN

Description	Insert	Min. Bore	L	D	C	F	V*	Torx Screw
LTR 16M-32	TPGC 32	16.00	200.00	16.00	63.50	9.53	3.81	SFM30
LTL 16M-32	TPGC 32	16.00	200.00	16.00	63.50	9.53	3.81	SFM30
LTR 20M-32	TPGC 32	20.00	200.00	20.00	69.85	9.53	3.81	SFM30
LTL 20M-32	TPGC 32	20.00	200.00	20.00	69.85	9.53	3.81	SFM30
LTR 25M-32	TPGC 32	25.40	250.00	25.00	69.85	12.70	3.81	SFM30
LTL 25M-32	TPGC 32	25.40	250.00	25.00	69.85	12.70	3.81	SFM30
LTR 20M-42	TPGC 42	20.32**	200.00	20.00	69.85	9.91	3.18	SFM50
LTL 20M-42	TPGC 42	20.32**	200.00	20.00	69.85	9.91	3.18	SFM50
LTR 25M-43	TPGC 43	25.00	250.00	25.00	69.85	12.70	5.41	SFM60
LTL 25M-43	TPGC 43	25.00	250.00	25.00	69.85	12.70	5.41	SFM60
LTR 32M-43	TPGC 43	32.00	300.00	32.00	69.85	15.88	5.41	SFM60
LTL 32M-43	TPGC 43	32.00	300.00	32.00	69.85	15.88	5.41	SFM60
LTR 40M-43	TPGC 43	40.00	350.00	40.00	95.25	19.05	5.41	SFM60
LTL 40M-43	TPGC 43	40.00	350.00	40.00	95.25	19.05	5.41	SFM60
LTR 50M-43	TPGC 43	50.00	350.00	50.00	95.25	25.40	5.41	SFM60
LTL 50M-43	TPGC 43	50.00	350.00	50.00	95.25	25.40	5.41	SFM60
LTR 40M-53	TPGC 53	40.00	350.00	40.00	95.25	19.05	7.62	SFM85
LTL 40M-53	TPGC 53	40.00	350.00	40.00	95.25	19.05	7.62	SFM85
LTR 50M-53	TPGC 53	50.00	350.00	50.00	95.25	25.40	7.62	SFM85
LTL 50M-53	TPGC 53	50.00	350.00	50.00	95.25	25.40	7.62	SFM85

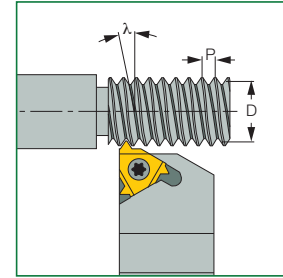
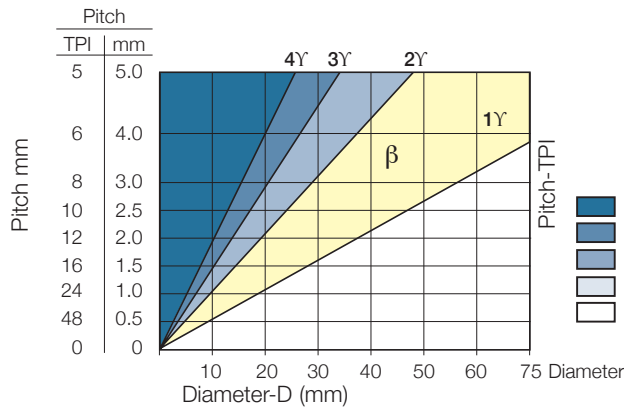
*Over NV Insert

**Over 4P Acme Insert



Thread Helix Angle and Anvil Selection

Helix Angle I Evaluation



$$\operatorname{tg} i = \frac{P}{3.14 \cdot D}$$

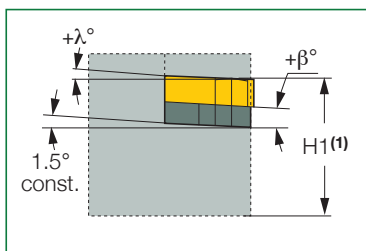
$$i^{\circ} \approx \frac{20 \cdot P}{D}$$

P - Pitch in mm
D - Effective diameter of thread in mm
i - Angle of inclination

⁽¹⁾ b - Effective inclination angle.

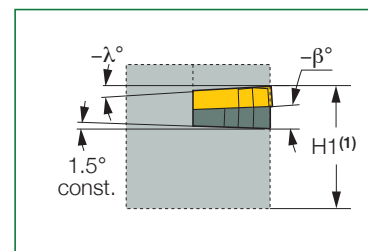
Anvil Selection According to Thread Helix Angle

		Standard						
Thread Helix Angle i		4°<	4°-3°	3°-2°	2°-1°	1°-0°	Negative Anvils	
Inclination Angle b		4.5°	3.5°	2.5°	1.5°	0.5°	0.5°-	1.5°-
(l (d	Toolholder	Anvil Designation						
16 (8/3)	EX RH OR IN LH EX LH OR IN RH	TF-4.5+ 16 AE TF-4.5+ 16 AI	TF-3.5+ 16 AE TF-3.5+ 16 AI	TF-2.5+ 16 AE TF-2.5+ 16 AI	TF-16 AE TF-16 AI	TF-0.5+ 16 AE TF-0.5+ 16 AI	TF-0.5- 16 AE TF-0.5- 16 AI	TF-1.5- 16 AE TF-1.5- 16 AI
22 (2/1)	EX RH OR IN LH EX LH OR IN RH	TF-4.5+ 22 AE TF-4.5+ 22 AI	TF-3.5+ 22 AE TF-3.5+ 22 AI	TF-2.5+ 22 AE TF-2.5+ 22 AI	TF-22 AE TF-22 AI	TF-0.5+ 22 AE TF-0.5+ 22 AI	TF-0.5- 22 AE TF-0.5- 22 AI	TF-1.5- 22 AE TF-1.5- 22 AI
27 (8/5)	EX RH OR IN LH EX LH OR IN RH	TF-4.5+ 27 AE TF-4.5+ 27 AI	TF-3.5+ 27 AE TF-3.5+ 27 AI	TF-2.5+ 27 AE TF-2.5+ 27 AI	TF-27 AE TF-27 AI	TF-0.5+ 27 AE TF-0.5+ 27 AI	TF-0.5- 27 AE TF-0.5- 27 AI	TF-1.5- 27 AE TF-1.5- 27 AI
22U (2U/1)	EX RH OR IN LH EX LH OR IN RH	TF-4.5+ 22U AE TF-4.5+ 22U AI	TF-3.5+ 22U AE TF-3.5+ 22U AI	TF-2.5+ 22U AE TF-2.5+ 22U AI	22U-TF AE 22U-TF AI	TF-0.5+ 22U AE TF-0.5+ 22U AI	TF-0.5- 22U AE TF-0.5- 22U AI	TF-1.5- 22U AE TF-1.5- 22U AI
27U (8U/5)	EX RH OR IN LH EX LH OR IN RH	TF-4.5+ 27U AE TF-4.5+ 27U AI	TF-3.5+ 27U AE TF-3.5+ 27U AI	TF-2.5+ 27U AE TF-2.5+ 27U AI	27U-TF AE 27U-TF AI	TF-0.5+ 27U AE TF-0.5+ 27U AI	TF-0.5- 27U AE TF-0.5- 27U AI	TF-1.5- 27U AE TF-1.5- 27U AI



Anvils for positive inclination angle b applicable when turning thread with holders or thread with toolholders.

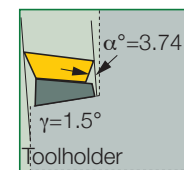
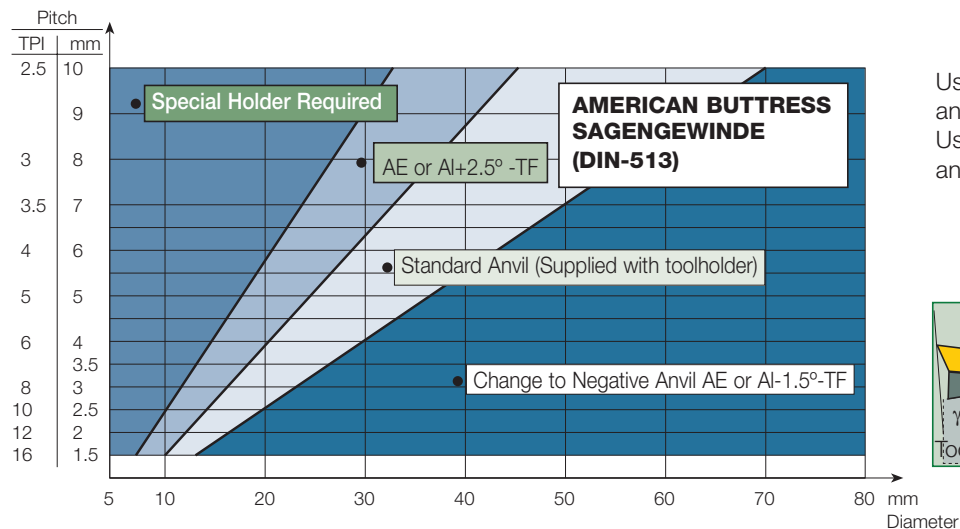
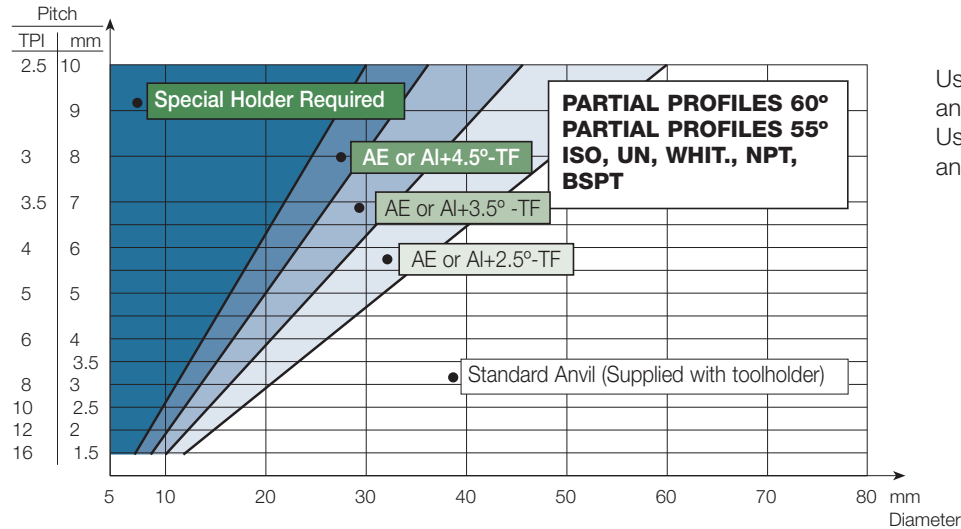
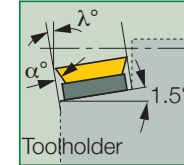
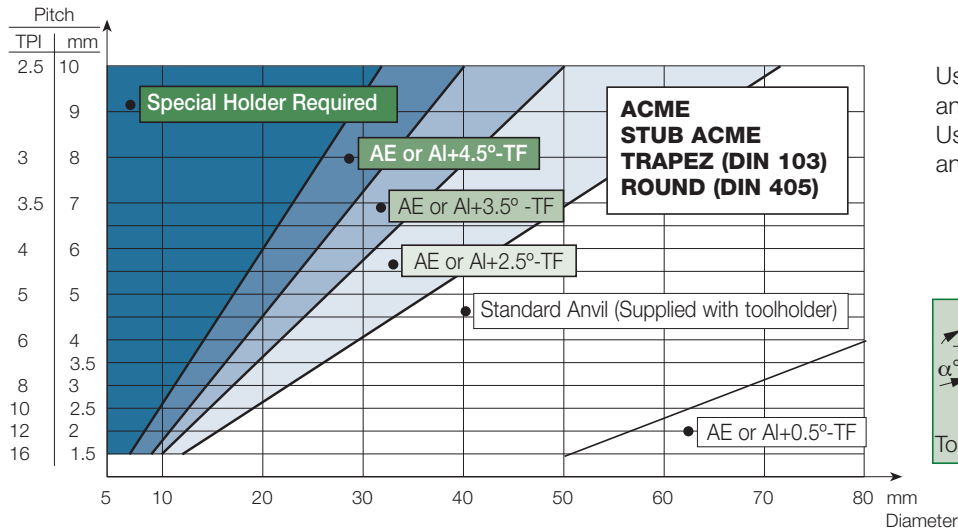
⁽¹⁾ H₁ remains constant for every anvil combination.



Anvils for negative inclination angle b used when turning **RH** thread with **LH** holder or **LH** thread with **RH** toolholder.



Thread Helix Angle and Anvil Selection



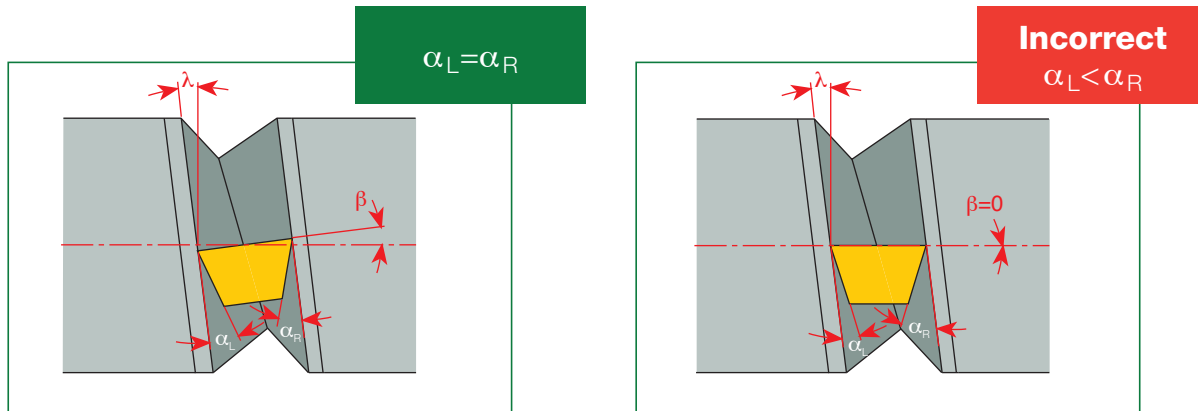
Replacing the standard anvil with an anvil with a negative angle will eliminate side rubbing



Flank Clearance and Effective Inclination Angle

Inclination angle β of the cutting edges corresponds to a specific thread helix angle λ and ensures equal

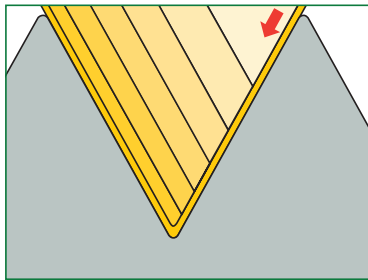
clearance angle on both sides of insert.



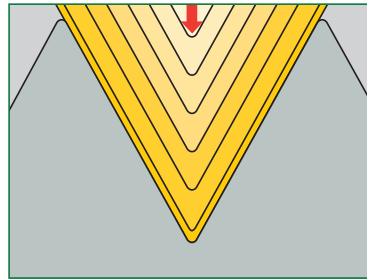
- α - Flank clearance angle
- λ - Helix angle
- β - Effective inclination angle is achieved by selecting the suitable anvil

Infeed Methods for Threading Operations

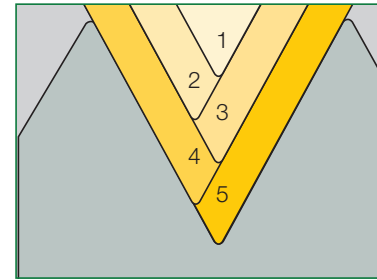
Flank Infeed



Radial Infeed

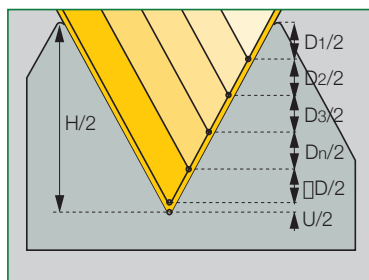


Alternating Flanks Infeed



Flank Equal

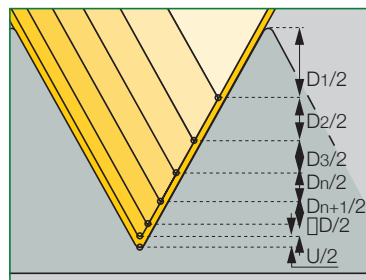
Equal depth of cut for each pass



$$\frac{D_1}{2} = \frac{D_2}{2} = \frac{D_3}{2} = \frac{D_n}{2}$$

Flank Diminishing

Diminished depth of cut for each pass



$$\frac{D_1}{2} > \frac{D_2}{2} > \frac{D_3}{2} > \frac{D_n}{2} > \frac{D_{n+1}}{2}$$

H - Depth of thread profile (on $\emptyset$)
 D - Depth of pass (on $\emptyset$)
 U - Depth of finishing pass (on $\emptyset$)



Number of Cutting Passes for Regular Type Inserts

Pitch mm TPI	0.5 48	1.0 24	1.5 16	2.0 12	2.5 10	3.0 8	4.0 6	6.0 4
Number of Passes	46-	59-	512-	614-	715-	817-	1020-	1122-

Maximum Depth of First Cut, for CNC Control External Threading - Laydown Inserts

Full Profile	Pitch	TPI	Insert Designation	No. of Passes		Max. Depth for First Pass ⁽¹⁾ mm									
						Low Carbon Steel		High Carbon Steel		Alloy Steel		Stainless Steel		Nonferrous Aluminium	
				Min.	Max.	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾
ISO Metric	1.00		16 ER 1.00 ISO-CP	5	9	0.34	0.51	0.31	0.46	0.27	0.41	0.22	0.33	0.48	0.71
	1.25		16 ER 1.25 ISO-CP	6	11	0.42	0.63	0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
	1.50		16 ER 1.50 ISO-CP	6	12	0.46	0.69	0.41	0.62	0.37	0.55	0.30	0.45	0.64	0.97
	1.75		16 ER 1.75 ISO-CP	8	13	0.48	0.72	0.43	0.65	0.38	0.58	0.31	0.47	0.67	1.01
	2.00		16 ER 2.00 ISO-CP	8	14	0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	2.50		16 ER 2.50 ISO-CP	10	15	0.53	0.80	0.48	0.72	0.42	0.64	0.34	0.52	0.74	1.12
	3.00		16 ER 3.00 ISO-CP	12	17	0.56	0.84	0.50	0.76	0.45	0.67	0.36	0.55	0.78	1.18
Partial Profile 60°	1.50-0.50	16-48	16 ER A60-CP		⁽¹⁾	0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	3.00-1.75	8-14	16 ER G60-CP			0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	3.00-0.50	8-48	16 ER AG60-CP			0.24	0.36	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
	5.00-3.50	5-7	22 ER N60-CP			0.41	0.62	0.37	0.56	0.33	0.50	0.27	0.40	0.57	0.87
Partial Profile 55°	3.00-1.75	8-14	16 ER G55-CP			0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	3.00-0.50	8-48	16 ER AG55-CP			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46

⁽¹⁾ Per the number of passes for the relevant pitch

⁽²⁾ Equal depth of cut method

⁽³⁾ Diminished depth of cut for each pass method

Cutting Data

Maximum Depth of First Cut, for CNC Control Internal Threading - Laydown Inserts

Full Profile	Pitch	TPI	Insert Designation	No. of Passes		Max. Depth for First Pass ⁽¹⁾ mm									
						Low Carbon Steel		High Carbon Steel		Alloy Steel		Stainless Steel		Nonferrous Aluminium	
				Min.	Max.	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾
ISO Metric	1.50		11 IR 1.50 ISO-CP	10	20	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
	1.00		16 IR 1.00 ISO-CP	9	16	0.14	0.20	0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28
	1.25		16 IR 1.25 ISO-CP	9	16	0.19	0.28	0.17	0.25	0.15	0.22	0.12	0.18	0.27	0.39
	1.50		16 IR 1.50 ISO-CP	10	20	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
	1.75		16 IR 1.75 ISO-CP	11	18	0.21	0.32	0.19	0.29	0.17	0.26	0.14	0.21	0.29	0.45
	2.00		16 IR 2.00 ISO-CP	12	21	0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	2.50		16 IR 2.50 ISO-CP	14	21	0.23	0.34	0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
	3.00		16 IR 3.00 ISO-CP	16	22	0.24	0.35	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
Partial Profile 60°	1.25-0.50	16-48	06 IR A60-CP			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	1.50-0.50	16-48	08 IR A60-CP		⁽¹⁾	0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	1.50-0.50	16-48	11 IR A60-CP			0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	1.50-0.50	16-48	16 IR A60-CP			0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	3.00-1.75	8-14	16 IR G60-CP			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	3.00-0.50	8-48	16 IR AG60-CP			0.14	0.21	0.13	0.19	0.11	0.17	0.09	0.14	0.20	0.29
	5.00-3.50	5-7	22 IR N60-CP			0.23	0.34	0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
Partial Profile 55°	3.00-1.75	8-14	16 IR G55-CP			0.34	0.50	0.31	0.45	0.27	0.40	0.22	0.33	0.48	0.70
	3.00-0.50	8-48	16 IR AG55-CP			0.14	0.20	0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28

⁽¹⁾ Per the number of passes for the relevant pitch

⁽²⁾ Equal depth of cut method

⁽³⁾ Diminished depth of cut for each pass method



Recommended Number of Passes for Multi-Tooth Insert

ISO - (Metric)

External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 ER 1.0 ISO 3M	2	0.39	0.24	—	—
16 ER 1.5 ISO 2M	3	0.40	0.31	0.21	—
22 ER 1.5 ISO 3M	2	0.54	0.38	—	—
22 ER 2.0 ISO 2M	3	0.56	0.42	0.27	—
22 ER 2.0 ISO 3M	2	0.75	0.50	—	—
27 ER 3.0 ISO 2M	4	0.60	0.52	0.44	0.30

Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 IR 1.0 ISO 3M	2	0.32	0.26	—	—
16 IR 1.5 ISO 2M	3	0.36	0.29	0.22	—
22 IR 1.5 ISO 3M	2	0.49	0.38	—	—
22 IR 2.0 ISO 2M	3	0.50	0.40	0.25	—
22 IR 2.0 ISO 3M	2	0.72	0.43	—	—
27 IR 3.0 ISO 2M	4	0.57	0.45	0.38	0.33

API-ROUND - External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 ER 10 API RD 2M	3	0.58	0.53	0.30	—
27 ER 10 API RD 3M	2	0.98	0.43	—	—
27 ER 8 API RD 2M	3	0.82	0.59	0.40	—

Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 IR 10 API RD 2M	3	0.58	0.53	0.30	—
27 IR 10 API RD 3M	2	0.98	0.43	—	—
27 IR 8 API RD 2M	3	0.82	0.59	0.40	—

Cutting Data

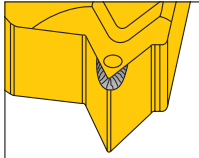
Carbide Grade		Steel (N/mm Tensile Strength)					Stainless Steel	Cast Iron	Nonferrous
		400-500	500-700	700-850	850-1150	>1150			
Cutting Speed Vc m/min.	AC22	185	160	140	105	80	105	115	350
Pitch (p) mm	TPI	No. of Passes							
0.5	48	6	6	7	7	8	8	7	6
0.75	32	8	8	9	9	10	10	9	8
1.0	24	10	10	12	12	12	12	12	10
1.25	20-19	12	12	14	14	15	15	14	12
1.5	16	15	15	17	17	18	18	17	15



Troubleshooting Problem

Cause

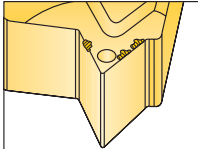
Solution



Premature Wear

- Cutting speed too high
- Infeed depth too small
- Highly abrasive material
- Inadequate coolant supply
- Wrong inclination anvil
- Wrong turned dia. prior to threading
- Insert is above center line

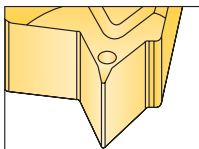
- Reduce RPM
- Modify flank infeed
- Increase depth of cut
- Use coated grade
- Apply coolant
- Reselect anvil
- Check turned dia.
- Check center height



Chipped Edge

- Cutting speed too high
- Depth of cut large
- Wrong grade
- Poor chip control
- Inadequate coolant supply
- Center height incorrect

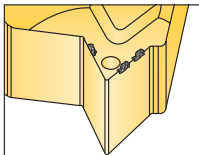
- Reduce RPM
- Reduce depth of cut
- Use coated grade
- Use tougher grade
- Modify flank infeed
- Apply coolant
- Adjust center height



Plastic Deformation

- Excessive heat in cutting zone
- Wrong grade
- Inadequate coolant supply

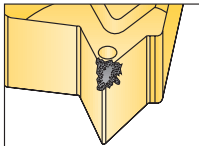
- Reduce RPM
- Reduce depth of cut
- Check turned dia.
- Use coated grade
- Use harder grade
- Apply coolant



Built-Up Edge

- Cutting edge too cold
- Wrong grade
- Inadequate coolant supply

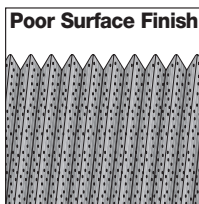
- Increase RPM
- Increase depth of cut
- Use coated grade
- Apply coolant



Broken Nose During 1st Pass

- Cutting edge too cold
- Depth of cut too large
- Wrong grade
- Wrong turned dia. prior to threading
- Corner height incorrect
- Infeed depth too shallow
- Wrong inclination anvil
- Tool overhang too long

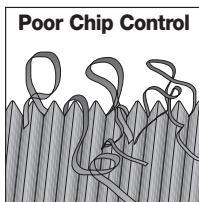
- Increase RPM
- Reduce depth of cut
- Increase number of infeed passes
- Use tougher grade
- Check turned dia.
- Adjust center height
- Modify flank infeed
- Re-select anvil
- Reduce tool overhang



Poor Surface Finish

- Wrong cutting speed
- Excessive heat in cutting zone
- Poor chip control
- Inadequate coolant supply
- Wrong inclination anvil
- Tool overhang too long
- Center height incorrect

- Increase RPM
- Reduce RPM
- Reduce depth of cut
- Modify flank infeed
- Apply coolant
- Reselect anvil
- Reduce tool overhang
- Check center height



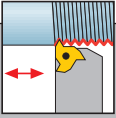
Poor Chip Control

- Excessive heat in cutting zone
- Wrong grade
- Inadequate coolant supply
- Wrong turned dia. prior to threading

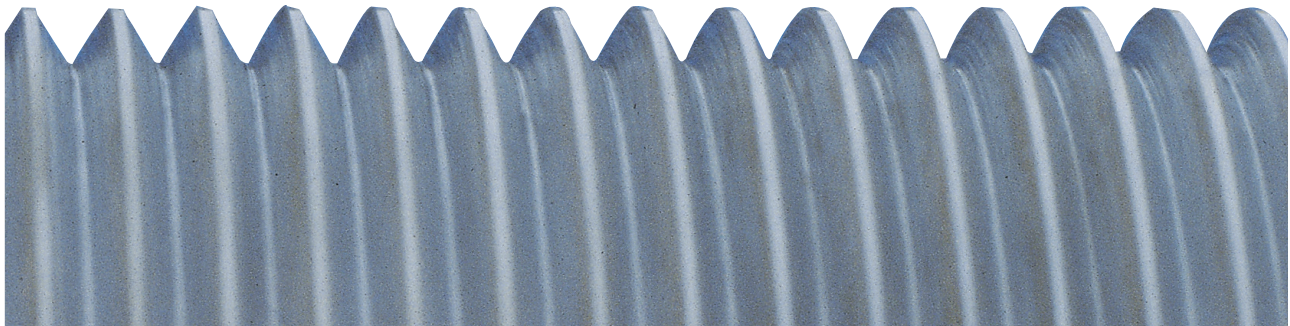
- Reduce RPM
- Change depth of cut
- Check turned dia.
- Use coated grade
- Check turned dia.
- Use Laydown insert
- Apply coolant
- Check turned dia.



Threading Grades User Guide

Material Groups	ISO P	ISO H	ISO M	ISO S	ISO K	ISO N
	1 - 11	38 - 41	12 - 14	31 - 37	15 - 20	21 - 28
 THREADING	Steel	Hard Steel	Stainless Steel	High Temp.	Cast Iron	Nonferrous
	Harder ↑ GP3 AC22 ↓ GP313 Tougher	Harder ↑ GP3 AC22 GP50 ↓ Tougher	Harder ↑ GP3 AC22 ↓ GP313 Tougher	Harder ↑ GP3 AC22 ↓ Tougher	Harder ↑ GP3 AC22 ↓ GP313 Tougher	Harder ↑ C22 ↓ GP313 Tougher

First choice ■





Machining Data for Threading

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No.
P	Non-alloy steel and 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 alloyed 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	Cast iron nodular (GGG)	Ferritic/pearlitic		180	15
		Pearlitic		260	16
	Grey cast iron (GG)	Ferritic		160	17
		Pearlitic		250	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 temperature		130	25
	Copper alloys	>1% Pb Free cutting		110	26
		Brass		90	27
		Electrolitic copper		100	28
	Non metallic	Duroplastics, fiber plastics			29
		Hard rubber			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		RM 400		36
		Alpha+beta alloys cured	RM 1050		37
H	Hardened steel	Hardened		55 HRC	38
		Hardened		60 HRC	39
	Chilled cast iron	Cast		400	40
	Cast iron	Hardened		55 HRC	41



Coated			
GP313	GP50	AC22	GP3
Cutting Speed (m/min)			
100-60	205 - 125	190-115	230-135
95-60	195 - 120	180-110	220-130
90-50	185 - 105	175-100	210-120
85-45	175 - 95	165-90	200-110
85-45	175 - 95	165-90	200-110
95-50	195 - 105	180-100	215-120
75-40	150 - 80	140-75	170-90
70-35	145 - 75	135-70	160-85
70-35	145 - 75	135-70	160-85
65-40	130 - 85	120-80	145-95
50-25	105 - 55	100-50	120-60
70-35	140 - 75	130-70	155-85
60-45	120 - 90	110-85	130-100
75-45	150 - 95	140-90	170-110
85-65	170 - 135	160-125	190-150
65-45	130 - 95	120-90	145-110
70-35	140 - 75	130-70	155-85
60-30	125 - 65	115-60	140-70
35-30	75 - 65	70-60	85-70
75-30	155 - 65	145-60	175-70
195-50	390 - 105	365-100	440-120
115-40	235 - 85	220-80	265-95
215-105	430 - 215	400-200	480-240
150-105	300 - 215	280-200	335-240
150-105	300 - 215	280-200	335-240
135-40	275 - 85	255-80	305-95
135-40	275 - 85	255-80	305-95
130-40	275 - 85	255-80	305-95
130-40	265 - 85	250-80	300-95
130-40	265 - 85	250-80	300-95
30-25	65 - 50	60-45	70-55
25-15	55 - 35	50-35	60-40
15-10	30 - 20	30-20	35-25
10-5	25 - 15	25-15	30-18
10-5	25 - 15	25-15	30-18
90-75	180 - 150	170-140	205-170
35-25	75 - 55	70-50	85-60
30-25	65 - 50	60-45	70-55
30-25	65 - 50	60-45	70-55
30-25	65 - 50	60-45	70-55
30-25	65 - 50	60-45	70-55



PANUC Series 311-MODEL B.5

X	-8.0000	0.0000
Y	0.0000	0.0000
Z	0.8603	-0.8603
A	5.0000	0.0000
B	-37.3000	0.0000

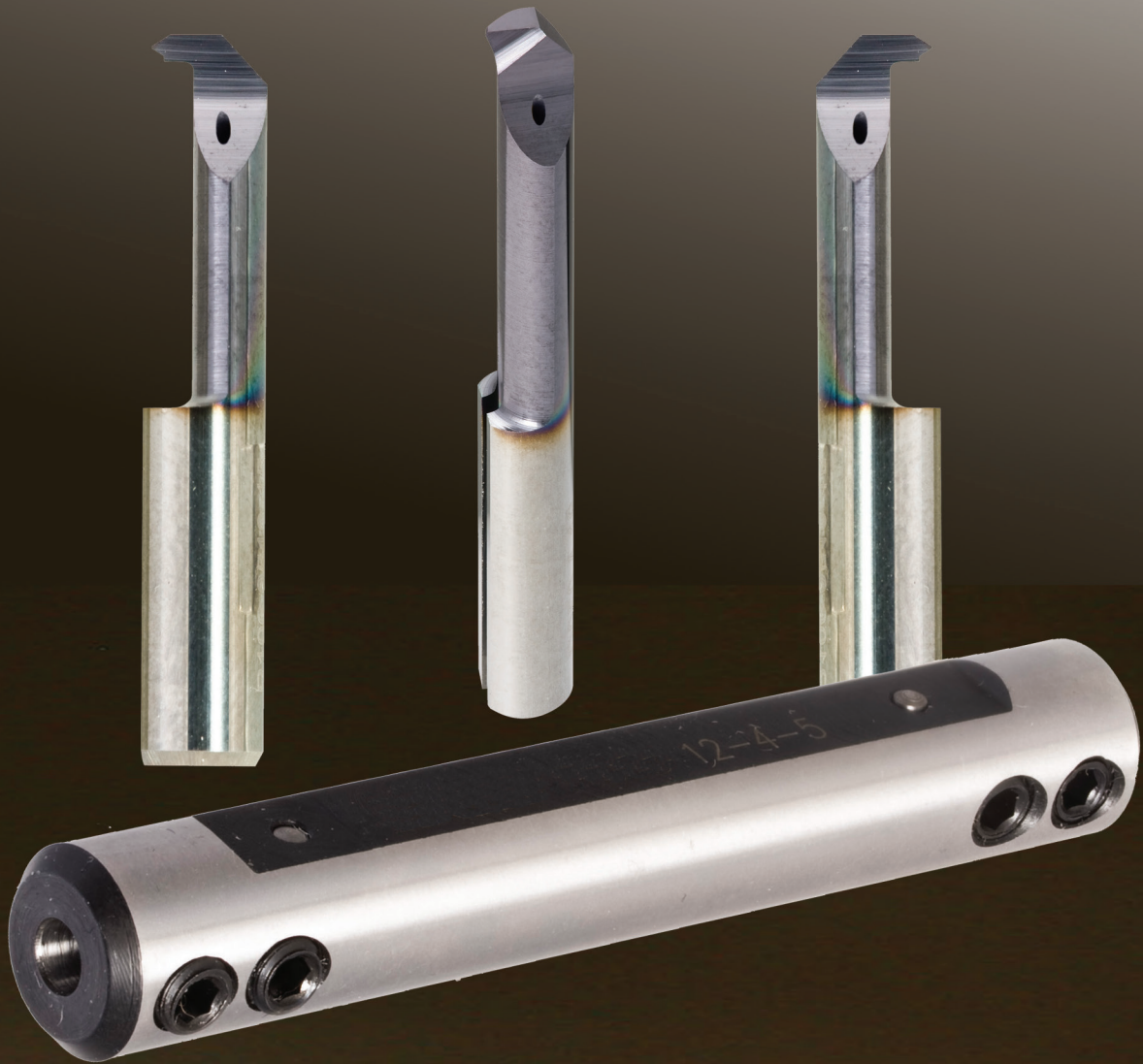
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0099	0.0000



BANTAM

Small Diameter Solid Threading Tools



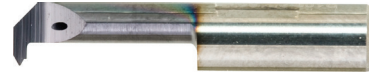
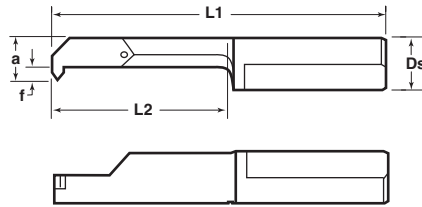
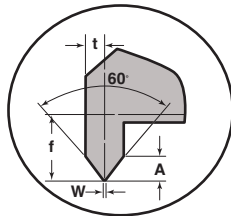
FLOMIN



MINIATURE SOLID TOOLING

THREADING

TFSC

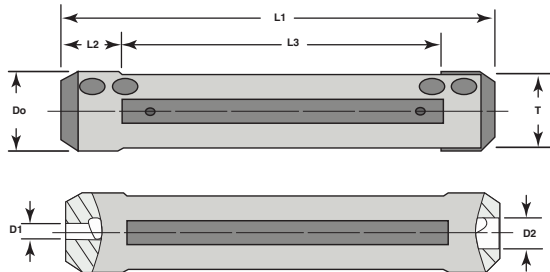


Description	EDP Code	R/L	Pitch	Min Bore Dm	W	Ds	f	a	L1	L2	A	t	GP22
TFSC04140050-D040	TFSC04140050D403S	RH	0.5	4.0	0.06	4.0	1.5	3.5	30.0	14.0	0.3	0.35	●
TFSC07140050-D050	TFSC04140050D503S	RH	0.5	5.0	0.06	7.0	0.9	4.4	30.0	14.0	0.3	0.35	●
TFSC07140075-D050	TFSC04140075D503S	RH	0.75	5.0	0.09	7.0	0.9	4.4	30.0	14.0	0.4	0.45	●
TFSC07140100-D048	TFSC04140100D403S	RH	1.0	4.8	0.12	7.0	0.9	4.4	30.0	14.0	0.6	0.55	●
TFSC07140100-D060	TFSC04140100D603S	RH	1.0	6.0	0.12	7.0	1.8	5.3	30.0	14.0	0.6	0.55	●
TFSC07140125-D060	TFSC04140125D603S	RH	1.25	6.0	0.15	7.0	1.8	5.3	30.0	14.0	0.7	0.65	●
TFSC07140150-D060	TFSC04140150D603S	RH	1.5	6.0	0.18	7.0	1.8	5.3	30.0	14.0	0.8	0.75	●
TFSC07140150-D070	TFSC04140150D703S	RH	1.5	7.0	0.18	7.0	2.8	6.3	30.0	14.0	0.8	0.75	●

EXTERNAL HOLDER

THREADING

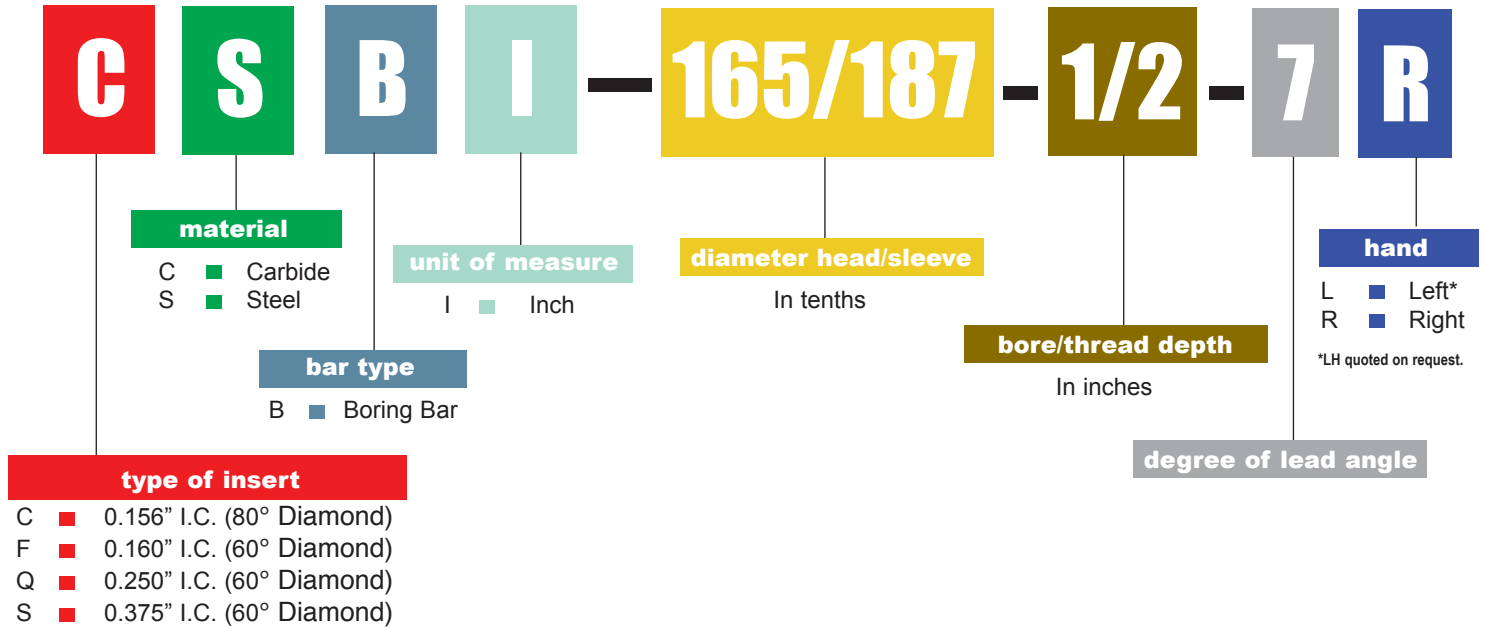
TFSH



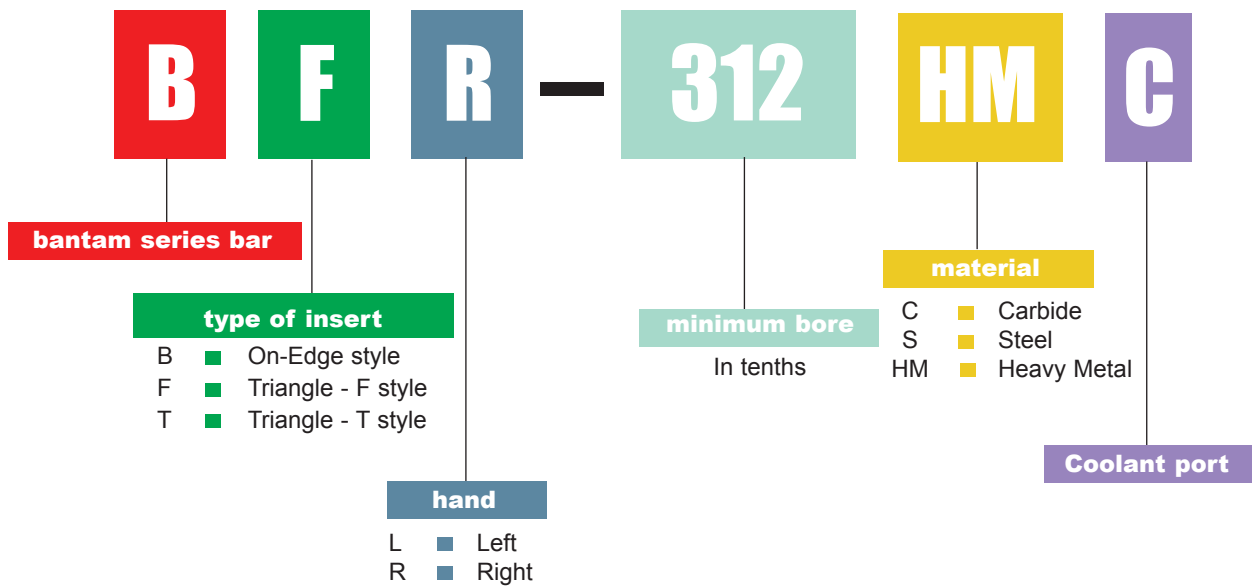
Description	EDP Code	Do	D1	D2	L1	L2	L3	T	Clamping Screw	Wrench
TFSH12-4-4	TFSH1244	12	4	4	75	10	55	10.3	SSH5-4PF-S	P-2.5
TFSH127-4-4	TFSH12744	12.7	4	4	76.2	10	56.2	11.6	SSH5-6PF-S	P-2.5
TFSH14-4-4	TFSH1444	14	4	4	75	10	55	12	SSH5-4PF-S	P-2.5
TFSH159-4-7	TFSH15947	15.9	4	7	76.2	10	56.2	14	SSH5-6PF-S	P-2.5
TFSH16-4-7	TFSH1647	16	4	7	75	10	55	15	SSH5-6PF-S	P-2.5
TFSH19-4-7	TFSH1947	19	4	7	89	10	69	17.2	SSH5-6PF-S	P-2.5
TFSH20-4-7	TFSH2047	20	4	7	90	10	70	18	SSH5-6PF-S	P-2.5
TFSH22-4-7	TFSH2247	22	4	7	90	10	70	20	SSH5-6PF-S	P-2.5
TFSH25-4-7	TFSH2547	25	4	7	100	10	80	23	SSH5-6PF-S	P-2.5
TFSH254-4-7	TFSH25447	25.4	4	7	90	10	70	23.4	SSH5-6PF-S	P-2.5



Bantam Boring Bar Nomenclature Chart



Bantam Grooving/Threading Bar Nomenclature Chart



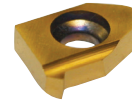
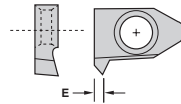


BANTAM

MINIMUM BORE .250 (6.35)

THREADING - NPT

BSVR

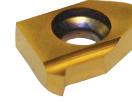
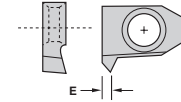


Description	EDP Code	TPI	E					
				C22	GP22	GP4	AC22	AC4
BSVR-14NPT	9BSV14R	14	.045 (1.14)			●		
BSVR-18NPT	9BSV18R	18	.033 (0.84)			●		
BSVR-27NPT	9BSV27R	27	.026 (0.66)			●		

Uncoated	TIN Coated	ATIN Coated
C22	GP22	GP4
AC22	AC4	

THREADING - UN

BSVR

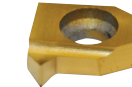
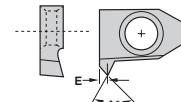


Description	EDP Code	TPI	E					
				C22	GP22	GP4	AC22	AC4
BSVR-12UN	9BSU12R	12	.040 (1.02)			●		
BSVR-16UN	9BSU16R	16	.031 (0.79)			●		
BSVR-18UN	9BSU18R	18	.029 (0.74)			●		
BSVR-20UN	9BSU20R	20	.026 (0.66)			●		
BSVR-24UN	9BSU24R	24	.023 (0.58)			●		
BSVR-28UN	9BSU28R	28	.021 (0.53)			●		
BSVR-32UN	9BSU32R	32	.019 (0.48)			●		

Uncoated	TIN Coated	ATIN Coated
C22	GP22	GP4
AC22	AC4	

55°/60° V

BSVR



Description	EDP Code	TPI	R/F	E	A					
						C22	GP22	GP4	AC22	AC4
BSVR-55	9BSV55R	16-48	.003F (0.08F)	.039 (0.99)	55°			●		
BSVR-60	9BSV60R	16-48	.003R (0.08R)	.039 (0.99)	60°			●		

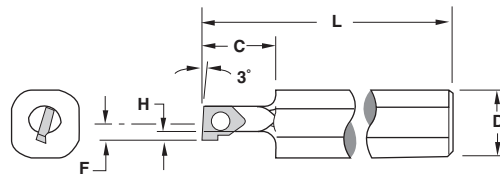
In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron		●		
Non-Ferrous		●		
Stainless/High Temp		●		
Steel		●		

BSR

Inch



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BSR-250S	9B250S	●	Steel	BSVR		5.000	.500	.500	.050	.157	.250	TS1
BSR-250SC	9B250SC	●	Steel	BSVR	✓	5.000	.500	.500	.050	.157	.250	TS1

*TS1 screw uses K05 wrench
** Dimension over sharp point

BSRM

Metric

Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BSRM-6.35S	9BM635S	●	Steel	BSVR		127.00	12.00	12.70	1.27	3.99	6.35	TS1
BSRM-6.35SC	9BM635SC	●	Steel	BSVR	✓	127.00	12.00	12.70	1.27	3.99	6.35	TS1

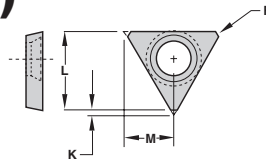
*TS1 screw uses K05 wrench
** Dimension over sharp point



MINIMUM BORE .312 (7.92)

THREADING - 60° V

BHV

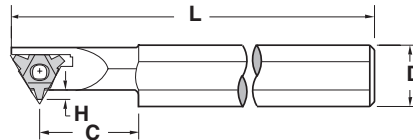


C22	Uncoated		TIN Coated		AlTiN Coated	
	GP22	GP4	AC22	AC4		
	●	●				

Description	EDP Code	TPI	F
BHV-002	9BHV002	16-48	.002 (0.05)

BHR

Inch



Description	EDP Code	Stk	Material	Insert	L	D	C	H	Min. Bore	Screw*
BHR-312S	9BHR312S	●	Steel	BHV	4.000	.500	.750	.060	.312	TS3
BHR-312HM	9BHR312HM	●	Heavy Metal	BHV	4.000	.500	1.000	.060	.312	TS3

*TS3 screw uses K1 wrench

BHRM

Metric

Description	EDP Code	Material	Insert	L	D	C	H	Min. Bore	Screw*
BHRM-7.9S	9BHRM79S	Steel	BHV	101.60	12.00	19.05	1.52	7.92	TS3
BHRM-7.9HM	9BHRM79HM	Heavy Metal	BHV	101.60	12.00	25.40	1.52	7.92	TS3

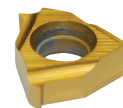
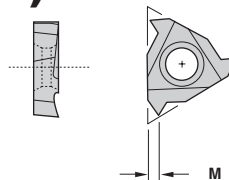
*TS3 screw uses K1 wrench



BANTAM

MINIMUM BORE .312 (7.92)

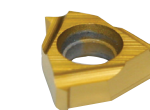
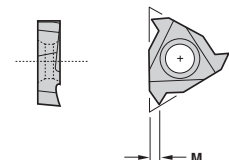
THREADING - NPT BFR3



Description	EDP Code	TPI	M	C22	GP22	GP4	AC22	AC4
BFR3-18NPT	9BFR3V18	18	.033 (0.84)		●	●		
BFR3-27NPT	9BFR3V27	27	.026 (0.66)		●	●		

Uncoated	TiN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

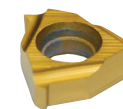
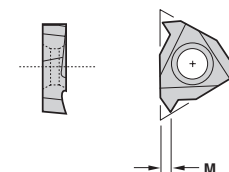
THREADING - ISO BFR3



Description	EDP Code	Pitch	C22	GP22	GP4	AC22	AC4
BFR3-0.75 ISO	9BFR3I75	0.75			●		
BFR3-1.0 ISO	9BFR3I10	1.00			●		
BFR3-1.5 ISO	9BFR3I15	1.50			●		
BFR3-1.75 ISO	9BFR3I175	1.75	●	●			

Uncoated	TiN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

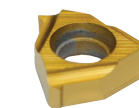
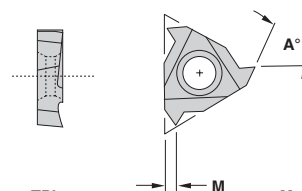
THREADING - UN BFR3



Description	EDP Code	TPI	M	C22	GP22	GP4	AC22	AC4
BFR3-20UN	9BFR3U20	20	.026 (0.66)			●		
BFR3-24UN	9BFR3U24	24	.026 (0.66)			●		
BFR3-28UN	9BFR3U28	28	.021 (0.53)			●		
BFR3-32UN	9BFR3U32	32	.019 (0.48)	●	●			

Uncoated	TiN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

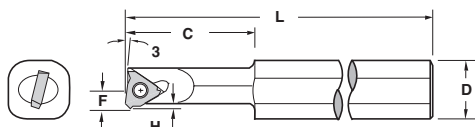
THREADING - 55°/60° V BFR3



Description	EDP Code	TPI	M	A	C22	GP22	GP4	AC22	AC4
BFR3-55V	9BFR3V55	20-48	.028 (0.71)	55°			●		
BFR3-60V	9BFR3V60	27-48	.031 (0.79)	60°			●		

Uncoated	TiN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

BFR3 Inch



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F	Min. Bore	Screw*
BFR-312S	9BF312S	●	Steel	BFR3		5.000	.500	.500	.050	.150	.312	TS25
BFR-312SC	9BF312SC	●	Steel	BFR3	✓	5.000	.500	.500	.050	.150	.312	TS25
BFR-312HM	9BF312HM	●	Heavy Metal	BFR3		5.000	.500	1.250	.050	.150	.312	TS25
BFR-312HMC	9BF312HMC	●	Heavy Metal	BFR3	✓	5.000	.500	1.250	.050	.150	.312	TS25

*TS25 screw uses K2 wrench

BFRM3 Metric

Description	EDP Code	Material	Insert	Coolant Port	L	D	C	H	F	Min. Bore	Screw*
BFRM-7.9S	9BFM79S	Steel	BFR3		127.00	12.00	12.70	1.27	3.81	7.92	TS25
BFRM-7.9SC	9BFM79SC	Steel	BFR3	✓	127.00	12.00	12.70	1.27	3.81	7.92	TS25
BFRM-7.9HM	9BFM79HM	Heavy Metal	BFR3		127.00	12.00	31.75	1.27	3.81	7.92	TS25
BFRM-7.9HMC	9BFM79HMC	Heavy Metal	BFR3	✓	127.00	12.00	31.75	1.27	3.81	7.92	TS25

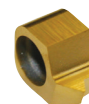
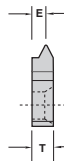
*TS25 screw uses K2 wrench



MINIMUM BORE .312 - .440 (7.92 - 11.17)

THREADING - NPT

BNVR/L



Description	EDP Code	TPI	E	T	Coating				
					C22	GP22	GP4	AC22	AC4
BNVR-14NPT	9BNP14R	14	.040 (1.02)	.137 (3.48)		●	●		
BNVL-14NPT	9BNP14L	14	.040 (1.02)	.137 (3.48)		●	●		
BNVR-18NPT	9BNP18R	18	.030 (0.76)	.137 (3.48)		●	●		
BNVL-18NPT	9BNP18L	18	.030 (0.76)	.137 (3.48)		●	●		
BNVR-27NPT	9BNP27R	27	.030 (0.76)	.137 (3.48)		●	●		
BNVL-27NPT	9BNP27L	27	.030 (0.76)	.137 (3.48)		●	●		

THREADING - UN

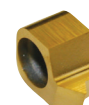
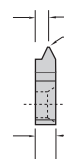
BNVR/L



Description	EDP Code	TPI	E	T	Coating				
					C22	GP22	GP4	AC22	AC4
BNVR-12UN	9BNV12R	12	.040 (1.02)	.137 (3.48)		●	●		
BNVL-12UN	9BNV12L	12	.040 (1.02)	.137 (3.48)		●	●		
BNVR-16UN	9BNV16R	16	.031 (0.79)	.137 (3.48)		●	●		
BNVL-16UN	9BNV16L	16	.031 (0.79)	.137 (3.48)		●	●		
BNVR-18UN	9BNV18R	18	.031 (0.79)	.137 (3.48)		●	●		
BNVL-18UN	9BNV18L	18	.031 (0.79)	.137 (3.48)		●	●		
BNVR-20UN	9BNV20R	20	.030 (0.76)	.137 (3.48)		●	●		
BNVL-20UN	9BNV20L	20	.030 (0.76)	.137 (3.48)		●	●		
BNVR-24UN	9BNV24R	24	.030 (0.76)	.137 (3.48)		●	●		
BNVL-24UN	9BNV24L	24	.030 (0.76)	.137 (3.48)		●	●		
BNVR-28UN	9BNV28R	28	.030 (0.76)	.137 (3.48)		●	●		
BNVL-28UN	9BNV28L	28	.030 (0.76)	.137 (3.48)		●	●		
BNVR-32UN	9BNV32R	32	.030 (0.76)	.137 (3.48)		●	●		
BNVL-32UN	9BNV32L	32	.030 (0.76)	.137 (3.48)		●	●		

THREADING - 60° V

BNVR/L



Description	EDP Code	TPI	F	E	T	GFI	C22	GP22	GP4	AC22	AC4
BNVR-60	9BNV60R	18-40	.003F	.095 (2.41)	.137 (3.48)	●	●	●	●		●
BNVL-60	9BNV60L	18-40	.003F	.095 (2.41)	.137 (3.48)			●	●		

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

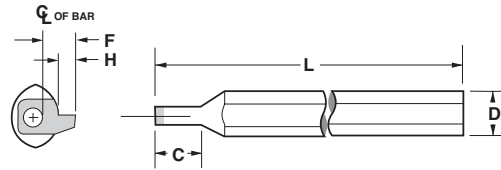
● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

Cast Iron				●	
Non-Ferrous			●		
Stainless/High Temp			●		
Steel			●		



BANTAM

BB
Inch



Description	EDP Code	Material	Insert	L	D	C	F	H	Min. Bore	Screw*
BB-312S	9B312S	Steel	BN_R/L	5.000	.500	.750	.156	.070	.312	TS25
BB-344S	9B344S	Steel	BN_R/L	5.000	.500	.750	.152	.070	.344	TS25
BB-375S	9B375S	Steel	BN_R/L	5.000	.500	.750	.1625	.070	.375	TS25
BB-440S	9B440S	Steel	BN_R/L	5.000	.500	1.000	.190	.070	.440	TS25
BB-312HM	9B312HM	Heavy Metal	BN_R/L	5.000	.500	1.000	.156	.070	.312	TS25
BB-344HM	9B344HM	Heavy Metal	BN_R/L	5.000	.500	1.000	.152	.070	.344	TS25
BB-375HM	9B375HM	Heavy Metal	BN_R/L	5.000	.500	1.250	.1625	.070	.375	TS25
BB-440HM	9B440HM	Heavy Metal	BN_R/L	5.000	.500	1.500	.190	.070	.440	TS25
BB-312C	9B312C	Carbide	BN_R/L	5.000	.500	1.250	.156	.070	.312	TS25
BB-440C	9B440C	Carbide	BN_R/L	5.000	.500	1.500	.190	.070	.440	TS25

*TS25 screw uses K2 wrench

BBM
Metric

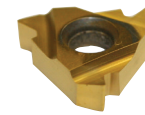
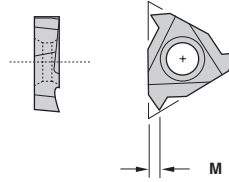
Description	EDP Code	Material	Insert	L	D	C	F	H	Min. Bore	Screw*
BBM-7.9S	9BM79S	Steel	BN_R/L	127.00	12.00	19.05	3.96	1.78	7.92	TS25
BBM-8.7S	9BM87S	Steel	BN_R/L	127.00	12.00	19.05	3.86	1.78	8.74	TS25
BBM-9.5S	9BM95S	Steel	BN_R/L	127.00	12.00	19.05	4.13	1.78	9.53	TS25
BBM-11.1S	9BM111S	Steel	BN_R/L	127.00	12.00	25.40	4.83	1.78	11.18	TS25
BBM-7.9HM	9BM79HM	Heavy Metal	BN_R/L	127.00	12.00	25.40	3.96	1.78	7.92	TS25
BBM-8.7HM	9BM87HM	Heavy Metal	BN_R/L	127.00	12.00	25.40	3.86	1.78	8.74	TS25
BBM-9.5HM	9BM95HM	Heavy Metal	BN_R/L	127.00	12.00	31.75	4.13	1.78	9.53	TS25
BBM-11.1HM	9BM111HM	Heavy Metal	BN_R/L	127.00	12.00	38.10	4.83	1.78	11.18	TS25
BBM-7.9C	9BM79C	Carbide	BN_R/L	127.00	12.00	31.75	3.96	1.78	7.92	TS25
BBM-11.1C	9BM111C	Carbide	BN_R/L	127.00	12.00	38.10	4.83	1.78	11.18	TS25

*TS25 screw uses K2 wrench

MINIMUM BORE .400 (10.16)

THREADING - NPT

BFR4

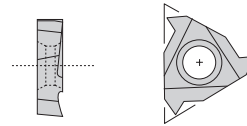


Description	EDP Code	TPI	M	C22	GP22	GP4	AC22	AC4
BFR4-18NPT	9BFR4V18	18	.033 (0.84)		●			
BFR4-27NPT	9BFR4V27	27	.026 (0.66)		●			

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

THREADING - ISO

BFR4

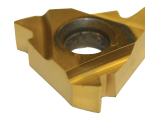
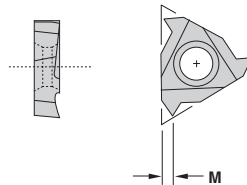


Description	EDP Code	Pitch	C22	GP22	GP4	AC22	AC4
BFR4-2.0 ISO	9BFR4I20	2.00		●			
BFR4-1.75 ISO	9BFR4I175	1.75		●			
BFR4-1.50 ISO	9BFR4I15	1.50		●			
BFR4-1.25 ISO	9BFR4I125	1.25		●			
BFR4-1.0 ISO	9BFR4I10	1.00		●			
BFR4-0.75 ISO	9BFR4I075	0.75		●			

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

THREADING - UN

BFR4

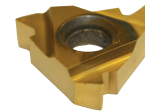
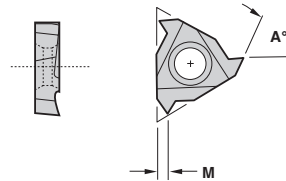


Description	EDP Code	TPI	M	C22	GP22	GP4	AC22	AC4
BFR4-12UN	9BFR4U12	12	.043 (1.09)		●			
BFR4-14UN	9BFR4U14	14	.039 (0.99)		●			
BFR4-16UN	9BFR4U16	16	.034 (0.86)		●			
BFR4-20UN	9BFR4U20	20	.026 (0.66)		●			
BFR4-24UN	9BFR4U24	24	.026 (0.66)		●			
BFR4-28UN	9BFR4U28	28	.021 (0.53)		●			
BFR4-32UN	9BFR4U32	32	.019 (0.48)		●			

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

THREADING - 55°/60° V

BFR4



Description	EDP Code	TPI	M	A	C22	GP22	GP4	AC22	AC4
BFR4-55V	9BFR4V55	14-48	.043 (1.09)	55°		●	●		
BFR4-60V	9BFR4V60	14-48	.043 (1.09)	60°		●	●		

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up-to-date grade offering.

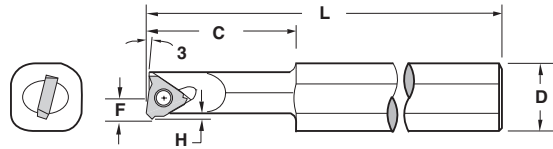
- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	●	▲		
Non-Ferrous	●	▲		
Stainless/High Temp	●	▲		
Steel	●	▲		



BANTAM

BFR4 Inch



Description	EDP Code	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BFR-400S	9BF400S	Steel	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400SC	9BF400SC	Steel	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HM	9BF400HM	Heavy Metal	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HMC	9BF400HMC	Heavy Metal	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point

BFRM4 Metric

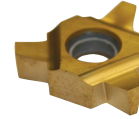
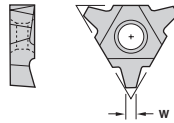
Description	EDP Code	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BFRM-10.1S	9BFM101S	Steel	BFR4		127.00	12.00	25.40	1.27	6.02	10.16	TS25
BFRM-10.1SC	9BFM101SC	Steel	BFR4	✓	127.00	12.00	25.40	1.27	6.02	10.16	TS25
BFRM-10.1HM	9BFM101HM	Heavy Metal	BFR4		127.00	12.00	25.40	1.27	6.02	10.16	TS25
BFRM-10.1HMC	9BFM101HMC	Heavy Metal	BFR4	✓	127.00	12.00	25.40	1.27	6.02	10.16	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point



MINIMUM BORE .450 (11.43)

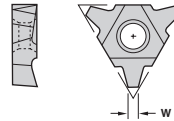
THREADING - ACME
BHR4



Uncoated		TiN Coated		AlTiN Coated	
C22	GP22	GP4	AC22	AC4	
		●			
		●			
		●			

Description	EDP Code	TPI	W	C22	GP22	GP4	AC22	AC4
BHR4-8ACME	9BHA080R	8	.0411 (1.04)			●		
BHR4-10ACME	9BHA100R	10	.0319 (0.81)			●		
BHR4-12ACME	9BHA120R	12	.0283 (0.72)			●		
BHR4-16ACME	9BHA160R	16	.0206 (0.52)			●		

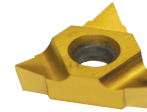
THREADING - STUB ACME
BHR4



C22	GP22	GP4	AC22	AC4
		●		
		●		
		●		

Description	EDP Code	TPI	W	C22	GP22	GP4	AC22	AC4
BHR4-8STACME	9BHA081R	8	.0476 (1.21)			●		
BHR4-10STACME	9BHA101R	10	.0370 (0.94)			●		
BHR4-12STACME	9BHA121R	12	.0326 (0.83)			●		
BHR4-16STACME	9BHA161R	16	.0238 (0.60)			●		

THREADING - 60° V
BHR4



C22	GP22	GP4	AC22	AC4
		●	●	
		●	●	
		●	●	
		●	●	

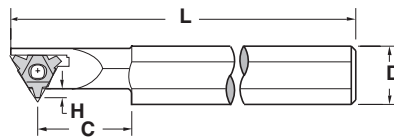
Description	EDP Code	TPI	D	C22	GP22	GP4	AC22	AC4
BHR4-60V	9BH460R	16-48	.075 (1.91)			●	●	

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

● High performance choice in optimal conditions.
 ▲ Recommended grade under general conditions.

Cast Iron	●	▲		
Non-Ferrous	●	▲		
Stainless/High Temp	●	▲		
Steel	●	▲		

BHR4
Inch



Description	EDP Code	Material	Insert	L	D	C	H	Min. Bore	Screw
BHR-450S	9BHR450S	Steel	BHR4	5.000	.500	1.000	.075	.450	TS25
BHR-450HM	9BHR450HM	Heavy Metal	BHR4	5.000	.500	1.000	.075	.450	TS25

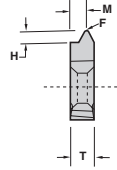
BHRM4
Metric

Description	EDP Code	Material	Insert	L	D	C	H	Min. Bore	Screw
BHRM-11.4S	9BHRM114S	Steel	BHR4	127.00	12.00	25.40	1.91	11.43	TS25
BHRM-11.4HM	9BHRM114HM	Heavy Metal	BHR4	127.00	12.00	25.40	1.91	11.43	TS25



MINIMUM BORE .500 (12.7)

THREADING - 60° V
BTVR/L



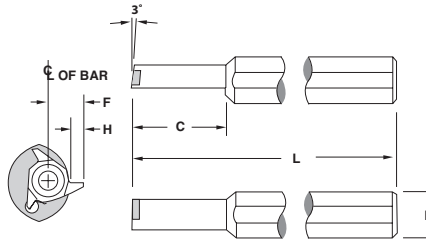
Description	EDP Code	TPI	M	H	T	F	C22	GP22	GP4	AC22	AC4
BTVR-60	9BTV60R	8-40	.047 (1.19)	.075 (1.91)	.130 (3.30)	.004 (0.10)	●	●			
BTVL-60	9BTV60L	8-40	.047 (1.19)	.075 (1.91)	.130 (3.30)	.004 (0.10)	●	●			

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

Cast Iron	●	▲		
Non-Ferrous	●	▲		
Stainless/High Temp	●	▲		
Steel	●	▲		

BTR/L Inch



Description	EDP Code	Material	Insert	L	D	C	H	F	Min. Bore	Screw*
BTR-500S	9BTR500S	Steel	BTVR	5.000	.500	1.250	.075	.225	.500	TS25
BTL-500S	9BTL500S	Steel	BTVL	5.000	.500	1.250	.075	.225	.500	TS25
BTR-500HM	9BTR500HM	Heavy Metal	BTVR	5.000	.500	1.500	.075	.225	.500	TS25
BTL-500HM	9BTL500HM	Heavy Metal	BTVL	5.000	.500	1.500	.075	.225	.500	TS25

*TS25 screw uses K2 wrench

BTRM/LM Metric

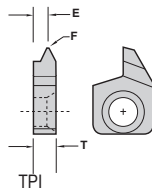
Description	EDP Code	Material	Insert	L	D	C	H	F	Min. Bore	Screw*
BTRM-12.7S	9BTRM127S	Steel	BTVR	127.00	12.00	31.75	1.91	5.72	12.70	TS25
BTLM-12.7S	9BTLM127S	Steel	BTVL	127.00	12.00	31.75	1.91	5.72	12.70	TS25
BTRM-12.7HM	9BTRM127HM	Heavy Metal	BTVR	127.00	12.00	38.10	1.91	5.72	12.70	TS25
BTLM-12.7HM	9BTLM127HM	Heavy Metal	BTVL	127.00	12.00	38.10	1.91	5.72	12.70	TS25

*TS25 screw uses K2 wrench



MINIMUM BORE .516 (13.10)

CIRCULAR INTERPOLATING
THREADMILLING
BNVR



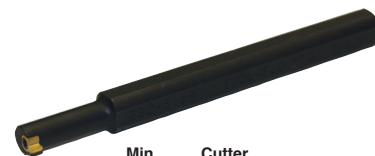
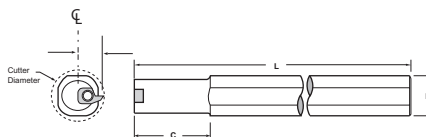
Description	EDP Code	TPI	F	E	T	C22	GP22	GP4	AC22	AC4
BNVR-60	9BNV60R	18-40	.003F (0.08F)	.095 (2.41)	.137 (3.48)	●	●	●	●	●
BNVL-60	9BNV60L	18-40	.003F (0.08F)	.095 (2.41)	.137 (3.48)	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

Cast Iron	●	●	●	●	●
Non-Ferrous	●	●	●	●	●
Stainless/High Temp	●	●	●	●	●
Steel	●	●	●	●	●

CIRCULAR INTERPOLATING
THREADMILLING & MILLGROOVING
BBC
Inch



Description	EDP Code	Material	Insert	L	D	C	Min. Dia.	Cutter Dia.	Screw*
BBC-516S	9BC516S	Steel	BN_R/L	5.000	.500	1.250	.800	.516	TS25
BBC-516HM	9BC516HM	Heavy Metal	BN_R/L	5.000	.500	1.500	.800	.516	TS25

*TS25 screw uses K2 wrench

BBCM
Metric

Description	EDP Code	Material	Insert	L	D	C	Min. Dia.	Cutter Dia.	Screw*
BBCM-13.1S	9BCM131S	Steel	BN_R/L	127.00	12.00	31.75	20.32	13.11	TS25
BBCM-13.1HM	9BCM131HM	Heavy Metal	BN_R/L	127.00	12.00	38.10	20.32	13.11	TS25

*TS25 screw uses K2 wrench

Bantam Series Kits

V-THREADING
KIT #1

Kit Contents

1	BFR-312S
10	BFR3-60V GP22
1	T8 WRENCH
1	TS25 SCREW

18NPT-THREADING
KIT #2

Kit Contents

1	BFR-312S
10	BFR3-18NPT GP22
1	T8 WRENCH
1	TS25 SCREW

27NPT-THREADING
KIT #3

Kit Contents

1	BFR-312S
10	BFR3-27NPT GP22
1	T8 WRENCH
1	TS25 SCREW



THREADING KITS
V-THREADING
KIT #1M

Kit Contents

1	BFRM-7.9S
10	BFR3-60V GP22
1	T8 WRENCH
1	TS25 SCREW

18NPT-THREADING
KIT #2M

Kit Contents

1	BFRM-7.9S
10	BFR3-18NPT GP22
1	T8 WRENCH
1	TS25 SCREW

27NPT-THREADING
KIT #3M

Kit Contents

1	BFRM-7.9S
10	BFR3-27NPT GP22
1	T8 WRENCH
1	TS25 SCREW



Technical Information (METRIC)

SURFACE METERS PER MINUTE (SM/M)							
Tool-Flo grade		uncoated		TiN coated		AlTiN coated	
		GFI	C22	GP4	GP22	AC4	AC22
WORKPIECE MATERIAL	Alloy Steel 4000 Series	18 - 36			30 - 76	30 - 54	60 - 152
	Aluminum		24 - 60		60 - 121		91 - 182
	Carbon Steel		24- 45		24 - 60	30 - 64	60 - 152
	Ductile Iron	18 - 36			30 - 76		60 - 152
	Non Metals	18 - 36	24 - 45	18 - 45	60 - 121		91 - 182
	Stainless Steel 300 Series	18 - 36	24 - 45	18 - 45	30 - 76	24 - 54	45 - 106
	Stainless Steel 400 Series	18 - 36		18 - 45	30 - 91	24 - 54	60 - 152

FEED RATE (MM/REV)			
Application	THREADING	GROOVING	BORING
WORKPIECE MATERIAL	Alloy Steel 4000 Series Set by pitch (DOC per pass= 0.051-0.102)	MM/R=0.051-0.102	0.051-0.102
	Aluminum Non-Metals Set by pitch (DOC per pass= 0.102-0.152)	MM/R=0.102-0.152	0.102-0.152
	Carbon Steel Set by pitch (DOC per pass= 0.051-.102)	MM/R=0.051-0.102	0.051-0.102
	300Stainless Steel High Temp Alloys Set by pitch (DOC per pass= 0.051-.102)	MM/R=0.051-0.102	0.051-0.102
	Stainless Steel 400 Series Set by pitch (DOC per pass= 0.051-0.102)	MM/R=0.051-0.102	0.051-0.102

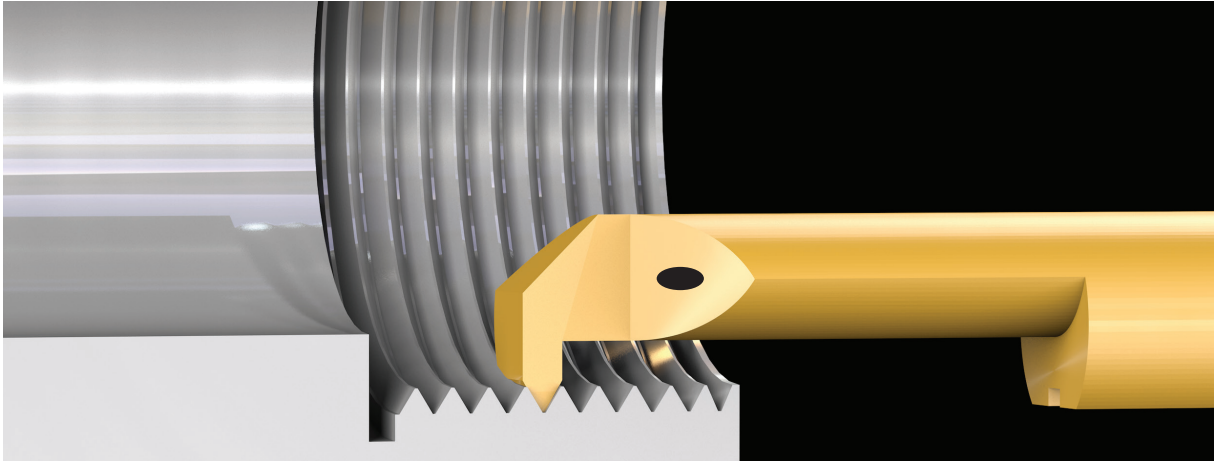
CUTTING DATA

TOOL-FLO MFG, on all threading and grooving bars, sets the cutting edge of inserts above centerline. This decreases the deflection reducing the load on the insert. The result is a better finish with less chatter. We recommend following the same procedure for boring operations.

*When using the BB-312S/HM bar with a grooving insert .062 wide or greater, reduce the recommended MM/REV by 50%.

GRADE CROSSOVER CHART		
TOOL-FLO	CIRCLE	EVEREDE
C22	C2,C3,C25	CS2,CM2
GFI	C50	CS-4, CS-6, CS-7
GP22	CG5/CM-10	CVM-2, CV-7
GP4	C-4	CT-7
AC22	CG6	CA2
AC4	C70	CC-7

Cutting Data



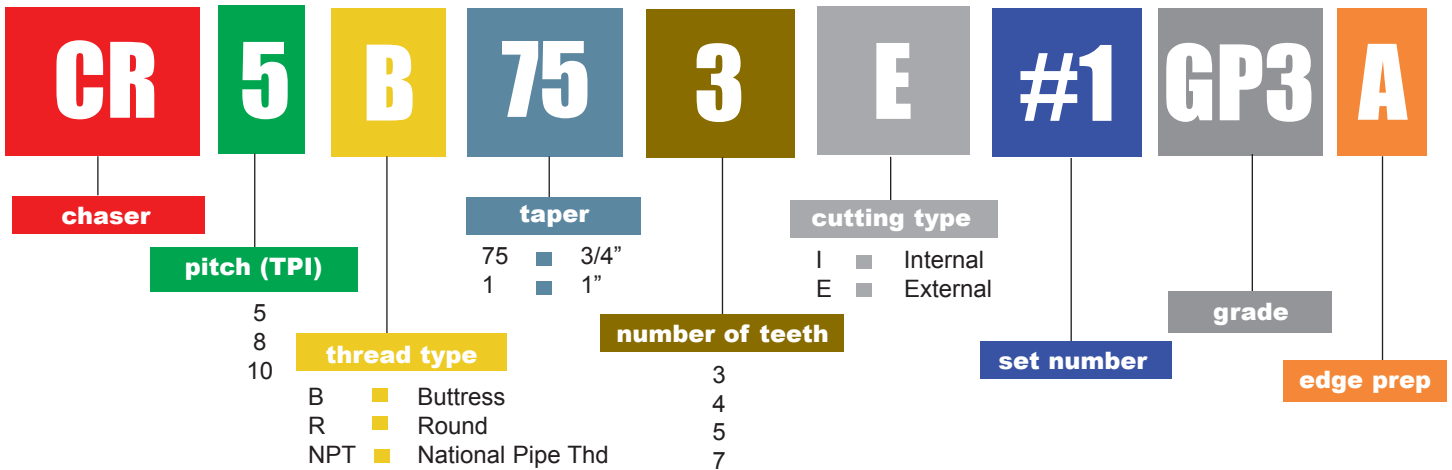
Carbide Grade		Steel (N/mm Tensile Strength)					Stainless Steel	Cast Iron	Nonferrous
Cutting Speed Vc m/min.	GP22	185	160	140	105	80	105	115	350
Pitch (p) mm	TPI	No. of Passes							
0.5	48	6	6	7	7	8	8	7	6
0.75	32	8	8	9	9	10	10	9	8
1.0	24	10	10	12	12	12	12	12	10
1.25	2019-	12	12	14	14	15	15	14	12
1.5	16	15	15	17	17	18	18	17	15

CHASER





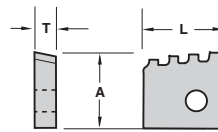
Chaser Insert Nomenclature Chart



API BUTTRESS

External

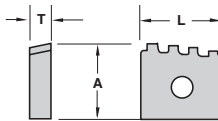
■ For holders see pg. 68



Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	ZA3	AC50
CR-5B75-3E #1	M16415188	5	3/4	.670 (17.02)	.573 (14.55)	.205 (5.21)	3	●	●	●	●
CR-5B75-3E #2	M16415189	5	3/4	.670 (17.02)	.582 (14.78)	.205 (5.21)	3	●	●	●	●
CR-5B75-3E #3	M16426149	5	3/4	.670 (17.02)	.590 (14.99)	.205 (5.21)	3	●	●	●	●
CR-5B75-3E	M1641296	5	3/4	.670 (17.02)	.590 (14.99)	.205 (5.21)	3	●	●	●	●
CR-5B75-4E	M16422675	5	3/4	.804 (20.42)	.625 (15.88)	.200 (5.08)	4	●	●	●	●
CR-5B75-5E	M16434802	5	3/4	.804 (20.42)	.625 (15.88)	.200 (5.08)	5	●	●	●	●
CR-5B1-3E	M1742052	5	1	.800 (20.32)	.640 (16.26)	.200 (5.08)	3	●	●	●	●
CR-5B1-4E	M1741130	5	1	.800 (20.32)	.640 (16.26)	.200 (5.08)	4	●	●	●	●
CR-8B75-4E	M2145353	8	3/4	.800 (20.32)	.605 (15.37)	.200 (5.08)	4	●	●	●	●

Internal

■ For bars see pg. 69

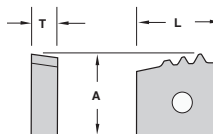


Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	ZA3	AC50
CR-5B75-2I	M16828936	5	3/4	.630 (16.00)	.622 (15.80)	.204 (5.18)	2	●	●	●	●
CR-5B75-3I	M1681847	5	3/4	.630 (16.00)	.577 (14.66)	.204 (5.18)	3	●	●	●	●
CR-5B75-4I	M1681347	5	3/4	.800 (20.32)	.582 (14.78)	.205 (5.21)	4	●	●	●	●
CR-5B75-5I	M16815688	5	3/4	1.000 (25.40)	.590 (14.99)	.205 (5.21)	5	●	●	●	●
CR-5B1-3I	M1782052	5	1	.635 (16.13)	.635 (16.13)	.200 (5.08)	3	●	●	●	●
CR-5B1-4I	M1782051	5	1	.800 (20.32)	.640 (16.26)	.200 (5.08)	4	●	●	●	●
CR-8B75-4I	M2185353	8	3/4	.800 (20.32)	.590 (14.99)	.205 (5.21)	4	●	●	●	●

API ROUND

External

■ For holders see pg. 68



Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	AC3	AC50
CR-8R-3E #1	M32416731	8	3/4	.630 (16.00)	.577 (14.66)	.204 (5.18)	3	●	●	●	●
CR-8R-3E #2	M32416732	8	3/4	.630 (16.00)	.586 (14.88)	.204 (5.18)	3	●	●	●	●
CR-8R-3E #3	M32416733	8	3/4	.630 (16.00)	.591 (15.01)	.204 (5.18)	3	●	●	●	●
CR-8R-3E	M32419310	8	3/4	.630 (16.00)	.592 (15.04)	.204 (5.18)	3	●	●	●	●
CR-8R-4E 6°	M3241136	8	3/4	.640 (16.26)	.625 (15.88)	.200 (5.18)	4	●	●	●	●
CR-8R-4E 12°	M3241163	8	3/4	.635 (16.13)	.625 (15.88)	.200 (5.18)	4	●	●	●	●
CR-10R-3E #1	M34416728	10	3/4	.628 (15.95)	.563 (14.30)	.204 (5.18)	3	●	●	●	●
CR-10R-3E #2	M34416729	10	3/4	.628 (15.95)	.572 (14.53)	.204 (5.18)	3	●	●	●	●
CR-10R-3E #3	M34416730	10	3/4	.628 (15.95)	.575 (14.61)	.204 (5.18)	3	●	●	●	●
CR-10R-3E	M3441291	10	3/4	.630 (16.00)	.625 (15.88)	.204 (5.18)	3	●	●	●	●

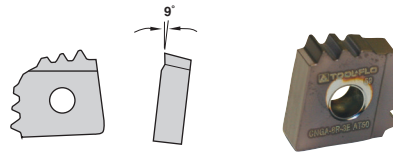


API ROUND & BUTTRESS

External

CNGA - Double Sided (2 cutting edges)

■ For holders see pg. 68

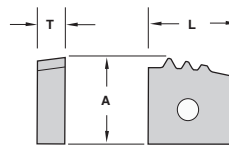


Description	EDP Code	TPI	TPF	No. of Teeth	G50	GP50	ZA3	AC50
CNGA-8R-3E	M32427407	8	3/4	3		●		●
CNGA-10R-3E	M34427408	10	3/4	3		●		●
CNGA-5B75-3E	M16427408	5	3/4	3		●		●

API ROUND

Internal

■ For bars see pg. 69

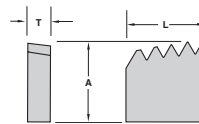


Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	AC50	ZA50
CR-8R-3I	M3287464	8	3/4	.630 (16.00)	.592 (15.04)	.204 (5.18)	3	●	●	●	
CR-8R-4I	M3281136	8	3/4	.635 (16.13)	.625 (15.88)	.204 (5.18)	4	●	●	●	
CR-8R-4I	M32819437	8	3/4	.640 (16.26)	.625 (15.88)	.204 (5.18)	4	●	●	●	
CR-8R-7I	M32814828	8	3/4	1.000 (25.40)	.625 (15.88)	.204 (5.18)	7	●	●	●	
CR-8R-7I	M32817968	8	3/4	1.000 (25.40)	.625 (15.88)	.204 (5.18)	7	●	●	●	
CR-10R-3I	M3481291	10	3/4	.630 (16.00)	.625 (15.88)	.204 (5.18)	3	●	●	●	

NPT/LPT

External

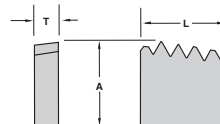
■ For holders see pg. 68



Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	AC3	AC50
CR-8NPT-4E	M3648996	8	3/4	.630 (16.00)	.620 (15.75)	.204 (5.18)	4	●	●		●
CR-11.5NPT-4E	M3649668	11.5	3/4	.625 (15.88)	.620 (15.75)	.1875 (4.76)	4	●	●		●
CR-8P-3E WW	M50928966	8	0	.630 (16.00)	.592 (15.04)	.204 (5.18)	3	●	●		●

Internal

■ For bars see pg. 69



Description	EDP Code	TPI	TPF	L	A	T	No. of Teeth	G50	GP50	AC3	AC50
CR-8NPT-4I	M3689804	8	3/4	.625 (15.88)	.620 (15.75)	.204 (5.18)	4	●	●		●
CR-11.5NPT-4I	M36823951	11.5	3/4	.625 (15.88)	.620 (15.75)	.1875 (4.76)	4	●	●		●
CR-8NPT-7I	M36817755	8	3/4	1.000 (25.40)	.615 (15.62)	.2000 (5.08)	7	●	●		●
CR-8P-3I WW	M50828192	8	0	.625 (15.88)	.592 (15.04)	.204 (5.18)	3	●	●		●

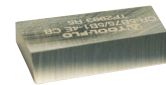
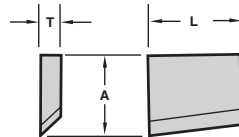
In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

J-Series	▲	▲	●	●
K-Series	▲	▲	●	●
L-Series	▲	▲	●	●
N-Series	▲	▲	●	●
P-Series	▲	▲	●	●
Q-Series	▲	▲	●	●

CHIPBREAKERS

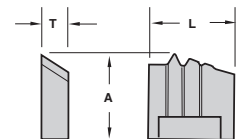
External



Description	EDP Code	L	A	T	Inserts
CR-5B75/5B1-4E-CB	TF2993	.800 (20.32)	.500 (12.70)	.125 (3.18)	CR-5B75-4E/CR-5B1-4E
CR-8R/10R-3E/4E-CB	TF1353E	.625 (15.88)	.460 (11.68)	.120 (3.05)	CR-8R-3E/CR-8R-4E/CR-10R-3E/CR-8NPT-4E
#3 CB without COOLANT GROOVES .170	TF26424	.618 (15.70)	.460 (11.68)	.170 (4.32)	CR-8R-3E/CR-8R-4E/CR-10R-3E/CR-8NPT-4E

External with coolant grooves

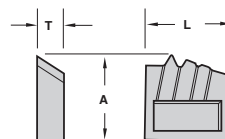
Also available at $-.010 (-0.25)$, $-.020 (-0.50)$
and $-.030 (-0.76)$ off the A dimension.



Description	EDP Code	L	A	T	Coolant Grooves	Inserts
TD4601 5B75-1-CB	TF16660	.665 (16.89)	.530 (13.46)	.170 (4.32)	✓	CR-5B75-3E #1
TD4602 5B75-2-CB	TF16661	.668 (16.97)	.543 (13.79)	.170 (4.32)	✓	CR-5B75-3E #2
TD4603 5B75-3-CB	TF16662	.665 (16.89)	.553 (14.05)	.170 (4.32)	✓	CR-5B75-3E #3
TD3931 8R-1-CB	TF16657	.628 (15.95)	.518 (13.16)	.175 (4.45)	✓	CR-8R-3E #1
TD3932 8R-2-CB	TF16658	.635 (16.13)	.526 (13.36)	.175 (4.45)	✓	CR-8R-3E #2
TD3933 8R-3-CB	TF16659	.630 (16.00)	.540 (13.72)	.175 (4.45)	✓	CR-8R-3E #3
TA2237 10R-1-CB	TF16760	.628 (15.95)	.503 (12.78)	.175 (4.45)	✓	CR-10R-3E #1
TA2238 10R-2-CB	TF16761	.628 (15.95)	.512 (13.00)	.175 (4.45)	✓	CR-10R-3E #2
TA2239 10R-3-CB	TF16762	.628 (15.95)	.515 (13.08)	.175 (4.45)	✓	CR-10R-3E #3
#3 CB W/COOLANT GROOVES .170	TF26423	.618 (15.17)	.460 (11.68)	.170 (4.32)	✓	CR-8R-3E

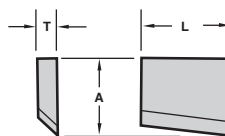
External with coolant grooves and cavity

Also available at $-.010 (-0.25)$, $-.020 (-0.50)$
and $-.030 (-0.76)$ off the A dimension.



Description	EDP Code	L	A	T	Coolant Grooves	Inserts
TD4601 5B75-1-CB W/CAVITY	TF30297	.665 (16.89)	.550 (13.97)	.170 (4.32)	✓	CR-5B75-3E #1
TD4602 5B75-2-CB W/CAVITY	TF30298	.668 (16.97)	.550 (13.97)	.170 (4.32)	✓	CR-5B75-3E #2
TD4603 5B75-3-CB W/CAVITY	TF30299	.665 (16.89)	.560 (14.22)	.170 (4.32)	✓	CR-5B75-3E #3
TD3931 8R-1-CB W/CAVITY	TF28130	.628 (15.95)	.518 (13.16)	.165 (4.19)	✓	CR-8R-3E #1
TD3932 8R-2-CB W/CAVITY	TF28131	.635 (16.13)	.526 (13.36)	.165 (4.19)	✓	CR-8R-3E #2
TD3933 8R-3-CB W/CAVITY	TF28132	.628 (15.95)	.520 (13.21)	.165 (4.19)	✓	CR-8R-3E #3

Internal



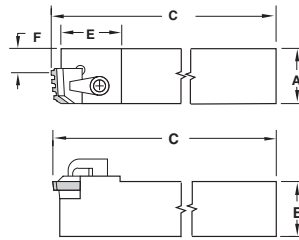
Description	EDP Code	L	A	T	Coolant Grooves	Inserts
CR-5B75/5B1-4I-CB	TF16104	.800 (20.32)	.500 (12.70)	.125 (3.18)		CR-5B75-4I/CR-5B1-4I
CR-8R/10R-3I/4I-CB	TF1353I	.630 (16.00)	.488 (12.40)	.125 (3.18)		CR-8R-3I/CR-8R-4I/CR-10R-3I/CR-8LPT-4I
CR-5B75-5I-CB	TF28765	1.000 (25.40)	.540 (13.72)	.125 (3.18)	✓	CR-5B75-5I
CR-8R-7I-CB	TF3435	1.000 (25.40)	.520 (13.21)	.125 (3.18)		CR-8R-7I
CR-8R-7I-CB	TF18096	1.010 (25.65)	.540 (13.72)	.125 (3.18)	✓	CR-8R-7I



EXTERNAL HOLDER

Threading
CLVOR

Most holders available with coolant port
(ie: Add CP to end of description)



Description	EDP Code	Insert	A	B	C	E	F	Seat	Seat Screw	Clamp	Clamp Screw	Chip Breaker
CLVOR-166	92601694	3 TOOTH*	1	1	8	1.25	.475	TF1207	SF80	TC311	STC-4	TF1353
CLVOR-206	92602060	3 TOOTH*	1-1/4	1-1/4	7	1.25	.725	TF1207	SF80	TC311	STC-4	TF1353
CLVOR-168	92601696	4 TOOTH**	1	1	6	1.25	.800	TF8132E	SF80	TC311	STC-4	TF2993
CLVOR-208	92602096	4 TOOTH**	1-1/4	1-1/4	7	1.25	.800	TF8132E	SF60	TC311	STC-4	TF2993
CLVOR-248	92602496	4 TOOTH**	1-1/2	1-1/2	7	1.25	.800	TF8132E	SF60	TC311	STC-4	TF2993

*Accepts 3 & 4 Tooth RD, NPT, and 3 Tooth Buttress **Accepts 4 Tooth Buttress Only

Description	EDP Code	Insert	A	B	C	E	F	Seat	Seat Screw	Clamp	Clamp Screw	Chip Breaker
CLVOR-25M6	9260M2594	3 TOOTH*	25	25	170	32	16.10	TF1207	SFM80	CLM12	XNSM-0825	TF1353#
CLVOR-32M6	9260M3294	3 TOOTH*	32	32	170	32	16.10	TF1207	SFM80	CLM12	XNSM-0825	TF1353#
CLVOR-40M6	9260M4094	3 TOOTH*	40	40	170	32	20.32	TF1207	SFM85	CLM12	XNSM-0825	TF1353#
CLVOR-25M8	9260M2596	4 TOOTH**	25	25	170	32	20.32	TF8132E	SFM80	CLM12	XNSM-0825	TF2993#
CLVOR-32M8	9260M3296	4 TOOTH**	32	32	170	32	20.32	TF8132E	SFM60	CLM12	XNSM-0825	TF2993#
CLVOR-40M8	9260M4096	4 TOOTH**	40	40	170	32	20.32	TF8132E	SFM60	CLM12	XNSM-0825	TF2993#

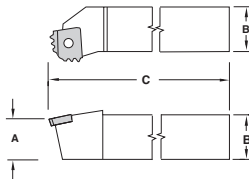
*Accepts 3 & 4 Tooth RD, NPT, and 3 Tooth Buttress **Accepts 4 Tooth Buttress Only

#Chipbreakers sold separately.

PCFNR

For double sided CNGA chaser style

Most holders available with coolant port
(ie: Add CP to end of description)



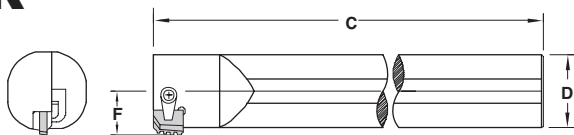
RH SHOWN

Description	EDP Code	Insert	A	B	C	Lock Pin	Clamp	Clamp Screw
PCFNR-165	96301664	CNGA 8R/10R/5B75-3E	1	1	6	NL-44	TC250	STC-11
PCFNR-205	96302064	CNGA 8R/10R/5B75-3E	1-1/4	1-1/4	6	NL-44	TC250	STC-11

Description	EDP Code	Insert	A	B	C	Lock Pin	Clamp	Clamp Screw
PCFNR-25M5	963025M64	CNGA 8R/10R/5B75-3E	25	25	150	NL-44	TC250	STC-11
PCFNR-32M5	963032M64	CNGA 8R/10R/5B75-3E	32	32	150	NL-44	TC250	STC-11

INTERNAL BAR

Threading
SI-CLHOR



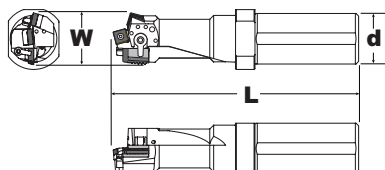
Description	EDP Code	Insert	D	F	C	Min. Bore	Seat	Seat Screw	Clamp	Clamp Screw
SI-CLHOR-32M6	970032M94	CR-8R-3I	32	19.1	350	38.1	-	-	CLM12	STCM-8
		CR-8R-4I	32	19.1	350	38.1	-	-	CLM12	STCM-8
		CR-5B75-3I	32	19.1	350	38.1	-	-	CLM12	STCM-8
SI-CLHOR-40M6	970040M94	CR-8R-3I	40	23.16	400	50.8	-	-	CLM12	STCM-8
		CR-8R-4I	40	23.16	400	50.8	-	-	CLM12	STCM-8
		CR-5B75-3I	40	23.16	400	50.8	-	-	CLM12	STCM-8
SI-CLHOR-50M6	970050M94	CR-8R-3IDC	50	28.6	350	57.2	TF1780I	SFM60	CLM12	STCM-8
SI-CLHOR-50M8	970050M96	CR-5B1-4I	50	28.6	350	57.2	TF8132I	SFM60	CLM12	STCM-8
		CR-5B75-4I	50	28.6	350	57.2	TF8132I	SFM60	CLM12	STCM-8
		CR-8B75-4I	50	28.6	350	57.2	TF8132I	SFM60	CLM12	STCM-8
SI-CLHOR-60M8	970060M96	CR-5B1-4I	60	34.9	350	69.9	TF8132I	SFM60	CLM12	STCM-8
		CR-5B75-4I	60	34.9	350	69.9	TF8132I	SFM60	CLM12	STCM-8
		CR-8B75-4I	60	34.9	350	69.9	TF8132I	SFM60	CLM12	STCM-8
SI-CLHOR-50M9	970050M98	CR-8R-7I	50	28.6	400	57.2	TF3218	SFM48	CLM12	XNSM-0825
SI-CLHOR-60M9	970060M98	CR-5B75-5I	60	34.9	400	69.9	TF3218	SFM48	CLM12	XNSM-0825

Description	EDP Code	Insert	D	F	C	Min. Bore	Seat	Seat Screw	Clamp	Clamp Screw
SI-CLHOR-206	97002094	CR-8R-3I	1-1/4	.750	14	1.500	-	-	TC311	STC-8
		CR-8R-4I	1-1/4	.750	14	1.500	-	-	TC311	STC-8
		CR-5B75-3I	1-1/4	.750	14	1.500	-	-	TC311	STC-8
SI-CLHOR-326	97003294	CR-8R-3IDC	2	1.125	14	2.250	TF1780I	SF60	TC311	STC-8
SI-CLHOR-328	97003296	CR-5B1-4I	2	1.125	14	2.250	TF8132I	SF60	TC311	STC-8
		CR-5B75-4I	2	1.125	14	2.250	TF8132I	SF60	TC311	STC-8
		CR-8B75-4I	2	1.125	14	2.250	TF8132I	SF60	TC311	STC-8
SI-CLHOR-408	97004096	CR-5B1-4I	2-1/2	1.375	14	2.750	TF8132I	SF60	TC311	STC-8
		CR-5B75-4I	2-1/2	1.375	14	2.750	TF8132I	SF60	TC311	STC-8
		CR-8B75-4I	2-1/2	1.375	14	2.750	TF8132I	SF60	TC311	STC-8
SI-CLHOR-329	97003298	CR-8R-7I	2	1.125	16	2.250	TF3218	SF48	TC311	STC-4
SI-CLHOR-409	97004098	CR-5B75-5I	2-1/2	1.375	16	2.750	TF3218	SF48	TC311	STC-4

COMBINATION BAR

CR Chaser style

Threading, Facing and Turning
ALL-IN-ONE

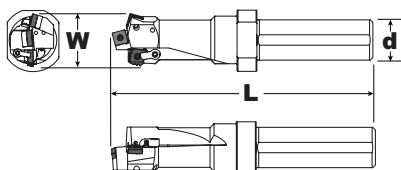


Description	EDP Code	W	d	L	Chaser	Turning Insert	Seat Screw	CHASER SPARE PARTS				TURNING SPARE PARTS			
								Seat	Side Clamp	Clamp Screw	Insert Clamp	Clamp Screw	Seat	Clamp	Clamp Pin
SI-CLHORM-329	97103298	1.992	2.000	8.990	CR-8R-7I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
					CR-5B75-5I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
SI-CLHORM-40M9	9710M4098	1.992	40	250	CR-8R-7I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
					CR-5B75-5I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
SI-CLHORM-50M9	9710M5098	2.467	50	300	CR-8R-7I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
					CR-5B75-5I*	SNMG-43_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-433	CLM-7	NL-46
SI-CLHORM-60M9	9710M6098	3.146	60	350	CR-8R-7I*	SNMG-64_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-633	CLM-12	NL-68
					CR-5B75-5I*	SNMG-64_*	SF-48	TF3218	TC-191	XNS-35	TC-311	XNS-59	ISSN-633	CLM-12	NL-68

*These items are sold separately.

CNGA Chaser style (Double sided)

Threading, Facing and Turning
ALL-IN-ONE



							TURNING SPARE PARTS				CHASER SPARE PARTS		
Description	EDP Code	W	d	L	Chaser	Turning Insert	Lock Pin	Seat	Clamp	Clamp Screw	Clamp	Clamp Screw	Lock Pin
SI-PCLHORM-329	97153298	1.977	2.000	228.6	CNGA-8R-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
					CNGA-5B75-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
SI-PCLHORM-40M9	9715M4098	1.977	40	250	CNGA-8R-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
					CNGA-5B75-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
SI-PCLHORM-50M9	9715M5098	2.467	50	300	CNGA-8R-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
					CNGA-5B75-3I*	SNMG-43_*	NL-46	ISSN-433	CLM-7	STCM-9	CLM-20	STCM-11	NL-44
SI-PCLHORM-60M9	9715M6098	3.144	60	350	CNGA-8R-3I*	SNMG-64_*	NL-68	ISSN-633	CLM-12	STCM-8	CLM-20	STCM-11	NL-44
					CNGA-5B75-3I*	SNMG-64_*	NL-68	ISSN-633	CLM-12	STCM-8	CLM-20	STCM-11	NL-44

*These items are sold separately.



Technical Information

API ROUND THREADING	8 & 10 PITCH
application	surface feet/minute (SFPM)
External	500 - 800
Internal	500 - 700

API BUTTRESS THREADING	5 PITCH
application	surface feet/minute (SFPM)
External	300 - 500
Internal	500 - 700

- Number of passes is dictated by the number of teeth on the insert.
 - 3-4 tooth requires 3-5 passes
 - 7 tooth requires 1-2 passes
 - One or two additional passes may be required for heat treated materials.

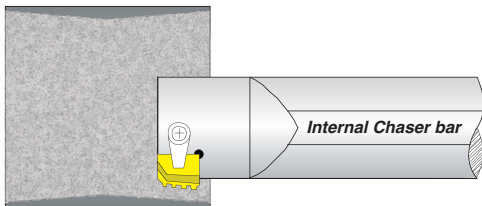
Technical Information - Metric

API ROUND THREADING	8 & 10 PITCH
application	surface meters/minute (M/MIN)
External	152.40 - 243.84
Internal	152.40 - 213.36

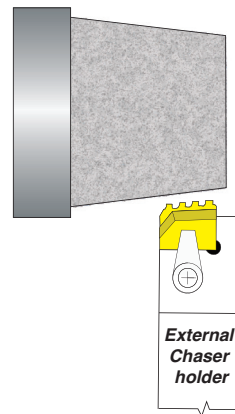
API BUTTRESS THREADING	5 PITCH
application	surface meters/minute (M/MIN)
External	91.44 - 152.40
Internal	152.40 - 213.36

- Number of passes is dictated by the number of teeth on the insert.
 - 3-4 tooth requires 3-5 passes
 - 7 tooth requires 1-2 passes
 - One or two additional passes may be required for heat treated materials.

internal chaser application



external chaser application





Technical Information - Metric

Recommended M/MIN for Chasers

EXTERNAL 8 Round Sets	1st Choice AITIN PVD	2nd Choice AITIN PVD	AITIN PVD	CVD	General purpose TIN PVD
Material	ZA3	AC3	AC50	G50	GP50

H	152	152	152	152	243
J	152	152	152	152	243
K	152	152	152	152	243
L	152	152	152	152	182
N	152	152	152	152	182
P	152	152	152	152	182

ZA3 - All diameters
AC3 - All diameters
AC50 - All diameters
G50 - 4-1/2" - 9-5/8" Casing
GP50 - 2-3/8" - 3-1/2" Tubing

EXTERNAL 8 Round Stand Alone TF19310	1st Choice AITIN PVD	2nd Choice AITIN PVD	TIN PVD	TIN CVD
Material	ZA3	AC3	AC50	G50

H	152	152	152	152
J	152	152	152	152
K	152	152	152	152
L	152	152	152	152
N	152	152	152	152
P	152	152	152	152

AC50 - 3-1/2" - 7" diameters
G50 - Only over 7" diameters
4 PASSES

INTERNAL 8 Round Stand Alone TF19437 4 TOOTH Material	1st Choice AITIN PVD	AITIN PVD	AITIN PVD
Material	ZA3	AC3	AC50

H	213	213	213
J	213	213	213
K	213	213	213
L	213	213	213
N	213	213	213
P	213	213	213

ZA3 - All diameters
AC3 - All diameters
AC50 - All diameters
4-5 PASSES

INTERNAL 8 Round Stand Alone TF1968 7 TOOTH Material	1st Choice AITIN PVD	2nd Choice AITIN PVD	TIN PVD
Material	ZA3	AC3	AC50

H	152	152	213
J	152	152	213
K	152	152	213
L	152	152	213
N	152	152	213
P	152	152	213

AC50 - All diameters
1-2 PASSES

EXTERNAL Buttress Sets	1st Choice AITIN PVD	TIN CVD
Material	ZA3	G50

H		152
J		152
K		152
L		152
N		152
P		152

G50 - All diameters

EXTERNAL Buttress Stand Alone TF22675 3/4" TAPER Material	1st Choice AITIN PVD	TIN CVD
Material	ZA3	G50

H		243
J		243
K		243
L		182
N		182
P		182

G50 - All diameters
5 PASSES

EXTERNAL Buttress Stand Alone TF1130 1" TAPER Material	1st Choice AITIN PVD	TIN CVD
Material	ZA3	G50

H		243
J		243
K		243
L		182
N		182
P		182

G50 - All diameters
5 PASSES

INTERNAL Buttress Stand Alone TF22675 3/4" TAPER Material	1st Choice AITIN PVD	TIN CVD
Material	ZA3	G50

H		243
J		243
K		243
L		182
N		182
P		182

G50 - All diameters
5 PASSES



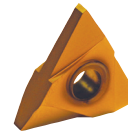
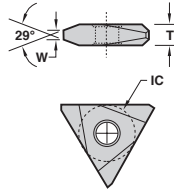
ON-EDGE



ACME

TNMA

Straight hole

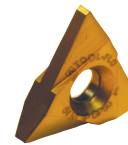
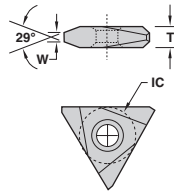


Description	EDP Code	TPI	W	IC	T	Coating					
						Uncoated	TIN Coated	AlTiN Coated	C25	C6H	GP3
TNMA 32 NT 6P	0208060	6	.0566 (1.44)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 32 NT 8P	0208080	8	.0411 (1.04)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 32 NT 10P	0208100	10	.0319 (0.81)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 32 NT 12P	0208120	12	.0283 (0.72)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 32 NT 14P	0208140	14	.0239 (0.61)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 32 NT 16P	0208160	16	.0206 (0.52)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMA 43 NT 4P	0239040	4	.0875 (2.22)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 5P	0239050	5	.0689 (1.75)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 6P	0239060	6	.0566 (1.44)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 8P	0239080	8	.0411 (1.04)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 10P	0239100	10	.0319 (0.81)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 12P	0239120	12	.0283 (0.72)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 14P	0239140	14	.0239 (0.61)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 43 NT 16P	0239160	16	.0206 (0.52)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMA 54 NT 3P	0251030	3	.1184 (3.00)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMA 54 NT 3.5P	0251035	3.5	.1007 (2.55)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMA 54 NT 4P	0251040	4	.0875 (2.22)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMA 54 NT 5P	0251050	5	.0689 (1.75)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMA 55 NT 2.5P	02550250	2.5	.1431 (3.63)	5/8	.312 (7.92)	●	●	●	●	●	●
TNMA 66 NT 2P	0279020	2	.1802 (4.58)	3/4	.375 (9.53)	●	●	●	●	●	●

*Acme threads provided with sharp corners - radius available on a quotation basis.

TNMC

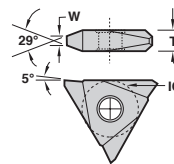
Countersink hole



Description	EDP Code	TPI	W	IC	T	Coating					
						Uncoated	TIN Coated	AlTiN Coated	C25	C6H	GP3
TNMC 32 NT 6P	0209060	6	.0566 (1.44)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 32 NT 8P	0209080	8	.0411 (1.04)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 32 NT 10P	0209100	10	.0319 (0.81)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 32 NT 12P	0209120	12	.0283 (0.72)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 32 NT 14P	0209140	14	.0239 (0.61)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 32 NT 16P	0209160	16	.0206 (0.52)	3/8	.127 (3.23)	●	●	●	●	●	●
TNMC 43 NT 4P	0241040	4	.0875 (2.22)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 5P	0241050	5	.0689 (1.75)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 6P	0241060	6	.0566 (1.44)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 8P	0241080	8	.0411 (1.04)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 10P	0241100	10	.0319 (0.81)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 12P	0241120	12	.0283 (0.72)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 14P	0241140	14	.0239 (0.61)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 43 NT 16P	0241160	16	.0206 (0.52)	1/2	.189 (4.80)	●	●	●	●	●	●
TNMC 54 NT 3P	0253030	3	.1184 (3.00)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMC 54 NT 3.5P	0253035	3.5	.1007 (2.55)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMC 54 NT 4P	0253040	4	.0875 (2.22)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMC 54 NT 5P	0253050	5	.0689 (1.75)	5/8	.252 (6.40)	●	●	●	●	●	●
TNMC 55 NT 2.5P	02560250	2.5	.1431 (3.63)	5/8	.312 (7.92)	●	●	●	●	●	●
TNMC 66 NT 2P	0280020	2	.1802 (4.58)	3/4	.375 (9.53)	●	●	●	●	●	●

TPMA

Straight hole - Positive Rake



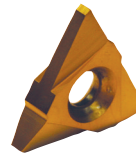
Description	EDP Code	TPI	W	IC	T	Coating					
						Uncoated	TIN Coated	AlTiN Coated	C3	C6H	GP3
TPMA 32 NT 6P	0210060	6	.0566 (1.44)	3/8	.127 (3.23)	●	●	●	●	●	●
TPMA 32 NT 8P	0210080	8	.0411 (1.04)	3/8	.127 (3.23)	●	●	●	●	●	●
TPMA 32 NT 10P	0210100	10	.0319 (0.81)	3/8	.127 (3.23)	●	●	●	●	●	●
TPMA 32 NT 12P	0210120	12	.0283 (0.72)	3/8	.127 (3.23)	●	●	●	●	●	●
TPMA 43 NT 4P	0240040	4	.0875 (2.22)	1/2	.189 (4.80)	●	●	●	●	●	●
TPMA 43 NT 5P	0240050	5	.0689 (1.75)	1/2	.189 (4.80)	●	●	●	●	●	●
TPMA 43 NT 6P	0240060	6	.0566 (1.44)	1/2	.189 (4.80)	●	●	●	●	●	●
TPMA 43 NT 8P	0240080	8	.0411 (1.04)	1/2	.189 (4.80)	●	●	●	●	●	●

*Acme threads provided with sharp corners - radius available on a quotation basis.

#For number of passes see acme table, page



ON-EDGE



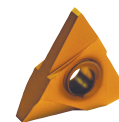
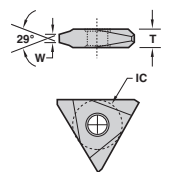
					C3	Uncoated
					C6H	
					GP3	TIN Coated
					GP50	
●	●	●	●	●	AC3	ATTIN Coated
●	●	●	●	●	AC50	
●	●	●	●	●		

Description	EDP Code	TPI	W	IC	T	C3	C6	GP2	GP3	AC
TPMC 32 NT 6P	0211060	6	.0566 (1.44)	3/8	.127 (3.23)					●
TPMC 32 NT 8P	0211080	8	.0411 (1.04)	3/8	.127 (3.23)					●
TPMC 32 NT 10P	0211100	10	.0319 (0.81)	3/8	.127 (3.23)					●
TPMC 32 NT 12P	0211120	12	.0283 (0.72)	3/8	.127 (3.23)					●
TPMC 43 NT 4P	0242040	4	.0875 (2.22)	1/2	.189 (4.80)					●
TPMC 43 NT 5P	0242050	5	.0689 (1.75)	1/2	.189 (4.80)					●
TPMC 43 NT 6P	0242060	6	.0566 (1.44)	1/2	.189 (4.80)					●
TPMC 43 NT 8P	0242080	8	.0411 (1.04)	1/2	.189 (4.80)					●
TPMC 54 NT 3P	0254030	3	.1184 (3.00)	5/8	.252 (6.40)					●
TPMC 54 NT 4P	0254040	4	.0875 (2.22)	5/8	.252 (6.40)					●

PARTIAL TOPPING ACME EXTERNAL

TNMA (with corner radii)

Straight hole



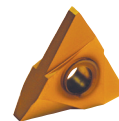
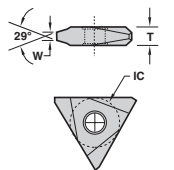
Straight hole											
Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMA 32 NT 6P EXT-PT	0208060PTE	6	.0566 (1.44)	3/8	.127 (3.23)				●		●
TNMA 32 NT 8P EXT-PT	0208080PTE	8	.0411 (1.04)	3/8	.127 (3.23)				●		●
TNMA 32 NT 10P EXT-PT	0208100PTE	10	.0319 (0.81)	3/8	.127 (3.23)				●		●
TNMA 32 NT 12P EXT-PT	0208120PTE	12	.0283 (0.72)	3/8	.127 (3.23)				●		●
TNMA 32 NT 14P EXT-PT	0208140PTE	14	.0239 (0.61)	3/8	.127 (3.23)				●		●
TNMA 32 NT 16P EXT-PT	0208160PTE	16	.0206 (0.52)	3/8	.127 (3.23)				●		●
TNMA 43 NT 6P EXT-PT	0239060PTE	6	.0566 (1.44)	1/2	.189 (4.80)				●		●
TNMA 43 NT 8P EXT-PT	0239080PTE	8	.0411 (1.04)	1/2	.189 (4.80)				●		●
TNMA 43 NT 10P EXT-PT	0239100PTE	10	.0319 (0.81)	1/2	.189 (4.80)				●		●
TNMA 43 NT 12P EXT-PT	0239120PTE	12	.0283 (0.72)	1/2	.189 (4.80)				●		●
TNMA 43 NT 14P EXT-PT	0239140PTE	14	.0239 (0.61)	1/2	.189 (4.80)				●		●
TNMA 43 NT 16P EXT-PT	0239160PTE	16	.0206 (0.52)	1/2	.189 (4.80)				●		●

*Acme threads provided with sharp corners - radius available on a quotation basis.
For number of passes see acme table, page

INTERNAL

TNMA (with corner radii)

Straight hole



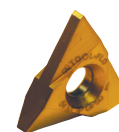
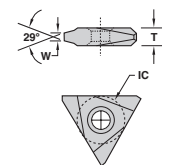
Straight Note						C3	C6H	GP3	GP50	AC3	AC50
Description	EDP Code	TPI	W	IC	T						
TNMA 32 NT 6P INT-PT	0208060PTI	6	.0566 (1.44)	3/8	.127 (3.23)				●	●	
TNMA 32 NT 8P INT-PT	0208080PTI	8	.0411 (1.04)	3/8	.127 (3.23)				●	●	
TNMA 32 NT 10P INT-PT	0208100PTI	10	.0319 (0.81)	3/8	.127 (3.23)				●	●	
TNMA 32 NT 12P INT-PT	0208120PTI	12	.0283 (0.72)	3/8	.127 (3.23)				●	●	
TNMA 32 NT 14P INT-PT	0208140PTI	14	.0239 (0.61)	3/8	.127 (3.23)				●		
TNMA 32 NT 16P INT-PT	0208160PTI	16	.0206 (0.52)	3/8	.127 (3.23)				●		
TNMA 43 NT 6P INT-PT	0239060PTI	6	.0566 (1.44)	1/2	.189 (4.80)				●	●	
TNMA 43 NT 8P INT-PT	0239080PTI	8	.0411 (1.04)	1/2	.189 (4.80)				●	●	
TNMA 43 NT 10P INT-PT	0239100PTI	10	.0319 (0.81)	1/2	.189 (4.80)				●	●	
TNMA 43 NT 12P INT-PT	0239120PTI	12	.0283 (0.72)	1/2	.189 (4.80)				●	●	
TNMA 43 NT 14P INT-PT	0239140PTI	14	.0239 (0.61)	1/2	.189 (4.80)				●		
TNMA 43 NT 16P INT-PT	0239160PTI	16	.0206 (0.52)	1/2	.189 (4.80)				●		

*Acme threads provided with sharp corners - radius available on a quotation basis.
For number of passes see acme table, page

EXTERNAL

TNMC (with corner radii)

Countersink hole

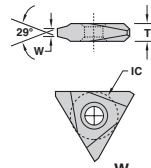


Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3
TNMC 32 NT 6P EXT-PT	0209060PTE	6	.0566 (1.44)	3/8	.127 (3.23)				●	
TNMC 32 NT 8P EXT-PT	0209080PTE	8	.0411 (1.04)	3/8	.127 (3.23)				●	
TNMC 32 NT 10P EXT-PT	0209100PTE	10	.0319 (0.81)	3/8	.127 (3.23)				●	●
TNMC 32 NT 12P EXT-PT	0209120PTE	12	.0283 (0.72)	3/8	.127 (3.23)				●	
TNMC 32 NT 14P EXT-PT	0209140PTE	14	.0239 (0.61)	3/8	.127 (3.23)				●	
TNMC 43 NT 6P EXT-PT	0241060PTE	6	.0566 (1.44)	1/2	.189 (4.80)				●	●
TNMC 43 NT 8P EXT-PT	0241080PTE	8	.0411 (1.04)	1/2	.189 (4.80)				●	

*Acme threads provided with sharp corners - radius available on a quotation basis.
For number of passes see acme table, page



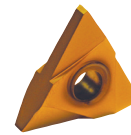
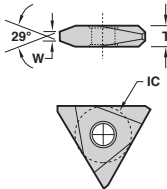
INTERNAL TNMC (with corner radii) Countersink hole



Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMC 32 NT 6P INT-PT	0209060PTI	6	.0566 (1.44)	3/8	.127 (3.23)				●		
TNMC 32 NT 8P INT-PT	0209080PTI	8	.0411 (1.04)	3/8	.127 (3.23)				●		
TNMC 32 NT 10P INT-PT	0209100PTI	10	.0319 (0.81)	3/8	.127 (3.23)				●		●
TNMC 32 NT 12P INT-PT	0209120PTI	12	.0283 (0.72)	3/8	.127 (3.23)				●		
TNMC 32 NT 14P INT-PT	0209140PTI	14	.0239 (0.61)	3/8	.127 (3.23)				●		
TNMC 43 NT 6P INT-PT	0241060PTI	6	.0566 (1.44)	1/2	.189 (4.80)				●		●
TNMC 43 NT 8P INT-PT	0241080PTI	8	.0411 (1.04)	1/2	.189 (4.80)				●		●

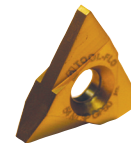
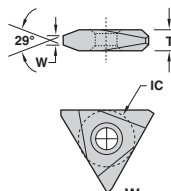
*Acme threads provided with sharp corners - radius available on a quotation basis.
For number of passes see acme table, page

STUB ACME TNMA Straight hole



Description	EDP Code	TPI	W	IC	T	C25	C6H	GP3	GP50	AC3	AC50
TNMA 32 NT 6P STUB	0208061	6	.0652 (1.66)	3/8	.127 (3.23)			●	●		●
TNMA 32 NT 8P STUB	0208081	8	.0476 (1.21)	3/8	.127 (3.23)				●		●
TNMA 32 NT 10P STUB	0208101	10	.0370 (0.94)	3/8	.127 (3.23)				●		●
TNMA 32 NT 12P STUB	0208121	12	.0326 (0.83)	3/8	.127 (3.23)				●		
TNMA 32 NT 14P STUB	0208141	14	.0276 (0.70)	3/8	.127 (3.23)				●		
TNMA 32 NT 16P STUB	0208161	16	.0238 (0.60)	3/8	.127 (3.23)				●		
TNMA 43 NT 4P STUB	0239041	4	.1004 (2.55)	1/2	.189 (4.80)	●			●		●
TNMA 43 NT 5P STUB	0239051	5	.0793 (2.01)	1/2	.189 (4.80)	●			●		●
TNMA 43 NT 6P STUB	0239061	6	.0652 (1.66)	1/2	.189 (4.80)	●			●		●
TNMA 43 NT 8P STUB	0239081	8	.0476 (1.21)	1/2	.189 (4.80)	●			●		●
TNMA 43 NT 10P STUB	0239101	10	.0370 (0.94)	1/2	.189 (4.80)				●		●
TNMA 43 NT 12P STUB	0239121	12	.0326 (0.83)	1/2	.189 (4.80)				●		
TNMA 43 NT 14P STUB	0239141	14	.0276 (0.70)	1/2	.189 (4.80)				●		
TNMA 43 NT 16P STUB	0239161	16	.0238 (0.60)	1/2	.189 (4.80)				●		
TNMA 54 NT 3P STUB	0251031	3	.1356 (3.44)	5/8	.252 (6.40)				●	●	●
TNMA 54 NT 4P STUB	0251041	4	.1004 (2.55)	5/8	.252 (6.40)				●	●	●
TNMA 54 NT 5P STUB	0251051	5	.0793 (2.01)	5/8	.252 (6.40)				●	●	●
TNMA 55 NT 2.5P STUB	02550251	2.5	.1638 (4.16)	5/8	.312 (7.92)				●		
TNMA 66 NT 2P STUB	0279021	2	.2060 (5.23)	3/4	.375 (9.53)				●		

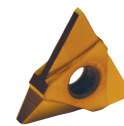
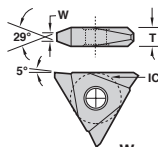
TNMC Countersink hole



Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMC 32 NT 6P STUB	0209061	6	.0652 (1.66)	3/8	.127 (3.23)				●	●	●
TNMC 32 NT 8P STUB	0209081	8	.0476 (1.21)	3/8	.127 (3.23)				●		●
TNMC 32 NT 10P STUB	0209101	10	.0370 (0.94)	3/8	.127 (3.23)				●		
TNMC 32 NT 12P STUB	0209121	12	.0326 (0.83)	3/8	.127 (3.23)				●		
TNMC 32 NT 14P STUB	0209141	14	.0276 (0.70)	3/8	.127 (3.23)				●		
TNMC 32 NT 16P STUB	0209161	16	.0238 (0.60)	3/8	.127 (3.23)				●		
TNMC 43 NT 4P STUB	0241041	4	.1004 (2.55)	1/2	.189 (4.80)				●	●	●
TNMC 43 NT 5P STUB	0241051	5	.0793 (2.01)	1/2	.189 (4.80)				●	●	●
TNMC 43 NT 6P STUB	0241061	6	.0652 (1.66)	1/2	.189 (4.80)				●	●	●
TNMC 43 NT 8P STUB	0241081	8	.0476 (1.21)	1/2	.189 (4.80)				●	●	●
TNMC 43 NT 10P STUB	0241101	10	.0370 (0.94)	1/2	.189 (4.80)				●		●
TNMC 43 NT 12P STUB	0241121	12	.0326 (0.83)	1/2	.189 (4.80)				●		
TNMC 43 NT 14P STUB	0241141	14	.0276 (0.70)	1/2	.189 (4.80)				●		
TNMC 43 NT 16P STUB	0241161	16	.0238 (0.60)	1/2	.189 (4.80)				●		
TNMC 54 NT 3P STUB	0253031	3	.1356 (3.44)	5/8	.252 (6.40)				●	●	●
TNMC 54 NT 4P STUB	0253041	4	.1004 (2.55)	5/8	.252 (6.40)				●	●	●
TNMC 54 NT 5P STUB	0253051	5	.0793 (2.01)	5/8	.252 (6.40)				●	●	●
TNMC 66 NT 2P STUB	0280021	2	.2060 (5.23)	3/4	.375 (9.53)				●		

**STUB ACME****TPMA**

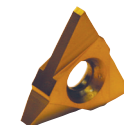
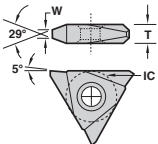
Straight hole - Positive Rake



Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TPMA 32 NT 6P STUB	0210061	6	.0652 (1.66)	3/8	.127 (3.23)					●	
TPMA 32 NT 8P STUB	0210081	8	.0476 (1.21)	3/8	.127 (3.23)					●	
TPMA 32 NT 10P STUB	0210101	10	.0370 (0.94)	3/8	.127 (3.23)					●	
TPMA 32 NT 12P STUB	0210121	12	.0326 (0.83)	3/8	.127 (3.23)					●	
TPMA 43 NT 4P STUB	0240041	4	.1004 (2.55)	1/2	.189 (4.80)					●	
TPMA 43 NT 5P STUB	0240051	5	.0793 (2.01)	1/2	.189 (4.80)					●	
TPMA 43 NT 6P STUB	0240061	6	.0652 (1.66)	1/2	.189 (4.80)					●	
TPMA 43 NT 8P STUB	0240081	8	.0476 (1.21)	1/2	.189 (4.80)					●	
TPMC 54 NT 3P STUB	0254031	3	.1356 (3.44)	5/8	.252 (6.40)					●	
TPMC 54 NT 4P STUB	0254041	4	.1004 (2.55)	5/8	.252 (6.40)					●	
TPMC 66 NT 2P STUB	0282021	2	.2060 (5.23)	3/4	.375 (9.53)					●	

TPMC

Countersink hole - Positive Rake

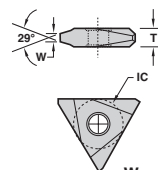


Description	EDP Code	TPI	W	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TPMC 32 NT 6P STUB	0211061	6	.0652 (1.66)	3/8	.127 (3.23)					●	
TPMC 32 NT 8P STUB	0211081	8	.0476 (1.21)	3/8	.127 (3.23)					●	
TPMC 32 NT 10P STUB	0211101	10	.0370 (0.94)	3/8	.127 (3.23)					●	
TPMC 32 NT 12P STUB	0211121	12	.0326 (0.83)	3/8	.127 (3.23)					●	
TPMC 43 NT 4P STUB	0242041	4	.1004 (2.55)	1/2	.189 (4.80)					●	
TPMC 43 NT 5P STUB	0242051	5	.0793 (2.01)	1/2	.189 (4.80)					●	
TPMC 43 NT 6P STUB	0242061	6	.0652 (1.66)	1/2	.189 (4.80)					●	
TPMC 43 NT 8P STUB	0242081	8	.0476 (1.21)	1/2	.189 (4.80)					●	

PARTIAL TOPPING STUB ACME**EXTERNAL**

TNMA (with corner radii)

Straight hole



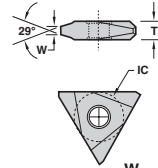
Description	EDP Code	TPI	W	IC	T						
						Uncoated	TIN Coated	AlTiN Coated	C3	C6H	GP3
TNMA 32 NT 6P STUB EXT-PT	0208061PTE	6	.0652 (1.44)	3/8	.127 (3.23)						
TNMA 32 NT 8P STUB EXT-PT	0208081PTE	8	.0476 (1.04)	3/8	.127 (3.23)						
TNMA 32 NT 10P STUB EXT-PT	0208101PTE	10	.0370 (0.81)	3/8	.127 (3.23)						
TNMA 32 NT 12P STUB EXT-PT	0208121PTE	12	.0326 (0.72)	3/8	.127 (3.23)						
TNMA 32 NT 14P STUB EXT-PT	0208141PTE	14	.0276 (0.61)	3/8	.127 (3.23)						
TNMA 32 NT 16P STUB EXT-PT	0208161PTE	16	.0238 (0.52)	3/8	.127 (3.23)						
TNMA 43 NT 6P STUB EXT-PT	0239061PTE	6	.0652 (1.44)	1/2	.189 (4.80)						
TNMA 43 NT 8P STUB EXT-PT	0239081PTE	8	.0476 (1.04)	1/2	.189 (4.80)						
TNMA 43 NT 10P STUB EXT-PT	0239101PTE	10	.0370 (0.81)	1/2	.189 (4.80)						
TNMA 43 NT 12P STUB EXT-PT	0239121PTE	12	.0326 (0.72)	1/2	.189 (4.80)						
TNMA 43 NT 14P STUB EXT-PT	0239141PTE	14	.0276 (0.61)	1/2	.189 (4.80)						
TNMA 43 NT 16P STUB EXT-PT	0239161PTE	16	.0238 (0.52)	1/2	.189 (4.80)						

*Acme threads provided with sharp corners - radius available on a quotation basis.

PARTIAL TOPPING STUB ACME**INTERNAL**

TNMA (with corner radii)

Straight hole



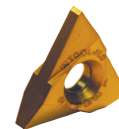
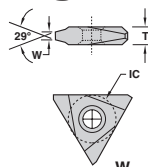
Description	EDP Code	TPI	W	IC	T						
						Uncoated	TIN Coated	AlTiN Coated	C3	C6H	GP3
TNMA 32 NT 8P STUB INT-PT	0208081PTI	8	.0476 (1.04)	3/8	.127 (3.23)						
TNMA 32 NT 10P STUB INT-PT	0208101PTI	10	.0370 (0.81)	3/8	.127 (3.23)						
TNMA 32 NT 12P STUB INT-PT	0208121PTI	12	.0326 (0.72)	3/8	.127 (3.23)						
TNMA 32 NT 14P STUB INT-PT	0208141PTI	14	.0276 (0.61)	3/8	.127 (3.23)						
TNMA 32 NT 16P STUB INT-PT	0208161PTI	16	.0238 (0.52)	3/8	.127 (3.23)						
TNMA 43 NT 6P STUB INT-PT	0239061PTI	6	.0652 (1.44)	1/2	.189 (4.80)						
TNMA 43 NT 8P STUB INT-PT	0239081PTI	8	.0476 (1.04)	1/2	.189 (4.80)						
TNMA 43 NT 10P STUB INT-PT	0239101PTI	10	.0370 (0.81)	1/2	.189 (4.80)						
TNMA 43 NT 12P STUB INT-PT	0239121PTI	12	.0326 (0.72)	1/2	.189 (4.80)						
TNMA 43 NT 14P STUB INT-PT	0239141PTI	14	.0276 (0.61)	1/2	.189 (4.80)						
TNMA 43 NT 16P STUB INT-PT	0239161PTI	16	.0238 (0.52)	1/2	.189 (4.80)						

*Acme threads provided with sharp corners - radius available on a quotation basis.

PARTIAL TOPPING STUB ACME EXTERNAL

TNMC (with corner radii)

Countersink hole



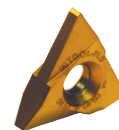
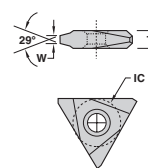
Description	EDP Code	TPI	W	IC	T	Uncoated		TIN Coated		AlTiN Coated	
						C3	C6H	GP3	GP50	AC3	AC50
TNMC 32 NT 6P STUB EXT-PT	0209061PTE	6	.0652 (1.44)	3/8	.127 (3.23)				●		
TNMC 32 NT 8P STUB EXT-PT	0209081PTE	8	.0476 (1.04)	3/8	.127 (3.23)				●		
TNMC 32 NT 10P STUB EXT-PT	0209101PTE	10	.0370 (0.81)	3/8	.127 (3.23)				●		
TNMC 32 NT 12P STUB EXT-PT	0209121PTE	12	.0326 (0.72)	3/8	.127 (3.23)				●		
TNMC 32 NT 14P STUB EXT-PT	0209141PTE	14	.0276 (0.61)	3/8	.127 (3.23)				●		
TNMC 43 NT 6P STUB EXT-PT	0239061PTE	6	.0652 (1.44)	1/2	.189 (4.80)				●		●
TNMC 43 NT 8P STUB EXT-PT	0239081PTE	8	.0476 (1.04)	1/2	.189 (4.80)				●		●

*Acme threads provided with sharp corners - radius available on a quotation basis.

PARTIAL TOPPING STUB ACME INTERNAL

TNMC (with corner radii)

Countersink hole



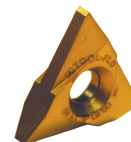
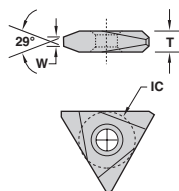
Description	EDP Code	TPI	W	IC	T	Uncoated		TIN Coated		AlTiN Coated	
						C3	C6H	GP3	GP50	AC3	AC50
TNMC 32 NT 6P STUB INT-PT	0209061PTI	6	.0652 (1.44)	3/8	.127 (3.23)				●		
TNMC 32 NT 8P STUB INT-PT	0209081PTI	8	.0476 (1.04)	3/8	.127 (3.23)				●		
TNMC 32 NT 10P STUB INT-PT	0209101PTI	10	.0370 (0.93)	3/8	.127 (3.23)				●		
TNMC 32 NT 12P STUB INT-PT	0209121PTI	12	.0326 (0.82)	3/8	.127 (3.23)				●		
TNMC 32 NT 14P STUB INT-PT	0209141PTI	14	.0276 (0.70)	3/8	.127 (3.23)				●		
TNMC 43 NT 6P STUB INT-PT	0241061PTI	6	.0652 (1.44)	1/2	.189 (4.80)				●		●
TNMC 43 NT 8P STUB INT-PT	0241081PTI	8	.0476 (1.04)	1/2	.189 (4.80)				●		●

*Acme threads provided with sharp corners - radius available on a quotation basis.

GAGEMAHER ACME EXTERNAL

TNMC

Countersink hole

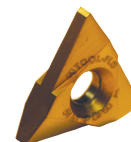
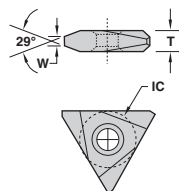


Description	EDP Code	TPI	W	IC	T	Uncoated		TIN Coated		AlTiN Coated	
						C3	C6H	GP3	GP50	AC3	AC50
TNMC 43 NT 4P EXT W.0916	G41040916	4	.0916 (2.32)	1/2	.189 (4.80)				●		
TNMC 43 NT 5P EXT W.0731	G41050731	5	.0731 (1.85)	1/2	.189 (4.80)				●		
TNMC 43 NT 6P EXT W.0607	G41060607	6	.0607 (1.54)	1/2	.189 (4.80)				●		
TNMC 43 NT 8P EXT W.0447	G41080447	8	.0447 (1.13)	1/2	.189 (4.80)				●		
TNMC 43 NT 10P EXT W.0348	G41100348	10	.0348 (0.88)	1/2	.189 (4.80)				●		
TNMC 43 NT 14P EXT W.0268	G41140268	14	.0268 (0.68)	1/2	.189 (4.80)				●		
TNMC 43 NT 16P EXT W.0239	G41160239	16	.0239 (0.60)	1/2	.189 (4.80)				●		

GAGEMAHER STUB ACME EXTERNAL

TNMC

Countersink hole



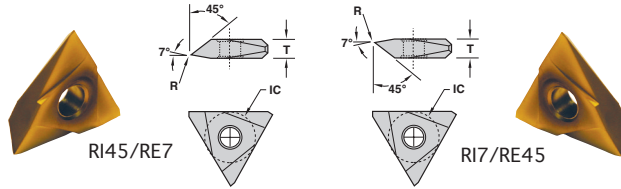
Description	EDP Code	TPI	W	IC	T	Uncoated		TIN Coated		AlTiN Coated	
						C3	C6H	GP3	GP50	AC3	AC50
TNMC 43 NT 4P STUB EXT W.1046	G41041046	4	.1046 (2.65)	1/2	.189 (4.80)				●		
TNMC 43 NT 5P STUB EXT W.0829	G41050829	5	.0829 (2.10)	1/2	.189 (4.80)				●		
TNMC 43 NT 6P STUB EXT W.0688	G41060688	6	.0688 (1.74)	1/2	.189 (4.80)				●		
TNMC 43 NT 8P STUB EXT W.0518	G41080518	8	.0518 (1.31)	1/2	.189 (4.80)				●		
TNMC 43 NT 10P STUB EXT W.0412	G41100412	10	.0412 (1.04)	1/2	.189 (4.80)				●		
TNMC 43 NT 12P STUB EXT W.0362	G41120362	12	.0362 (0.91)	1/2	.189 (4.80)				●		
TNMC 43 NT 14P STUB EXT W.0312	G41140312	14	.0312 (0.79)	1/2	.189 (4.80)				●		
TNMC 43 NT 16P STUB EXT W.0274	G41160274	16	.0274 (0.69)	1/2	.189 (4.80)				●		



AMERICAN STANDARD BUTTRESS

TNMA & TNMC

For thread specifications & applications see page 111

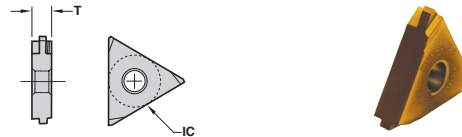


Description	EDP Code	TPI	R	IC	T	Lead Angle						
							C3	C6H	GP3	GP50	AC3	AC50
TNMA 43 ASB RI45/RE7	403900R008	8-16	.007-.009 (0.18-0.23)	1/2	.189 (4.80)	45° Internal/7° External				●		
TNMA 43 ASB RI7/RE45	393900R008	8-16	.007-.009 (0.18-0.23)	1/2	.189 (4.80)	7° Internal/45° External				●		
TNMA 54 ASB RI45/RE7	405100R010	4-6	.009-.011 (0.23-0.28)	5/8	.252 (6.40)	45° Internal/7° External				●		
TNMA 54 ASB RI7/RE45	395100R010	4-6	.009-.011 (0.23-0.28)	5/8	.252 (6.40)	7° Internal/45° External				●		
TNMC 43 ASB RI45/RE7	404100R008	8-16	.007-.009 (0.18-0.23)	1/2	.189 (4.80)	45° Internal/7° External				●		
TNMC 43 ASB RI7/RE45	394100R008	8-16	.007-.009 (0.18-0.23)	1/2	.189 (4.80)	7° Internal/45° External				●		
TNMC 54 ASB RI45/RE7	405300R010	4-6	.009-.011 (0.23-0.28)	5/8	.252 (6.40)	45° Internal/7° External				●		
TNMC 54 ASB RI7/RE45	395300R010	4-6	.009-.011 (0.23-0.28)	5/8	.252 (6.40)	7° Internal/45° External				●		

API BUTTRESS

TNMA

Straight hole

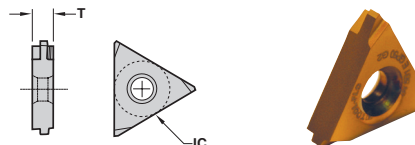


Description	EDP Code	TPI	TPF	IC	T	Conn. No.						
							C3	C6H	GP3	GP50	AC3	AC50
TNMA 43 8B75 EXT	21394	8	.750	1/2	.189 (4.80)	U.S. Improved Buttress				●		
TNMA 44 5B75 EXT-FC *	16434F	5	.750	1/2	.252 (6.40)	4-1/2 - 13-3/8				●		
TNMA 54 5B1 EXT-FC *	17514F	5	1.000	5/8	.252 (6.40)	16 and larger				●	●	
TNMA 54 5B75 EXT-FC*	16514F	5	.750	5/8	.252 (6.40)	4-1/2 - 13-3/8				●		●
TNMA 43 8B75 INT	21398	8	.750	1/2	.189 (4.80)	U.S. Improved Buttress				●		
TNMA 44 5B75 INT-FC*	16438F	5	.750	1/2	.252 (6.40)	4-1/2 - 13-3/8				●		
TNMA 54 5B1 INT-FC*	17518F	5	1.000	5/8	.252 (6.40)	16 and larger				●	●	
TNMA 54 5B75 INT-FC*	16518F	5	.750	5/8	.252 (6.40)	4-1/2 - 13-3/8				●		●

*FC designates flank clearance.

TNMC

Countersink hole



Description	EDP Code	TPI	TPF	IC	T	Conn. No.						
							C3	C6H	GP3	GP50	AC3	AC50
TNMC 43 8B75 EXT	21414	8	.750	1/2	.189 (4.80)	U.S. Improved Buttress				●		
TNMC 54 5B1 EXT-FC*	17534F	5	1.000	5/8	.252 (6.40)	16 and larger				●	●	
TNMC 54 5B75 EXT-FC*	16534F	5	.750	5/8	.252 (6.40)	4-1/2 - 13-3/8				●	●	
TNMC 43 8B75 INT	21418	8	.750	1/2	.189 (4.80)	U.S. Improved Buttress				●		●
TNMC 54 5B1 INT-FC*	17538F	5	1.000	5/8	.252 (6.40)	16 and larger				●	●	
TNMC 54 5B75 INT-FC*	16538F	5	.750	5/8	.252 (6.40)	4-1/2 - 13-3/8				●	●	

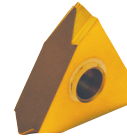
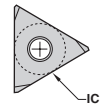
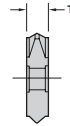
*FC designates flank clearance.



API HUGHES H90

TNMA

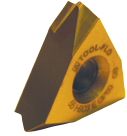
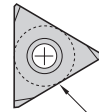
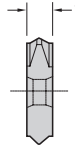
Straight hole



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	C3	C6H	GP3	GP50	AC3	AC50
TNMA 55 H902 EXT	28554	3.5	2.000	5/8	.312 (7.92)	3-1/2 - 6-5/8 H90						
TNMA 55 H903 EXT	29554	3.5	3.000	5/8	.312 (7.92)	7 - 8-5/8 H90				●		
TNMA 56 H90S EXT	27Q14	3	1.250	5/8	.375 (9.53)	2-3/8 - 3-1/2 Slimline				●		
TNMA 55 H902 INT	28558	3.5	2.000	5/8	.312 (7.92)	3-1/2 - 6-5/8 H90				●		
TNMA 55 H903 INT	29558	3.5	3.000	5/8	.312 (7.92)	7 - 8-5/8 H90				●		
TNMA 56 H90S INT	27Q18	3	1.250	5/8	.375 (9.53)	2-3/8 - 3-1/2 Slimline				●		

TNMC

Countersink hole

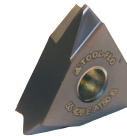
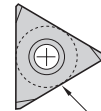
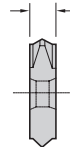


Description	EDP Code	TPI	TPF	IC	T	Conn. No.	C3	C6H	GP3	GP50	AC3	AC50
TNMC 55 H902 EXT	28564	3.5	2.000	5/8	.312 (7.92)	3-1/2 - 6-5/8 H90						
TNMC 55 H903 EXT	29564	3.5	3.000	5/8	.312 (7.92)	7 - 8-5/8 H90						
TNMC 56 H90S EXT	27Q34	3	1.250	5/8	.375 (9.53)	2-3/8 - 3-1/2 Slimline						
TNMC 55 H902 INT	28568	3.5	2.000	5/8	.312 (7.92)	3-1/2 - 6-5/8 H90						
TNMC 55 H903 INT	29568	3.5	3.000	5/8	.312 (7.92)	7 - 8-5/8 H90						
TNMC 56 H90S INT	27Q38	3	1.250	5/8	.375 (9.53)	2-3/8 - 3-1/2 Slimline						

API ROTARY SHOULDER CONNECTION

TNMA

Straight hole

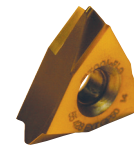
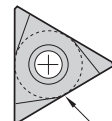
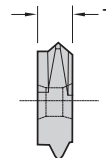


Description	EDP Code	TPI	TPF	IC	T	Conn. No.	Coating					
							C3	C6H	GP3	GP50	AC3	AC50
TNMA 54 530 EXT	13514	5	3	5/8	.252 (6.40)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMA 55 425 EXT	09554	4	2	5/8	.312 (7.92)	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.				●		●
TNMA 55 428 EXT	10554	4	2	5/8	.312 (7.92)	NC23 - NC50, 2-3/8 - 5-1/2				●		●
TNMA 55 42F EXT*	14554	4	2	5/8	.312 (7.92)	VO.065*				●		●
TNMA 55 435 EXT	11554	4	3	5/8	.312 (7.92)	5-1/2, 7-5/8, 8-5/8 Reg.				●		●
TNMA 55 438 EXT	12554	4	3	5/8	.312 (7.92)	NC56 - NC71				●		●
TNMA 55 530 EXT	13554	5	3	5/8	.312 (7.92)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMA 55 4PAC EXT	15554	4	1.5	5/8	.312 (7.92)	American Open Hole				●		●
TNMA 54 530 INT	13518	5	3	5/8	.252 (6.40)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMA 55 425 INT	09558	4	2	5/8	.312 (7.92)	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.				●		●
TNMA 55 428 INT	10558	4	2	5/8	.312 (7.92)	NC23 - NC50, 2-3/8 - 5-1/2				●		●
TNMA 55 42F INT*	14558	4	2	5/8	.312 (7.92)	VO.065*				●		●
TNMA 55 435 INT	11558	4	3	5/8	.312 (7.92)	5-1/2, 7-5/8, 8-5/8 Reg.				●		●
TNMA 55 438 INT	12558	4	3	5/8	.312 (7.92)	NC56 - NC71				●		●
TNMA 55 530 INT	13558	5	3	5/8	.312 (7.92)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMA 55 4PAC INT	15558	4	1.5	5/8	.312 (7.92)	American Open Hole				●		●

*Obsolete thread form - see API Spec 7, 35th Edition, May 1, 1985 Section 9.4.

TNMC

Countersink hole



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	C3	C6H	GP3	GP50	AC3	AC50
TNMC 54 530 EXT	13534	5	3	5/8	.252 (6.40)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.						
TNMC 55 425 EXT	09564	4	2	5/8	.312 (7.92)	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.				●		●
TNMC 55 428 EXT	10564	4	2	5/8	.312 (7.92)	NC23 - NC50, 2-3/8 - 5-1/2				●		●
TNMC 55 42F EXT*	14564	4	2	5/8	.312 (7.92)	VO.065*				●		●
TNMC 55 435 EXT	11564	4	3	5/8	.312 (7.92)	5-1/2, 7-5/8, 8-5/8 Reg.				●		●
TNMC 55 438 EXT	12564	4	3	5/8	.312 (7.92)	NC56 - NC71				●		●
TNMC 55 530 EXT	13564	5	3	5/8	.312 (7.92)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMC 55 4PAC EXT	15564	4	1.5	5/8	.312 (7.92)	American Open Hole				●		●
TNMC 54 530 INT	13538	5	3	5/8	.252 (6.40)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.						
TNMC 55 425 INT	09568	4	2	5/8	.312 (7.92)	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.				●		●
TNMC 55 428 INT	10568	4	2	5/8	.312 (7.92)	NC23 - NC50, 2-3/8 - 5-1/2				●		●
TNMC 55 42F INT*	14568	4	2	5/8	.312 (7.92)	VO.065*				●		●
TNMC 55 435 INT	11568	4	3	5/8	.312 (7.92)	5-1/2, 7-5/8, 8-5/8 Reg.				●		●
TNMC 55 438 INT	12568	4	3	5/8	.312 (7.92)	NC56 - NC71				●		●
TNMC 55 530 INT	13568	5	3	5/8	.312 (7.92)	3-1/2 FH, 2-3/8 - 4-1/2 Reg.				●		●
TNMC 55 4PAC INT	15568	4	1.5	5/8	.312 (7.92)	American Open Hole				●		●

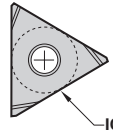
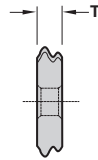
*Obsolete thread form - see API Spec 7, 35th Edition, May 1, 1985 Section 9.4.



API ROUND

TNMA

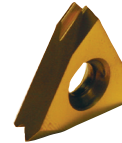
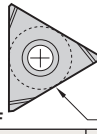
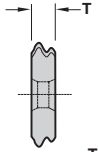
Straight hole



Description	EDP Code	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC22	AC50
TNMA 43 8RD EXT	32394	8	.750	1/2	.189 (4.80)				●	●	●
TNMA 43 10RD EXT	34394	10	.750	1/2	.189 (4.80)				●	●	●
TNMA 54 8RD EXT	32514	8	.750	5/8	.252 (6.40)				●	●	●
TNMA 54 10RD EXT	34514	10	.750	5/8	.252 (6.40)				●	●	●
TNMA 43 8RD INT	32398	8	.750	1/2	.189 (4.80)				●	●	●
TNMA 43 10RD INT	34398	10	.750	1/2	.189 (4.80)				●	●	●
TNMA 54 8RD INT	32518	8	.750	5/8	.252 (6.40)				●	●	●
TNMA 54 10RD INT	34518	10	.750	5/8	.252 (6.40)				●	●	●

TNMC

Countersink hole

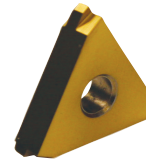
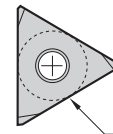
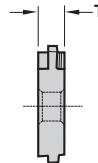


Description	EDP Code	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC22	AC50
TNMC 43 8RD EXT	32414	8	.750	1/2	.189 (4.80)				●	●	●
TNMC 43 10RD EXT	34414	10	.750	1/2	.189 (4.80)				●	●	●
TNMC 54 8RD EXT	32534	8	.750	5/8	.252 (6.40)				●	●	●
TNMC 43 8RD INT	32418	8	.750	1/2	.189 (4.80)				●	●	●
TNMC 43 10RD INT	34418	10	.750	1/2	.189 (4.80)				●	●	●
TNMC 54 8RD INT	32538	8	.750	5/8	.252 (6.40)				●	●	●

API VAM

TNMA

Straight hole



Description	EDP Code	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMA 43 6VAM EXT	24394	6	.750	1/2	.189 (4.80)				●		
TNMA 43 8VAM EXT	25394	8	.750	1/2	.189 (4.80)				●		
TNMA 54 5VAM EXT	23514	5	.750	5/8	.252 (6.40)				●		
TNMA 43 6VAM INT	24398	6	.750	1/2	.189 (4.80)				●		
TNMA 43 8VAM INT	25398	8	.750	1/2	.189 (4.80)				●		
TNMA 54 5VAM INT	23518	5	.750	5/8	.252 (6.40)				●		

TNMC

Countersink hole

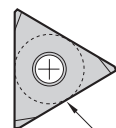
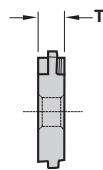
Description	EDP Code	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMC 43 6VAM EXT	24414	6	.750	1/2	.189 (4.80)						
TNMC 43 8VAM EXT	25414	8	.750	1/2	.189 (4.80)						
TNMC 54 5VAM EXT	23534	5	.750	5/8	.252 (6.40)						
TNMC 43 6VAM INT	24418	6	.750	1/2	.189 (4.80)						
TNMC 43 8VAM INT	25418	8	.750	1/2	.189 (4.80)						
TNMC 54 5VAM INT	23538	5	.750	5/8	.252 (6.40)						



API X-LINE

TNMA

Straight hole



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	C3	C6H	GP3	GP50	AC3	AC50
TNMA 54 5XL12 EXT	18514	5	1.250	5/8	.252 (6.40)	8-5/8 - 10-3/4				●		
TNMA 54 6XL15 EXT	19514	6	1.500	5/8	.252 (6.40)	5 - 7-5/8				●		
TNMA 54 6XL75 EXT	20514	6	.750	5/8	.252 (6.40)	-				●		
TNMA 54 5XL12 INT	18518	5	1.250	5/8	.252 (6.40)	8-5/8 - 10-3/4				●		
TNMA 54 6XL15 INT	19518	6	1.500	5/8	.252 (6.40)	5 - 7-5/8				●		
TNMA 54 6XL75 INT	20518	6	.750	5/8	.252 (6.40)	-				●		

TNMC

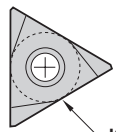
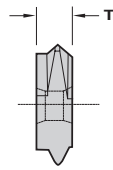
Countersink hole

Description	EDP Code	TPI	TPF	IC	T	Conn. No.	C3	C6H	GP3	GP50	AC3	AC50
TNMC 54 5XL12 EXT	18534	5	1.250	5/8	.252 (6.40)	8-5/8 - 10-3/4						
TNMC 54 6XL15 EXT	19534	6	1.500	5/8	.252 (6.40)	5 - 7-5/8						
TNMC 54 5XL12 INT	18538	5	1.250	5/8	.252 (6.40)	8-5/8 - 10-3/4						
TNMC 54 6XL15 INT	19538	6	1.500	5/8	.252 (6.40)	5 - 7-5/8						

NPT

TNMA

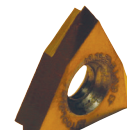
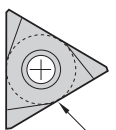
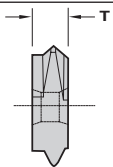
Straight hole



Description	EDP Code	Pipe Size	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMA 43 8NPT EXT	3639084	2.5" and up	8	.750	1/2	.189 (4.80)				●		
TNMA 43 11.5NPT EXT	3639114	1" - 2"	11.5	.750	1/2	.189 (4.80)				●		
TNMA 43 8NPT INT	3639088	2.5" and up	8	.750	1/2	.189 (4.80)				●		
TNMA 43 11.5NPT INT	3639118	1" - 2"	11.5	.750	1/2	.189 (4.80)				●		

TNMC

Countersink hole

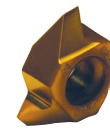
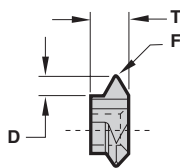


Description	EDP Code	Pipe Size	TPI	TPF	IC	T	C3	C6H	GP3	GP50	AC3	AC50
TNMC 43 8NPT EXT	3641084	2.5" and up	8	.750	1/2	.189 (4.80)				●		
TNMC 43 11.5NPT EXT	3641114	1" - 2"	11.5	.750	1/2	.189 (4.80)				●		
TNMC 43 8NPT INT	3641088	2.5" and up	8	.750	1/2	.189 (4.80)				●		
TNMC 43 11.5NPT INT	3641118	1" - 2"	11.5	.750	1/2	.189 (4.80)				●		

60° V-THREADING

TNEB

Small Diameter



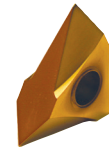
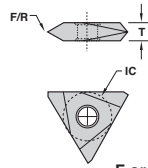
Description	EDP Code	TPI	F	IC	IC	T	C3	C6H	GP3	GP5	AC3	AC50
TNEB 2.52 NVL-40	01D5000	7-32	.003/.005 (0.08/0.13)		1/3	.125 (3.18)				●		
TNEB 33 NVL-40	0112000	5-16	.003/.005 (0.08/0.13)		3/8	.187 (4.75)				●		



60° V-THREADING

TNMA

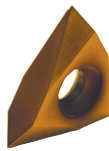
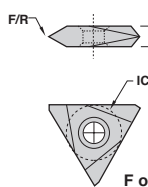
Straight hole



Description	EDP Code	TPI	F or R	IC	T	Coating					
						Uncoated	TIN Coated	TIN Coated	TIN Coated	AlTiN Coated	AlTiN Coated
TNMA 32 NV	0108000	8-36	.003/.005 (0.08/0.13) Flat	3/8	.127 (3.23)		●	●	●	●	●
TNMA 33 NV	01K3000	8-36	.003/.005 (0.08/0.13) Flat	3/8							
TNMA 43 NV	0139000	5-24	.005/.007 (0.13/0.18) Flat	1/2	.189 (4.80)						
TNMA 43 NV .010R	0139R10	4-20	.010 (0.25) Radius	1/2	.189 (4.80)						
TNMA 44 NV	0143000	4-24	.005/.009 (0.13/0.23) Flat	1/2	.250 (6.35)						
TNMA 54 NV	0151000	4-20	.008/.010 (0.20/0.25) Flat	5/8	.252 (6.40)	●	●	●	●	●	●
TNMA 54 NV .010R	0151R10	4-20	.010 (0.25) Radius	5/8	.252 (6.40)						
TNMA 54 NV .020R	0151R20	4-12	.020 (0.51) Radius	5/8	.252 (6.40)						
TNMA 54 NV .025R	0151R25	4-8	.025 (0.64) Radius	5/8	.252 (6.40)						
TNMA 54 NV .038R	0151R38	4-6	.038 (0.97) Radius	5/8	.252 (6.40)						
TNMA 55 NV	0155000	4-20	.008/.010 (0.20/0.25) Flat	5/8							
TNMA 64 NV	0174000	4-20	.008/.010 (0.20/0.25) Flat	3/4	.252 (6.40)						
TNMA 66 NV	0179000	3-12	.008/.010 (0.20/0.25) Flat	3/4	.375 (9.53)						

TNMC

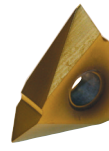
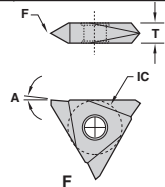
Countersink hole



Description	EDP Code	TPI	F or R	IC	T	Coating					
						Uncoated	TIN Coated	TIN Coated	TIN Coated	AlTiN Coated	AlTiN Coated
TNMC 32 NV	0109000	8-36	.003/.005 (0.08/0.13) Flat	3/8	.127 (3.23)		●	●	●	●	●
TNMC 33 NV	01K8000	8-36	.003/.005 (0.08/0.13) Flat	3/8							
TNMC 43 NV	0141000	5-24	.005/.007 (0.13/0.18) Flat	1/2	.189 (4.80)						
TNMC 43 NV .010R	0141R10	4-20	.010 (0.25) Radius	1/2	.189 (4.80)						
TNMC 44 NV	0144000	4-24	.005/.009 (0.13/0.23) Flat	1/2	.250 (6.35)						
TNMC 54 NV	0153000	4-20	.008/.010 (0.20/0.25) Flat	5/8	.252 (6.40)	●	●	●	●	●	●
TNMC 54 NV .010R	0153R10	4-20	.010 (0.25) Radius	5/8	.252 (6.40)						
TNMC 54 NV .020R	0153R20	4-12	.020 (0.51) Radius	5/8	.252 (6.40)						
TNMC 54 NV .025R	0153R25	4-8	.025 (0.64) Radius	5/8	.252 (6.40)						
TNMC 54 NV .038R	0153R38	4-6	.038 (0.97) Radius	5/8	.252 (6.40)						
TNMC 64 NV	0175000	4-20	.008/.010 (0.20/0.25) Flat	3/4	.252 (6.40)						
TNMC 66 NV	0180000	3-12	.008/.010 (0.20/0.25) Flat	3/4	.375 (9.53)						

TPMA

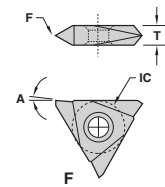
Straight hole - Positive Rake



Description	EDP Code	TPI	F	A°	IC	T	Coating					
							Uncoated	TIN Coated	TIN Coated	TIN Coated	AlTiN Coated	AlTiN Coated
TPMA 32 NV	0110000	8-36	.003/.005 (0.08/0.13)	5	3/8	.127 (3.23)		●	●	●	●	●
TPMA 43 NV	0140000	5-24	.005/.007 (0.13/0.18)	5	1/2	.189 (4.80)						
TPMA 43 NV-10	0140100	5-24	.005/.007 (0.13/0.18)	10	1/2	.189 (4.80)						
TPMA 54 NV	0152000	4-20	.008/.010 (0.20/0.25)	5	1/2	.252 (6.40)		●	●	●	●	●
TPMA 66 NV	0181000	3-12	.008/.010 (0.20/0.25)	5	3/4	.375 (9.53)						

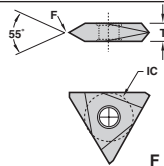
TPMC

Countersink hole - Positive Rake



Description	EDP Code	TPI	F	A°	IC	T	Coating					
							Uncoated	TIN Coated	TIN Coated	TIN Coated	AlTiN Coated	AlTiN Coated
TPMC 32 NV	0111000	8-36	.003/.005 (0.08/0.13)	5	3/8	.127 (3.23)		●	●	●	●	●
TPMC 32 NV-10	0111100	8-36	.003/.005 (0.08/0.13)	10	3/8	.127 (3.23)						
TPMC 43 NV	0142000	5-24	.005/.007 (0.13/0.18)	5	1/2	.189 (4.80)		●	●	●	●	●
TPMC 43 NV-10	0142100	5-24	.005/.007 (0.13/0.18)	10	1/2	.189 (4.80)						
TPMC 54 NV	0154000	4-20	.008/.010 (0.20/0.25)	5	1/2	.252 (6.40)		●	●	●	●	●
TPMC 66 NV	0182000	3-12	.008/.010 (0.20/0.25)	5	3/4	.375 (9.53)						

55° WHITWORTH



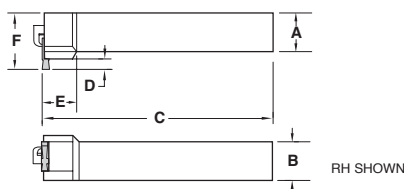
Description	EDP Code	TPI	F	IC	T	Coating					
						Uncoated	TIN Coated	TIN Coated	TIN Coated	AlTiN Coated	AlTiN Coated
TNMA 43 NV-55	0139055	5-24	.005/.007 (0.13/0.18)	1/2	.189 (4.80)						
TNMC 43 NV-55	0141055	5-24	.005/.007 (0.13/0.18)	1/2	.189 (4.80)						



EXTERNAL HOLDER

MTHOR/L

Threading/Grooving



PARTS

Description	EDP Code	Insert	A	B	C	D	E	F	Lock Pin	Clamp	Clamp Screw
MTHOR-164	95501656	T_MA/C 43	1	1	6	.19	.74	1.5	NL44	TC-250	STC11
MTHOL-164	95401656	T_MA/C 43	1	1	6	.19	.74	1.5	NL44	TC-250	STC11
MTHOR-204	95502056	T_MA/C 43	1-1/4	1-1/4	7	.19	.99	1.75	NL44	TC-250	STC11
MTHOL-204	95402056	T_MA/C 43	1-1/4	1-1/4	7	.19	.99	1.75	NL44	TC-250	STC11
MTHOR-165	95501664	T_MA/C 54	1	1	6	.24	.99	1.5	NL56	TC-250	STC11
MTHOL-165	95401664	T_MA/C 54	1	1	6	.24	.99	1.5	NL56	TC-250	STC11
MTHOR-205	95502064	T_MA/C 54	1-1/4	1-1/4	7	.24	.99	1.75	NL56	TC-250	STC11

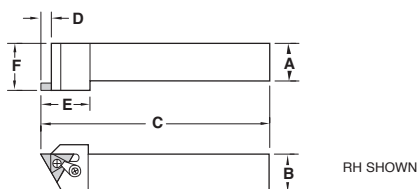
PARTS

Description	EDP Code	Insert	A	B	C	D	E	F	Lock Pin	Clamp	Clamp Screw
MTHOR-2525M4	955025M56	T_MA/C 43	25	25	150	4.83	18.80	38.10	NLM44	CLM20	STCM11
MTHOL-2525M4	954025M56	T_MA/C 43	25	25	150	4.83	18.80	38.10	NLM44	CLM20	STCM11
MTHOR-3232M4	955032M56	T_MA/C 43	32	32	170	4.83	25.15	44.45	NLM44	CLM20	STCM11
MTHOR-2525M5	955025M64	T_MA/C 54	25	25	150	6.10	25.15	38.10	NLM56	CLM20	STCM11
MTHOL-2525M5	954025M64	T_MA/C 54	25	25	150	6.10	25.15	38.10	NLM56	CLM20	STCM11
MTHOR-3232M5	955032M64	T_MA/C 54	32	32	170	6.10	25.15	44.45	NLM56	CLM20	STCM11

MTVOR/L

Threading/Grooving

Inch



PARTS

Description	EDP Code	Insert	A	B	C	D	E	F	Lock Pin	Clamp	Clamp Screw
MTVOR-83	96000848	T_MA/C 32							NL33	TC-190	STC5
MTVOR-123	96001248	T_MA/C 32	3/4	3/4	4-1/2	.15	1.08	1.00	NL33	TC-190	STC5
MTVOL-123	95901248	T_MA/C 32	3/4	3/4	4-1/2	.15	1.08	1.00	NL33	TC-190	STC5
MTVOR-163	96001648	T_MA/C 32	1	1	6	.15	1.08	1.25	NL33	TC-190	STC9
MTVOL-163	95901648	T_MA/C 32	1	1	6	.15	1.08	1.25	NL33	TC-190	STC9
MTVOR-124	96001256	T_MA/C 43	3/4	3/4	4-1/2	.23	1.23	1.00	NL44	TC-190	STC5
MTVOL-124	95901256	T_MA/C 43	3/4	3/4	4-1/2	.23	1.23	1.00	NL44	TC-190	STC5
MTVOR-164	96001656	T_MA/C 43	1	1	6	.23	1.23	1.25	NL44	TC-190	STC5
MTVOL-164	95901656	T_MA/C 43	1	1	6	.23	1.23	1.25	NL44	TC-190	STC5
MTVOR-204	96002056	T_MA/C 43	1-1/4	1-1/4	7	.23	1.23	1.50	NL44	TC-190	STC5
MTVOL-204	95902056	T_MA/C 43	1-1/4	1-1/4	7	.23	1.23	1.50	NL44	TC-190	STC5
MTVOR-165	96001664	T_MA/C 54	1	1	6	.29	1.43	1.25	NL56	TC-250	STC11
MTVOL-165	95901664	T_MA/C 54	1	1	6	.29	1.43	1.25	NL56	TC-250	STC11
MTVOR-205	96002064	T_MA/C 54	1-1/4	1-1/4	7	.29	1.43	1.50	NL56	TC-250	STC11
MTVOL-205	95902064	T_MA/C 54	1-1/4	1-1/4	7	.29	1.43	1.50	NL56	TC-250	STC11
MTVOR-2055	96002066	T_MA/C 55	1-1/4	1-1/4	7	.37	1.43	1.50	NL56	TC-250	STC11
MTVOR-2064	96002072	T_MA/C 64	1-1/4	1-1/4	7	.37	1.62	1.50	NL66	TC-310	STC4
MTVOR-206	96002076	T_MA/C 66	1-1/4	1-1/4	7	.37	1.62	1.50	NL66L	TC-310	STC4
MTVOL-206	95902076	T_MA/C 66	1-1/4	1-1/4	7	.37	1.62	1.50	NL66L	TC-310	STC4
MTVOR-246	96002476	T_MA/C 66	1-1/2	1-1/2	7	.37	1.62	2.00	NL66L	TC-310	STC4
MTVOR-2067	96002078	T_MA/C 67	1-1/4	1-1/4	7	.37	1.62	1.50	NL66L	TC-310	STC8
MTVOR-2069	96002080	T_MA/C 69	1-1/4	1-1/4	7	.37	1.62	1.50	NL66L	TC-311	STC4

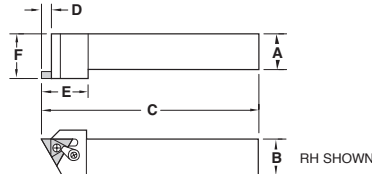
**ON-EDGE**

EXTERNAL HOLDER

MTVOR/L

Threading/Grooving

Metric

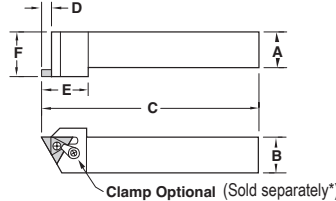
**PARTS**

Description	EDP Code	Insert	A	B	C	D	E	F	Lock Pin	Clamp	Clamp Screw
MTVOR-2020M3	960020M48	T_MA/C 32	20	20	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOL-2020M3	959020M48	T_MA/C 32	20	20	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOR-2525M3	960025M48	T_MA/C 32	25	25	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOL-2525M3	959025M48	T_MA/C 32	25	25	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOR-2020M4	960020M56	T_MA/C 32	20	20	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOL-2020M4	959020M56	T_MA/C 32	20	20	150	3,8	27,4	31,7	NLM33	CLM6	STCM9
MTVOR-2525M4	960025M56	T_MA/C 43	25	25	150	5,8	31,2	31,7	NLM44	CLM6	XNSM0515
MTVOL-2525M4	969025M56	T_MA/C 43	25	25	150	5,8	31,2	31,7	NLM44	CLM6	XNSM0515
MTVOR-3232M4	960032M56	T_MA/C 43	32	32	180	5,8	31,2	38,1	NLM44	CLM6	XNSM0515
MTVOR-2525M5	960025M64	T_MA/C 54	25	25	150	7,3	35,8	31,7	NLM56	CLM20	STCM11
MTVOL-2525M5	959025M64	T_MA/C 54	25	25	150	7,3	35,8	31,7	NLM56	CLM20	STCM11
MTVOR-3232M5	960032M64	T_MA/C 54	32	32	170	7,3	35,8	38,1	NLM56	CLM20	STCM11
MTVOR-2525M55	960025M66	T_MA/C 55	25	25	170	7,9	35,8	38,1	NLM56	CLM20	STCM11
MTVOR-3232M55	960032M66	T_MA/C 55	32	32	170	7,9	35,8	38,1	NLM56	CLM20	STCM11
MTVOR-3232M6	960032M76	T_MA/C 66	32	32	170	9,6	41,1	38,1	NLM66	CLM12	XNSM0825
MTVOL-3232M6	960032M76	T_MA/C 66	32	32	170	9,6	41,1	38,1	NLM66	CLM12	XNSM0825
MTVOR-4040M6	960040M76	T_MA/C 66	32	32	170	9,6	41,1	38,1	NLM66	CLM12	XNSM0825

STVOR/L

Threading/Grooving

Inch

**PARTS**

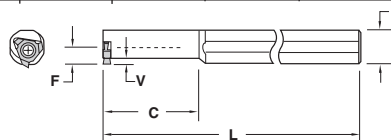
Description	EDP Code	Insert	A	B	C	D	E	F	Screw	Clamp*	Clamp Screw
STVOR-123	98001248	T_MC 32	3/4	3/4	4-1/2	.15	1.08	1.00	SD-1	TC-190	STC9
STVOL-123	97801248	T_MC 32	3/4	3/4	4-1/2	.15	1.08	1.00	SD-1	TC-190	STC5
STVOR-163	98001648	T_MC 32	1	1	6	.15	1.08	1.25	SD-1	TC-190	STC5
STVOL-163	97801648	T_MC 32	1	1	6	.15	1.08	1.25	SD-1	TC-190	STC5
STVOR-124	98001256	T_MC 43	3/4	3/4	4-1/2	.23	1.23	1.00	SD-2	TC-190	STC9
STVOL-124	97801256	T_MC 43	3/4	3/4	4-1/2	.23	1.23	1.00	SD-2	TC-190	STC9
STVOR-164	98001656	T_MC 43	1	1	6	.23	1.23	1.25	SD-2	TC-190	STC9
STVOL-164	97801656	T_MC 43	1	1	6	.23	1.23	1.25	SD-2	TC-190	STC9
STVOR-204	98002056	T_MC 43	1-1/4	1-1/4	7	.23	1.23	1.50	SD-2	TC-190	STC9
STVOL-204	97802056	T_MC 43	1-1/4	1-1/4	7	.23	1.23	1.50	SD-2	TC-190	STC9
STVOR-165	98001664	T_MC 54	1	1	6	.29	1.43	1.25	SD-3	TC-250	STC11
STVOL-165	97801664	T_MC 54	1	1	6	.29	1.43	1.25	SD-3	TC-250	STC11
STVOR-205	98002064	T_MC 54	1-1/4	1-1/4	7	.29	1.43	1.50	SD-3	TC-250	STC11
STVOR-2055	98002066	T_MC 55	1-1/4	1-1/4	7	.37	1.43	1.50	SD-3	TC-250	STC11
STVOR-206	98002076	T_MC 66	1-1/4	1-1/4	7	.37	1.62	1.50	SD-4	TC-310	STC4
STVOR-246	98002476	T_MC 66	1-1/2	1-1/2	7	.37	1.62	2.00	SD-4	TC-310	STC4

PARTS

Description	EDP Code	Insert	A	B	C	D	E	F	Screw	Clamp	Clamp Screw
STVOR-2020M3	980020M48	T_MC 32	20	20	150	5,8	31,2	31,7	SD-2	CLM6	STCM9
STVOL-2020M3	978020M48	T_MC 32	20	20	150	5,8	31,2	31,7	SD-2	CLM6	STCM9
STVOR-2525M3	980125M48	T_MC 32	25	25	150	5,8	31,2	38,1	SD-2	CLM6	STCM9
STVOL-2525M3	980125M48	T_MC 32	25	25	150	5,8	31,2	38,1	SD-2	CLM6	STCM9
STVOR-2020M4	980020M56	T_MC 43	20	20	150	5,8	31,2	31,7	SD-2	CLM6	STCM9
STVOL-2525M4	980125M56	T_MC 43	25	25	150	5,8	31,2	31,7	SD-2	CLM6	STCM9
STVOL-2525M4	978025M56	T_MC 43	25	25	150	5,8	31,2	31,7	SD-2	CLM6	STCM9
STVOR-3232M4	980132M56	T_MC 43	32	32	170	5,8	31,2	38,1	SD-2	CLM6	STCM9
STVOR-2525M5	980125M64	T_MC 54	25	25	150	7,4	36,3	31,7	SD-3	CLM20	STCM11
STVOL-2525M5	978025M64	T_MC 54	25	25	150	7,4	36,3	31,7	SD-3	CLM20	STCM11
STVOR-3232M5	980132M64	T_MC 54	32	32	150	7,4	36,3	38,1	SD-3	CLM20	STCM11
STVOR-3232M55	980132M66	T_MC 55	32	32	170	9,4	36,3	38,1	SD-3	CLM20	STCM11
STVOR-3232M6	980132M76	T_MC 66	32	32	170	9,4	41,1	38,1	SD-4	CLM9	STCM8
STVOR-4040M6	980140M76	T_MC 66	32	32	170	9,4	41,1	38,1	SD-4	CLM9	STCM8

GTB

Threading/Grooving



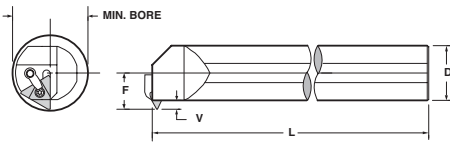
Description	EDP Code	Insert	Min. Bore	F	V	L	C	D	Torx Screw
GTB-062	93605000	TNEB 2.52	.862	.312	.070	6.00	2.00	.625	PT-324
GTB-075	93605200	TNEB 33	1.097	.375	.120	6.00	2.00	.750	PT-324



INTERNAL BAR

SI-MTHOR/L

Threading/Grooving



PARTS

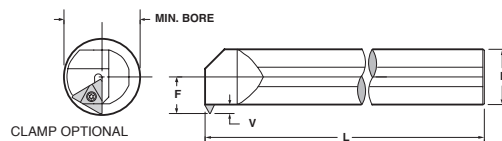
Description	EDP Code	Insert	Min. Bore	D	L	F	V	Lock Pin	Clamp	Clamp Screw
SI-MTHOR-163	97301648	T_MA 32	1.383	1.000	14	.687	.120	NL-33	TC-190	STC-5
SI-MTHOL-163	97201648	T_MA 32	1.383	1.000	14	.687	.120	NL-33	TC-190	STC-5
SI-MTHOR-204	97302056	T_MA 43	1.815	1.250	14	.875	.190	NL-44	TC-190	STC-9
SI-MTHOL-204	97202056	T_MA 43	1.815	1.250	14	.875	.190	NL-44	TC-190	STC-9
SI-MTHOR-244	97302456	T_MA 43	1.892	1.500	14	1.000	.190	NL-44	TC-190	STC-5
SI-MTHOL-244	97202456	T_MA 43	1.892	1.500	14	1.000	.190	NL-44	TC-190	STC-5
SI-MTHOR-324	97303256	T_MA 43	2.750	2.000	16	1.323	.220	NL-44	TC-190	STC-5
SI-MTHOR-245	97302464	T_MA 54	2.125	1.500	14	1.073	.220	NL-56	TC-250	STC-11
SI-MTHOL-245	97202464	T_MA 54	2.125	1.500	14	1.073	.220	NL-56	TC-250	STC-11
SI-MTHOR-325	97303264	T_MA 54	2.750	2.000	16	1.323	.220	NL-56	TC-250	STC-11
SI-MTHOR-3255	97303266	T_MA 55	2.750	2.000	16	1.323	.220	NL-56	TC-250	STC-11
SI-MTHOR-406	97304076	T_MA 66	3.250	2.500	16	1.625	.320	NL-66L	TC-380	STC-19

PARTS

Description	EDP Code	Insert	Min. Bore	D	L	F	V	Lock Pin	Clamp	Clamp Screw
SI-MTHOR-32M4	973032M56	T_MA 43	46,1	32,0	355,6	22,5	4,8	NL-44	TC-190	STC-9
SI-MTHOL-32M4	972032M56	T_MA 43	46,1	32,0	355,6	22,5	4,8	NL-44	TC-190	STC-9
SI-MTHOR-40M4	973040M56	T_MA 43	48,1	40,0	355,6	25,9	4,8	NL-44	TC-190	STC-5
SI-MTHOL-40M4	972040M56	T_MA 43	48,1	40,0	355,6	25,9	4,8	NL-44	TC-190	STC-5
SI-MTHOR-50M4	973050M56	T_MA 43	69,9	50,0	406,4	32,9	4,8	NL-44	TC-190	STC-5
SI-MTHOR-60M4	973060M56	T_MA 43	82,6	60,0	406,4	36,8	4,8	NL-44	TC-190	STC-5
SI-MTHOR-63M4	973063M56	T_MA 43	89,0	63,0	406,4	40,0	4,8	NL-44	TC-190	STC-5
SI-MTHOR-40M5	973040M64	T_MA 54	48,1	40,0	355,6	25,9	5,6	NL-56	TC-250	STC-11
SI-MTHOL-40M5	972040M64	T_MA 54	48,1	40,0	355,6	25,9	5,6	NL-56	TC-250	STC-11
SI-MTHOR-50M5	973050M64	T_MA 54	69,9	50,0	406,4	32,9	5,6	NL-56	TC-250	STC-11
SI-MTHOR-60M5	973060M64	T_MA 54	82,6	60,0	406,4	36,8	5,6	NL-56	TC-250	STC-11
SI-MTHOR-63M5	973063M64	T_MA 54	89,0	63,0	406,4	40,0	5,6	NL-56	TC-250	STC-11
SI-MTHOR-32M55	973032M66	T_MA 55	46,1	32,0	355,6	22,5	4,8	NL-56	TC-250	STC-11
SI-MTHOR-40M55	973040M66	T_MA 55	48,1	40,0	355,6	25,9	5,6	NL-56	TC-250	STC-11
SI-MTHOR-60M55	973060M66	T_MA 55	82,6	60,0	406,4	36,8	5,6	NL-56	TC-250	STC-11
SI-MTHOR-50M6	973050M76	T_MA 66	69,9	50,0	406,4	32,9	8,1	NL-66L	TC-380	STC-19
SI-MTHOR-63M6	973063M76	T_MA 66	89,0	63,0	406,4	40,0	8,1	NL-66L	TC-380	STC-19

SI-STHOR/L

Threading/Grooving



PARTS

Description	EDP Code	Insert	Min. Bore	D	L	F	V	Screw	Clamp*	Clamp Screw*
SI-STHOR-163	97601648	T_MC 32	1.383	1.000	14	.687	.120	SD-1	TC-190	STC-9
SI-STHOL-163	97501648	T_MC 32	1.383	1.000	14	.687	.120	SD-1	TC-190	STC-9
SI-STHOR-204	97602056	T_MC 43	1.815	1.250	14	.875	.190	SD-2	TC-190	STC-9
SI-STHOL-204	97502056	T_MC 43	1.815	1.250	14	.875	.190	SD-2	TC-190	STC-9
SI-STHOR-244	97602456	T_MC 43	1.892	1.500	14	1.000	.190	SD-2	TC-190	STC-9
SI-STHOL-244	97502456	T_MC 43	1.892	1.500	14	1.000	.190	SD-2	TC-190	STC-9
SI-STHOR-245	97602464	T_MC 54	2.240	1.500	14	1.073	.220	SD-3	TC-250	STC-11
SI-STHOL-245	97502464	T_MC 54	2.240	1.500	16	1.323	.220	SD-3	TC-250	STC-11
SI-STHOR-325	97603264	T_MC 54	2.750	2.000	16	1.323	.220	SD-3	TC-250	STC-11
SI-STHOL-325	97503264	T_MC 54	2.750	2.000	16	1.323	.220	SD-3	TC-250	STC-11
SI-STHOR-405	97604064	T_MC 54	3.250	2.500	16	1.625	.320	SD-3	TC-250	STC-11
SI-STHOR-2455	97602466	T_MC 55	2.240	1.500	14	1.073	.220	SD-3	TC-250	STC-11
SI-STHOR-406	97604076	T_MC 66	3.250	2.500	16	1.625	.320	SD-4	TC-380	STC-19
SI-STHOL-406	97504076	T_MC 66	3.250	2.500	16	1.625	.320	SD-4	TC-380	STC-19

*Clamp optional and sold separately.

PARTS

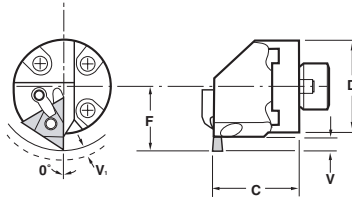
Description	EDP Code	Insert	Min. Bore	D	L	F	V	Screw	Clamp*	Clamp Screw*
SI-STHOR-25M3	976025M48	T_MC 32	35,1	25	350	17,4	3,1	SD-1	CLM6	STCM9
SI-STHOL-25M3	975025M48	T_MC 32	35,1	25	350	17,4	3,1	SD-1	CLM6	STCM9
SI-STHOR-32M4	976032M56	T_MC 43	46,1	32	350	22,5	4,8	SD-2	CLM6	STCM9
SI-STHOL-32M4	975032M56	T_MC 43	46,1	32	350	22,5	4,8	SD-2	CLM6	STCM9
SI-STHOR-40M4	976040M56	T_MC 43	48,1	40	350	25,9	4,8	SD-2	CLM6	STCM9
SI-STHOL-40M4	975040M56	T_MC 43	48,1	40	350	25,9	4,8	SD-2	CLM6	STCM9
SI-STHOR-40M5	976040M64	T_MC 54	48,1	40	350	26,8	5,6	SD-3	CLM20	STCM11
SI-STHOL-40M5	975040M64	T_MC 54	56,9	40	350	33,6	5,6	SD-3	CLM20	STCM11
SI-STHOR-50M5	976050M64	T_MC 54	69,9	50	400	33,6	5,6	SD-3	CLM20	STCM11
SI-STHOR-60M6	976060M76	T_MC 66	82,6	60	400	40,6	8,1	SD-4	TC-380	STC-19

*Clamp optional and sold separately.

**ON-EDGE**

INTERCHANGEABLE HEADS

H-MTHOR/L*



RH SHOWN

PARTS

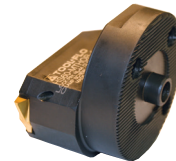
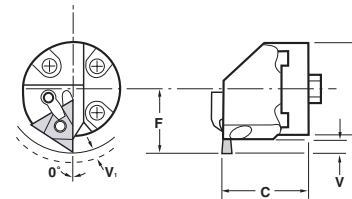
Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw	Lock Pin
H16-MTHOR-3	9IH7301648	T_MA/C 32	1.000	1.625	0.688	1.690	TC-190	STC-5	NL-33
H20-MTHOR-3	9IH7302048	T_MA/C 32	1.250	1.625	0.798	1.788	TC-190	STC-5	NL-33
H24-MTHOR-3	9IH7302448	T_MA/C 32	1.500	1.625	0.923	1.875	TC-190	STC-5	NL-33
H20-MTHOR-4	9IH7302056	T_MA/C 43	1.250	1.625	1.048	2.420	TC-190	STC-5	NL-44
H24-MTHOR-4	9IH7302456	T_MA/C 43	1.500	1.625	1.173	2.625	TC-190	STC-5	NL-44
H28-MTHOR-4	9IH7302856	T_MA/C 43	1.750	1.625	1.298	2.875	TC-190	STC-5	NL-44
H32-MTHOR-4	9IH7303256	T_MA/C 43	2.000	1.625	1.423	2.875	TC-190	STC-5	NL-44
H40-MTHOR-4	9IH7304056	T_MA/C 43	2.500	1.625	1.673	3.375	TC-190	STC-5	NL-44
H24-MTHOR-5	9IH7302464	T_MA/C 54	1.500	1.625	1.173	3.200	TC-250	STC-11	NL-56
H28-MTHOR-5	9IH7302864	T_MA/C 54	1.750	1.625	1.298	3.250	TC-250	STC-11	NL-56
H32-MTHOR-5	9IH7303264	T_MA/C 54	2.000	1.625	1.423	3.250	TC-250	STC-11	NL-56
H40-MTHOR-5	9IH7304064	T_MA/C 54	2.500	1.625	1.673	3.375	TC-250	STC-11	NL-56

*Left hand quoted on request.

PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw	Lock Pin
H25M-MTHOR-3	9IH73025M48	T_MA/C 32	25	41.28	17.48	42.93	CLM6	XNSM0515	NLM33
H32M-MTHOR-3	9IH73032M48	T_MA/C 32	32	41.28	20.27	45.42	CLM6	XNSM0515	NLM33
H40M-MTHOR-3	9IH73040M48	T_MA/C 32	40	41.28	23.44	47.63	CLM6	XNSM0515	NLM33
H32M-MTHOR-4	9IH73032M56	T_MA/C 43	32	41.28	26.62	61.47	CLM6	XNSM0515	NLM44
H40M-MTHOR-4	9IH73040M56	T_MA/C 43	40	41.28	29.79	66.68	CLM6	XNSM0515	NLM44
H44M-MTHOR-4	9IH73044M56	T_MA/C 43	44	41.28	32.97	73.03	CLM6	XNSM0515	NLM44
H50M-MTHOR-4	9IH73050M56	T_MA/C 43	50	41.28	36.14	73.03	CLM6	XNSM0515	NLM44
H60M-MTHOR-4	9IH73060M56	T_MA/C 43	60	41.28	42.49	85.73	CLM6	XNSM0515	NLM44
H40M-MTHOR-5	9IH73040M64	T_MA/C 54	40	41.28	29.79	81.28	CLM20	STCM11	NLM56
H44M-MTHOR-5	9IH73044M64	T_MA/C 54	44	41.28	32.97	82.55	CLM20	STCM11	NLM56
H50M-MTHOR-5	9IH73050M64	T_MA/C 54	50	41.28	36.14	82.55	CLM20	STCM11	NLM56
H60M-MTHOR-5	9IH73060M64	T_MA/C 54	60	41.28	42.49	85.73	CLM20	STCM11	NLM56

*Left hand quoted on request.

HS-MTHOR/L*

RH SHOWN

PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw	Lock Pin
HS25-MTHOR-3	9IHS73025M48	TNMA/C 32	0.98	0.98	0.678	1.690	TC-190	STC-5	NL-33
HS32-MTHOR-3	9IHS73032M48	TNMA/C 32	1.26	1.26	0.800	1.788	TC-190	STC-5	NL-33
HS40-MTHOR-3	9IHS73040M48	TNMA/C 32	1.57	1.26	0.933	1.875	TC-190	STC-5	NL-33
HS32-MTHOR-4	9IHS73032M56	TNMA/C 43	1.26	1.26	1.050	2.420	TC-190	STC-5	NL-44
HS40-MTHOR-4	9IHS73040M56	TNMA/C 43	1.57	1.26	1.203	2.625	TC-190	STC-5	NL-44
HS50-MTHOR-4	9IHS73050M56	TNMA/C 43	1.97	1.57	1.413	2.875	TC-190	STC-5	NL-44
HS60-MTHOR-4	9IHS73060M56	TNMA/C 43	2.36	1.57	1.603	3.375	TC-190	STC-5	NL-44
HS40-MTHOR-5	9IHS73040M64	TNMA/C 54	1.57	1.26	1.203	3.200	TC-250	STC-11	NL-56
HS50-MTHOR-5	9IHS73050M64	TNMA/C 54	1.97	1.57	1.413	3.250	TC-250	STC-11	NL-56
HS60-MTHOR-5	9IHS73060M64	TNMA/C 54	2.36	1.57	1.603	3.375	TC-250	STC-11	NL-56

*Left hand quoted on request.

PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw	Lock Pin
HS25-MTHOR-3	9IHS73025M48	TNMA/C 32	25	24.89	17.22	42.93	CLM6	XNSM0515	NLM33
HS32-MTHOR-3	9IHS73032M48	TNMA/C 32	32	32.00	20.32	45.42	CLM6	XNSM0515	NLM33
HS40-MTHOR-3	9IHS73040M48	TNMA/C 32	40	32.00	23.70	47.63	CLM6	XNSM0515	NLM33
HS32-MTHOR-4	9IHS73032M56	TNMA/C 43	32	32.00	26.67	61.47	CLM6	XNSM0515	NLM44
HS40-MTHOR-4	9IHS73040M56	TNMA/C 43	40	32.00	30.56	66.68	CLM6	XNSM0515	NLM44
HS50-MTHOR-4	9IHS73050M56	TNMA/C 43	50	39.88	35.89	73.03	CLM6	XNSM0515	NLM44
HS60-MTHOR-4	9IHS73060M56	TNMA/C 43	60	39.88	40.72	85.73	CLM6	XNSM0515	NLM44
HS40-MTHOR-5	9IHS73040M64	TNMA/C 54	40	32.00	30.56	81.28	CLM20	STCM11	NLM56
HS50-MTHOR-5	9IHS73050M64	TNMA/C 54	50	39.88	35.89	82.55	CLM20	STCM11	NLM56
HS60-MTHOR-5	9IHS73060M64	TNMA/C 54	60	39.88	40.72	85.73	CLM20	STCM11	NLM56

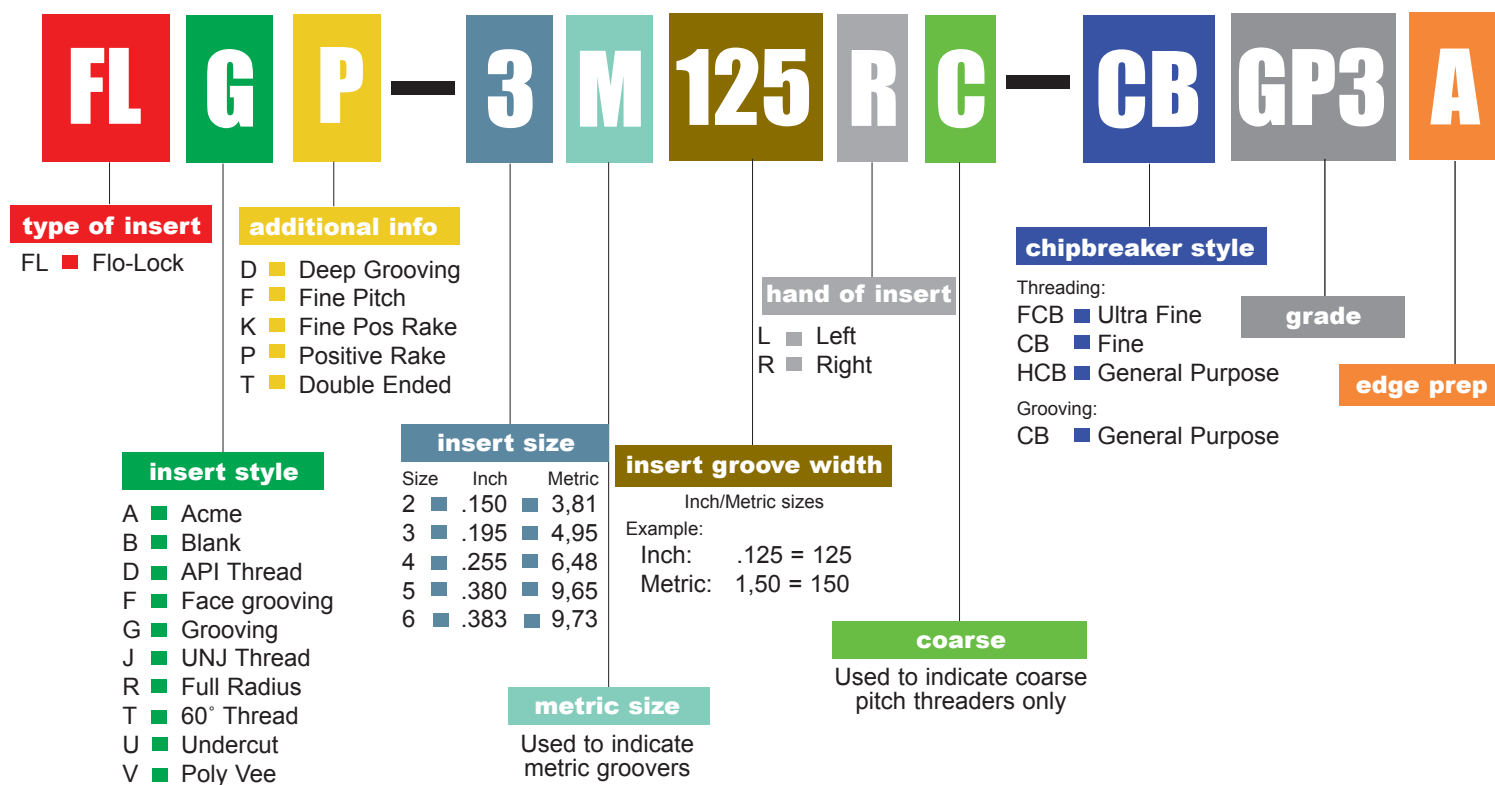
*Left hand quoted on request.



FLO-LOCK



Flo-Lock Grooving/Threading Insert Identification Chart



Flo-Lock Cross Reference Chart

STYLE	TOOL-FLO	KENNAMETAL®	SANDVIK®*	VALENITE®*	HORIZON®*	RTW®*
ACME	FLA	NA	TLA	VLA	HA	PA
ACME STUBFLAS	NAS	TLAS	VLAS	HAS	PAS	
API-NON TOPPING	FLD	ND	TLD	#	#	#
API-TOPPING	FLDC	NDC	TLDC	#	HDC	PDC
UNJ	FLJ	NJ	TLJ	#	HJ	#
UNJ-FINE PITCH	FLJF	NJF	TLJF	#	HJF	#
UNJ-FINE PITCH-POSITIVE	FLJK	NJK	TLJK	#	#	#
UNJ-POSITIVE	FLJP	NJP	TLJP	#	#	#
60° V	FLT	NT	TLT	VLRT	HT	PT
AMERICAN STANDARD BUTTRESS	FLTB	NTB	TLTB	#	HTB	#
UN - UNIFIED	FLTC	NTC	TLTC	VLTC	HTC	PTC
60° V - FINE PITCH	FLTF	NTF	TLTF	VLTF	HTF	PTF
60° V - FINE PITCH POSITIVE	FLTK	NTK	TLTK	VLTK	HTK	PTK
60° V - POSITIVE	FLTP	NTP	TLTP	VLTP	HTP	PTP

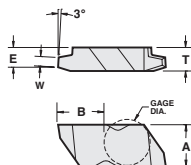
*Top Clamp change is required when converting from SANDVIK®



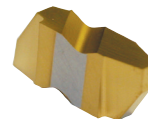
ACME THREADING

FLA

For Flo-Lock acme thread limits see pg. 48.



RH Shown



Description	EDP Code	TPI	W	T	E	A	B	Gage Dia.	Coating				
									Uncoated	TIN Coated	AlTiN Coated	C3	GP3
FLA-2R8	552008R	8	.0411 (1.04)	.150 (3.81)	.115 (2.92)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-2L8	552008L	8	.0411 (1.04)	.150 (3.81)	.115 (2.92)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-2R6	552006R	6	.0566 (1.43)	.150 (3.81)	.117 (2.97)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-2L6	552006L	6	.0566 (1.43)	.150 (3.81)	.117 (2.97)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-2R5	552005R	5	.0689 (1.75)	.150 (3.81)	.107 (2.71)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-2L5	552005L	5	.0689 (1.75)	.150 (3.81)	.107 (2.71)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLA-3R16	553016R	16	.0206 (0.52)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L16	553016L	16	.0206 (0.52)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R14	553014R	14	.0239 (0.61)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L14	553014L	14	.0239 (0.61)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R12	553012R	12	.0283 (0.72)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L12	553012L	12	.0283 (0.72)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R10	553010R	10	.0319 (0.81)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L10	553010L	10	.0319 (0.81)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R8	553008R	8	.0411 (1.04)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L8	553008L	8	.0411 (1.04)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R7	553007R	7	.0478 (1.21)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R6	553006R	6	.0566 (1.43)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L6	553006L	6	.0566 (1.43)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R5	553005R	5	.0689 (1.75)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L5	553005L	5	.0689 (1.75)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R4	553004R	4	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L4	553004L	4	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-4R8	554008R	8	.0411 (1.04)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L8	554008L	8	.0411 (1.04)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R6	554006R	6	.0566 (1.43)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L6	554006L	6	.0566 (1.43)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R5	554005R	5	.0689 (1.75)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L5	554005L	5	.0689 (1.75)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R4	554004R	4	.0875 (2.22)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L4	554004L	4	.0875 (2.22)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R3.5	554035R	3.5	.1007 (2.55)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R3	554003R	3	.1184 (3.00)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-6R3.5	556035R	3.5	.1007 (2.55)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6R3	556003R	3	.1184 (3.00)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6L3	556003L	3	.1184 (3.00)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6R2.5	5560025R	2.5	.1431 (3.63)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6L2.5	5560025L	2.5	.1431 (3.63)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6R2	556002R	2	.1802 (4.57)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLA-6L2	556002L	2	.1802 (4.57)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					

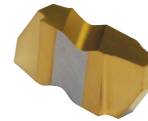
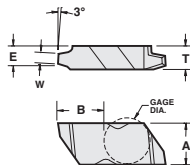


FLO-LOCK

PARTIAL TOPPING ACME THREADING

FLA-PT (with corner radii)

For Flo-Lock acme thread limits see pg. 48.



RH Shown

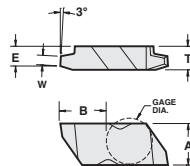
Description	EDP Code	TPI	W	T	E	A	B	Gage Dia.	Coating				
									Uncoated	TIN Coated	AC3	AC50	AC50
FLA-3R16-PT-E	553016PTRE	16	.0206 (0.52)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L16-PT-I	553016PTLI	16	.0206 (0.52)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R14-PT-E	553014PTRE	14	.0239 (0.61)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L14-PT-I	553014PTLI	14	.0239 (0.61)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R12-PT-E	553012PTRE	12	.0283 (0.72)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L12-PT-I	553012PTLI	12	.0283 (0.72)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R10-PT-E	553010PTRE	10	.0319 (0.81)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L10-PT-I	553010PTLI	10	.0319 (0.81)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R8-PT-E	553008PTRE	8	.0411 (1.04)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L8-PT-I	553008PTLI	8	.0411 (1.04)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R6-PT-E	553006PTRE	6	.0566 (1.43)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L6-PT-I	553006PTLI	6	.0566 (1.43)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R5-PT-E	553005PTRE	5	.0689 (1.75)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L5-PT-I	553005PTLI	5	.0689 (1.75)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R4-PT-E	553004PTRE	4	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L4-PT-I	553004PTLI	4	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-4R8-PT-E	554008PTRE	8	.0411 (1.04)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L8-PT-I	554008PTLI	8	.0411 (1.04)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R6-PT-E	554006PTRE	6	.0566 (1.43)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L6-PT-I	554006PTLI	6	.0566 (1.43)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R5-PT-E	554005PTRE	5	.0689 (1.75)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L5-PT-I	554005PTLI	5	.0689 (1.75)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R4-PT-E	554004PTRE	4	.0875 (2.22)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L4-PT-I	554004PTLI	4	.0875 (2.22)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4R3-PT-E	554003PTRE	3	.1184 (3.00)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLA-4L3-PT-I	554003PTLI	3	.1184 (3.00)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					

I = Internal
E = External

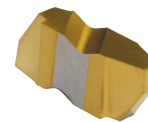
STUB ACME THREADING

FLAS

For Flo-Lock acme thread limits see pg. 48.



RH Shown

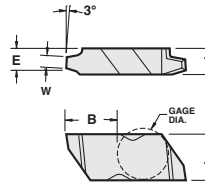


Description	EDP Code	TPI	W	T	E	A	B	Gage Dia.	Coating				
									Uncoated	TIN Coated	AC3	AC50	AC50
FLAS-2R10	552210R	10	.0370 (0.93)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-2L10	552210L	10	.0370 (0.93)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-2R8	552208R	8	.0476 (1.20)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-2L8	552208L	8	.0476 (1.20)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-2R6	552206R	6	.0652 (1.65)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-2L6	552206L	6	.0652 (1.65)	.150 (3.81)	.124 (3.14)	.219 (5.56)	.2700 (6.85)	.1875 (4.76)					
FLAS-3R16	553216R	16	.0238 (0.60)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L16	553216L	16	.0238 (0.60)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R14	553214R	14	.0276 (0.70)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L14	553214L	14	.0276 (0.70)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R12	553212R	12	.0326 (0.82)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L12	553212L	12	.0326 (0.82)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R10	553210R	10	.0370 (0.93)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L10	553210L	10	.0370 (0.93)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R8	553208R	8	.0476 (1.20)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L8	553208L	8	.0476 (1.20)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R6	553206R	6	.0652 (1.65)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L6	553206L	6	.0652 (1.65)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R5	553205R	5	.0793 (2.01)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L5	553205L	5	.0793 (2.01)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3R4	553204R	4	.1004 (2.55)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-3L4	553204L	4	.1004 (2.55)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLAS-4R8	554208R	8	.0476 (1.20)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLAS-4R4	554204R	4	.1004 (2.55)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLAS-4L4	554204L	4	.1004 (2.55)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLAS-4R3	554203R	3	.1356 (3.44)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLAS-4L3	554203L	3	.1356 (3.44)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)					
FLAS-6R2	556202R	2	.2060 (5.23)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					
FLAS-6L2	556202L	2	.2060 (5.23)	.383 (9.72)	.283 (7.18)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)					

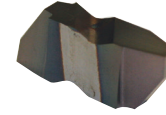
I = Internal
E = External

PARTIAL TOPPING ACME STUB THREADING

FLAS-PT (with corner radii)



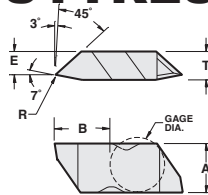
RH Shown



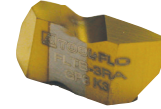
Description	EDP Code	TPI	W	T	E	A	B	Gage Dia.					
									C3	GP3	GP50	AC3	AC50
FLAS-3L16-PT-I	553216PTLI	16	.0238 (0.60)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3R14-PT-E	553214PTRE	14	.0276 (0.70)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3L14-PT-I	553214PTLI	14	.0276 (0.70)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)		●	●		
FLAS-3R12-PT-E	553212PTRE	12	.0326 (0.82)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3L12-PT-I	553212PTLI	12	.0326 (0.82)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3R10-PT-E	553210PTRE	10	.0370 (0.93)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)		●	●		
FLAS-3L10-PT-I	553210PTLI	10	.0370 (0.93)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3R8-PT-E	553208PTRE	8	.0476 (1.20)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)		●	●		
FLAS-3L8-PT-I	553208PTLI	8	.0476 (1.20)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3R6-PT-E	553206PTRE	6	.0652 (1.65)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)		●	●		
FLAS-3L6-PT-I	553206PTLI	6	.0652 (1.65)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)			●		
FLAS-3L5-PT-I	553205PTLI	5	.0793 (2.01)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)		●	●		
FLAS-3R4-PT-E	553204PTRE	4	.1004 (2.55)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)		●	●		
FLAS-3L4-PT-I	553204PTLI	4	.1004 (2.55)	.255 (6.47)	.202 (5.13)	.453 (11.50)	.6332 (16.08)	.3750 (9.52)			●		

AMERICAN STANDARD BUTTRESS 7° LEAD

FLTB



RH Shown

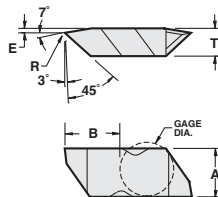


For ASB specifications and application see pg. 47.

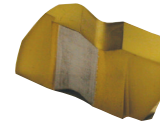
Description	EDP Code	TPI	R	T	E	A	B	Gage Dia.					
									C3	GP3	GP50	AC3	AC50
FLTB-2RA	602801R	16-20	.002/.004 (0.05/0.10)	.150 (3.81)	.126 (3.20)	.219 (5.56)	.2688 (6.83)	.1875 (4.76)		●	●	●	●
FLTB-2LA	602801L	16-20	.002/.004 (0.05/0.10)	.150 (3.81)	.126 (3.20)	.219 (5.56)	.2688 (6.83)	.1875 (4.76)		●	●	●	●
FLTB-3RA	603801R	8-16	.005/.008 (0.13/0.20)	.195 (4.95)	.164 (4.17)	.344 (8.74)	.4034 (10.25)	.3750 (9.53)		●	●	●	●
FLTB-3LA	603801L	8-16	.005/.008 (0.13/0.20)	.195 (4.95)	.164 (4.17)	.344 (8.74)	.4034 (10.25)	.3750 (9.53)		●	●	●	●
FLTB-4RA	604801R	4-6	.008/.012 (0.20/0.30)	.255 (6.48)	.206 (5.23)	.453 (11.51)	.6334 (16.09)	.3750 (9.53)		●	●	●	●
FLTB-4LA	604801L	4-6	.008/.012 (0.20/0.30)	.255 (6.48)	.206 (5.23)	.453 (11.51)	.6334 (16.09)	.3750 (9.53)		●	●	●	●

AMERICAN STANDARD BUTTRESS 45° LEAD

FLTB



RH Shown

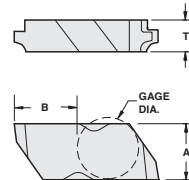


For ASB specifications and application see pg. 47.

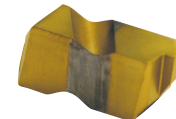
Description	EDP Code	TPI	R	T	E	A	B	Gage Dia.					
									C3	GP3	GP50	AC3	AC50
FLTB-2RB	602802R	16-20	.002/.004 (0.05/0.10)	.150 (3.81)	.126 (3.20)	.219 (5.56)	.2688 (6.83)	.1875 (4.76)		●	●	●	●
FLTB-2LB	602802L	16-20	.002/.004 (0.05/0.10)	.150 (3.81)	.126 (3.20)	.219 (5.56)	.2688 (6.83)	.1875 (4.76)		●	●	●	●
FLTB-3RB	603802R	8-16	.005/.008 (0.13/0.20)	.195 (4.95)	.164 (4.17)	.344 (8.74)	.4034 (10.25)	.3750 (9.53)		●	●	●	●
FLTB-3LB	603802L	8-16	.005/.008 (0.13/0.20)	.195 (4.95)	.164 (4.17)	.344 (8.74)	.4034 (10.25)	.3750 (9.53)		●	●	●	●
FLTB-4RB	604802R	4-6	.008/.012 (0.20/0.30)	.255 (6.48)	.206 (5.23)	.453 (11.51)	.6334 (16.09)	.3750 (9.53)		●	●	●	●
FLTB-4LB	604802L	4-6	.008/.012 (0.20/0.30)	.255 (6.48)	.206 (5.23)	.453 (11.51)	.6334 (16.09)	.3750 (9.53)		●	●	●	●

API BUTTRESS THREADING

FLDC



RH EXT Shown

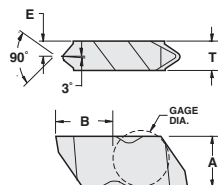


Description	EDP Code	TPI	TPF	T	A	B	Gage Dia.					
								C3	GP3	GP50	AC3	AC50
FLDC-3-5B75E	553616E	5	3/4	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)			●		
FLDC-3-5B75I	553616I	5	3/4	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)			●		
FLDC-3-5B1E	553617E	5	1	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)			●		
FLDC-3-5B1I	553617I	5	1	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)			●		
FLDC-4-5B75E	554616E	5	3/4	.255 (6.48)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)			●		
FLDC-4-5B75I	554616I	5	3/4	.255 (6.48)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)			●		
FLDC-4-5B1E	554617E	5	1	.255 (6.48)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)			●		
FLDC-4-5B1I	554617I	5	1	.255 (6.48)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)			●		

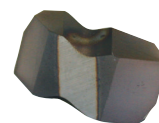


FLO-LOCK

API HUGHES H90 FLDC

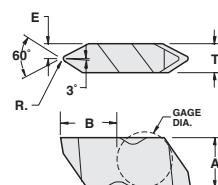


RH Shown

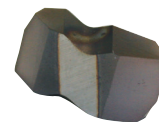


Description	EDP Code	TPI	TPF	T	A	B	Gage Dia.	Connection	C3	GP3	GP50	AC3	AC50
FLDC-4-H902E	554628E	2	3-1/2	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)	3-1/2 - 6-5/8 H90			●		
FLDC-4-H902I	554628I	2	3-1/2	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)	3-1/2 - 6-5/8 H90			●		

API THREADING NON TOPPING FLD

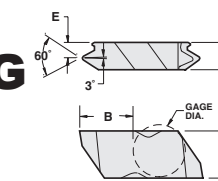


RH Shown



Description	EDP Code	TPI	R	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLD-3038R	553438R	4	.033/.038 (0.84/0.97)	.082 (2.08)	.195 (4.95)	.344 (8.74)	.3991 (10.14)	.3750 (9.53)			●		
FLD-3038L	553438L	4	.033/.038 (0.84/0.97)	.082 (2.08)	.195 (4.95)	.344 (8.74)	.3991 (10.14)	.3750 (9.53)			●		
FLD-3040R	553440R	5	.015/.020 (0.38/0.51)	.082 (2.08)	.195 (4.95)	.344 (8.74)	.3991 (10.14)	.3750 (9.53)			●		
FLD-3040L	553440L	5	.015/.020 (0.38/0.51)	.082 (2.08)	.195 (4.95)	.344 (8.74)	.3991 (10.14)	.3750 (9.53)			●		
FLD-4038R	554438R	4	.033/.038 (0.84/0.97)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●		
FLD-4038L	554438L	4	.033/.038 (0.84/0.97)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●		
FLD-4040R	554440R	5	.015/.020 (0.38/0.51)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●		
FLD-4040L	554440L	5	.015/.020 (0.38/0.51)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●		
FLD-4050R	554450R	4	.020/.025 (0.51/0.64)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●	●	
FLD-4050L	554450L	4	.020/.025 (0.51/0.64)	.128 (6.48)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)			●		

API ROTARY SHOULDER CONNECTION THREADING FLDC

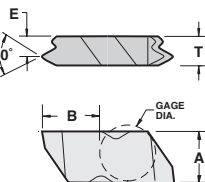


RH EXT Shown

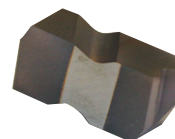


Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	Conn. No. or Size	GP3	GP50	AC22	AC3	AC50
FLDC-3-530E	553613E	5	3	.147 (3.73)	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)	3-1/2 FH, 2-3/8-4-1/2 Reg.	●				
FLDC-3-530I	553613I	5	3	.147 (3.73)	.250 (6.35)	.344 (8.74)	.4026 (10.23)	.3750 (9.53)	3-1/2 FH, 2-3/8-4-1/2 Reg.	●				
FLDC-4-425E	554609E	4	2	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	5-1/2 FH, 6-5/8 FH & Reg.	●				
FLDC-4-425I	554609I	4	2	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	5-1/2 FH, 6-5/8 FH & Reg.	●				
FLDC-4-428E	554610E	4	2	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	NC23-NC50, 2-3/8-5-1/2IF	●				
FLDC-4-428I	554610I	4	2	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	NC23-NC50, 2-3/8-5-1/2IF	●				
FLDC-4-435E	554611E	4	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	5-1/2, 7-5/8, 8-5/8 Reg.	●				
FLDC-4-435I	554611I	4	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	5-1/2, 7-5/8, 8-5/8 Reg.	●				
FLDC-4-438E	554612E	4	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	NC56 - NC71	●				
FLDC-4-438I	554612I	4	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	NC56 - NC71	●				
FLDC-4-530E	554613E	5	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	3-1/2 FH, 2-3/8-4-1/2 Reg.	●				
FLDC-4-530I	554613I	5	3	.183 (4.65)	.312 (7.92)	.453 (11.51)	.6320 (16.05)	.3750 (9.53)	3-1/2 FH, 2-3/8-4-1/2 Reg.	●				

API ROUND THREADING FLDC



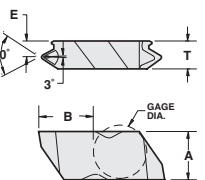
RH Shown



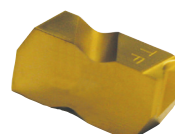
Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLDC-3-8RDR75	553632R	8	3/4	.195 (3.18)	.125 (4.95)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		
FLDC-3-8RDL75	553632L	8	3/4	.195 (3.18)	.125 (4.95)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		
FLDC-3-10RDR75	553634R	10	3/4	.195 (3.18)	.125 (4.95)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		
FLDC-3-10RDL75	553634L	10	3/4	.195 (3.18)	.125 (4.95)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		

FLDC with chipbreaker

Exclusive patented design!



RH Shown

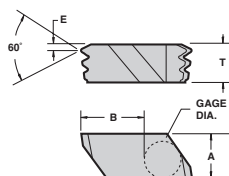


Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLDC-3-8RDR75-CB	553632PR	8	3/4	.195 (3.18)	.125 (4.94)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		
FLDC-3-8RDL75-CB	553632PL	8	3/4	.195 (3.18)	.125 (4.94)	.344 (8.74)	.4010 (10.19)	.3750 (9.53)			●		

API ROUND THREADING

FLDC

Multi-tooth



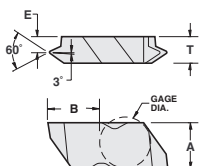
RH Shown



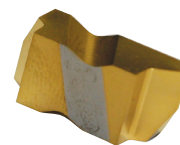
Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLDC-3-8RD-2TE	553633E	8	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-3-8RD-2TI	553633I	8	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-3-10RD-2TE	553635E	10	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-3-10RD-2TI	553635I	10	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-3-8RDR-75M	553633R	8	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-3-8RDL-75M	553633L	8	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-6-8RDR75M	556633R	8	3/4	.070 (1.78)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		
FLDC-6-10RDR75M	556635R	10	3/4	.134 (3.40)	.383 (9.73)	.453 (11.51)	.6360 (16.15)	.3750 (9.53)			●		

NPT THREADING

FLDC



RH Shown

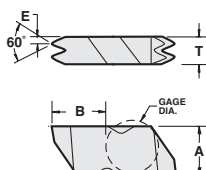


Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLDC-3-8VR-75	553608R	8	3/4	.100 (2.54)	.195 (4.95)	.344 (8.74)	.4000 (10.16)	.3750 (9.53)					
FLDC-3-8VL-75	553608L	8	3/4	.100 (2.54)	.195 (4.95)	.344 (8.74)	.4000 (10.16)	.3750 (9.53)					
FLDC-3-115VR-75	553611R	11.5	3/4	.144 (3.66)	.195 (4.95)	.344 (8.74)	.4000 (10.16)	.3750 (9.53)					
FLDC-3-115VL-75	553611L	11.5	3/4	.144 (3.66)	.195 (4.95)	.344 (8.74)	.4000 (10.16)	.3750 (9.53)					
FLDC-3-14VR-75	553614R	14	3/4	.148 (3.76)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					
FLDC-3-14VL-75	553614L	14	3/4	.148 (3.76)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					
FLDC-3-18VR-75	553618R	18	3/4	.154 (3.91)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					
FLDC-3-18VL-75	553618L	18	3/4	.154 (3.91)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					
FLDC-3-27VR-75	553627R	27	3/4	.162 (4.11)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					
FLDC-3-27VL-75	553627L	27	3/4	.162 (4.11)	.195 (4.95)	.344 (8.74)	.4023 (10.22)	.3750 (9.53)					

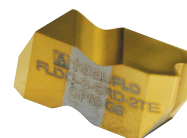
NPT THREADING

FLDC

Multi-tooth



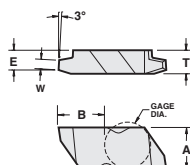
RH Shown



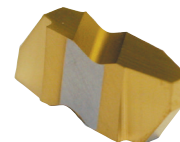
Description	EDP Code	TPI	TPF	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLDC-3-8 NPT-2E	553708E	8	3/4	.058 (1.47)	.250 (6.35)	.344 (8.74)	.4050 (10.29)	.3750 (9.53)					
FLDC -3-8 NPT-2I	553708I	8	3/4	.058 (1.47)	.250 (6.35)	.344 (8.74)	.4050 (10.29)	.3750 (9.53)					
FLDC-3-11.5 NPT-2E	553711E	11.5	3/4	.048 (1.22)	.250 (6.35)	.344 (8.74)	.4050 (10.29)	.3750 (9.53)					
FLDC-3-11.5 NPT-2I	553711I	11.5	3/4	.048 (1.22)	.250 (6.35)	.344 (8.74)	.4050 (10.29)	.3750 (9.53)					
FLDC-3-14 NPT-2E	553714E	14	3/4	.048 (1.22)	.250 (6.35)	.344 (8.74)	.4050 (10.29)	.3750 (9.53)					

TRAPEZOIDAL THREADING

FLA



RH Shown



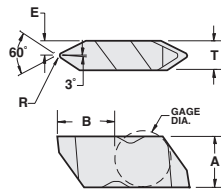
Description	EDP Code	Pitch	W	T	E	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLA-3R4.0TR	543804R	4.0	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L4.0TR	543804L	4.0	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3R3.0TR	543803R	3.0	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					
FLA-3L3.0TR	543803L	3.0	.0875 (2.22)	.195 (4.95)	.149 (3.78)	.344 (8.73)	.4026 (10.22)	.3750 (9.52)					



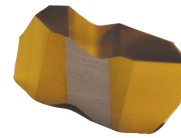
UNJ THREADING

FLJ

FLO-LOCK



RH Shown

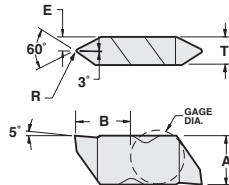


Description	EDP Code	TPI	R	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLJ-3010R16	583216R	16	.0094/.0104 (0.24/0.26)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJ-3010L16	583216L	16	.0094/.0104 (0.24/0.26)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJ-3014R12	583212R	12	.0125/.0135 (0.32/0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJ-3014L12	583212L	12	.0125/.0135 (0.32/0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJ-3020R8	583208R	8	.0188/.0198 (0.48/0.50)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJ-3020L8	583208L	8	.0188/.0198 (0.48/0.50)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	

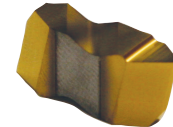
UNJ THREADING

FLJP

Positive rake



RH Shown

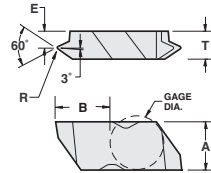


Description	EDP Code	TPI	R	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLJP-3010R16	583816R	16	.0094/.0104 (0.24/0.26)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJP-3010L16	583816L	16	.0094/.0104 (0.24/0.26)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJP-3014R12	583812R	12	.0125/.0135 (0.32/0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJP-3014L12	583812L	12	.0125/.0135 (0.32/0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJP-3020R8	583808R	8	.0188/.0198 (0.48/0.50)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	
FLJP-3020L8	583808L	8	.0188/.0198 (0.48/0.50)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●	●	●	

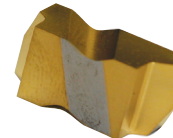
UNJ FINE PITCH THREADING

FLJF

For cutting close to shoulder



RH Shown

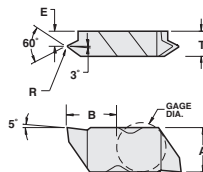


Description	EDP Code	TPI	R	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLJF-3005R32	583432R	32	.0047/.0057 (0.12/0.15)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3005L32	583432L	32	.0047/.0057 (0.12/0.15)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3006R28	583428R	28	.0054/.0064 (0.14/0.16)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3006L28	583428L	28	.0054/.0064 (0.14/0.16)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3007R24	583424R	24	.0063/.0073 (0.16/0.19)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3007L24	583424L	24	.0063/.0073 (0.16/0.19)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3008R20	583420R	20	.0075/.0085 (0.19/0.22)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3008L20	583420L	20	.0075/.0085 (0.19/0.22)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3009R18	583418R	18	.0083/.0093 (0.21/0.24)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3009L18	583418L	18	.0083/.0093 (0.21/0.24)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3010R16	583416R	16	.0094/.0104 (0.24/0.26)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3010L16	583416L	16	.0094/.0104 (0.24/0.26)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3012R14	583414R	14	.0107/.0117 (0.27/0.30)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJF-3012L14	583414L	14	.0107/.0117 (0.27/0.30)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	

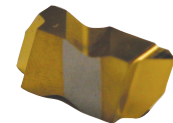
UNJ FINE PITCH THREADING

FLJK

Positive rake



RH Shown



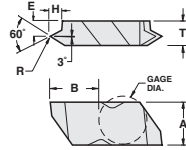
Description	EDP Code	TPI	R	E	T	A	B	Gage Dia.	C3	GP3	GP50	AC3	AC50
FLJK-3005R32	583632R	32	.0047/.0057 (0.12/0.15)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3005L32	583632L	32	.0047/.0057 (0.12/0.15)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3006R28	583628R	28	.0054/.0064 (0.14/0.16)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3006L28	583628L	28	.0054/.0064 (0.14/0.16)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3007R24	583624R	24	.0063/.0073 (0.16/0.19)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3007L24	583624L	24	.0063/.0073 (0.16/0.19)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3008R20	583620R	20	.0075/.0085 (0.19/0.22)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3008L20	583620L	20	.0075/.0085 (0.19/0.22)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3009R18	583618R	18	.0083/.0093 (0.21/0.24)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3009L18	583618L	18	.0083/.0093 (0.21/0.24)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3010R16	583616R	16	.0094/.0104 (0.24/0.26)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3010L16	583616L	16	.0094/.0104 (0.24/0.26)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3012R14	583614R	14	.0107/.0117 (0.27/0.30)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	
FLJK-3012L14	583614L	14	.0107/.0117 (0.27/0.30)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)		●	●	●	



UN THREADING

FLTC

Crest topping



RH EXT Shown



Description	EDP Code	TPI	R	E	H	T	A	B	Gage Dia.	Coating				
										Uncoated	TIN Coated	ATIN Coated	GP3	AC50
FLTC-3R7E	613007R	7	.017 (0.43)	.107 (2.72)	.108 (2.74)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L7E	613007L	7	.017 (0.43)	.107 (2.72)	.108 (2.74)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R7I	613207R	7	.009 (0.23)	.107 (2.72)	.092 (2.34)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L7I	613207L	7	.009 (0.23)	.107 (2.72)	.092 (2.34)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R8E	613008R	8	.015 (0.38)	.107 (2.72)	.094 (2.39)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L8E	613008L	8	.015 (0.38)	.107 (2.72)	.094 (2.39)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R8I	613208R	8	.007 (0.18)	.107 (2.72)	.081 (2.06)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L8I	613208L	8	.007 (0.18)	.107 (2.72)	.081 (2.06)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R9E	613009R	9	.013 (0.33)	.107 (2.72)	.084 (2.13)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L9E	613009L	9	.013 (0.33)	.107 (2.72)	.084 (2.13)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R9I	613209R	9	.006 (0.15)	.107 (2.72)	.072 (1.83)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L9I	613209L	9	.006 (0.15)	.107 (2.72)	.072 (1.83)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R10E	613010R	10	.012 (0.30)	.107 (2.72)	.076 (1.93)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L10E	613010L	10	.012 (0.30)	.107 (2.72)	.076 (1.93)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R10I	613210R	10	.005 (0.13)	.107 (2.72)	.065 (1.65)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L10I	613210L	10	.005 (0.13)	.107 (2.72)	.065 (1.65)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R11E	613011R	11	.011 (0.28)	.107 (2.72)	.069 (1.75)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L11E	613011L	11	.011 (0.28)	.107 (2.72)	.069 (1.75)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R11I	613211R	11	.005 (0.13)	.107 (2.72)	.059 (1.50)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L11I	613211L	11	.005 (0.13)	.107 (2.72)	.059 (1.50)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R12E	613012R	12	.010 (0.25)	.148 (3.76)	.051 (1.30)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L12E	613012L	12	.010 (0.25)	.148 (3.76)	.051 (1.30)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R12I	613212R	12	.004 (0.10)	.148 (3.76)	.048 (1.22)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L12I	613212L	12	.004 (0.10)	.148 (3.76)	.048 (1.22)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R13E	613013R	13	.009 (0.23)	.148 (3.76)	.054 (1.37)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L13E	613013L	13	.009 (0.23)	.148 (3.76)	.054 (1.37)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R14E	613014R	14	.009 (0.23)	.148 (3.76)	.054 (1.37)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L14E	613014L	14	.009 (0.23)	.148 (3.76)	.054 (1.37)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R14I	613214R	14	.003 (0.08)	.148 (3.76)	.044 (1.12)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L14I	613214L	14	.003 (0.08)	.148 (3.76)	.044 (1.12)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R16E	613016R	16	.008 (0.20)	.148 (3.76)	.046 (1.17)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L16E	613016L	16	.008 (0.20)	.148 (3.76)	.046 (1.17)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R16I	613216R	16	.003 (0.08)	.148 (3.76)	.040 (1.02)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L16I	613216L	16	.003 (0.08)	.148 (3.76)	.040 (1.02)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R18E	613018R	18	.007 (0.18)	.148 (3.76)	.041 (1.04)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L18E	613018L	18	.007 (0.18)	.148 (3.76)	.041 (1.04)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R18I	613218R	18	.003 (0.08)	.148 (3.76)	.036 (0.91)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L18I	613218L	18	.003 (0.08)	.148 (3.76)	.036 (0.91)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R20E	613020R	20	.006 (0.15)	.148 (3.76)	.037 (0.94)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L20E	613020L	20	.006 (0.15)	.148 (3.76)	.037 (0.94)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R20I	613220R	20	.003 (0.08)	.148 (3.76)	.031 (0.79)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L20I	613220L	20	.003 (0.08)	.148 (3.76)	.031 (0.79)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R24E	613024R	24	.005 (0.13)	.148 (3.76)	.031 (0.79)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L24E	613024L	24	.005 (0.13)	.148 (3.76)	.031 (0.79)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R24I	613224R	24	.003 (0.08)	.148 (3.76)	.026 (0.66)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L24I	613224L	24	.003 (0.08)	.148 (3.76)	.026 (0.66)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R28*	613028R	28	.003 (0.08)	.148 (3.76)	.023 (0.58)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L28*	613028L	28	.003 (0.08)	.148 (3.76)	.023 (0.58)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3R32*	613032R	32	.003 (0.08)	.148 (3.76)	.021 (0.53)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					
FLTC-3L32*	613032L	32	.003 (0.08)	.148 (3.76)	.021 (0.53)	.195 (4.95)	.344 (8.74)	.4004 (10.17)	.3750 (9.53)					

*Will work for either internal or external.

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron		▲	●
Non-Ferrous		▲	●
Stainless/High Temp		▲	●
Steel		▲	●

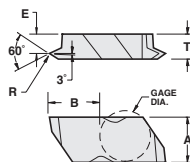


60° V-THREADING

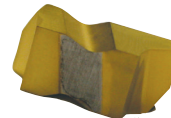
FLTF

Fine pitch

For 60° V-thread limits see pg. 48.



RH Shown

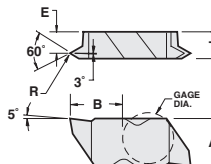


TPI												Gage Dia.	C25	GP3	GP4	GP50	GP52	AC3	AC50
Description	EDP Code	Int	Ext	R	E	T	A	B											
FLTF-2R	612400R	12-24	14-44	.002/.004 (0.05/0.10)	.110 (2.79)	.150 (3.81)	.219 (5.56)	.2679 (6.80)	.1875 (4.76)	●	●	●	●	●	●	●			
FLTF-2L	612400L	12-24	14-44	.002/.004 (0.05/0.10)	.110 (2.79)	.150 (3.81)	.219 (5.56)	.2679 (6.80)	.1875 (4.76)	●	●	●	●	●	●	●			
FLTF-3R	613400R	9-24	10-44	.002/.004 (0.05/0.10)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)	●	●	●	●	●	●	●			
FLTF-3L	613400L	9-24	10-44	.002/.004 (0.05/0.10)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)	●	●	●	●	●	●	●			
FLTF-4R	614400R	9-24	10-44	.002/.004 (0.05/0.10)	.201 (5.11)	.255 (6.48)	.453 (11.51)	.6322 (16.06)	.3750 (9.53)	●	●	●	●	●	●	●			
FLTF-4L	614400L	9-24	10-44	.002/.004 (0.05/0.10)	.201 (5.11)	.255 (6.48)	.453 (11.51)	.6322 (16.06)	.3750 (9.53)	●	●	●	●	●	●	●			

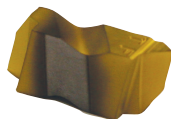
60° V-THREADING

FLTK

Positive rake



RH Shown



Description	EDP Code	TPI		R	E	T	A	B	Gage Dia.	C25	GP3	GP4	GP50	GP520	AC3	AC50
		Int	Ext													
FLTK-2R	612600R	12-24	14-44	.002/.004 (0.05/0.10)	.110 (2.79)	.150 (3.81)	.219 (5.56)	.2679 (6.80)	.1875 (4.76)	●	●	●	●	●	●	●
FLTK-2L	612600L	12-24	14-44	.002/.004 (0.05/0.10)	.110 (2.79)	.150 (3.81)	.219 (5.56)	.2679 (6.80)	.1875 (4.76)	●	●	●	●	●	●	●
FLTK-3R	613600R	9-24	10-44	.002/.004 (0.05/0.10)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)	●	●	●	●	●	●	●
FLTK-3L	613600L	9-24	10-44	.002/.004 (0.05/0.10)	.141 (3.58)	.195 (4.95)	.344 (8.74)	.4022 (10.22)	.3750 (9.53)	●	●	●	●	●	●	●
FLTK-4R	614600R	9-24	10-44	.002/.004 (0.05/0.10)	.201 (5.11)	.255 (6.48)	.453 (11.51)	.6322 (16.06)	.3750 (9.53)	●	●	●	●	●	●	●
FLTK-4L	614600L	9-24	10-44	.002/.004 (0.05/0.10)	.201 (5.11)	.255 (6.48)	.453 (11.51)	.6322 (16.06)	.3750 (9.53)	●	●	●	●	●	●	●

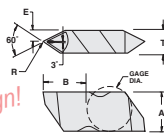
60° V-THREADING - CHIP-FLO

FLT-CB

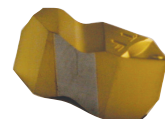
Features:

- Patented chipbreaker - Patent No. 6,146,064
- Maximum chip control
- Fewer scarred threads
- For coarse and fine pitches

Exclusive patented design!



RH Shown

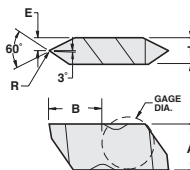


Description	EDP Code	TPI		R	E	T	A	B	Gage Dia.	C25	C3	GP22	GP4	GP50	GP52	AC22	AC3	AC50
		Int	Ext															
FLT-3R-HCB	603600HCR	5-12	6-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3L-HCB	603600HCL	5-12	6-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3RC-HCB	603612HCR	5-6	6-11	.012/.015 (0.30/0.38)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3LC-HCB	603612HCL	5-6	6-11	.012/.015 (0.30/0.38)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3R-CB	603600OCR	8-12	8-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3L-CB	603600OCL	8-12	8-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3R-FCB	603600FCR	7-20	8-36	.003/.005 (0.08/0.13)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●
FLT-3L-FCB	603600FCL	7-20	8-36	.003/.005 (0.08/0.13)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)			●		●		●	●	●

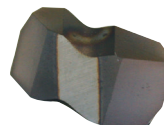
60° V-THREADING

FLT

For 60° V-thread limits see pg. 48.



RH Shown



Description	EDP Code	TPI		R	E	T	A	B	Gage Dia.	C25	GP3	GP4	GP50	GP52	AC22	AC3	AC50
		Int	Ext														
FLT-2R	602600R	7-20	8-36	.003/.005 (0.08/0.13)	.075 (1.91)	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●	●	●			●	●
FLT-2L	602600L	7-20	8-36	.003/.005 (0.08/0.13)	.075 (1.91)	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●	●	●			●	●
FLT-3R	603600R	5-12	6-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●	●	●	●	●
FLT-3L	603600L	5-12	6-20	.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●			●	●
FLT-3RC	603612R	6	6-11	.0135 (0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●		●			●	●
FLT-3LC	603612L	6	6-11	.0135 (0.34)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)							●	●
FLT-3010R	603610R	5-12	6-18	.009/.011 (0.23/0.28)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)		●		●			●	●
FLT-3010L	603610L	5-12	6-18	.009/.011 (0.23/0.28)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)							●	●
FLT-4R	604600R	4-12	4-20	.005/.008 (0.13/0.20)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6298 (16.00)	.3750 (9.53)	●	●		●			●	●
FLT-4L	604600L	4-12	4-20	.005/.008 (0.13/0.20)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6298 (16.00)	.3750 (9.53)	●	●		●			●	●
FLT-4RC	604612R	4.5-6	4.5-11	.0135 (0.34)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6298 (16.00)	.3750 (9.53)							●	●
FLT-4LC	604612L	4.5-6	4.5-11	.0135 (0.34)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6298 (16.00)	.3750 (9.53)							●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	●	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Non-Ferrous	●	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Stainless/High Temp	●	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel	●	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

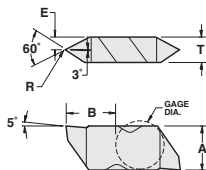


60° V-THREADING

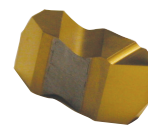
FLTP

Positive rake

For 60° V-thread limits see pg. 48.



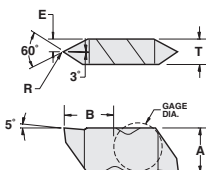
RH Shown



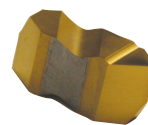
Description	EDP Code	Int	Ext	TPI	R	E	T	A	B	Gage Dia.					
											Uncoated	TIN Coated	AC3	GP50	GP3
FLTP-2R	612800R	7-20	8-36		.003/.005 (0.08/0.13)	.075 (1.91)	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●	●	●	●
FLTP-2L	612800L	7-20	8-36		.003/.005 (0.08/0.13)	.075 (1.91)	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●	●	●	●
FLTP-3R	613800R	5-12	6-20		.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●	●
FLTP-3L	613800L	5-12	6-20		.005/.008 (0.13/0.20)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●	●
FLTP-4R	614800R	4-12	4-20		.005/.008 (0.13/0.20)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)	●	●	●	●	●
FLTP-4L	614800L	4-12	4-20		.005/.008 (0.13/0.20)	.128 (3.25)	.255 (6.48)	.453 (11.51)	.6293 (15.98)	.3750 (9.53)	●	●	●	●	●

55° V-THREADING

FLTP



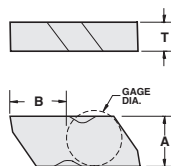
RH Shown



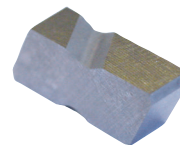
Description	EDP Code	Int	Ext	TPI	R	E	T	A	B	Gage Dia.					
											Uncoated	TIN Coated	AC3	GP50	GP3
FLT-3R 55°	603655R	5-12	6.20		.003/.005 (0.08/0.13)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●	●
FLT-3L 55°	603655L	5-12	6.20		.003/.005 (0.08/0.13)	.098 (2.49)	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●	●	●	●

FLO-LOCK BLANKS

FLB



RH Shown



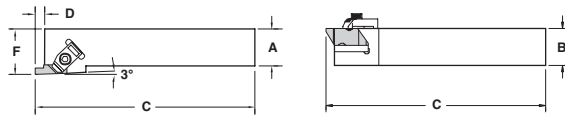
Description	EDP Code	T	A	B	Gage Dia.		
						C3	C5
FLB-2R	FRB20	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●
FLB-2L	FLB20	.150 (3.81)	.219 (5.56)	.2661 (6.76)	.1875 (4.76)	●	●
FLB-3R	FRB30	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●
FLB-3L	FLB30	.195 (4.95)	.344 (8.74)	.3999 (10.16)	.3750 (9.53)	●	●
FLB-4R	FRB40	.255 (6.48)	.344 (8.74)	.6288 (15.97)	.3750 (9.53)	●	●
FLB-4L	FLB40	.255 (6.48)	.344 (8.74)	.6288 (15.97)	.3750 (9.53)	●	●
FLB-5R	FRB50	.380 (9.65)	.688 (17.47)	.9520 (24.18)	.5000 (12.80)	●	●
FLB-5L	FLB50	.380 (9.65)	.688 (17.47)	.9520 (24.18)	.5000 (12.80)	●	●
FLB-6R	FRB60	.383 (9.72)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)	●	●
FLB-6L	FLB60	.383 (9.72)	.453 (11.50)	.6308 (16.02)	.3750 (9.52)	●	●



EXTERNAL HOLDER (INCH)

FLSR/L

Threading and Grooving



RH SHOWN

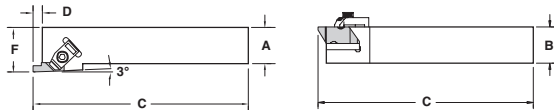
Coolant fed clamps available (See TF-CP clamps on page 49,50)

Description	EDP Code	Insert	A	B	C	D	F*	Seat	Seat Screw	Clamp	Clamp Screw
FLSR-62	93400608C	FL_-2R	3/8	3/8	2-1/2	.14	.562	-	-	TF-74	S-310
FLSL-62	93300608C	FL_-2L	3/8	3/8	2-1/2	.14	.562	-	-	TF-75	S-310
FLSR-82V	93400808V	FL_-2R	1/2	1/2	3-1/2	.14	.750	-	-	TF-74	S-310
FLSL-82V	93300808V	FL_-2L	1/2	1/2	3-1/2	.14	.750	-	-	TF-75	S-310
FLSR-102B	93401008B	FL_-2R	5/8	5/8	4-1/2	.14	1.000	-	-	TF-74	S-310
FLSR-122B	93401208B	FL_-2R	3/4	3/4	4-1/2	.14	1.000	-	-	TF-74	S-310
FLSL-122B	93301208B	FL_-2L	3/4	3/4	4-1/2	.14	1.000	-	-	TF-75	S-310
FLSR-162C	93401608C	FL_-2R	1	1.000	5	.14	1.250	-	-	TF-74	S-310
FLSL-162C	93301608C	FL_-2L	1	1.000	5	.14	1.250	-	-	TF-75	S-310
FLSR-123B	93401216B	FL_-3R	3/4	3/4	4-1/2	.21	1.000	-	-	TF-72	S-412
FLSL-123B	93301216B	FL_-3L	3/4	3/4	4-1/2	.21	1.000	-	-	TF-73	S-412
FLSR-163C	93401616C	FL_-3R	1	1	5	.21	1.250	-	-	TF-72	S-412
FLSL-163C	93301616C	FL_-3L	1	1	5	.21	1.250	-	-	TF-73	S-412
FLSR-163D	93401616D	FL_-3R	1	1	6	.21	1.250	-	-	TF-72	S-412
FLSL-163D	93301616D	FL_-3L	1	1	6	.21	1.250	-	-	TF-73	S-412
FLSR-203D	93402016D	FL_-3R	1-1/4	1-1/4	6	.21	1.500	-	-	TF-72	S-412
FLSL-203D	93302016D	FL_-3L	1-1/4	1-1/4	6	.21	1.500	-	-	TF-73	S-412
FLSR-164D	93401620D	FL_-4R	1	1	6	.29	1.250	SM-420	SL-344	TF-72	S-412
FLSL-164D	93301620D	FL_-4L	1	1	6	.29	1.250	SM-420	SL-344	TF-73	S-412
FLSR-204D	93402020D	FL_-4R	1-1/4	1-1/4	6	.29	1.500	SM-420	SL-344	TF-72	S-412
FLSL-204D	93302020D	FL_-4L	1-1/4	1-1/4	6	.29	1.500	SM-420	SL-344	TF-73	S-412
FLSR-205D	93402024D	FL_-5R	1-1/4	1-1/4	6	.40	1.500	-	-	TF-80	S-352
FLSL-205D	93302024D	FL_-5L	1-1/4	1-1/4	6	.40	1.500	-	-	TF-81	S-352
FLSR-206D	93402028D	FL_-6R	1-1/4	1-1/4	6	.29	1.500	SM-416	S-111	TF-120	S-412
FLSL-206D	93302028D	FL_-6L	1-1/4	1-1/4	6	.29	1.500	SM-416	S-111	TF-121	S-412

* "F" Dim. over sharp point of grooving insert.

EXTERNAL HOLDER (METRIC)

FLSR/L



RH SHOWN

Coolant fed clamps available (See TF-CP clamps on page 49,50)

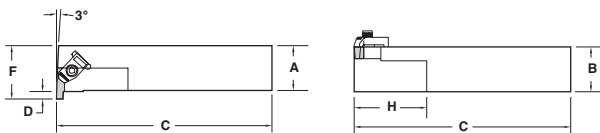
Description	EDP Code	Insert	A	B	C	D	F*	Seat	Seat Screw	Clamp	Clamp Screw
FLSR-1010M2	93411008	FL_-2R	10	10	70	3.56	14.27	-	-	TF-74	SM-310
FLSL-1010M2	93311008	FL_-2L	10	10	70	3.56	14.27	-	-	TF-75	SM-310
FLSR-1212M2	93411208	FL_-2R	12	12	80	3.56	19.05	-	-	TF-74	SM-310
FLSL-1212M2	93311208	FL_-2L	12	12	80	3.56	19.05	-	-	TF-75	SM-310
FLSR-1616M2	93411608	FL_-2R	16	16	100	3.56	25.40	-	-	TF-74	SM-310
FLSR-2020M2	93412008	FL_-2R	20	20	125	3.56	25.40	-	-	TF-74	SM-310
FLSL-2020M2	93312008	FL_-2L	20	20	125	3.56	25.40	-	-	TF-75	SM-310
FLSR-2525M2	93412508	FL_-2R	25	25	150	3.56	31.75	-	-	TF-74	SM-310
FLSL-2525M2	93312508	FL_-2L	25	25	150	3.56	31.75	-	-	TF-75	SM-310
FLSR-2020M3	93412016	FL_-3R	20	20	125	5.33	25.40	-	-	TF-72	SSM-51
FLSL-2020M3	93312016	FL_-3L	20	20	125	5.33	25.40	-	-	TF-73	SSM-51
FLSR-2525M3	93412516	FL_-3R	25	25	150	5.33	31.75	-	-	TF-72	SSM-51
FLSL-2525M3	93312516	FL_-3L	25	25	150	5.33	31.75	-	-	TF-73	SSM-51
FLSR-3232M3	93413216	FL_-3R	32	32	170	5.33	38.10	-	-	TF-72	SSM-51
FLSL-3232M3	93313216	FL_-3L	32	32	170	5.33	38.10	-	-	TF-73	SSM-51
FLSR-2525M4	93412520	FL_-4R	25	25	150	7.37	31.75	SM-420	SL-344	TF-72	SSM-51
FLSL-2525M4	93312520	FL_-4L	25	25	150	7.37	31.75	SM-420	SL-344	TF-73	SSM-51
FLSR-3232M4	93413220	FL_-4R	32	32	170	7.37	38.10	SM-420	SL-344	TF-72	SSM-51
FLSL-3232M4	93313220	FL_-4L	32	32	170	7.37	38.10	SM-420	SL-344	TF-73	SSM-51
FLSR-3232M5	93413224	FL_-5R	32	32	170	10.16	38.10	-	-	TF-80	SM-352
FLSL-3232M5	93313224	FL_-5L	32	32	170	10.16	38.10	-	-	TF-81	SM-352
FLSR-3232M6	93413228	FL_-6R	32	32	170	7.37	38.10	SM-416	S-111	TF-120	SM-412
FLSL-3232M6	93313228	FL_-6L	32	32	170	7.37	38.10	SM-416	S-111	TF-121	SM-412

* "F" Dim. over sharp point of grooving insert.



EXTERNAL HOLDER (INCH)

FLER/L



RH SHOWN

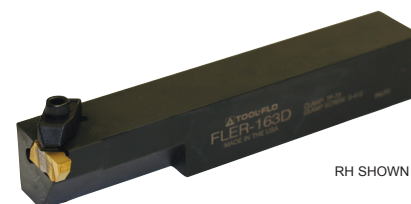
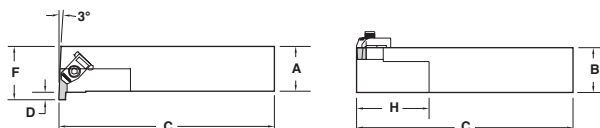
Coolant fed clamps available (See TF-CP clamps on page 49,50)

Description	EDP Code	Insert	A	B	C	D	F*	H	Clamp	Clamp Screw
FLER-82V	93100808V	FL_-2L	1/2	1/2	3-1/2	.14	.750	1	TF-75	S-310
FLER-122B	93101208B	FL_-2L	3/4	3/4	4-1/2	.14	1.000	1	TF-75	S-310
FLER-122B	93001208B	FL_-2R	3/4	3/4	4-1/2	.14	1.000	1	TF-74	S-310
FLER-162C	93101608C	FL_-2L	1	1	5	.14	1.250	1	TF-75	S-310
FLER-162C	93001608C	FL_-2R	1	1	5	.14	1.250	1	TF-74	S-310
FLER-123B	93101216B	FL_-3L	3/4	3/4	4-1/2	.21	1.125	2	TF-73	S-412
FLER-123B	93001216B	FL_-3R	3/4	3/4	4-1/2	.21	1.125	2	TF-72	S-412
FLER-163D	93101616D	FL_-3L	1	1	6.000	.21	1.250	2	TF-73	S-412
FLER-163D	93001616D	FL_-3R	1	1	6.000	.21	1.250	2	TF-72	S-412
FLER-203D	93102016D	FL_-3L	1-1/4	1-1/4	6.000	.21	1.500	2	TF-73	S-412
FLER-203D	93002016D	FL_-3R	1-1/4	1-1/4	6.000	.21	1.500	2	TF-72	S-412
FLER-164D	93101620D	FL_-4L	1	1	6.000	.29	1.375	2	TF-73	S-412
FLER-164D	93001620D	FL_-4R	1	1	6.000	.29	1.375	2	TF-72	S-412
FLER-204D	93102020D	FL_-4L	1-1/4	1-1/4	6.000	.29	1.625	2	TF-73	S-412
FLER-204D	93002020D	FL_-4R	1-1/4	1-1/4	6.000	.29	1.625	2	TF-72	S-412
FLER-205D	93102024D	FL_-5L	1-1/4	1-1/4	6.000	.29	2.000	2	TF-81	S-352
FLER-205D	93002024D	FL_-5R	1-1/4	1-1/4	6.000	.29	2.000	2	TF-80	S-352
FLER-206D	93102028D	FL_-6L	1-1/4	1-1/4	6.000	.29	1.625	2	TF-121	S-412
FLER-206D	93002028D	FL_-6R	1-1/4	1-1/4	6.000	.29	1.625	2	TF-120	S-412

* C&F measured over sharp point of grooving insert

EXTERNAL HOLDER (METRIC)

FLER/L



RH SHOWN

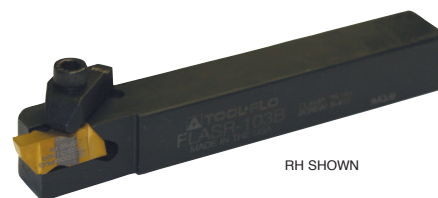
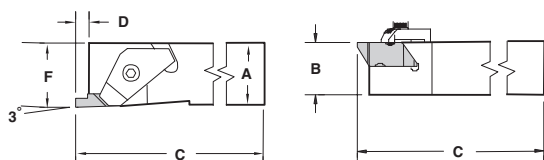
Coolant fed clamps available (See TF-CP clamps on page 49,50)

Description	EDP Code	Insert	A	B	C	D	F*	H	Clamp	Clamp Screw
FLER-1212M2V	931012M08V	FL_-2L	12	12	80	3.56	19.05	25.00	TF-75	SM-310
FLER-2020M2B	931012M08B	FL_-2L	20	20	125	3.56	25.40	25.00	TF-75	SM-310
FLER-2020M2B	930020M08B	FL_-2R	20	20	125	3.56	25.40	25.00	TF-74	SM-310
FLER-2525M2C	931025M08C	FL_-2L	25	25	150	3.56	31.75	25.00	TF-75	SM-310
FLER-2525M2C	930025M08C	FL_-2R	25	25	150	3.56	31.75	25.00	TF-74	SM-310
FLER-2020M3B	931020M16B	FL_-3L	20	20	125	5.33	28.58	50.80	TF-73	SSM-51
FLER-2020M3B	930020M16B	FL_-3R	20	20	125	5.33	28.58	50.80	TF-72	SSM-51
FLER-2525M3D	931025M16D	FL_-3L	25	25	150	5.33	31.75	50.80	TF-73	SSM-51
FLER-2525M3D	930025M16D	FL_-3R	25	25	150	5.33	31.75	50.80	TF-72	SSM-51
FLER-3232M3D	931032M16D	FL_-3L	32	32	170	5.33	38.10	50.80	TF-73	SSM-51
FLER-3232M3D	930032M16D	FL_-3R	32	32	170	5.33	38.10	50.80	TF-72	SSM-51
FLER-2525M4D	931025M20D	FL_-4L	25	25	150	7.37	34.93	50.80	TF-73	SSM-51
FLER-2525M4D	930025M20D	FL_-4R	25	25	150	7.37	34.93	50.80	TF-72	SSM-51
FLER-3232M4D	931032M20D	FL_-4L	32	32	170	7.37	41.28	50.80	TF-73	SSM-51
FLER-3232M4D	930032M20D	FL_-4R	32	32	170	7.37	41.28	50.80	TF-72	SSM-51
FLER-3232M5D	931032M24D	FL_-5L	32	32	170	7.37	50.80	50.80	TF-81	SM-352
FLER-3232M5D	930032M24D	FL_-5R	32	32	170	7.37	50.80	50.80	TF-80	SM-352
FLER-3232M6D	931032M28D	FL_-6L	32	32	170	7.37	41.28	50.80	TF-121	SSM-51
FLER-3232M6D	930032M28D	FL_-6R	32	32	170	7.37	41.28	50.80	TF-120	SSM-51

* C&F measured over sharp point of grooving insert

**FLO-LOCK**

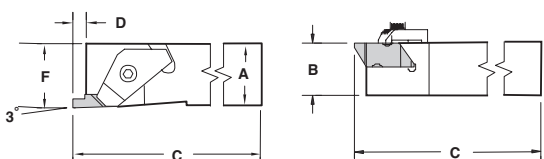
EXTERNAL HOLDER (INCH) FLASR/L

Design for Swiss machines**Coolant fed clamps available (See TF-CP clamps on page 49,50)**

Description	EDP Code	Insert	A	B	C	D	F	Clamp	Clamp Screw
FLASR-062D	92900608D	FL_-2R	3/8	3/8	6	.138	.375	TF-182	S-310
FLASL-062D	92650608D	FL_-2L	3/8	3/8	6	.138	.375	TF-183	S-310
FLASR-082D	92900808D	FL_-2R	1/2	1/2	6	.138	.500	TF-182	S-310
FLASL-082D	92650808D	FL_-2L	1/2	1/2	6	.138	.500	TF-183	S-310
FLASR-102B	92901008B	FL_-2R	5/8	5/8	4-1/2	.138	.625	TF-184	S-412
FLASR-103B	92901016B	FL_-3R	5/8	5/8	4-1/2	.21	.625	TF-184	S-412
FLASL-103B	92891016B	FL_-3L	5/8	5/8	4-1/2	.21	.625	TF-185	S-412

* "F" Dim. over sharp point of grooving insert.

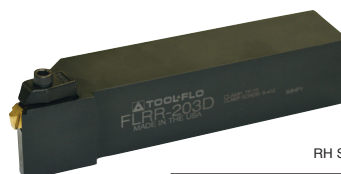
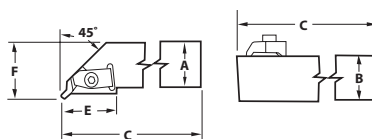
EXTERNAL HOLDER (METRIC) FLASR/L

Design for Swiss machines**Coolant fed clamps available (See TF-CP clamps on page 49,50)**

Description	EDP Code	Insert	A	B	C	D	F	Clamp	Clamp Screw
FLASR-1010M2D	92901010M08D	FL_-2R	10	10	150	3.51	9.53	TF-182	SM-310
FLASL-1010M2D	92651010M08D	FL_-2L	10	10	150	3.51	9.53	TF-183	SM-310
FLASR-1212M2D	92901212M08D	FL_-2R	12	12	150	3.51	12.70	TF-182	SM-310
FLASL-1212M2D	92651212M08D	FL_-2L	12	12	150	3.51	12.70	TF-183	SM-310
FLASR-1616M2B	92901616M08B	FL_-2R	16	16	125	3.51	15.88	TF-184	SSM-51
FLASL-1616M2B	92651616M08B	FL_-2R	16	16	125	3.51	15.88	TF-184	SSM-51
FLASR-1616M3B	9290616M16B	FL_-3R	16	16	125	5.33	15.88	TF-184	SSM-51
FLASL-1616M3B	9289616M16B	FL_-3L	16	16	125	5.33	15.88	TF-185	SSM-51

* "F" Dim. over sharp point of grooving insert.

EXTERNAL HOLDER (INCH) FLRR/L

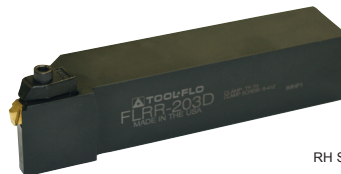
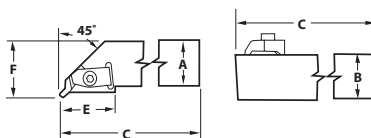
Undercutting

RH SHOWN

Coolant fed clamps available (See TF-CP clamps on page 49,50)

Description	EDP Code	Insert	A	B	C	E	F	Clamp	Clamp Screw
FLRR-123B	93201216B	FLU-3L	3/4	3/4	4-1/2	1-1/4	1.000	TF-73	S-412
FLRL-123B	93181216B	FLU-3R	3/4	3/4	4-1/2	1-1/4	1.000	TF-72	S-412
FLRR-163D	93201616D	FLU-3L	1	1	6	1-1/4	1.250	TF-73	S-412
FLRL-163D	93181616D	FLU-3R	1	1	6	1-1/4	1.250	TF-72	S-412
FLRR-203D	93202016D	FLU-3L	1-1/4	1-1/4	6	1-1/4	1.500	TF-73	S-412
FLRL-203D	93182016D	FLU-3R	1-1/4	1-1/4	6	1-1/4	1.500	TF-72	S-412

EXTERNAL HOLDER (METRIC) FLRR/L

Undercutting

RH SHOWN

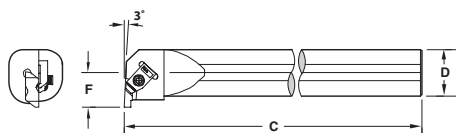
Coolant fed clamps available (See TF-CP clamps on page 49,50)

Description	EDP Code	Insert	A	B	C	E	F	Clamp	Clamp Screw
FLRR-2020M3B	932020M16B	FLU-3L	20	20	125	31.75	25.40	TF-73	SSM-51
FLRL-2020M3B	931820M16B	FLU-3R	20	20	125	31.75	25.40	TF-72	SSM-51
FLRR-2525M3D	932025M16D	FLU-3L	25	25	150	31.75	31.75	TF-73	SSM-51
FLRL-2525M3D	931825M16D	FLU-3R	25	25	150	31.75	31.75	TF-72	SSM-51
FLRR-3232M3D	932032M16D	FLU-3L	32	32	170	31.75	38.10	TF-73	SSM-51
FLRL-3232M3D	931832M16D	FLU-3R	32	32	170	31.75	38.10	TF-72	SSM-51

INTERNAL HOLDER (INCH)

A_FLER/L

Threading and Grooving
Coolant hole



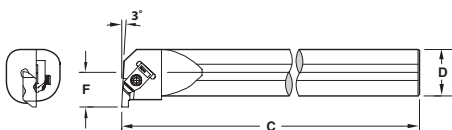
Description	EDP Code	Insert	Min. Bore	D	C	F	Clamp	Clamp Screw
A08-FLER2	96500808	FL-2L	.730	.500	8	.437	TF-147	S-39
A08-FLEL2	96400808	FL-2R	.730	.500	8	.437	TF-146	S-39
A10-FLER2	96501008	FL-2L	1.000	.625	10	.500	TF-75	S-310
A12-FLER2	96501208	FL-2L	1.125	.750	10	.562	TF-75	S-310
A12-FLEL2	96401208	FL-2R	1.125	.750	10	.562	TF-74	S-310
A16-FLER2	96501608	FL-2L	1.375	1.000	12	.688	TF-75	S-310
A16-FLEL2	96401608	FL-2R	1.375	1.000	12	.688	TF-74	S-310
A16-FLER3	96501616	FL-3L	1.375	1.000	12	.688	TF-73	S-412
A16-FLEL3	96401616	FL-3R	1.375	1.000	12	.688	TF-72	S-412
A20-FLER3	96502016	FL-3L	1.750	1.250	14	.875	TF-73	S-412
A20-FLEL3	96402016	FL-3R	1.750	1.250	14	.875	TF-72	S-412
A24-FLER3	96502416	FL-3L	2.000	1.500	14	1.000	TF-73	S-412
A24-FLEL3	96402416	FL-3R	2.000	1.500	14	1.000	TF-72	S-412
A28-FLER3	96502816	FL-3L	2.250	1.750	14	1.125	TF-73	S-412
A32-FLER3	96503216	FL-3L	2.500	2.000	16	1.250	TF-73	S-412
A32-FLEL3	96403216	FL-3R	2.500	2.000	16	1.250	TF-72	S-412
A28-FLER4	96502820	FL-4L	2.250	1.750	14	1.250	TF-73	S-412
A28-FLEL4	96402820	FL-4R	2.250	1.750	14	1.250	TF-72	S-412
A32-FLER4	96503220	FL-4L	2.750	2.000	16	1.296	TF-73	S-412
A32-FLEL4	96403220	FL-4R	2.750	2.000	16	1.296	TF-72	S-412
A32-FLER5	96503224	FL-5L	2.812	2.000	16	1.406	CM-81	S-352
A32-FLER6	96503228	FL-6L	2.750	2.000	16	1.375	CM-121	S-412

"F" and "C" Dim. over sharp point of grooving insert.

INTERNAL HOLDER (METRIC)

A_M-FLER/L

Threading and Grooving
Coolant hole



Description	EDP Code	Insert	Min. Bore	D	C	F	Clamp	Clamp Screw
A12M-FLER2	96441208	FL-2L	18.54	12	150	11.10	TF-147	SM-310
A12M-FLEL2	96451208	FL-2R	18.54	12	150	11.10	TF-146	SM-310
A16M-FLER2	96441608	FL-2L	25.40	16	250	12.70	TF-75	SM-310
A16M-FLEL2	96451608	FL-2R	25.40	16	250	12.70	TF-74	SM-310
A20M-FLER2	96442008	FL-2L	28.58	20	250	14.27	TF-75	SM-310
A20M-FLEL2	96452008	FL-2R	28.58	20	250	14.27	TF-74	SM-310
A25M-FLER2	96442508	FL-2L	34.93	25	300	17.48	TF-75	SM-310
A25M-FLEL2	96452508	FL-2R	34.93	25	300	17.48	TF-74	SM-310
A25M-FLER3	96442516	FL-3L	34.93	25	300	17.48	TF-73	SSM-51
A25M-FLEL3	96452516	FL-3R	34.93	25	300	17.48	TF-72	SSM-51
A32M-FLER3	96443216	FL-3L	44.45	32	350	22.23	TF-73	SSM-51
A32M-FLEL3	96453216	FL-3R	44.45	32	350	22.23	TF-72	SSM-51
A40M-FLER3	96444016	FL-3L	50.80	40	350	25.40	TF-73	SSM-51
A40M-FLEL3	96454016	FL-3R	50.80	40	350	25.40	TF-72	SSM-51
A50M-FLER3	96445016	FL-3L	63.50	50	400	31.75	TF-73	SSM-51
A50M-FLEL3	96455016	FL-3R	63.50	50	400	31.75	TF-72	SSM-51
A40M-FLER4	96444020	FL-4L	57.15	40	350	31.75	TF-73	SSM-51
A40M-FLEL4	96454020	FL-4R	57.15	40	350	31.75	TF-72	SSM-51
A50M-FLER4	96445020	FL-4L	69.85	50	400	32.92	TF-73	SSM-51
A50M-FLEL4	96455020	FL-4R	69.85	50	400	32.92	TF-72	SSM-51
A50M-FLER5	96445024	FL-5L	71.42	50	400	35.71	CM-81	SM-352
A50M-FLER6	96445028	FL-6L	69.85	50	400	34.93	CM-121	SSM-51

"F" and "C" Dim. over sharp point of grooving insert.

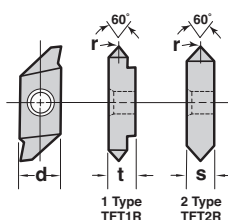


SWISS TOOLING

THREADING

TFT_R

Design for Swiss machines



Description	EDP Code	R/L	Min	Max	d	s	r	C3	GP3S
TFT1R6000F	TFT1R6000F	RH	0.02 (0.50)	0.04 (1.00)	0.315 (8.000)	0.156 (3.97)	0.001 (0.03)	●	●
TFT2R6000F	TFT2R6000F	RH	0.02 (0.50)	0.04 (1.00)	0.315 (8.000)	0.156 (3.97)	0.001 (0.03)	●	●
TFT3R6000F	TFT3R6000F	RH	0.02 (0.50)	0.04 (1.00)	0.315 (8.000)	0.156 (3.97)	0.001 (0.03)	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

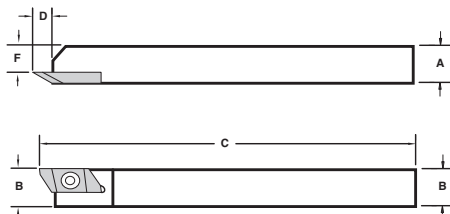
Cast Iron	●
Non-Ferrous	●
Stainless/High Temp	●
Steel	●

EXTERNAL HOLDER

THREADING, GROOVING

TFHBR/L

Design for Swiss machines



RH SHOWN

RH Holder uses RH Inserts



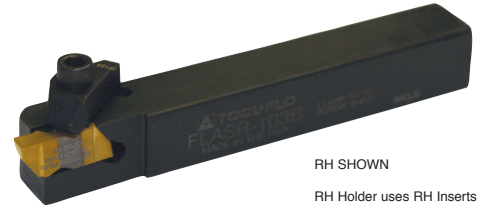
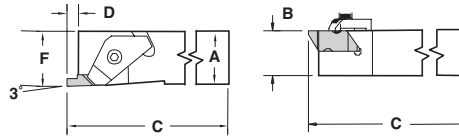
Description	EDP Code	Insert	A	B	C	D	F	Insert Screw
TFHBR1010K8-C	TFHBR1010K8	RH	0.393 (10.0)	0.393 (10.0)	4.921 (125.0)	0.263 (6.70)	0.224 (5.7)	CSTB-4SD
TFHBL1010K8-C	TFHBL1010K8	LH	0.393 (10.0)	0.393 (10.0)	4.921 (125.0)	0.263 (6.70)	0.224 (5.7)	CSTB-4SD
TFHBR1212K8-C	TFHBR1212K8	RH	0.472 (12.0)	0.472 (12.0)	4.921 (125.0)	0.263 (6.70)	0.303 (7.0)	CSTB-4SD
TFHBL1212K8-C	TFHBL1212K8	LH	0.472 (12.0)	0.472 (12.0)	4.921 (125.0)	0.263 (6.70)	0.303 (7.0)	CSTB-4SD
TFHBR1616K8	TFHBR1616K8	RH	0.629 (16.0)	0.629 (16.0)	4.921 (125.0)	0.251 (6.40)	0.461 (11.7)	CSTB-4SD
TFHBL1616K8	TFHBL1616K8	LH	0.629 (16.0)	0.629 (16.0)	4.921 (125.0)	0.251 (6.40)	0.461 (11.7)	CSTB-4SD
TFHBR2020K8	TFHBR2020K8	RH	0.787 (20.0)	0.787 (20.0)	4.921 (125.0)	0.251 (6.40)	0.618 (15.7)	CSTB-4SD
TFHBL2020K8	TFHBL2020K8	LH	0.787 (20.0)	0.787 (20.0)	4.921 (125.0)	0.251 (6.40)	0.618 (15.7)	CSTB-4SD
TFHBL2525K8	TFHBL2525K8	RH	0.984 (25.0)	0.984 (25.0)	4.921 (125.0)	0.251 (6.40)	0.815 (20.7)	CSTB-4SD

EXTERNAL HOLDER

THREADING, GROOVING

FLASR/L

Design for Swiss machines



RH SHOWN

RH Holder uses RH Inserts

SEE FLO-LOCK SECTION FOR
COMPLETE INSERT OFFERING

Coolant fed clamps available (See TF-CP clamps on page 106)

Description	EDP Code	Insert	A	B	C	F	D	Clamp	Clamp Screw
FLASR-062D	92900608D	FL_-2R	3/8	3/8	6	.375	.138	TF-182	S-310
FLASL-062D	92650608D	FL_-2L	3/8	3/8	6	.375	.138	TF-183	S-310
FLASR-082D	92900808D	FL_-2R	1/2	1/2	6	.500	.138	TF-182	S-310
FLASL-082D	92650808D	FL_-2L	1/2	1/2	6	.500	.138	TF-183	S-310
FLASR-102B	92901008B	FL_-2R	5/8	5/8	4-1/2	.625	.138	TF-184	S-412
FLASR-083D	92900816D	FL_-3R	1/2	1/2	6	.500	.210	TF-184	S-412
FLASR-103B	92901016B	FL_-3R	5/8	5/8	4-1/2	.625	.210	TF-184	S-412
FLASL-103B	92651016B	FL_-3L	5/8	5/8	4-1/2	.625	.210	TF-185	S-412

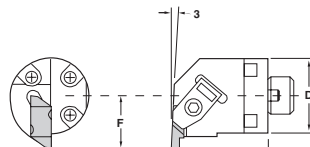
Description	EDP Code	Insert	A	B	C	D	F	Clamp	Clamp Screw
FLASR-1010M2	92711008	FL_-2R	10,0	10,0	150,0	3,51	10,0	TF-182	S-310
FLASL-1010M2	92661008	FL_-2L	10,0	10,0	150,0	3,51	10,0	TF-183	S-310
FLASR-1212M2	92711208	FL_-2R	12,0	12,0	150,0	3,51	12,0	TF-182	S-310
FLASL-1212M2	92661208	FL_-2L	12,0	12,0	150,0	3,51	12,0	TF-183	S-310
FLASR-1616M2	92711608	FL_-2R	16,0	16,0	125,0	3,51	16,0	TF-184	S-412
FLASR-1616M3	92711616	FL_-3R	16,0	16,0	125,0	5,31	16,0	TF-184	S-412
FLASL-1616M3	92661616	FL_-3L	16,0	16,0	125,0	5,31	16,0	TF-185	S-412



INTERCHANGEABLE HEADS

H-FLER

Threading and Grooving



RH SHOWN

PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw
H20-FLER3W	93502016W	FL-3L	1-1/4	1.625	.875	1.750	TF-73	S-412
H24-FLER3W	93502416W	FL-3L	1-1/2	1.625	1.000	2.000	TF-73	S-412
H28-FLER3W	93502816W	FL-3L	1-3/4	1.625	1.125	2.250	TF-73	S-412
H32-FLER3W	93503216W	FL-3L	2	1.625	1.250	2.500	TF-73	S-412
H40-FLER3W	93504016W	FL-3L	2-1/2	1.625	1.500	3.000	TF-73	S-412
H28-FLER4W	93502820W	FL-4L	1-3/4	1.625	1.250	2.500	TF-73	S-412
H32-FLER4W	93503220W	FL-4L	2	1.625	1.375	2.750	TF-73	S-412
H36-FLER4W	93503620W	FL-4L	2-1/4	1.625	1.500	3.000	TF-73	S-412
H40-FLER4W	93504020W	FL-4L	2-1/2	1.625	1.625	3.250	TF-73	S-412
H28-FLER6W	93502828W	FL-6L	1-3/4	1.625	1.250	2.500	TF-121	S-412
H32-FLER6W	93503228W	FL-6L	2	1.625	1.375	2.750	TF-121	S-412
H40-FLER6W	93504028W	FL-6L	2-1/2	1.625	1.625	3.250	TF-121	S-412

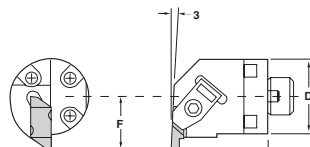
*Left hand quoted on request

INTERCHANGEABLE HEADS

H_M-FLER

Threading and Grooving

Inch



RH SHOWN

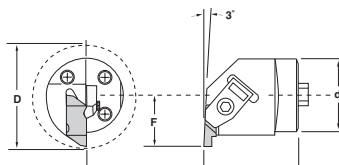
PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Clamp	Clamp Screw
H32M-FLER3W	935032M16W	FL-3L	32	40	22.23	44.45	TF-73	SSM-51
H40M-FLER3W	935040M16W	FL-3L	40	40	25.40	50.80	TF-73	SSM-51
H44M-FLER3W	935044M16W	FL-3L	44	40	28.58	57.15	TF-73	SSM-51
H50M-FLER3W	935050M16W	FL-3L	50	40	31.75	63.50	TF-73	SSM-51
H67M-FLER3W	935067M16W	FL-3L	67	40	38.10	76.20	TF-73	SSM-51
H40M-FLER4W	935040M20W	FL-4L	40	40	31.75	63.50	TF-73	SSM-51
H50M-FLER4W	935050M20W	FL-4L	50	40	34.93	69.85	TF-73	SSM-51
H60M-FLER4W	935060M20W	FL-4L	60	40	38.10	76.20	TF-73	SSM-51
H67M-FLER4W	935067M20W	FL-4L	67	40	41.28	82.55	TF-73	SSM-51
H40M-FLER6W	935040M28W	FL-6L	40	40	31.75	63.50	TF-121	SSM-51
H50M-FLER6W	935050M28W	FL-6L	50	40	34.93	69.85	TF-121	SSM-51
H67M-FLER6W	935067M28W	FL-6L	67	40	41.28	82.55	TF-121	SSM-51

*Left hand quoted on request

HS-FLEL/R*

Metric



RH SHOWN

PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore (D)	Clamp	Clamp Screw
HS32-FLER3W	9IHS65032M16	FL-3L	32	34.04	22.00	43.94	TF-73	SSM-51
HS40-FLER3W	9IHS65040M16	FL-3L	40	40.13	27.99	56.13	TF-73	SSM-51
HS50-FLER3W	9IHS65050M16	FL-3L	50	41.91	35.05	70.10	TF-73	SSM-51
HS60-FLER3W	9IHS65060M16	FL-3L	60	44.45	44.20	88.39	TF-73	SSM-51
HS50-FLER4W	9IHS65050M20	FL-4L	50	41.91	35.05	70.10	TF-73	SSM-51
HS60-FLER4W	9IHS65060M20	FL-4L	60	44.45	44.20	88.39	TF-73	SSM-51

*Left hand quoted on request.
570 Connection style

Flo-Lock Series Kits

THREADING KITS (Inch)

V-THREADING KIT #1A

Kit Contents

1	FLSR-163D
4	FLT-3R-HCB GP50
1	S-412 SCREW

V-THREADING KIT #1B

Kit Contents

1	FLSR-163D
4	FLT-3R-HCB GP3
1	S-412 SCREW

V-THREADING KIT #2A

Kit Contents

1	FLSR-163D
4	FLT-3R-HCB AC50
1	S-412 SCREW

V-THREADING KIT #2B

Kit Contents

1	FLSR-163D
4	FLT-3R-HCB AC22
1	S-412 SCREW

THREADING KITS (Metric)

V-THREADING KIT #1MA

Kit Contents

1	FLSR-2525M3D
4	FLT-3R-HCB GP50
1	SSM51 SCREW

V-THREADING KIT #1MB

Kit Contents

1	FLSR-2525M3D
4	FLT-3R-HCB GP3
1	SSM51 SCREW

V-THREADING KIT #2MA

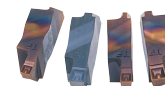
Kit Contents

1	FLSR-2525M3D
4	FLT-3R-HCB AC50
1	SSM51 SCREW

V-THREADING KIT #2MB

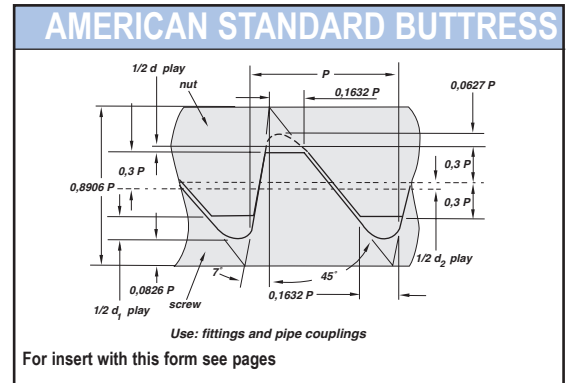
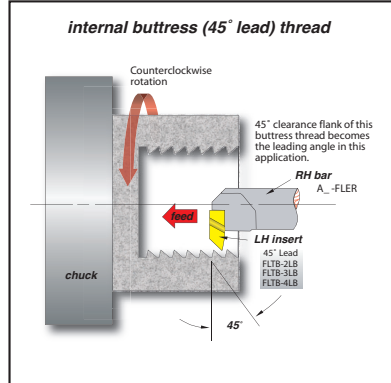
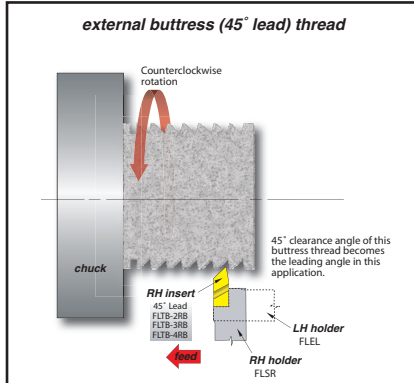
Kit Contents

1	FLSR-2525M3D
4	FLT-3R-HCB AC22
1	SSM51 SCREW

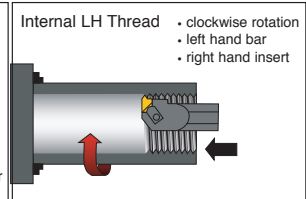
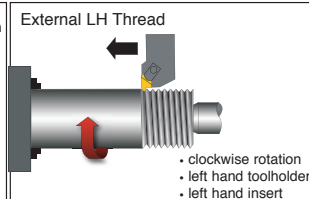
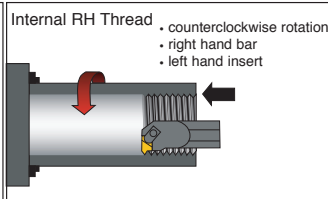
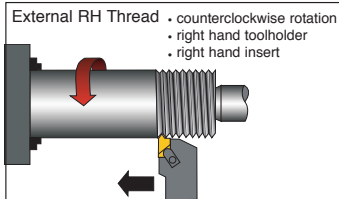


American Standard Buttress Thread Designations

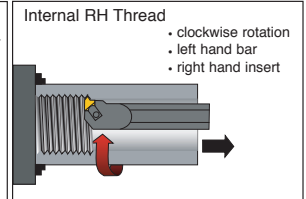
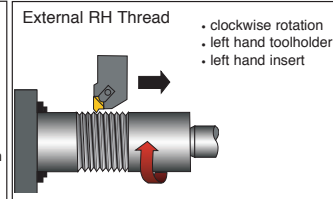
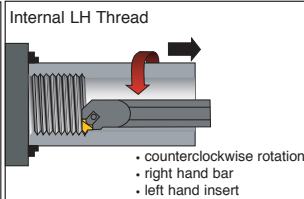
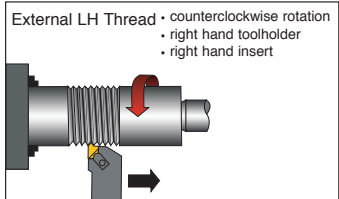
- When only the designation BUTT is used, the thread is a "pull" type buttress (external thread pulls) with the clearance flank (45°) leading and the pressure flank (7°) following.
- When the designation PUSH-BUTT is used, the thread is a push type buttress (external thread pushes) with the load flank (7°) leading and the 45° clearance flank following.
- Whenever possible this description should be confirmed by a simplified view showing thread angles on the drawing of the product that has the buttress thread.
- Always remember that the position of your holder and direction of your feed will determine the lead angle on the insert.



Feed direction towards the chuck



Feed direction towards the tailstock





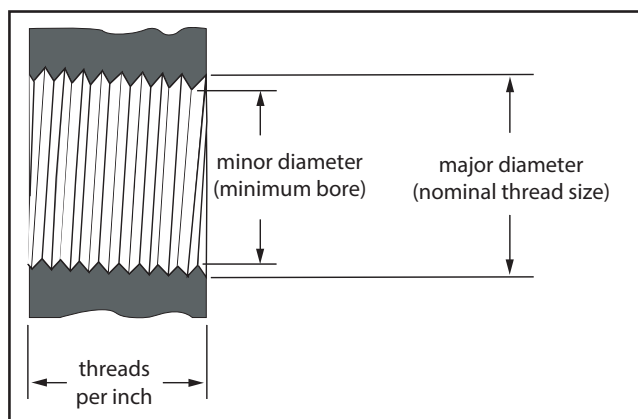
Threading Limits with Standard Flo-Lock Inserts - INCH (METRIC)

The following charts list the largest pitch that can be applied on internal applications for Acme and V-Threading Flo-Lock inserts in sizes 2, 3, 4 and 6. For Buttress threads, please see previous page.

60° V-Threading Limits

FLT-2 Inserts internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
6	1-7/8	1.695 (43.05)
7	1-3/4	1.595 (40.51)
8	1-5/8	1.490 (37.84)
9	1-9/16	1.442 (36.62)
10	1-1/2	1.392 (35.35)
11	1-7/16	1.339 (34.01)
12	1-3/8	1.285 (32.63)
13	1-5/16	1.229 (31.21)
14	1-1/4	1.173 (29.79)
16	1-1/4	1.182 (30.02)
18	1-1/8	1.065 (27.05)
20	1-1/8	1.071 (27.20)
24	1-1/16	1.017 (25.83)

* 24 TPI and finer can be cut with a #2 series insert provided that the minor diameter is 1.000 or larger.



FLT-3 & 4 Inserts internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
4**	3	2.729 (69.31)
4-1/2**	2-7/8	2.634 (66.90)
5	2-3/4	2.534 (64.36)
6	2-1/2	2.320 (58.92)
7	2-1/4	2.095 (53.21)
8	2	1.865 (47.37)
9	1-15/16	1.817 (46.15)
10	1-7/8	1.767 (44.88)
11	1-13/16	1.714 (43.53)
12	1-3/4	1.660 (42.16)
13	1-5/8	1.542 (39.16)
14	1-9/16	1.485 (37.71)
16*	1-7/16	1.370 (34.79)

* 16 pitch V threads and finer can be cut provided the minor diameter is 1.370 (34.79) or larger.

**FLT-4 only.

FLTB-2A & 2B internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
8	1-3/4	1.600 (40.64)
10	1-5/8	1.505 (38.22)
12	1-1/2	1.400 (35.56)
16	1-1/4	1.175 (29.84)
20	1-1/16	1.002 (25.45)

FLTB-3A & 4A internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
4*	2-1/2	2.200 (56.88)
5	2-1/4	2.010 (51.05)
6	2	1.800 (45.72)
8	1-3/4	1.600 (40.64)
10	1-5/8	1.505 (38.22)
12**	1-1/2	1.400 (35.56)

* FLTB-4A insert only

** Sixteen or 20 threads per inch can be cut providing minor diameter is 1.375 or larger.

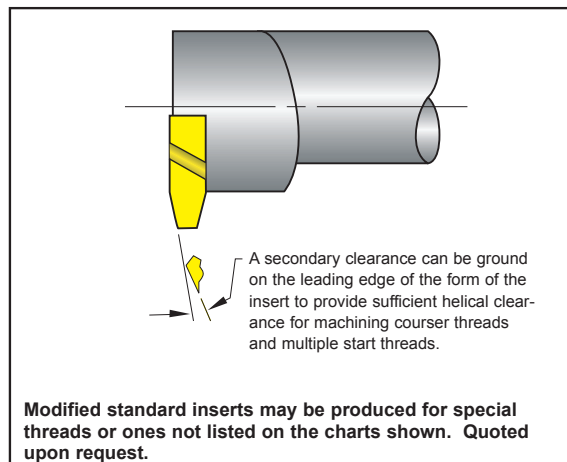
FLTB-3B & 4B internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
4	*2-7/8	2.575 (65.40)
5	2-3/4	2.510 (63.75)
6	2-3/8	2.175 (55.24)
8	2-1/8	1.975 (50.16)
10	1-7/8	1.755 (44.57)
12	1-5/8	1.525 (38.73)
16	1-1/2	1.407 (35.73)
20	1-7/16	1.378 (35.00)

* FLTB-4B insert only

Acme Threading Limits

FLA-2 internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
6	2-1/2	2.333 (59.25)
8	2-1/4	2.125 (53.97)
10	2	1.900 (48.26)
12	1-3/4	1.667 (42.34)
14	1-5/8	1.554 (39.47)
16*	1-1/2	1.438 (36.52)

* 16 pitch acme threads and finer can be cut provided the minor diameter is 1.438 (36.52) or larger.

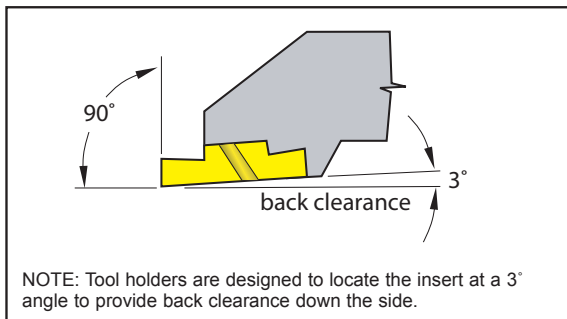


FLA-3, 4 & 6 internal threading limitations		
threads per inch	nominal thread size	minimum minor diameter
2**	5	4.500 (114.30)
2-1/2**	4-1/2	4.100 (104.14)
3**	4	3.665 (93.09)
4	3-1/2	3.250 (82.55)
5	3	2.800 (71.12)
6	2-1/2	2.333 (59.25)
8	2-1/4	2.125 (53.97)
10	2	1.900 (48.26)
12	1-3/4	1.667 (42.34)
14	1-5/8	1.554 (39.47)
16*	1-1/2	1.438 (36.52)

* 16 pitch acme threads and finer can be cut provided the minor diameter is 1.438 or larger.

**FLA-6 only.

NOTE: Positive rake acme inserts are recommended for stainless steels and high-temp alloy applications. Quoted upon request.





Coolant-Fed Clamps

Patent pending

Can be used with low pressure
or high pressure coolant
(rated up to 1500 psi)

- Available for
#2, 3 & 4 Flo-Lock
right and left hand inserts

- Fits other brand's
standard holders

- Available in 6 and 12 pack
quantities for an added
cost savings!

TOOL FLO
FLSR-163D
MADE IN THE USA

Use Your Existing Holders!

Simply replace the top clamp on your standard holder.

6mm High Pressure Coolant Kit

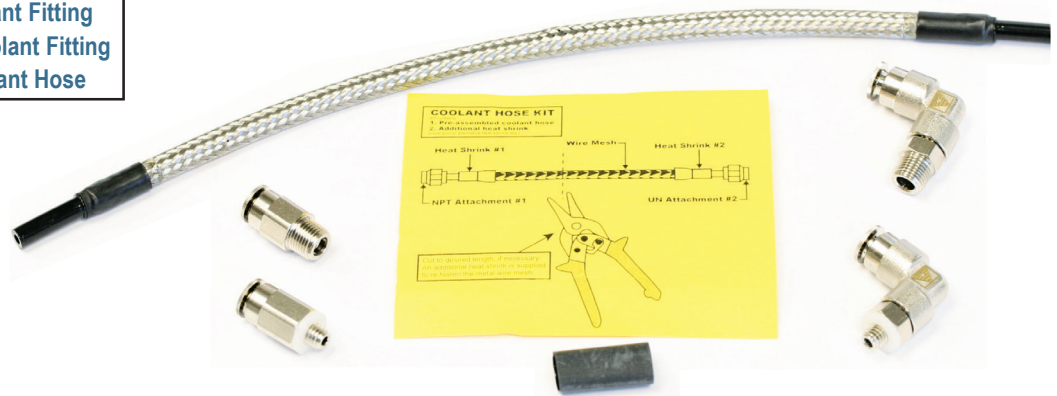
6MM COOLANT KIT HIGH PRESSURE

EDP code: 9HCPKIT6MHP

Kit comes complete with:

1 pc	M6X1 Elbow Coolant Fitting
1 pc	M6x1 Straight Coolant Fitting
1 pc	.125 (1/8")x1 Elbow Coolant Fitting
1 pc	.125 (1/8")x1 Straight Coolant Fitting
1 pc	6mm High Pressure Coolant Hose

Clamp not included. Sold separately.

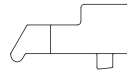
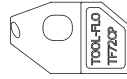




Coolant Fed Clamps

For FLSR/L and FLASR holders

TF-CP



TF72CP
shown

Clamp	EDP Code	Toolholder	Insert
TF72CP	9HTF72CP	FLSR-__3/4	FL_-3R/4R
TF73CP	9HTF73CP	FLSL-__3/4	FL_-3L/4L
TF74CP	9HTF74CP	FLSR-__2	FL_-2R
TF75CP	9HTF75CP	FLSL-__2	FL_-2L
TF182CP	9HTF182CP	FLASR-__2	FL_-2R
TF184CP	9HTF183CP	FLASR-__3	FL_-3R

Fittings

6mm & 1/8"



M6 x 1 elbow
(Connection to machine)



M6 x 1 straight
(Connection to machine)



1/8" (.125) NPT elbow
(Connection to clamp)

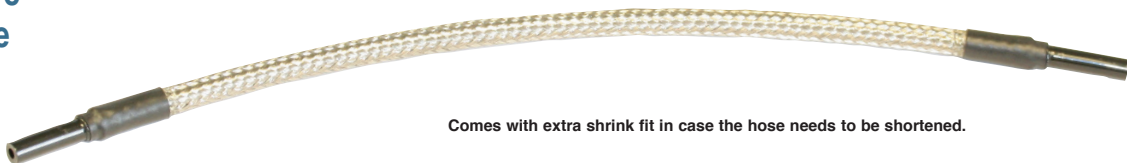


1/8" (.125) NPT straight
(Connection to clamp)

Description	EDP Code	Fitting/Thread size
M6X1 ELBOW COOLANT FITTING	9HCPM6X190	6mm x 1.0 (Connection to machine)
M6X1 STRAIGHT COOLANT FITTING	9HCPM6X1	6mm x 1.0 (Connection to machine)
1/8" NPT ELBOW COOLANT FITTING	9HCP12590NPT	1/8" (.125) x 27 NPT (Connection to clamp)
1/8" NPT STRAIGHT COOLANT FITTING	9HCP125NPT	1/8" (.125) x 27 NPT (Connection to clamp)

High Pressure Coolant Hose

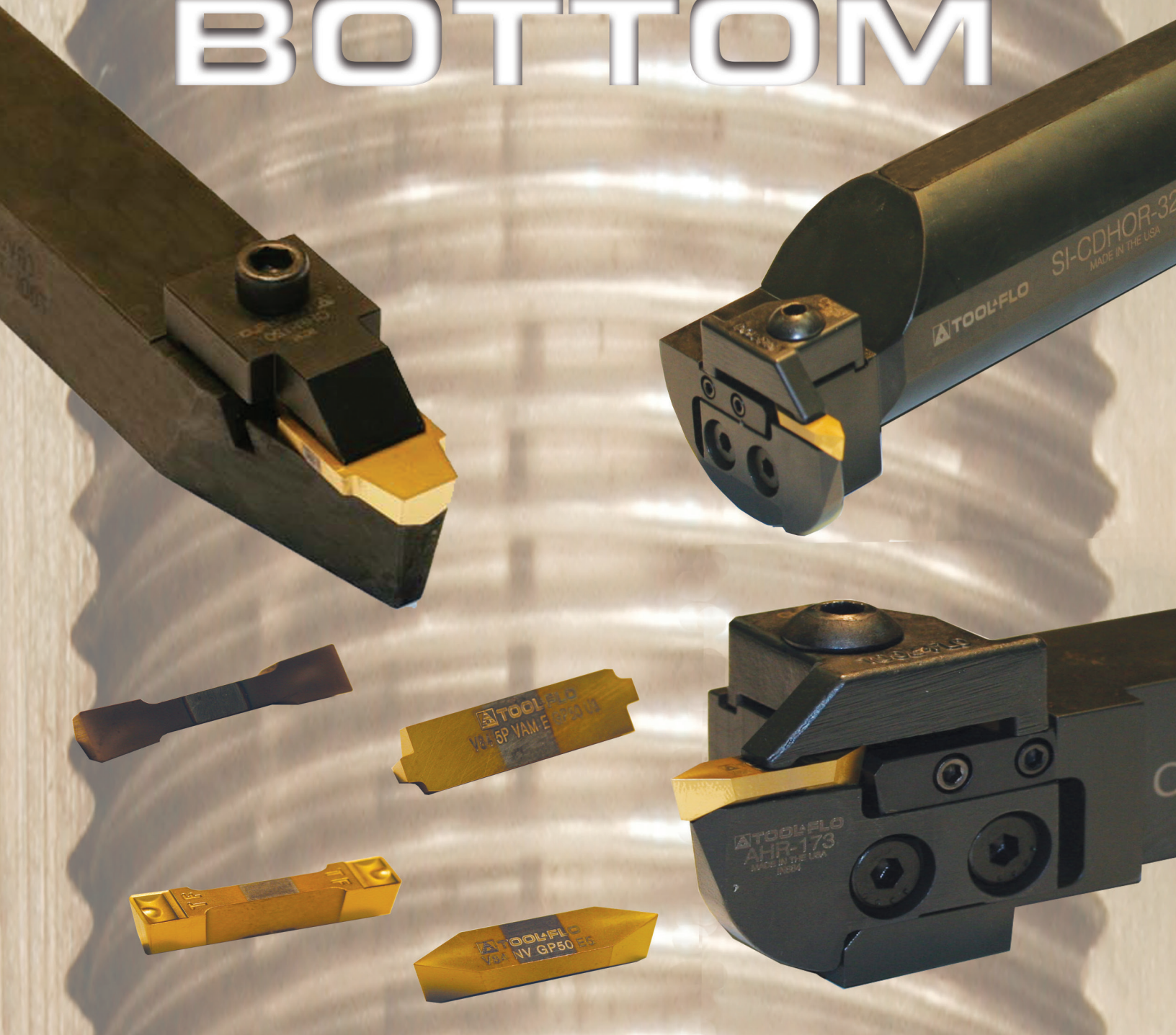
6mm



Comes with extra shrink fit in case the hose needs to be shortened.

Description	EDP Code	Size	Length
6MM HIGH PRESSURE COOLANT HOSE	9HCP6MHOSEHP	6mm	12"

VEE BOTTOM

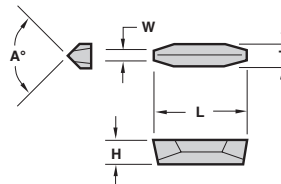




ACME THREADING

V84/V85/V120

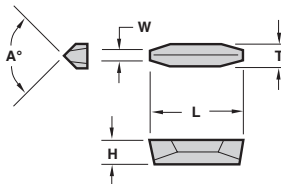
VEE BOTTOM



Description	EDP Code	TPI	W	T	L	H	A°	Coatings					
								Uncoated	GP3	GP5	GP50	AC3	AC50
V84 NT 3P	0261030	3	.1184 (3.01)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		●
V84 NT 4P	0261040	4	.0875 (2.22)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		●
V84 NT 5P	0261050	5	.0689 (1.75)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		●
V84 NT 6P	0261060	6	.0566 (1.44)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		●
V84 NT 8P	0261080	8	.0411 (1.04)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		●
V84 NT 10P	0261100	10	.0319 (0.81)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°				●		
V84 NT 12P	0261120	12	.0283 (0.72)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°				●		
V85 NT 2P	0263020	2	.1802 (4.58)	.312 (7.92)	1.000 (25.40)	.250 (6.35)	90°	●			●		
V85 NT 2.5P	0263025	2.5	.1431 (3.63)	.312 (7.92)	1.000 (25.40)	.250 (6.35)	90°				●		
V85 NT 3P	0263030	3	.1184 (3.01)	.312 (7.92)	1.000 (25.40)	.250 (6.35)	90°				●		
V120 NT 1P	0270010	1	.3655 (9.28)	.750 (19.05)	1.500 (38.10)	.375 (9.53)	120°			●			
V120 NT 1.5P	0270015	1.5	.2419 (6.14)	.750 (19.05)	1.500 (38.10)	.375 (9.53)	120°			●			

ACME STUB THREADING

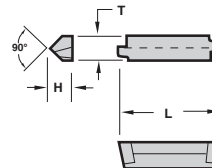
V84/V85/V120



Description	EDP Code	TPI	W	T	L	H	A°	Coatings					
								Uncoated	GP3	GP5	GP50	AC3	AC50
V84 NT 3P STUB	0261031	3	.1356 (3.44)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		
V84 NT 4P STUB	0261041	4	.1004 (2.55)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		
V84 NT 5P STUB	0261051	5	.0793 (2.01)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		
V84 NT 6P STUB	0261061	6	.0652 (1.66)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		
V84 NT 8P STUB	0261081	8	.0476 (1.21)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°		●		●		
V84 NT 10P STUB	0261101	10	.0370 (0.94)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°				●		
V84 NT 12P STUB	0261121	12	.0326 (0.83)	.250 (6.35)	1.000 (25.40)	.250 (6.35)	90°				●		
V85 NT 2P STUB	0263021	2	.2060 (5.23)	.312 (7.92)	1.000 (25.40)	.250 (6.35)	90°	●			●		
V85 NT 2.5P STUB	02630251	2.5	.1638 (4.16)	.312 (7.92)	1.000 (25.40)	.250 (6.35)	90°				●		
V120 NT 1P STUB	0270011	1	.4172 (10.60)	.750 (19.05)	1.500 (38.10)	.375 (9.53)	120°			●			

API BUTTRESS THREADING

V84

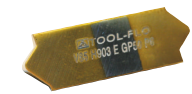
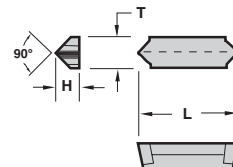


Description	EDP Code	TPI	TPF	T	L	H	Connection	Coatings					
								Uncoated	GP3	GP5	GP50	AC3	AC50
V84 5B75 EXT-FC*	16614F	5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	4-1/2 - 13-3/8				●		
V84 5B1 EXT-FC	17614F	5	1	.250 (6.35)	1.000 (25.40)	.250 (6.35)	16 and larger				●		
V84 8B75 EXT	21614F	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	US Improved Buttress				●		
V84 5B75 INT-FC	16618F	5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	4-1/2 - 13-3/8				●		
V84 5B1 INT-FC	17618F	5	1	.250 (6.35)	1.000 (25.40)	.250 (6.35)	16 and larger				●		
V84 8B75 INT-FC	21618F	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	US Improved Buttress				●		

*FC indicates 5° flank clearance

API HUGHES THREADING

V85/V96



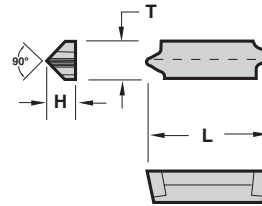
Description	EDP Code	TPI	TPF	T	L	H	Connection	Coatings					
								Uncoated	GP3	GP5	GP50	AC3	AC50
V85 H902 EXT	28634	3-1/2	2	.250 (6.35)	1.000 (25.40)	.250 (6.35)	3-1/2 - 6-5/8 H90				●		
V85 H902 INT	28638	3-1/2	2	.250 (6.35)	1.000 (25.40)	.250 (6.35)	3-1/2 - 6-5/8 H90				●		
V85 H903 EXT	29634	3-1/2	3	.250 (6.35)	1.000 (25.40)	.250 (6.35)	7 - 8-5/8				●		
V85 H903 INT	29638	3-1/2	3	.250 (6.35)	1.000 (25.40)	.250 (6.35)	7 - 8-5/8				●		
V96 H90S EXT	27664	3	1-1/4	.375 (9.53)	1.125 (28.58)	.375 (9.53)	2-3/8 - 3-1/2 Slimline			●			
V96 H90S INT	27668	3	1-1/4	.375 (9.53)	1.125 (28.58)	.375 (9.53)	2-3/8 - 3-1/2 Slimline			●			

VEE BOTTOM



API ROTARY SHOULDER THREADING

V85

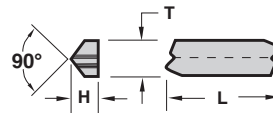


Description	EDP Code	TPI	TPF	T	L	H	Connection	Coating					
								Uncoated	TIN Coated	AC3	GP5	GP3	C3
V85 425 EXT	09634	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	5-1/2 - 6-5/8 FH, 6-5/8 REG						
V85 428 EXT	10634	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	NC23 - 50, 2-3/8 - 5-1/2 IF						
V85 42F EXT*	14634	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	VO.065*						
V85 435 EXT	11634	4	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	5-1/2 REG, 7-5/8 REG, 8-5/8 REG						
V85 438 EXT	12634	4	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	NC56 - NC71						
V85 530 EXT	13634	5	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	3-1/2FH, 2-3/8 - 4-1/2 REG						
V85 4PAC EXT	15634	4	1-1/2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	2-3/8 - 4-1/2 AMERICAN/PAC						
V85 425 INT	09638	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	5-1/2 - 6-5/8 FH, 6-5/8 REG						
V85 428 INT	10638	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	NC23 - 50, 2-3/8 - 5-1/2 IF						
V85 42F INT*	14638	4	2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	VO.065*						
V85 435 INT	11638	4	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	5-1/2 REG, 7-5/8 REG, 8-5/8 REG						
V85 438 INT	12638	4	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	NC56 - NC71						
V85 530 INT	13638	5	3	.312 (7.92)	1.000 (25.40)	.250 (6.35)	3-1/2FH, 2-3/8 - 4-1/2 REG						
V85 4PAC INT	15638	4	1-1/2	.312 (7.92)	1.000 (25.40)	.250 (6.35)	2-3/8 - 4-1/2 AMERICAN/PAC						

* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

API ROUND THREADING

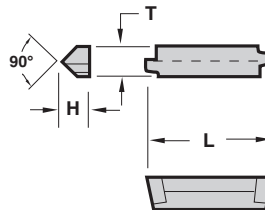
V84



Description	EDP Code	TPI	TPF	T	L	H	Coating					
							Uncoated	TIN Coated	AC3	GP5	GP3	C3
V84 10RD EXT	34614	10	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 10RD INT	34618	10	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 8RD EXT	32614	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 8RD INT	32618	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						

API VAM THREADING

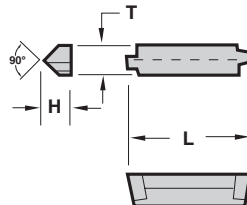
V84



Description	EDP Code	TPI	TPF	T	L	H	Coating					
							Uncoated	TIN Coated	AC3	GP5	GP3	C3
V84 5 VAM EXT	23614	5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 5 VAM INT	23618	5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 6 VAM EXT	24614	6	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 6 VAM INT	24618	6	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 8 VAM EXT	25614	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						
V84 8 VAM INT	25618	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)						

API X-LINE THREADING

V84



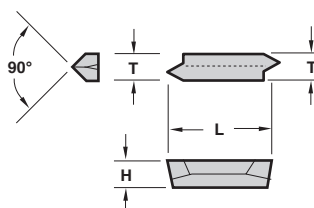
Description	EDP Code	TPI	TPF	T	L	H	Connection	Coating					
								Uncoated	TIN Coated	AC3	GP5	GP3	C3
V84 5XL12 EXT	18614	5	1-1/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	8-5/8 - 10-3/4						
V84 5XL12 INT	18618	5	1-1/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	8-5/8 - 10-3/4						
V84 6XL15 EXT	19614	6	1-1/2	.250 (6.35)	1.000 (25.40)	.250 (6.35)	5 - 7-5/8						
V84 6XL15 INT	19618	6	1-1/2	.250 (6.35)	1.000 (25.40)	.250 (6.35)	5 - 7-5/8						
V84 6XL75 EXT	20614	6	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	-						
V84 6XL75 INT	20618	6	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	-						



NPT THREADING

V84

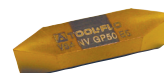
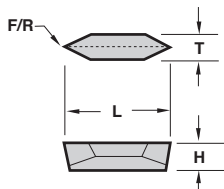
VEE BOTTOM



Description	EDP Code	Pipe Size	TPI	TPF	T	L	H	Coating Options					
V84 8NPT EXT	3661084	2-1/2" - up	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated	GP3	GP5	GP50	AC3	AC50
V84 8NPT INT	3661088	2-1/2" - up	8	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	TIN Coated					
V84 11.5NPT EXT	3661114	1" - 2"	11.5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated					
V84 11.5NPT INT	3661118	1" - 2"	11.5	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	TIN Coated					
V84 14NPT EXT	3661144	1/2" - 3/4"	14	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated					
V84 14NPT INT	3661148	1/2" - 3/4"	14	3/4	.250 (6.35)	1.000 (25.40)	.250 (6.35)	ATIN Coated					

60° V-THREADING

V84/V85

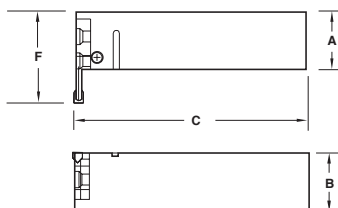


Description	EDP Code	TPI	F	T	L	H	Coating Options					
V84 NV	0161000	5-20	.006/.008	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated	GP3	GP5	GP50	AC3	AC50
V84 NV .010R	0161R10	4-20	.010R	.250 (6.35)	1.000 (25.40)	.250 (6.35)	TIN Coated					
V84 NV .020R	0161R20	4-12	.020R	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated					
V84 NV .025R	0161R25	4-8	.025R	.250 (6.35)	1.000 (25.40)	.250 (6.35)	TIN Coated					
V84 NV .038R	0161R38	4-6	.038R	.250 (6.35)	1.000 (25.40)	.250 (6.35)	Uncoated					
V85 NV	0163000	5-20	.006/.008	.312 (7.92)	1.000 (25.40)	.250 (6.35)	ATIN Coated					

EXTERNAL 90° HOLDER

CDHOR/L

Inch



RH SHOWN

PARTS

Description	EDP Code	A	B	C	.312(1)	F*	.812(1)	Clamp Screw	Stop Screw	Anvil Screw
CDHOR-16	92101600	1	1	6	1.312	1.812		SB90	SS20	SF95
CDHOL-16	92001600	1	1	6	1.312	1.812		SB90	SS20	SF95
CDHOR-20	92102000	1-1/4	1-1/4	6	1.562	2.062		SB90	SS20	SF95
CDHOL-20	92002000	1-1/4	1-1/4	6	1.562	2.062		SB90	SS20	SF95
CDHOR-24	92102400	1-1/2	1-1/2	6	1.812	2.312		SB90	SS20	SF95
CDHOL-24	92002400	1-1/2	1-1/2	6	1.812	2.312		SB90	SS20	SF95

*The "F" dimension is determined by the D.O.C. of the anvil.

(1) Anvil D.O.C.

Metric

PARTS

Description	EDP Code	A	B	C	.312(1)	F*	.812(1)	Clamp Screw	Stop Screw	Anvil Screw
CDHOR-25MM	92112500	25.00	25.00	150.00	33.32	46.02		SBM90	SSM20	SFM95
CDHOL-25MM	92012500	25.00	25.00	150.00	33.32	46.02		SBM90	SSM20	SFM95
CDHOR-32MM	92113200	32.00	32.00	150.00	39.67	52.37		SBM90	SSM20	SFM95
CDHOL-32MM	92013200	32.00	32.00	150.00	39.67	52.37		SBM90	SSM20	SFM95
CDHOR-40MM	92114000	40.00	40.00	150.00	46.02	58.72		SBM90	SSM20	SFM95
CDHOL-40MM	92014000	40.00	40.00	150.00	46.02	58.72		SBM90	SSM20	SFM95

*The "F" dimension is determined by the D.O.C. of the anvil.

(1) Anvil D.O.C.

VEE BOTTOM

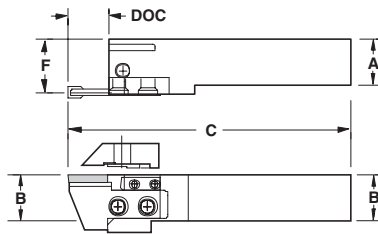


EXTERNAL STRAIGHT HOLDER

CDVOR/L

Inch

■ RH Holders use RH components - See below..



PARTS

Description	EDP Code	A	B	C	F	Clamp Screw	Stop Screw	Anvil Screw
CDVOR-16	92401600	1	1	*	1.150	SB90	SS20	SF95
CDVOL-16	92301600	1	1	*	1.150	SB90	SS20	SF95
CDVOR-20	92402000	1-1/4	1-1/4	*	1.400	SB90	SS20	SF95
CDVOL-20	92302000	1-1/4	1-1/4	*	1.400	SB90	SS20	SF95
CDVOR-24	92402400	1-1/2	1-1/2	*	1.650	SB90	SS20	SF95
CDVOL-24	92302400	1-1/2	1-1/2	*	1.650	SB90	SS20	SF95

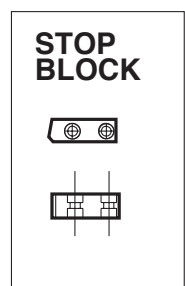
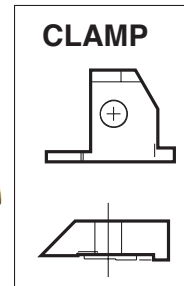
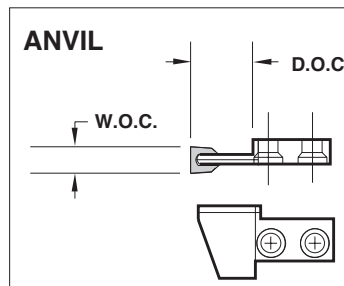
*The "C" dimension is determined by the D.O.C. of the anvil. If the D.O.C. is .312, C=5.500. If the D.O.C. is .812, C=6.000.

Metric

PARTS

Description	EDP Code	A	B	C	F	Clamp Screw	Stop Screw	Anvil Screw
CDVOR-25MM	92412500	25.00	25.00	*	29.21	SBM90	SSM20	SFM95
CDVOL-25MM	92312500	25.00	25.00	*	29.21	SBM90	SSM20	SFM95
CDVOR-32MM	92413200	32.00	32.00	*	35.56	SBM90	SSM20	SFM95
CDVOL-32MM	92313282	32.00	32.00	*	35.56	SBM90	SSM20	SFM95
CDVOR-40MM	92414000	40.00	40.00	*	41.91	SBM90	SSM20	SFM95
CDVOL-40MM	92314000	40.00	40.00	*	41.91	SBM90	SSM20	SFM95

*The "C" dimension is determined by the D.O.C. of the anvil. If the D.O.C. is .312, C=5.500. If the D.O.C. is .812, C=6.000.



Anvil	EDP Code	Insert	DOC	WOC	Clamp	Stop Block
AHR-118	9140118	VDB125	.812 (20.62)	.105-.125 (2.67-3.18)	CHR-182	SBH-2
AHL-118	9130118	VDB125	.812 (20.62)	.105-.125 (2.67-3.18)	CHL-182	SBH-2
AHR-148	9140148	V84/V85	.812 (20.62)	.220-.250 (5.59-6.35)	CHR-482	SBH-2
AHL-148	9130148	V84/V85	.812 (20.62)	.220-.250 (5.59-6.35)	CHL-482	SBH-2
AHR-173	9140173	V84/V85	.312 (7.92)	V-THREAD	CHR-431	SBH-1
AHL-173	9130173	V84/V85	.312 (7.92)	V-THREAD	CHL-431	SBH-1
AHR-113	9140113	DBP24/VDB125	.312 (7.92)	.105-.125 (2.67-3.18)	CHR-132	SBH-1
AHL-113	9130113	DBP24/VDB125	.312 (7.92)	.105-.125 (2.67-3.18)	CHL-132	SBH-1
AHR-138	9140138	DBP34/VDB188	.812 (20.62)	.170-.188 (4.32-4.78)	CHR-382	SBH-2
AHL-138	9130138	DBP34/VDB188	.812 (20.62)	.170-.188 (4.32-4.78)	CHL-382	SBH-2
AHR-148	9140148	VDB250A	.812 (20.62)	.220-.250 (5.59-6.35)	CHR-482	SBH-2
AHL-148	9130148	VDB250A	.812 (20.62)	.220-.250 (5.59-6.35)	CHL-482	SBH-2
AHR-248	9140248	DBP45/VDB250B	.812 (20.62)	.250-.312 (6.35-7.93)	CHR-482	SBH-2
AHL-248	9130248	DBP45/VDB250B	.812 (20.62)	.250-.312 (6.35-7.93)	CHL-482	SBH-2
AHR-268	9140268	DBP65/VDB375	.812 (20.62)	.350-.375 (8.89-9.53)	CHR-582	SBH-2
AHL-268	9130268	DBP65/VDB375	.812 (20.62)	.350-.375 (8.89-9.53)	CHL-582	SBH-2



VEE BOTTOM

EXTERNAL STRAIGHT HOLDER

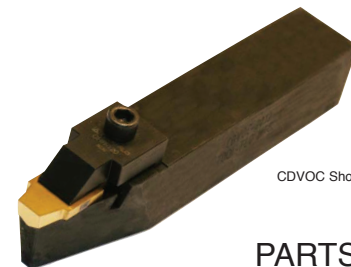
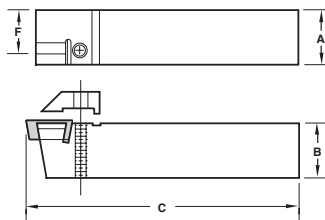
CDVOR/L/C

One piece design

Inch

■ RH Holders use RH clamps

CDVOR Shown



CDVOC Shown

PARTS

Description	EDP Code	Insert	A	B	C	F	Clamp	Clamp Screw
CDVOR-168	92401682	V84/V85	1	1	6	0.875	CHR-431	SB90
CDVOL-168	92301682	V84/V85	1	1	6	0.875	CHL-431	SB90
CDVOR-208	92402082	V84/V85	1-1/4	1-1/4	6	1.125	CHR-431	SB90
CDVOL-208	92302082	V84/V85	1-1/4	1-1/4	6	1.125	CHL-431	SB90
CDVOR-209	92402086	V96/V98	1-1/4	1-1/4	7	1.000	CHR-98	SS100
CDVOL-209	92302086	V96/V98	1-1/4	1-1/4	7	1.000	CHR-98	SS100
CDVOC-2012	92202090	V120	1-1/4	1-1/4	7	0.625	CHR-120	SS90

Metric

PARTS

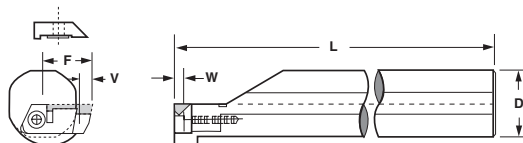
Description	EDP Code	Insert	A	B	C	F	Clamp	Clamp Screw
CDVOR-25M8	92412582	V84/V85	25,0	25,0	150,0	21,8	CHR-431	SB90
CDVOL-25M8	92312582	V84/V85	25,0	25,0	150,0	21,8	CHL-431	SB90
CDVOR-32M8	92413282	V84/V85	32,0	32,0	150,0	28,8	CHR-431	SB90
CDVOL-32M8	92313282	V84/V85	32,0	32,0	150,0	28,8	CHL-431	SB90
CDVOR-32M9	92413286	V96/V98	32,0	32,0	180,0	25,5	CHR-98	SS100
CDVOC-32M12	92413290	V120	32,0	32,0	180,0	22,5	CHR-120	SS90

INTERNAL BAR

SI-CDHOR

Inch

■ RH Holders use LH components



RH Shown

PARTS

Description	EDP Code	Insert	D	L	W	V	F	Min. Bore	D.O.C. at Min. Bore	Anvil	Anvil Screw	Clamp	Clamp Screw
SI-CDHOR-24	96802400	V84/V85	1-1/2	14	.188-.250	.180	1.062	1.880	.080	ABL/R-131	SF69	CBL/R-411	SB90
SI-CDHOL-24	96702400	V84/V85			60°V	.180	1.062	1.880	.080	ABL/R-171	SF69	CBL/R-411	SB90
		V85			.295-.312	.312	1.062	1.880	.080	ABL/R-143	SF69	CBL/R-531	SB90
		DBP24/VDB125			.105-.125	.312	1.062	1.880	.240	ABL/R-113	SF69	CBL/R-132	SB90
		DBP34/VDB188			.170-.188	.530	1.280	2.098	.240	ABL/R-135	SF69	CBL/R-352	SB90
		VDB250A			.220-.250	.530	1.280	2.098	.240	ABL/R-145	SF69	CBL/R-452	SB90
		DBP45/VDB250B			.220-.250	.530	1.280	2.098	.240	ABL/R-245	SF69	CBL/R-452	SB90

Metric

PARTS

Description	EDP Code	Insert	D	L	W	V	F	Min. Bore	D.O.C. at Min. Bore	Anvil	Anvil Screw	Clamp	Clamp Screw
SI-CDHOR-40MM	96814000	V84	40,0	360,0	5,5-6,5	4,5	28,9	48,0	2,0	ABL/R-131	SF69	CBL/R-411	SB90
		V84			60°V	4,5	28,9	48,0	2,0	ABL/R-171	SF69	CBL/R-411	SB90
		V85			7,5-8,0	7,9	28,9	48,0	2,0	ABL/R-143	SF69	CBL/R-531	SB90
		DBP24/VDB125			2,6-3,2	7,9	28,9	53,5	6,0	ABL/R-113	SF69	CBL/R-132	SB90
		DBP34/VDB188			4,3-4,8	13,6	34,3	53,5	6,0	ABL/R-135	SF69	CBL/R-352	SB90
		VDB250A			5,5-6,5	13,6	34,3	53,5	6,0	ABL/R-145	SF69	CBL/R-452	SB90
		DBP45/VDB250B			5,5-6,5	13,6	34,3	53,5	6,0	ABL/R-245	SF69	CBL/R-452	SB90

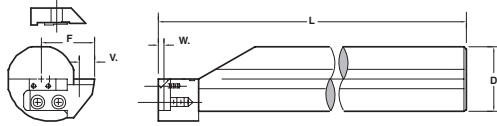


INTERNAL BAR

SI-CDHOR

Inch

■ RH Holders use LH components



PARTS

Description	EDP Code	Insert	D	L	W	V	F	Min. Bore	D.O.C. at Min. Bore	Anvil	Anvil Screw	Clamp	Clamp Screw	Stop Block	SBH Screw
SI-CDHOR-32H	96803200H	V84/V85	2	16	.220-.250	.312	1.584	3.000	.150	AHL/R-148	SF95	CHL/R-482	SB90	SBH-1	SS-20
SI-CDHOL-32H	96703200H	V84/V85			60°V	.312	1.584	3.000	.150	AHL/R-173	SF95	CHL/R-431	SB90	SBH-1	SS-20
		DBP34/VDB188			.170-.188	.625	1.592	3.000	.270	AHL/R-138	SF95	CHL/R-382	SB90	SBH-2	SS-20
		VDB250A			.220-.250	.625	1.592	3.000	.270	AHL/R-148	SF95	CHL/R-482	SB90	SBH-2	SS-20
		DBP45/VDB250B			.220-.250	.625	1.592	3.000	.270	AHL/R-248	SF95	CHL/R-482	SB90	SBH-2	SS-20

Metric

PARTS

Description	EDP Code	Insert	D	L	W	V	F	Min. Bore	D.O.C. at Min. Bore	Anvil	Anvil Screw	Clamp	Clamp Screw	Stop Block	SBH Screw
SI-CDHOR-50MM	96815000	V84/V85	50,0	400,0	5,5-6,5	7,9	39,5	76,2	2,0	AHL/R-148	SF95	CHL/R-482	SB90	SBH-1	SS-20
		V84/V85			60°V	7,9	39,5	76,2	2,0	AHL/R-173	SF95	CHL/R-431	SB90	SBH-1	SS-20
		DBP34/VDB188			4,3-4,8	20,6	40,0	76,2	6,0	AHL/R-138	SF95	CHL/R-382	SB90	SBH-2	SS-20
		VDB250A			5,5-6,5	20,6	40,0	76,2	6,0	AHL/R-148	SF95	CHL/R-482	SB90	SBH-2	SS-20
		DBP45/VDB250B			5,5-6,5	20,6	40,0	76,2	6,0	AHL/R-248	SF95	CHL/R-482	SB90	SBH-2	SS-20

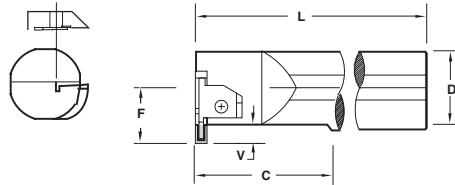
INTERNAL BAR

SI-CDHOR/L

One piece design

Inch

■ RH Holders use LH components



PARTS

Description	EDP Code	Insert	Min. Bore	D	L	C	F	V	D.O.C. at Min. Bore	Clamp Screw	Clamp
SI-CDHOR-168	96801682	V84/V85	2.500	1	10	3	.687	.270	.200	S526	CBL-84
SI-CDHOL-168	96701682	V84/V85	2.500	1	10	3	.687	.270	.200	S526	CBR-84
SI-CDHOR-208	96802082	V84/V85	2.500	1-1/4	12	-	.875	.285	.250	S526	CBL-84
SI-CDHOL-208	96702082	V84/V85	2.500	1-1/4	12	-	.875	.285	.250	S526	CBR-84
SI-CDHOR-329	96803286	V96/V98	3.100	2	16	-	1.530	.325	.312	SS110	CBL-98
SI-CDHOL-329	96703286	V96/V98	3.100	2	16	-	1.530	.325	.312	SS110	CBR-98
SI-CDHOR-409	96804086	V96/V98	4.000	2-1/2	16	-	1.575	.365	.312	SS110	CBL-98
SI-CDHOR-4012	96804092	V120	4.000	2-1/2	16	8.062	1.575	.570	.500	SB100	CBL-120
SI-CDHOL-4012	96704092	V120	4.000	2-1/2	16	8.062	1.575	.570	.500	SB100	CBL-120

Metric

PARTS

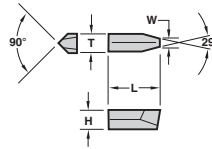
Description	EDP Code	Insert	Min. Bore	D	L	F	V	D.O.C. at Min. Bore	Clamp Screw	Clamp
SI-CDHOR-25M8	96812582	V84/V85	30,15	25,0	250,0	17,4	6,4	4,8	S526	CBL-84
SI-CDHOL-25M8	96712582	V84/V85	30,15	25,0	250,0	17,4	6,4	4,8	S526	CBR-84
SI-CDHOR-32M8	96813282	V84/V85	38,1	32,0	300,0	18,5	6,4	4,8	S526	CBL-84
SI-CDHOL-32M8	96713282	V84/V85	38,1	32,0	300,0	18,5	6,4	4,8	S526	CBR-84
SI-CDHOR-50M9	96815086	V96/V98	63,5	50,0	400,0	38,8	9,2	7,9	SS110	CBL-98
SI-CDHOL-50M9	96715086	V96/V98	63,5	50,0	400,0	38,8	9,2	7,9	SS110	CBR-98
SI-CDHOR-65M9	96816586	V96/V98	76,2	65,0	400,0	40,0	9,2	9,5	SS110	CBL-98
SI-CDHOL-65M12	96816590	V120	76,2	65,0	400,0	40,0	14,0	12,7	SB100	CBL-120



ACME THREADING

MLPE

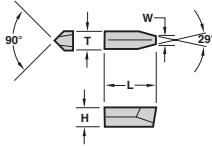
VEE BOTTOM



Description	EDP Code	TPI	W	T	L	H	GP22	AC22	TIN Coated	ATIN Coated
MLPE 2532 NT 4P	0271040	4	.0875 (2.22)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 4P	0273040	4	.0875 (2.22)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●
MLPE 2532 NT 5P	0271050	5	.0689 (1.75)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 5P	0273050	5	.0689 (1.75)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●
MLPE 2532 NT 6P	0271060	6	.0566 (1.44)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 6P	0273060	6	.0566 (1.44)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●
MLPE 2532 NT 8P	0271080	8	.0411 (1.04)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 8P	0273080	8	.0411 (1.04)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●
MLPE 2532 NT 10P	0271100	10	.0319 (0.81)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 10P	0273100	10	.0319 (0.81)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●
MLPE 2532 NT 12P	0271120	12	.0283 (0.72)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●	●
MLPE 3425 NT 12P	0273120	12	.0283 (0.72)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●	●

ACME STUB THREADING

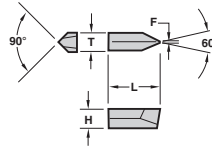
MLPE



Description	EDP Code	TPI	W	T	L	H	GP22	AC22
MLPE 2532 NT 4P STUB	0271041	4	.1004 (2.55)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 4P STUB	0273041	4	.1004 (2.55)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●
MLPE 2532 NT 5P STUB	0271051	5	.0793 (2.01)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 5P STUB	0273051	5	.0793 (2.01)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●
MLPE 2532 NT 6P STUB	0271061	6	.0652 (1.66)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 6P STUB	0273061	6	.0652 (1.66)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●
MLPE 2532 NT 8P STUB	0271081	8	.0476 (1.21)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 8P STUB	0273081	8	.0476 (1.21)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●
MLPE 2532 NT 10P STUB	0271101	10	.0370 (0.94)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 10P STUB	0273101	10	.0370 (0.94)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●
MLPE 2532 NT 12P STUB	0271121	12	.0326 (0.83)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●
MLPE 3425 NT 12P STUB	0273121	12	.0326 (0.83)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●

V-THREADING - 60°

MLPE



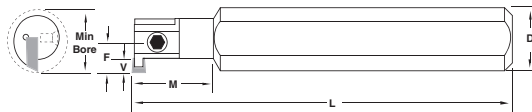
Description	EDP Code	TPI	F	T	L	H	GP54	AC22	AC54
MLPE 1251 NV	01720000	10-20	.002-.004 (0.05-0.10)	.160 (4.06)	.340 (8.64)	.115 (2.92)	●	●	●
MLPE 2532 NV	01710000	6-20	.002-.004 (0.05-0.10)	.188 (4.78)	.500 (12.70)	.150 (3.81)	●	●	●
MLPE 3425 NV	01730000	5-20	.003-.006 (0.08-0.15)	.250 (6.35)	.625 (15.88)	.188 (4.78)	●	●	●

INTERNAL BAR

MS-CDHOR/L

One piece design

■ RH Bars use RH clamps



RH Shown

PARTS

Description	EDP Code	Insert	Min. Bore	D	M	L	F	V	Clamp Screw	Clamp
MS-CLHOR-46254	951546254	MLPE 1251	.500 (12.70)	.500 (12.70)	.930 (23.62)	6.000 (150)	.265 (6.73)	.079 (2.01)	SF20	MCR-30
MS-CLHOL-46254	951346254	MLPE 1251	.500 (12.70)	.500 (12.70)	.930 (23.62)	6.000 (150)	.265 (6.73)	.079 (2.01)	SF20	MCL-30
MS-CLHOR-6845	95156845	MLPE 2532	.700 (17.78)	.750 (19.05)	1.250 (31.75)	8.000 (200)	.400 (10.16)	.150 (3.81)	SF47	MCR-40
MS-CLHOL-6845	95256845	MLPE 2532	.700 (17.78)	.750 (19.05)	1.250 (31.75)	8.000 (200)	.400 (10.16)	.150 (3.81)	SF47	MCL-40
MS-CLHOR-6856	95156856	MLPE 3425	.830 (21.08)	.750 (19.05)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCR-50
MS-CLHOL-6856	95256856	MLPE 3425	.830 (21.08)	.750 (19.05)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCL-50
MS-CLHOR-8845	95158845	MLPE 2532	.830 (21.08)	1.000 (25.40)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCR-40
MS-CLHOL-8845	95258845	MLPE 2532	.830 (21.08)	1.000 (25.40)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCL-40
MS-CLHOR-8856	95158856	MLPE 3425	.830 (21.08)	1.000 (25.40)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCR-50
MS-CLHOL-8856	95258856	MLPE 3425	.830 (21.08)	1.000 (25.40)	1.500 (38.10)	8.000 (200)	.462 (11.73)	.150 (3.81)	SA4	MCL-50

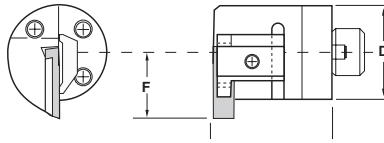
VEE BOTTOM



INTERCHANGEABLE HEADS

H-CDHOR/L *

Inch



RH SHOWN

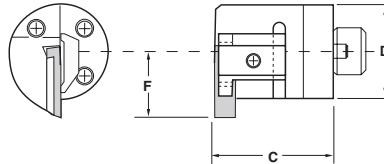
PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore	Clamp	Clamp Screw
H16-CDHOR-8	9IH6801682	V84/V85	1.000	1.625	0.925	1.525	CBL-84	S-526
H20-CDHOR-8	9IH6802082	V84/V85	1.250	1.625	0.875	1.600	CBL-84	S-526
H24-CDHOR-8	9IH6802482	V84/V85	1.500	1.625	1.000	1.850	CBL-84	S-526
H32-CDHOR-8	9IH6803282	V84/V85	2.000	1.625	1.285	2.385	CBL-84	S-526
H40-CDHOR-8	9IH6804082	V84/V85	2.500	1.625	1.500	2.850	CBL-84	S-526
H32-CDHOR-9	9IH6803286	V96/V98	2.000	1.625	1.410	2.510	CBL-98	SS110
H40-CDHOR-9	9IH6804086	V96/V98	2.500	1.625	1.584	2.935	CBL-98	SS110
H40-CDHOR-12	9IH6804092	V120	2.500	1.625	1.820	3.170	CBL-120	SB100

*Left hand quoted on request.

H-CDHOR/L *

Metric



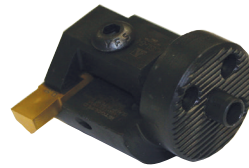
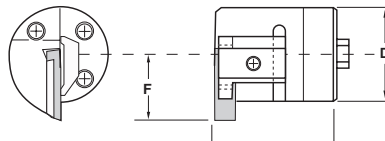
RH SHOWN

PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore	Clamp	Clamp Screw
H25M-CDHOR-8	9IH68025M82	V84/V85	25	41.28	23.50	38.74	CBLM-84	SM526
H32M-CDHOR-8	9IH68032M82	V84/V85	32	41.28	22.23	40.64	CBLM-84	SM526
H40M-CDHOR-8	9IH68040M82	V84/V85	40	41.28	25.40	46.99	CBLM-84	SM526
H50M-CDHOR-8	9IH68050M82	V84/V85	50	41.28	32.64	60.58	CBLM-84	SM526
H60M-CDHOR-8	9IH68060M82	V84/V85	60	41.28	38.10	72.39	CBLM-84	SM526
H50M-CDHOR-9	9IH68050M86	V96/V98	50	41.28	35.81	63.75	CBL-98	SSM110
H60M-CDHOR-9	9IH68060M86	V96/V98	60	41.28	40.23	74.55	CBL-98	SSM110
H60M-CDHOR-12	9IH68060M92	V120	60	41.28	46.23	80.52	CBL-120	SBM100

*Left hand quoted on request.

HS-CDHOR/L *



RH SHOWN

PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore	Clamp	Clamp Screw
HS25-CDHOR-8	9IHS68025M82	V84/V85	0.984	1.355	0.925	1.517	CBL-84	S-526
HS32-CDHOR-8	9IHS68032M82	V84/V85	1.260	1.625	0.875	1.600	CBL-84	S-526
HS40-CDHOR-8	9IHS68040M82	V84/V85	1.575	1.625	1.084	1.971	CBL-84	S-526
HS50-CDHOR-8	9IHS68050M82	V84/V85	1.970	1.625	1.281	2.366	CBL-84	S-526
HS60-CDHOR-8	9IHS68060M82	V84/V85	2.360	1.625	1.476	2.756	CBL-84	S-526
HS50-CDHOR-9	9IHS68050M86	V96/V98	1.970	1.625	1.362	2.447	CBL-98	SS110
HS60-CDHOR-9	9IHS68060M86	V96/V98	2.360	1.625	1.558	2.838	CBL-98	SS110
HS60-CDHOR-12	9IHS68060M92	V120	2.360	1.625	1.750	3.030	CBL-120	SB100

*Left hand quoted on request.

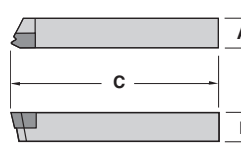
570 type connection



BRAZED TOOLS

THREADING

BRAZED TOOLS

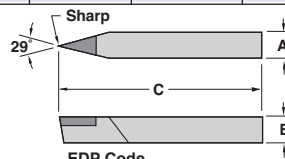


Description	EDP Code	TPI	TPF	A	B†	C	Conn No orSize
B6 10RD EXT	77134E	10	3/4	3/8	3/8	2-1/2	-
B6 10RD INT	77134I	10	3/4	3/8	3/8	2-1/2	-
B8 NT - NO PITCH	77304A	8	3/4	1/2	1/2	4	-
B8 8RD EXT	77332E	8	3/4	1/2	1/2	4	-
B8 8RD INT	77332I	8	3/4	1/2	1/2	4	-
B8 10RD EXT	77334E	10	3/4	1/2	1/2	4	-
B8 10RD INT	77334I	10	3/4	1/2	1/2	4	-
B8 425 EXT	77309E	4	2	1/2	1/2	3-1/2	5-1/2 - 6-5/8 FH, 6-5/8 REG
B8 425 INT	77309I	4	2	1/2	1/2	3-1/2	5-1/2 - 6-5/8 FH, 6-5/8 REG
B8 428 EXT	77310E	4	2	1/2	1/2	3-1/2	NC23 - 50, 2-3/8 - 5-1/2 IF
B8 428 INT	77310I	4	2	1/2	1/2	3-1/2	NC23 - 50, 2-3/8 - 5-1/2 IF
B8 435 EXT	77311E	4	3	1/2	1/2	3-1/2	5-1/2 REG, 7-5/8 REG, 8-5/8 REG
B8 435 INT	77311I	4	3	1/2	1/2	3-1/2	5-1/2 REG, 7-5/8 REG, 8-5/8 REG
B8 438 EXT	77312E	4	3	1/2	1/2	3-1/2	NC56 - NC71
B8 438 INT	77312I	4	3	1/2	1/2	3-1/2	NC56 - NC71
B8 42F EXT*	77314E	4	2	1/2	1/2	3-1/2	VO.065*
B8 42F INT*	77314I	4	2	1/2	1/2	3-1/2	VO.065*
B8 530 EXT	77313E	5	3	1/2	1/2	3-1/2	3-1/2FH, 2-3/8 - 4-1/2 REG
B8 530 INT	77313I	5	3	1/2	1/2	3-1/2	3-1/2FH, 2-3/8 - 4-1/2 REG
B8 5B75 EXT	77316E	5	3/4	1/2	1/2	3-1/2	4-1/2 - 13-3/8
B8 5B75 INT	77316I	5	3/4	1/2	1/2	3-1/2	4-1/2 - 13-3/8
B8 5B1 EXT	77317E	5	1	1/2	1/2	3-1/2	16 AND LARGER
B8 5B1 INT	77317I	5	1	1/2	1/2	3-1/2	16 AND LARGER
B8 6XL15 EXT	77319E	6	1-1/2	1/2	1/2	3-1/2	5 - 7-5/8
B8 6XL15 INT	77319I	6	1-1/2	1/2	1/2	3-1/2	5 - 7-5/8
B8 6XL75 EXT	77320E	6	3/4	1/2	1/2	3-1/2	-
B8 6XL75 INT	77320I	6	3/4	1/2	1/2	3-1/2	-
B8 8B75 EXT	77321E	8	3/4	1/2	1/2	3-1/2	U.S. IMPROVED BUTTRESS
B8 8B75 INT	77321I	8	3/4	1/2	1/2	3-1/2	U.S. IMPROVED BUTTRESS
B8 8PA75 EXT	77322E	8	3/4	1/2	1/2	3-1/2	-
B8 8PA75 INT	77322I	8	3/4	1/2	1/2	3-1/2	-
B10 NT NO PITCH	77504A	-	-	5/8	5/8	4	-
B10 NT 2P	77504C	2	-	5/8	5/8	4	-
B10 NT 4P	77504E	4	-	5/8	5/8	4	-
B10 8RD EXT	77532E	8	3/4	5/8	5/8	4	-
B10 8RD INT	77532I	8	3/4	5/8	5/8	4	-
B10 10RD EXT	77534E	10	3/4	5/8	5/8	4	-
B10 10RD INT	77534I	10	3/4	5/8	5/8	4	-
B10 425 EXT	77509E	4	2	5/8	5/8	3-1/2	5-1/2 - 6-5/8 FH, 6-5/8 REG
B10 425 INT	77509I	4	2	5/8	5/8	3-1/2	5-1/2 - 6-5/8 FH, 6-5/8 REG
B10 428 EXT	77510E	4	2	5/8	5/8	3-1/2	NC23 - 50, 2-3/8 - 5-1/2 IF
B10 428 INT	77510I	4	2	5/8	5/8	3-1/2	NC23 - 50, 2-3/8 - 5-1/2 IF
B10 435 EXT	77511E	4	3	5/8	5/8	3-1/2	5-1/2 REG, 7-5/8 REG, 8-5/8 REG
B10 435 INT	77511I	4	3	5/8	5/8	3-1/2	5-1/2 REG, 7-5/8 REG, 8-5/8 REG
B10 438 EXT	77512E	4	3	5/8	5/8	3-1/2	NC56 - NC71
B10 438 INT	77512I	4	3	5/8	5/8	3-1/2	NC56 - NC71
B10 42F EXT*	77514E	4	2	5/8	5/8	3-1/2	VO.065*
B10 42F INT*	77514I	4	2	5/8	5/8	3-1/2	VO.065*
B10 530 EXT	77513E	5	3	5/8	5/8	3-1/2	3-1/2FH, 2-3/8 - 4-1/2 REG
B10 530 INT	77513I	5	3	5/8	5/8	3-1/2	3-1/2FH, 2-3/8 - 4-1/2 REG
B10 5B75 EXT	77516E	5	3/4	5/8	5/8	3-1/2	4-1/2 - 13-3/8
B10 5B75 INT	77516I	5	3/4	5/8	5/8	3-1/2	4-1/2 - 13-3/8
B10 5B1 EXT	77517E	5	1	5/8	5/8	3-1/2	16 AND LARGER
B10 5B1 INT	77517I	5	1	5/8	5/8	3-1/2	16 AND LARGER
B10 6XL15 EXT	77518E	6	1-1/2	5/8	5/8	3-1/2	5 - 7-5/8
B10 6XL15 INT	77518I	6	1-1/2	5/8	5/8	3-1/2	5 - 7-5/8
B10 8B75 EXT	77521E	8	3/4	5/8	5/8	3-1/2	U.S. IMPROVED BUTTRESS
B10 8B75 INT	77521I	8	3/4	5/8	5/8	3-1/2	U.S. IMPROVED BUTTRESS
B10 H902 EXT	77528E	2	3-1/2	5/8	5/8	4	3-1/2 - 6-5/8 H90
B10 H902 INT	77528I	2	3-1/2	5/8	5/8	4	3-1/2 - 6-5/8 H90
B12 NT NO PITCH	77604A	-	-	3/4	3/4	4-1/2	-

* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

ACME THREADING

NO PITCH



Description	EDP Code	TPI	A	B	C
B6 NT NO PITCH	77104A	6-16	3/8	3/8	2-1/2
B8 NT NO PITCH	77304A	4-16	1/2	1/2	3-1/2
B10 NT NO PITCH	77504A	2-16	5/8	5/8	4
B12 NT NO PITCH	77604A	2-16	3/4	3/4	4-1/2



Manufacturing custom threading inserts and special holders for the medical field for over **35 Years!**

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 triangle
 Flo-Lock (for standard lathe operations)



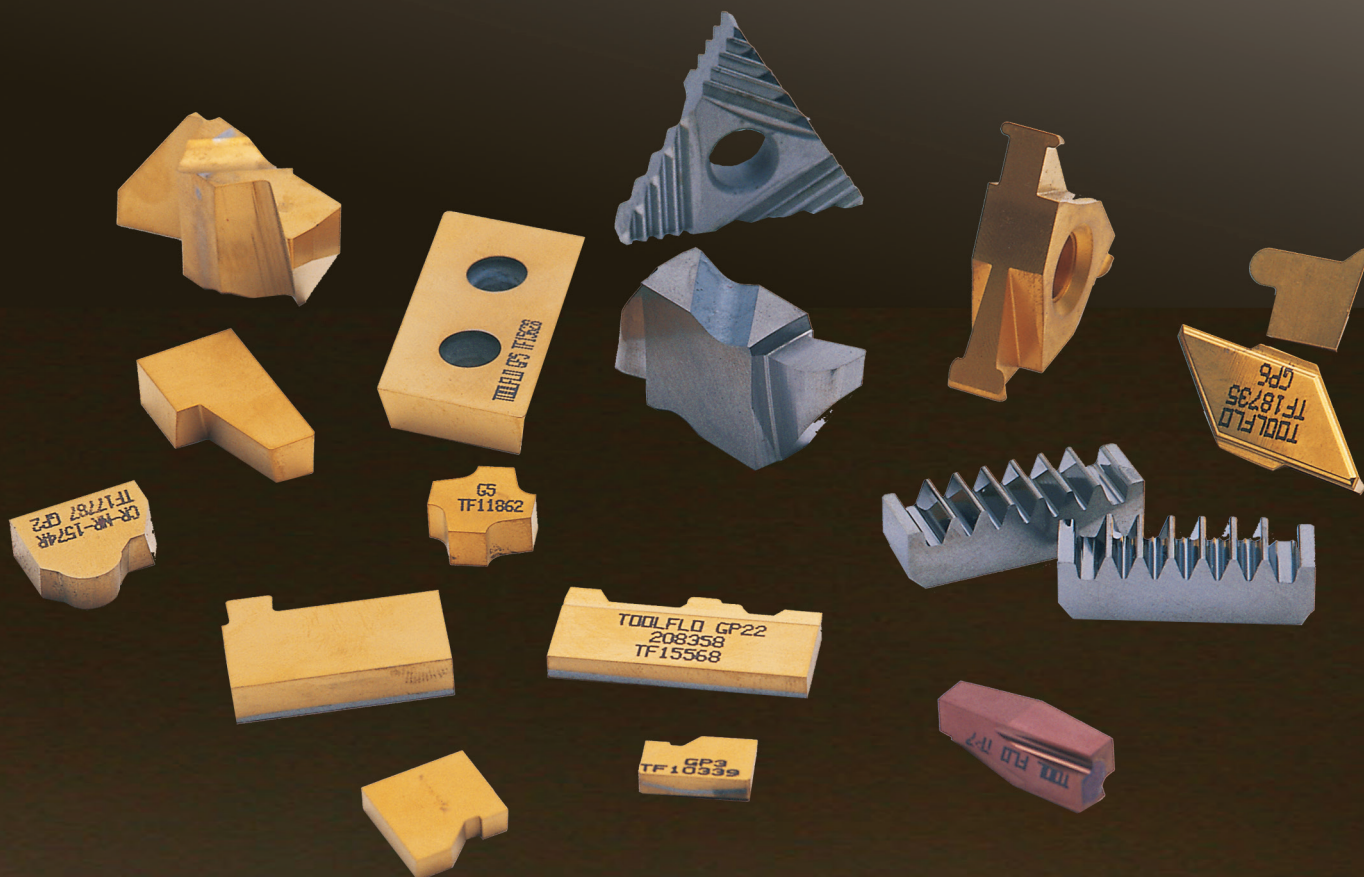
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SPECIALS

THREAD MILLING



SOLID THREADMILLING





MTEC SOLID THREAD MILLING

THREAD MILL Identification Chart

MTEC	□	06	04	C	14	1.0	ISO	AC22
Mill Thread Endmill Carbide	S -Short B -Coolant Bore	Shank Dia.	Cutting Dia.	No. of Flutes C = 3 flutes D = 4 flutes E = 5 flutes F = 6 flutes	(ap) Length of Thread	Thread Pitch	Thread Standard	Carbide Grade

MTEC SOLID THREAD MILLING



ISO THREADING MTECS Internal



Description	EDP Code	Pitch	Th	d	D	Flute	H	L	SHANK C-Cylindrical	Grade
MTECS 03007C2 0.25ISO	MTECS 03007C2 0.25ISO	0.25	M1	3.00	0.72	3	2.50	39.00	C	AC22
MTECS 03009C3 0.25ISO	MTECS03009C30.25ISO	0.25	M1.2	3.00	0.90	3	3.00	39.00	C	AC22
MTECS 03011C4 0.3ISO	MTECS03011C40.3ISO	0.30	M1.4	3.00	1.05	3	4.00	39.00	C	AC22
MTECS 03012C5 0.35ISO	MTECS03012C50.35ISO	0.35	M1.6	3.00	1.20	3	4.80	39.00	C	AC22
MTECS 03016C6 0.4ISO	MTECS03016C60.4ISO	0.40	M2	3.00	1.53	3	6.00	39.00	C	AC22
MTECS 06016C4 0.4ISO	MTECS06016C40.4ISO	0.40	M2	6.00	1.53	3	4.50	58.00	C	AC22
MTECS 03017C7 0.45ISO	MTECS03017C70.45ISO	0.45	M2.2	3.00	1.65	3	7.00	39.00	C	AC22
MTECS 06017C5 0.45ISO	MTECS 06017C5 0.45ISO	0.45	M2.2	6.00	1.65	3	5.00	58.00	C	AC22
MTECS 0602C5 0.45ISO	MTECS0602C50.45ISO	0.45	M2.5	6.00	1.95	3	5.50	58.00	C	AC22
MTECS 0602C7 0.45ISO	MTECS0602C70.45ISO	0.45	M2.5	6.00	1.95	3	7.50	58.00	C	AC22
MTECS 06024C6 0.5ISO	MTECS06024C60.5ISO	0.50	M3	6.00	2.37	3	6.50	58.00	C	AC22
MTECS 06024C9 0.5ISO	MTECS06024C90.5ISO	0.50	M3	6.00	2.37	3	9.50	58.00	C	AC22
MTECS 06024C9 0.5ISO-L	MTECS06024C90.5ISO-L	0.50	M3	6.00	2.37	3	9.50	105.00	C	AC22
MTECS 03024C12 0.5ISO	MTECS 03024C12 0.5ISO	0.50	M3	3.00	2.40	3	12.50	39.00	C	AC22
MTECS 06028C10 0.6ISO	MTECS 06028C10 0.6ISO	0.60	M3.5	6.00	2.75	3	10.50	58.00	C	AC22
MTECS 06028C7 0.6ISO	MTECS06028C70.6ISO	0.60	M3.5	6.00	2.75	3	7.50	58.00	C	AC22
MTECS 06031C12 0.7ISO	MTECS06031C120.7ISO	0.70	M4	6.00	3.10	3	12.50	58.00	C	AC22
MTECS 06031C12 0.7ISO-L	MTECS06031C120.7ISO-L	0.70	M4	6.00	3.10	3	12.50	105.00	C	AC22
MTECS 06031C16 0.7ISO	MTECS06031C160.7ISO	0.70	M4	6.00	3.10	3	16.70	58.00	C	AC22
MTECS 06031C9 0.7ISO	MTECS06031C90.7ISO	0.70	M4	6.00	3.10	3	9.00	58.00	C	AC22
MTECS 0808D25 0.75ISO	MTECS0808D250.75ISO	0.75	M10	8.00	8.00	4	25.00	64.00	C	AC22
MTECS 06038C12 0.8ISO	MTECS06038C120.8ISO	0.80	M5	6.00	3.80	3	12.50	58.00	C	AC22
MTECS 06038C16 0.8ISO	MTECS06038C160.8ISO	0.80	M5	6.00	3.80	3	16.00	58.00	C	AC22
MTECS 06038C16 0.8ISO-L	MTECS06038C160.8ISO-L	0.80	M5	6.00	3.80	3	16.00	105.00	C	AC22
MTECS 06047C14 1.0ISO	MTECS06047C141.0ISO	1.00	M6	6.00	4.65	3	14.00	58.00	C	AC22
MTECS 06047C20 1.0ISO	MTECS06047C201.0ISO	1.00	M6	6.00	4.65	3	20.00	58.00	C	AC22
MTECS 06047C20 1.0ISO-L	MTECS06047C201.0ISO-L	1.00	M6	6.00	4.65	3	20.00	105.00	C	AC22
MTECS 0606C18 1.25ISO	MTECS0606C181.25ISO	1.25	M8	6.00	6.00	3	20.00	58.00	C	AC22
MTECS 0606C24 1.25ISO	MTECS0606C181.25ISO	1.25	M8	6.00	6.00	3	24.00	58.00	C	AC22
MTECS 08078C23 1.5ISO	MTECS08078C231.5ISO	1.50	M10	8.00	7.80	3	23.00	64.00	C	AC22
MTECS 1009C26 1.75ISO	MTECS1009C261.75ISO	1.75	M12	10.00	9.00	3	26.00	73.00	C	AC22
MTECS 12118D35 2.0ISO	MTECS12118D352.0ISO	2.00	M16	12.00	11.80	4	35.00	84.00	C	AC22
MTECS 12118D50 2.0ISO	MTECS12118D502.0ISO	2.00	M16	12.00	11.80	4	50.00	105.00	C	AC22
MTECS 1615E43 2.5ISO	MTECS1615E432.5ISO	2.50	M20	16.00	15.00	5	43.00	105.00	C	AC22

ISO THREADING MTEC Internal



Description	EDP Code	PITCH	M Coarse	M Fine	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 06038C10 0.5ISO	MTEC06038C100.5ISO	0.50	-	>5	6.00	3.80	3	10.30	58.00	C	AC22
MTEC 06022C5 0.5ISO	MTEC06022C50.5ISO	0.50	M3	>4	6.00	2.20	3	5.30	58.00	C	AC22
MTEC 06031C7 0.7ISO	MTEC06031C70.7ISO	0.70	M4	>5	6.00	3.10	3	7.40	58.00	C	AC22
MTEC 06045C10 0.75ISO	MTEC06045C100.75ISO	0.75	-	>6	6.00	4.50	3	10.00	58.00	C	AC22
MTEC 06036C9 0.8ISO	MTEC06036C90.8ISO	0.80	M5	>6	6.00	3.60	3	9.20	58.00	C	AC22
MTEC 0606C12 1.0ISO	MTEC0606C121.0ISO	1.00	-	>9	6.00	6.00	3	12.50	58.00	C	AC22
MTEC 0808D16 1.0ISO	MTEC0808D161.0ISO	1.00	-	>10	8.00	8.00	4	16.50	64.00	C	AC22
MTEC 0604C10 1.0ISO	MTEC0604C101.0ISO	1.00	M6	>7	6.00	4.00	3	10.50	58.00	C	AC22
MTEC 0604C14 1.0ISO	MTEC0604C141.0ISO	1.00	M6	>7	6.00	4.00	3	14.50	58.00	C	AC22
MTEC 0605C14 1.25ISO	MTEC0605C141.25ISO	1.25	M8	>10	6.00	5.00	3	14.40	58.00	C	AC22
MTEC 0605C19 1.25ISO	MTEC0605C191.25ISO	1.25	M8	>10	6.00	5.00	3	19.40	58.00	C	AC22
MTEC 1010D21 1.5ISO	MTEC1010D211.5ISO	1.50	-	>14	10.00	10.00	4	21.80	73.00	C	AC22
MTEC 1616F33 1.5ISO	MTEC1616F331.5ISO	1.50	-	>20	16.00	16.00	6	33.80	105.00	C	AC22
MTEC 0807C17 1.5ISO	MTEC0807C171.5ISO	1.50	M10	>12	8.00	7.00	3	17.30	64.00	C	AC22
MTEC 0807C24 1.5ISO	MTEC0807C241.5ISO	1.50	M10	>12	8.00	7.00	3	24.80	76.00	C	AC22
MTEC 0808C20 1.75ISO	MTEC0808C201.75ISO	1.75	M12	>14	8.00	8.00	3	20.10	64.00	C	AC22
MTEC 0808C28 1.75ISO	MTEC0808C281.75ISO	1.75	M12	>14	8.00	8.00	3	28.90	76.00	C	AC22
MTEC 1212D27 2.0ISO	MTEC1212D272.0ISO	2.00	-	>18	12.00	12.00	4	27.00	84.00	C	AC22
MTEC 2020F41 2.0ISO	MTEC2020F412.0ISO	2.00	-	>26	20.00	20.00	6	41.00	105.00	C	AC22
MTEC 1010C27 2.0ISO	MTEC1010C272.0ISO	2.00	M16	>17	10.00	10.00	3	27.00	73.00	C	AC22
MTEC 1010C39 2.0ISO	MTEC1010C392.0ISO	2.00	M16	>17	10.00	10.00	3	39.00	105.00	C	AC22
MTEC 1414D33 2.5ISO	MTEC1414D332.5ISO	2.50	M20	>22	14.00	14.00	4	33.80	84.00	C	AC22
MTEC 1414D48 2.5ISO	MTEC1414D482.5ISO	2.50	M20	>22	14.00	14.00	4	48.80	105.00	C	AC22
MTEC 1616C40 3.0ISO	MTEC1616C403.0ISO	3.00	M24	>25	16.00	16.00	3	40.50	105.00	C	AC22
MTEC 1616C58 3.0ISO	MTEC1616C583.0ISO	3.00	M24	>25	16.00	16.00	3	58.50	120.00	C	AC22



MTEC SOLID THREAD MILLING

ISO THREADING
MTECB
with coolant holes
Internal



Description	EDP Code	PITCH	M Coarse	M Fine	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECB 06038C10 0.5ISO	MTECB06038C100.5ISO	0.50	-	>=5	6.00	3.80	3	10.30	58.00	C	AC22
MTECB 06031C7 0.7ISO	MTECB06031C70.7ISO	0.70	M4	>=5	6.00	3.10	3	7.40	58.00	C	AC22
MTECB 06045C10 0.75ISO	MTECB06045C100.75ISO	0.75	-	>=6	6.00	4.50	3	10.10	58.00	C	AC22
MTECB 06038C9 0.8ISO	MTECB06038C90.8ISO	0.80	M5	>=6	6.00	3.80	3	9.20	58.00	C	AC22
MTECB 0606C12 1.0ISO	MTECB0606C121.0ISO	1.00	-	>=9	6.00	6.00	3	12.50	58.00	C	AC22
MTECB 0808D16 1.0ISO	MTECB0808D161.0ISO	1.00	-	>=10	8.00	8.00	4	16.50	64.00	C	AC22
MTECB 1010D24 1.0ISO	MTECB1010D241.0ISO	1.00	-	>=12	10.00	10.00	4	14.40	58.00	C	AC22
MTECB 0604C10 1.0ISO	MTECB0604C101.0ISO	1.00	M6	>=7	6.00	4.60	3	10.50	58.00	C	AC22
MTECB 0604C14 1.0ISO	MTECB0604C141.0ISO	1.00	M6	>=6	6.00	4.60	3	14.50	58.00	C	AC22
MTECB 0606C14 1.25ISO	MTECB0606C141.25ISO	1.25	M8	>=10	6.00	6.00	3	14.40	58.00	C	AC22
MTECB 0606C19 1.25ISO	MTECB0606C191.25ISO	1.25	M8	>=10	6.00	6.00	3	19.40	58.00	C	AC22
MTECB 1010D21 1.5ISO	MTECB1010D211.5ISO	1.50	-	>=14	10.00	10.00	4	21.80	73.00	C	AC22
MTECB 1616F33 1.5ISO	MTECB1616F331.5ISO	1.50	-	>=20	16.00	16.00	6	33.80	105.00	C	AC22
MTECB 1212D26 1.5ISO	MTECB1212D261.5ISO	1.50	-	>=16	12.00	12.00	4	26.30	84.00	C	AC22
MTECB 08078C17 1.5ISO	MTECB08078C171.5ISO	1.50	M10	>=12	8.00	7.80	3	17.00	64.00	C	AC22
MTECB 08078C24 1.5ISO	MTECB08078C241.5ISO	1.50	M10	>=12	8.00	7.80	3	24.80	76.00	C	AC22
MTECB 1009C20 1.75ISO	MTECB1009C201.75ISO	1.75	M12	>=12	10.00	9.00	3	20.10	73.00	C	AC22
MTECB 1009C28 1.75ISO	MTECB1009C281.75ISO	1.75	M12	>=12	10.00	9.00	3	20.10	73.00	C	AC22
MTECB 1010C27 2.0ISO	MTECB1010C272.0ISO	2.00	M14	>=15	10.00	10.00	3	27.00	73.00	C	AC22
MTECB 12118D27 2.0ISO	MTECB12118D272.0ISO	2.00	M16	>=17	12.00	11.80	4	27.00	84.00	C	AC22
MTECB 12118D39 2.0ISO	MTECB12118D392.0ISO	2.00	M16	>=17	12.00	11.80	4	39.00	105.00	C	AC22
MTECB 1615E33 2.5ISO	MTECB1615E332.5ISO	2.50	M20	>=22	16.00	15.00	5	33.80	105.00	C	AC22
MTECB 1615E48 2.5ISO	MTECB1615E482.5ISO	2.50	M20	>=22	16.00	15.00	5	48.80	105.00	C	AC22
MTECB 2018D58 3.0ISO	MTECB2018D583.0ISO	3.00	M24	>=25	20.00	18.00	4	58.50	120.00	C	AC22

ISO THREADING
MTECD
Internal



Description	EDP Code	PITCH	Th	d	D	Flute	H	L	Ch	L1	SHANK C-Cylindrical	Coolant	Grade
MTECD 06032C11 1.7ISO	MTECD06032C111.7ISO	0.70	M4	6.00	3.15	3	11.60	58.00	0.2	0.7	C	N	ACS22
MTECD 0604C14 0.8ISO	MTECD0604C140.8ISO	0.80	M5	6.00	4.00	3	14.40	58.00	0.3	0.8	C	N	ACS22
MTECD 08047C14 1.0ISO	MTECD08047C141.0ISO	1.00	M6-M9	8.00	4.70	3	14.00	64.00	0.4	1.0	C	Y	ACS22
MTECD 08061D18 1.25ISO	MTECD08061D181.25ISO	1.25	M8-M12	8.00	6.10	4	18.00	64.00	0.5	1.3	C	Y	ACS22
MTECD 08078D23 1.5ISO	MTECD08078D231.5ISO	1.50	M10-M15	8.00	7.80	4	23.00	64.00	0.6	1.5	C	Y	ACS22
MTECD 1009D26 1.75ISO	MTECD1009D261.75ISO	1.75	M12	10.00	9.00	4	26.00	73.00	0.6	1.8	C	Y	ACS22
MTECD 12118D35 2.0ISO	MTECD12118D352.0ISO	2.00	M16-M23	12.00	11.80	4	35.00	84.00	0.6	2.0	C	Y	ACS22

ISO THREADING
MTEC E
External



Description	EDP Code	Pitch	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC E 1010D16 1.0ISO	MTECE1010D161.0ISO	1.00	10.00	10.00	4	16.50	73.00	C	AC22
MTEC E 1010D16 1.25ISO	MTECE1010D161.25ISO	1.25	10.00	10.00	4	16.90	73.00	C	AC22
MTEC E 1010D15 1.5ISO	MTECE 1010D15 1.5ISO	1.50	10.00	10.00	4	15.80	73.00	C	AC22
MTEC E 1212D20 1.5ISO	MTECE1212D201.5ISO	1.50	12.00	12.00	4	20.30	84.00	C	AC22
MTEC E 1212D20 1.75ISO	MTECE1212D201.75ISO	1.75	12.00	12.00	4	20.10	84.00	C	AC22
MTEC E 1212D21 2.0ISO	MTECE1212D202.0ISO	2.00	12.00	12.00	4	21.00	84.00	C	AC22



ISO THREADING MTECSH Internal



Description	EDP Code	Pitch	Th	d	D	Flute	H	L	SHANK C-Cylindrical	Grade
MTECSH 03012C5 0.35ISO	MTECSH03012C50.35ISO	0.35	M1.6	3.00	1.20	3	4.80	39.00	C	AC312
MTECSH 03016C6 0.4ISO	MTECSH03016C60.4ISO	0.40	M2	3.00	1.55	3	6.00	39.00	C	AC312
MTECSH 06016C4 0.4ISO	MTECSH06016C40.4ISO	0.40	M2	6.00	1.55	3	4.50	58.00	C	AC312
MTECSH 06017C5 0.45ISO	MTECSH06017C50.45ISO	0.45	M2.2	6.00	1.65	3	5.00	58.00	C	AC312
MTECSH 0602C5 0.45ISO	MTECSH0602C50.45ISO	0.45	M2.5	6.00	1.95	3	5.50	58.00	C	AC312
MTECSH 0602C7 0.45ISO	MTECSH0602C70.45ISO	0.45	M2.5	6.00	1.95	3	7.50	58.00	C	AC312
MTECSH 06024C6 0.5ISO	MTECSH06024C60.5ISO	0.50	M3	6.00	2.35	3	6.50	58.00	C	AC312
MTECSH 06024C9 0.5ISO	MTECSH06024C90.5ISO	0.50	M3	6.00	2.35	3	9.50	58.00	C	AC312
MTECSH 06028C7 0.6ISO	MTECSH06028C70.6ISO	0.60	M3.5	6.00	2.75	3	7.50	58.00	C	AC312
MTECSH 06031C12 0.7ISO	MTECSH06031C60.7ISO	0.70	M4	6.00	3.10	3	12.50	58.00	C	AC312
MTECSH 06038C12 0.8ISO	MTECSH06038C120.8ISO	0.80	M5	6.00	3.80	3	12.50	58.00	C	AC312
MTECSH 06038C16 0.8ISO	MTECSH06038C160.5ISO	0.80	M5	6.00	3.80	3	16.00	58.00	C	AC312
MTECSH 06047C14 1.0ISO	MTECSH06047C141.0ISO	1.00	M6	6.00	4.65	3	14.00	58.00	C	AC312
MTECSH 06047C20 1.0ISO	MTECSH06047C201.0ISO	1.00	M6	6.00	4.65	3	20.00	58.00	C	AC312
MTECSH 0606C18 1.25ISO	MTECSH0606C181.25ISO	1.25	M8	6.00	5.95	3	18.00	58.00	C	AC312
MTECSH 0606C24 1.25ISO	MTECSH0606C241.25ISO	1.25	M8	6.00	5.95	3	24.00	58.00	C	AC312
MTECSH 08078C23 1.5ISO	MTECSH08078C231.5ISO	1.50	M10	8.00	7.80	3	23.00	64.00	C	AC312
MTECSH 1009C26 1.75ISO	MTECSH1009C261.75ISO	1.75	M12	10.00	9.00	3	26.00	73.00	C	AC312
MTECSH 12118D35 2.0ISO	MTECSH 12118D35 2.0ISO	2.00	M16	12.00	11.80	4	35.00	84.00	C	AC312

Cutting Data for Hardened Steel

ISO	Material	Hardness HRC	Cutting Speed m/min	Feed (mm/tooth) for Cutting Diameter (mm)								
				1.5	2	3	4	5	6	7	8	9
H	Hardened Steels	45-50	60-70	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08
		51-55	50-60	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
		56-62	40-50	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06

ISO THREADING MTECQ with coolant holes Internal



Description	EDP Code	Pitch	Th	d	D	Flute	ap	H	L	SHANK C-Cylindrical	Grade
MTECQ 1212D38 1.0ISO	MTECQ1212D381.0ISO	1.00	>=14	12.00	12.00	4	21.00	38.00	84.00	C	AC22
MTECQ 1010D30 1.5ISO	MTECQ1010D301.5ISO	1.50	>=13	10.00	10.00	4	18.00	30.00	73.00	C	AC22
MTECQ 2020F56 2.0ISO	MTECQ2020F562.0ISO	2.00	>=24	20.00	20.00	6	34.00	56.00	105.00	C	AC22
MTECQ 2020D45 3.5ISO	MTECQ2020D453.5ISO	3.50	>=26	20.00	20.00	4	28.00	45.50	105.00	C	AC22

ISO THREADING MTECZ with coolant holes in the flutes Internal



Description	EDP Code	PITCH	M Coarse	M Fine	d	D	F	ap	L	SHANK C-Cylindrical	Grade
MTECZ 0808D16 1.0ISO	MTECB0808D161.0ISO	1.00	-	>10	8.00	8.00	4	16.50	64.00	C	AC22
MTECZ 06048C10 1.0ISO	MTECZ06048C101.0ISO	1.00	M6	>7	6.00	4.80	3	10.50	58.00	C	AC22
MTECZ 0606C14 1.25ISO	MTECB0606C141.25ISO	1.25	M8	>10	6.00	6.00	3	14.40	58.00	C	AC22
MTECZ 0606C19 1.25ISO	MTECB0606C191.25ISO	1.25	M8	>10	6.00	6.00	3	19.40	58.00	C	AC22
MTECZ 1010D21 1.5ISO	MTECZ1010D211.5ISO	1.50	-	>14	10.00	10.00	4	21.80	73.00	C	AC22
MTECZ 1212D26 1.5ISO	MTECZ1212D261.5ISO	1.50	-	>16	12.00	12.00	4	26.30	84.00	C	AC22
MTECZ 1616E33 1.5ISO	MTECZ1616E331.5ISO	1.50	-	>20	16.00	16.00	5	33.80	101.00	C	AC22
MTECZ 08078C17 1.5ISO	MTECB08078C171.5ISO	1.50	M10	>12	8.00	7.80	3	17.00	64.00	C	AC22
MTECZ 1009C28 1.75ISO	MTECB1009C281.75ISO	1.75	M12	>12	10.00	9.00	3	28.90	73.00	C	AC22
MTECZ 1010C27 2.0ISO	MTECB1010C272.0ISO	2.00	M14	>15	10.00	10.00	3	27.00	73.00	C	AC22
MTECZ 12118D27 2.0ISO	MTECB12118D272.0ISO	2.00	M16	>17	12.00	11.80	4	27.00	84.00	C	AC22



MTEC SOLID THREAD MILLING

MJ THREADING

MTECS

with coolant holes in the flutes

Internal



Description	EDP Code	Pitch	Th	d	D	Flute	H	L	SHANK C-Cylindrical	Grade
MTECS 06032C10 0.7MJ	MTECS06032C100.7MJ	0.70	MJ4	6.00	3.20	3	10.00	58.00	C	AC22
MTECS 06039C12 0.8MJ	MTECS06039C120.8MJ	0.80	MJ5	6.00	3.90	3	12.50	58.00	C	AC22
MTECS 06048C4 1.0MJ	MTECS06048C41.0MJ	1.00	MJ6	6.00	4.80	3	15.00	58.00	C	AC22
MTECS 08061C20 1.25MJ	MTECS08061C201.25MJ	1.25	MJ8	8.00	6.10	3	20.00	64.00	C	AC22
MTECS 10092C30 1.75MJ	MTECS10092C301.75MJ	1.75	MJ12	10.00	9.20	3	30.00	73.00	C	AC22

60° V-THREADING

MTECI

with coolant holes

INT/EXT

Single cutting edge for deep threads



Description	EDP Code	PITCH		TPI		Th	d	D	Flute	H	L	Shank	Coolant	Grade
		INT	EXT	INT	EXT									
MTECI 0605D20 A60	MTECI0605D20A60	0.50-0.80	0.4-0.8	56-28	64-32	>=6	6.00	5.00	4	20.00	58.00	C	Y	ACS22
MTECI 0808D28 A60	MTECI0808D28A60	0.50-0.80	0.4-0.8	56-28	64-32	>=9	8.00	8.00	4	28.00	64.00	C	Y	ACS22
MTECI 0808D30 A60	MTECI0808D30A60	1.00-1.75	0.8-1.5	28-14	32-16	>=10	8.00	8.00	4	30.00	64.00	C	Y	ACS22
MTECI 1010D35 A60	MTECI1010D35A60	1.00-1.75	0.8-1.5	28-14	32-16	>=12	10.00	10.00	4	35.00	73.00	C	Y	ACS22
MTECI 1212E40 A60	MTECI1212E40A60	2.0-3.0	1.75-2.5	13-8	15-10	>=16	12.00	12.00	5	40.00	84.00	C	Y	ACS22
MTECI 1614E45 A60	MTECI1614E45A60	2.0-3.0	1.75-2.5	13-8	15-10	>=18	16.00	14.00	5	45.00	101.00	C	Y	ACS22
MTECI 1616E50 A60	MTECI1616E50A60	2.0-3.0	1.75-2.5	13-8	15-10	>=20	16.00	16.00	5	50.00	101.00	C	Y	ACS22

BSPT THREADING

MTEC

INT/EXT



Description	EDP Code	TPI	BSPT	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 0606C9 28BSPT	MTEC0606C928BSPT	28	RC1/8	6.00	6.00	3	9.50	58.00	C	AC22
MTEC 0808C14 19BSPT	MTEC0808C1419BSPT	19	RC1/4, RC3/8	8.00	8.00	3	14.00	64.00	C	AC22
MTEC 1212D19 14BSPT	MTEC1212D1914BSPT	14	RC1/2, RC7/8	12.00	12.00	4	19.10	84.00	C	AC22
MTEC 1616D28 11BSPT	MTEC1616D2811BSPT	11	RC1, RC2	16.00	16.00	4	28.90	105.00	C	AC22

BSPT THREADING

MTECB

with coolant holes

INT/EXT



Designation	TPI	BSPT	d	D	Flute	a _p	L	Shank C-Cylindrical	Grade
MTECB 08078C14 28BSPT	28.0	RC1/8	8.00	7.80	3	14.10	64.00	C	AC22
MTECB 1010D16 19BSPT	19.0	RC1/4-3/8	10.00	10.00	4	16.70	73.00	C	AC22
MTECB 1616E26 14BSPT	14.0	RC1/2-7/8	16.00	16.00	5	26.30	105.00	C	AC22
MTECB 1616D28 11BSPT	11.0	RC1-2	16.00	16.00	4	28.90	105.00	C	AC22



NPSF THREADING

MTECB

with coolant holes in the flutes

INT/EXT



Description	EDP Code	TPI	NSPF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECB 0312C04 27NPSF	MTECB0312C0427NPSF	27	1/8	.312	.299	3	.430	2.500	C	AC22

NPT THREADING

MTEC

INT/EXT



Description	EDP Code	TPI	NPT	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 0606C9 27NPT	MTEC0606C927NPT	27.0	1/16, 1/8	6.00	6.00	3	9.90	58.00	C	AC22
MTEC 0808C14 18NPT	MTEC0808C1418NPT	18.0	1/4, 3/8	8.00	8.00	3	14.80	64.00	C	AC22
MTEC 1212D20 14NPT	MTEC1212D2014NPT	14.0	1/2, 3/4	12.00	12.00	4	20.90	84.00	C	AC22
MTEC 1616D27 11.5NPT	MTEC1616D2711.5NPT	11.5	1, 2	16.00	16.00	4	27.60	105.00	C	AC22
MTEC 2020D39 8NPT	MTEC2020D398NPT	8.0	>=2-1/2	20.00	20.00	4	39.70	105.00	C	AC22

NPT THREADING

MTECB

with coolant holes in the flutes

INT/EXT



Description	EDP Code	TPI	NPT	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECB 08076C10 27NPT	MTECB08076C1027NPT	27.0	1/8	8.00	7.60	3	10.80	64.00	C	AC22
MTECB 1010D16 18NPT	MTECB1010D1618NPT	18.0	1/4, 3/8	10.00	10.00	4	16.20	73.00	C	AC22
MTECB 1615D22 14NPT	MTECB1615D2214NPT	14.0	1/2, 3/4	16.00	15.50	4	22.70	105.00	C	AC22

NPTF THREADING

MTEC

INT/EXT



Description	EDP Code	TPI	NPTF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 0606C9 27NPTF	MTEC0606C927NPTF	27.0	1/16, 1/8	6.00	6.00	3	9.90	58.00	C	AC22
MTEC 0808C14 18NPTF	MTEC0808C1418NPTF	18.0	1/4, 3/8	8.00	8.00	3	14.80	64.00	C	AC22
MTEC 1212D20 14NPTF	MTEC1212D2014NPTF	14.0	1/2, 3/4	12.00	12.00	4	20.90	84.00	C	AC22

NPTF THREADING

MTECZ

with coolant holes in the flutes

INT/EXT



Description	EDP Code	TPI	NPTF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECZ 08076C10 27NPTF	MTECZ08076C1027NPTF	27.0	1/8	8.00	7.60	3	10.80	64.00	C	AC22
MTECZ 1010D16 18NPTF	MTECZ1010D1618NPTF	18.0	1/4, 3/8	10.00	10.00	4	16.20	73.00	C	AC22



MTEC SOLID THREAD MILLING

UN THREADING MTEC Internal



Description	EDP Code	TPI	UNC	UNF	UNEF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 06032C6 32UN	MTEC06032C632UN	32.0	8	10	12	6.00	3.20	3	6.80	58.00	C	AC22
MTEC 0604C11 28UN	MTEC0604C1128UN	29.0	-	7/16, 1/2	-	6.00	4.00	3	11.30	58.00	C	AC22
MTEC 0605C14 24UN	MTEC0605C1424UN	24.0	-	5/16	-	6.00	5.00	3	14.30	58.00	C	AC22
MTEC 0807C21 24UN	MTEC0807C2124UN	24.0	-	3/8	9/16, 5/8	8.00	7.00	3	20.00	64.00	C	AC22
MTEC 06045C12 20UN	MTEC06045C1220UN	20.0	1/4	-	-	6.00	4.50	3	12.10	58.00	C	AC22
MTEC 0807C21 20UN	MTEC0807C2120UN	20.0	-	7/16, 1/2	-	8.00	7.00	3	20.00	64.00	C	AC22
MTEC 1212E27 20UN	MTEC1212E2720UN	20.0	-	-	3/4, 1	12.00	12.00	5	27.30	84.00	C	AC22
MTEC 0605C14 18UN	MTEC0605C1418UN	18.0	5/16	-	-	6.00	5.00	3	14.80	58.00	C	AC22
MTEC 1010D26 18UN	MTEC1010D2618UN	18.0	-	9/16, 5/8	1-1/8, 1-5/8	10.00	10.00	4	26.10	73.00	C	AC22
MTEC 0807C21 16UN	MTEC0807C2116UN	16.0	3/8	-	-	6.00	6.00	3	16.70	58.00	C	AC22
MTEC 1212D31 16UN	MTEC1212D3116UN	16.0	-	3/4	-	12.00	12.00	4	30.00	84.00	C	AC22
MTEC 0615E37 14UN	MTEC0615E3714UN	14.0	-	7/8	-	16.00	15.00	5	37.20	105.00	C	AC22
MTEC 0808C22 13UN	MTEC0808C2213UN	13.0	1/2	-	-	8.00	8.00	3	22.50	64.00	C	AC22
MTEC 1010C26 12UN	MTEC1010C2612UN	12.0	9/16	-	-	10.00	10.00	3	26.50	73.00	C	AC22
MTEC 1616E41 12UN	MTEC1616E4112UN	12.0	-	1, 1-1/2	-	16.00	16.00	5	41.30	105.00	C	AC22
MTEC 1010C28 11UN	MTEC1010C2811UN	11.0	5/8	-	-	10.00	10.00	3	28.90	73.00	C	AC22
MTEC 1212C34 10UN	MTEC1212C3410UN	10.0	3/4	-	-	12.00	12.00	3	34.30	84.00	C	AC22
MTEC 1615C38 9UN	MTEC1615C389UN	9.0	7/8	-	-	16.00	15.00	3	38.10	105.00	C	AC22
MTEC 1616C42 8UN	MTEC1616C428UN	8.0	1.0	-	-	16.00	16.00	3	42.90	105.00	C	AC22

UN THREADING MTECB with coolant holes Internal



Description	EDP Code	TPI	UNC	UNF	UNEF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECB 06032C6 32UN	MTEC06032C632UN	32.0	8	10	12	6.00	3.20	3	6.80	58.00	C	AC22
MTECB 0605C11 28UN	MTEC0605C1128UN	28.0	-	1/4	-	6.00	5.00	3	11.30	58.00	C	AC22
MTECB 08066C14 24UN	MTECB08066C1424UN	24.0	-	5/16	-	8.00	6.60	3	14.30	64.00	C	AC22
MTECB 0808D21 24UN	MTECB0808D2124UN	24.0	-	-	9/16-5/8	8.00	8.00	4	20.60	64.00	C	AC22
MTECB 0808C21 20UN	MTECB0808C2120UN	20.0	-	7/16	-	8.00	8.00	3	21.00	64.00	C	AC22
MTECB 1010D22 20UN	MTECB1010D2220UN	20.0	-	1/2	-	10.00	10.00	4	22.30	73.00	C	AC22
MTECB 06056C14 18UN	MTECB06056C1418UN	18.0	5/16	-	-	6.00	5.60	3	14.80	58.00	C	AC22
MTECB 12113D26 18UN	MTECB12113D2618UN	18.0	-	9/16, 5/8	1-1/8, 1-5/8	12.00	11.30	4	26.10	84.00	C	AC22
MTECB 08067C16 16UN	MTECB08067C1616UN	16.0	3/8	-	-	8.00	6.70	3	16.70	64.00	C	AC22
MTECB 0616E37 14UN	MTECB0616E3714UN	14.0	-	7/8	-	16.00	16.00	5	37.20	105.00	C	AC22
MTECB 10092C22 13UN	MTECB10092C2213UN	13.0	1/2	-	-	10.00	9.20	3	22.50	73.00	C	AC22
MTECB 12114C28 11UN	MTECB12114C2811UN	11.0	5/8	-	-	12.00	11.40	3	28.90	84.00	C	AC22
MTECB 16144D34 10UN	MTECB16144D3410UN	10.0	3/4	-	-	16.00	14.40	4	34.30	105.00	C	AC22
MTECB 20195D42 8UN	MTECB20195D428UN	8.0	1.0	-	-	20.00	19.50	4	42.90	105.00	C	AC22

UN THREADING MTEC E External



Description	EDP Code	TPI	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC E 1010D16 24UN	MTECE1010D1624UN	24.0	10.00	10.00	4	16.40	73.00	C	AC22
MTEC E 1212E21 20UN	MTECE1212E2120UN	20.0	12.00	12.00	5	21.00	84.00	C	AC22



UN THREADING MTECSH Small diameter



Description	EDP Code	TPI	UNC	UNF	d	D	Flute	H	L	SHANK C-Cylindrical	Grade
MTECSH 06012C4 80UN	MTECSH06012C480UN	80.0	-	0	6.00	1.15	3	4.00	58.00	C	AC22
MTECSH 06016C6 56UN	MTECSH06016C656UN	56.0	2	3	6.00	1.65	3	6.60	58.00	C	AC22
MTECSH 06019C5 48UN	MTECSH06019C548UN	48.0	3	4	6.00	1.90	3	5.20	58.00	C	AC22
MTECSH 06024C7 40UN	MTECSH06024C740UN	40.0	5	6	6.00	2.45	3	7.00	58.00	C	AC22
MTECSH 06021C8 40UN	MTECSH06021C840UN	40.0	4	-	6.00	2.10	3	8.00	58.00	C	AC22
MTECSH 06024C9 40UN	MTECSH06024C940UN	40.0	5	6	6.00	2.45	3	9.60	58.00	C	AC22
MTECSH 06025C10 32UN	MTECSH06025C1032UN	32.0	6	-	6.00	2.55	3	10.50	58.00	C	AC22
MTECSH 06032C9 32UN	MTECSH06032C932UN	32.0	8	-	6.00	3.20	3	9.50	58.00	C	AC22
MTECSH 06037C10 32UN	MTECSH06037C1032UN	32.0	-	10	6.00	3.70	3	10.50	58.00	C	AC22
MTECSH 06037C15 32UN	MTECSH06037C1532UN	32.0	-	10	6.00	3.70	3	15.00	58.00	C	AC22
MTECSH 06042C11 28UN	MTECSH06042C1128UN	28.0	-	12	6.00	4.20	3	11.00	58.00	C	AC22
MTECSH 0605C14 28UN	MTECSH0605C1428UN	28.0	-	1/4	6.00	5.00	3	14.50	58.00	C	AC22
MTECSH 06035C10 24UN	MTECSH06035C1024UN	24.0	10, 12	-	6.00	3.50	3	10.60	58.00	C	AC22
MTECSH 08066C17 24UN	MTECSH08066C1724UN	24.0	-	5/16	8.00	6.60	3	17.00	64.00	C	AC22
MTECSH 08066C24 24UN	MTECSH08066C2424UN	24.0	-	5/16	8.00	6.60	3	24.00	64.00	C	AC22
MTECSH 06047C19 20UN	MTECSH06047C1920UN	20.0	1/4	-	6.00	4.75	3	19.00	58.00	C	AC22
MTECSH 0808C25 20UN	MTECSH0808C2520UN	20.0	-	7/16	8.00	8.00	3	25.00	64.00	C	AC22
MTECSH 0606C17 18UN	MTECSH0606C1718UN	18.0	5/16	-	6.00	6.00	3	17.00	58.00	C	AC22
MTECSH 0606C23 18UN	MTECSH0606C2318UN	18.0	5/16	-	6.00	6.00	3	23.00	58.00	C	AC22
MTECSH 08067C22 16UN	MTECSH08067C2216UN	16.0	3/8	-	8.00	6.70	3	22.00	64.00	C	AC22
MTECSH 10092C27 13UN	MTECSH10092C2713UN	13.0	1/2	-	10.00	9.20	3	27.50	73.00	C	AC22
MTECSH 12114C34 11UN	MTECSH12114C3411UN	11.0	5/8	-	12.00	11.40	3	34.50	84.00	C	AC22

UN THREADING MTECS Small diameter



Description	EDP Code	TPI	UNC	UNF	d	D	Flute	H	L	SHANK C-Cylindrical	Grade
MTECS 03012C8 80UN	MTECS03012C880UN	80.0	-	0	3.00	1.15	3	8.00	39.00	C	AC22
MTECS 03015C6 72UN	MTECS03015C672UN	72.0	-	1	3.00	1.45	3	6.00	39.00	C	AC22
MTECS 06016C6 56UN	MTECS06016C656UN	56.0	2	3	6.00	1.65	3	6.60	58.00	C	AC22
MTECS 06019C5 48UN	MTECS06019C548UN	48.0	3	4	6.00	1.90	3	5.20	58.00	C	AC22
MTECS 03021C12 40UN	MTECS03021C1240UN	40.0	4	-	3.00	2.10	3	12.00	39.00	C	AC22
MTECS 06021C8 40UN	MTECS06021C840UN	40.0	4	-	6.00	2.10	3	8.00	58.00	C	AC22
MTECS 06024C9 40UN	MTECS06024C940UN	40.0	5	6	6.00	2.45	3	9.60	58.00	C	AC22
MTECS 06021C6 40UN	MTECS06021C640UN	40.0	4	-	6.00	2.10	3	6.30	58.00	C	AC22
MTECS 06033C9 36UN	MTECS06033C936UN	36.0	-	8	6.00	3.30	3	9.00	58.00	C	AC22
MTECS 06025C7 32UN	MTECS06025C732UN	32.0	6	-	6.00	2.55	3	7.10	58.00	C	AC22
MTECS 06025C10 32UN	MTECS06025C1032UN	32.0	6	-	6.00	2.55	3	10.50	58.00	C	AC22
MTECS 06032C9 32UN	MTECS06032C932UN	32.0	8	10	6.00	3.20	3	9.50	58.00	C	AC22
MTECS 06032C12 32UN	MTECS06032C1232UN	32.0	8	10	6.00	3.20	3	12.50	58.00	C	AC22
MTECS 06037C10 32UN	MTECS06037C1032UN	32.0	-	10	6.00	3.70	3	10.50	58.00	C	AC22
MTECS 06037C15 32UN	MTECS06037C1532UN	32.0	-	10	6.00	3.70	3	15.00	58.00	C	AC22
MTECS 0605C14 28UN	MTECS0605C1428UN	28.0	-	1/4	6.00	5.00	3	14.50	58.00	C	AC22
MTECS 0605C19 28UN	MTECS0605C1928UN	28.0	-	1/4	6.00	5.00	3	19.00	58.00	C	AC22
MTECS 08066C17 24UN	MTECS08066C1724UN	24.0	-	5/16	8.00	6.60	3	17.00	64.00	C	AC22
MTECS 08066C24 24UN	MTECS08066C2424UN	24.0	-	5/16	8.00	6.60	3	24.00	64.00	C	AC22
MTECS 06047C14 20UN	MTECS06047C1420UN	20.0	1/4	-	6.00	4.75	3	14.00	58.00	C	AC22
MTECS 06047C19 20UN	MTECS06047C1920UN	20.0	1/4	-	6.00	4.75	3	19.00	58.00	C	AC22
MTECS 06047C19 20UN-L	MTECS06047C1920UN-L	20.0	1/4	-	6.00	4.75	3	19.00	105.00	C	AC22
MTECS 0808C25 20UN	MTECS0808C2520UN	20.0	-	7/16	8.00	8.00	3	25.00	64.00	C	AC22
MTECS 0606C17 18UN	MTECS0606C1718UN	18.0	5/16	-	6.00	6.00	3	17.00	58.00	C	AC22
MTECS 0606C23 18UN	MTECS0606C2318UN	18.0	5/16	-	6.00	6.00	3	23.00	58.00	C	AC22
MTECS 1212D35 18UN	MTECS1212D3518UN	18.0	-	5/8	12.00	12.00	4	35.00	84.00	C	AC22
MTECS 08067C22 16UN	MTECS08067C2216UN	16.0	3/8	-	8.00	6.70	3	22.00	64.00	C	AC22
MTECS 08067C30 16UN	MTECS08067C3016UN	16.0	3/8	-	8.00	6.70	3	30.20	64.00	C	AC22
MTECS 10092C27 13UN	MTECS10092C2713UN	13.0	1/2	-	10.00	9.20	3	27.50	73.00	C	AC22
MTECS 12114C34 11UN	MTECS12114C3411UN	11.0	5/8	-	12.00	11.40	3	34.50	84.00	C	AC22



MTEC SOLID THREAD MILLING

UN THREADING

MTECZ

with coolant holes in the flutes

Internal



Description	EDP Code	TPI	UNC	UNF	UNEF	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECZ 1010D22 20UN	MTECZ1010D2220UN	20.0	-	1/2	-	10.00	10.00	4	22.30	73.00	C	AC22
MTECZ 12113D26 18UN	MTECZ12113D2618UN	18.0	-	9/16-5/8	1-1/8-1-5/8	12.00	11.30	4	26.10	84.00	C	AC22
MTECZ 08067C16 16UN	MTECZ08067C1616UN	16.0	3/8	-	-	8.00	6.70	3	16.70	64.00	C	AC22

WHITWORTH THREADING

MTEC

INT/EXT



Description	EDP Code	TPI	BSP	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTEC 0606C9 28W	MTEC0606C928W	28	G1/8	6.00	6.00	3	9.50	58.00	C	AC22
MTEC 0808C14 19W	MTEC0808C1419W	19	G1/4, G3/8	8.00	8.00	3	14.00	64.00	C	AC22
MTEC 1212D19 14W	MTEC1212D1914W	14	G1/2, G7/8	12.00	12.00	4	19.30	84.00	C	AC22
MTEC 1212D26 14W	MTEC1212D2614W	14	G1/2, G7/8	12.00	12.00	4	26.30	84.00	C	AC22
MTEC 1212C24 11W	MTEC1212C2411W	11	G1, G1-1/2	12.00	12.00	3	24.20	84.00	C	AC22
MTEC 1616D28 11W	MTEC1616D2811W	11	G1, G3	16.00	16.00	4	38.10	105.00	C	AC22

WHITWORTH THREADING

MTECB

with coolant holes

INT/EXT



Description	EDP Code	TPI	BSP	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECB 08078C14 28W	MTECB08078C1428W	28	G1/8	8.00	7.80	3	14.10	64.00	C	AC22
MTECB 1010D16 19W	MTECB1010D1619W	19	G1/4, G3/8	10.00	10.00	4	16.70	73.00	C	AC22
MTECB 1616E26 14W	MTECB1616E2614W	14	G1/2, G7/8	16.00	16.00	5	26.30	105.00	C	AC22
MTECB 1616D38 11W	MTECB1616D3811W	11	G>1	16.00	16.00	4	38.10	105.00	C	AC22
MTECB 2020E47 11W	MTECB2020E4711W	11	G>1	20.00	20.00	5	47.30	105.00	C	AC22

WHITWORTH THREADING

MTECS

INT/EXT



Designation	TPI	BSP	d	D	Flute	ap	L	SHANK C-Cylindrical	Grade
MTECS 08078C19 28W	28.0	G 1/8	8.00	7.80	3	19.50	64.00	C	AC22
MTECS 1010D30 19W	19.0	G 1/4-3/8	10.00	10.00	4	30.00	73.00	C	AC22
MTECS 1212D37 14W	14.0	G 1/2-7/8	12.00	12.00	4	37.00	84.00	C	AC22
MTECS 1616D44 11W	11.0	G>1	16.00	16.00	4	44.00	105.00	C	AC22

TC SERIES THREAD MILLING

USER GUIDE



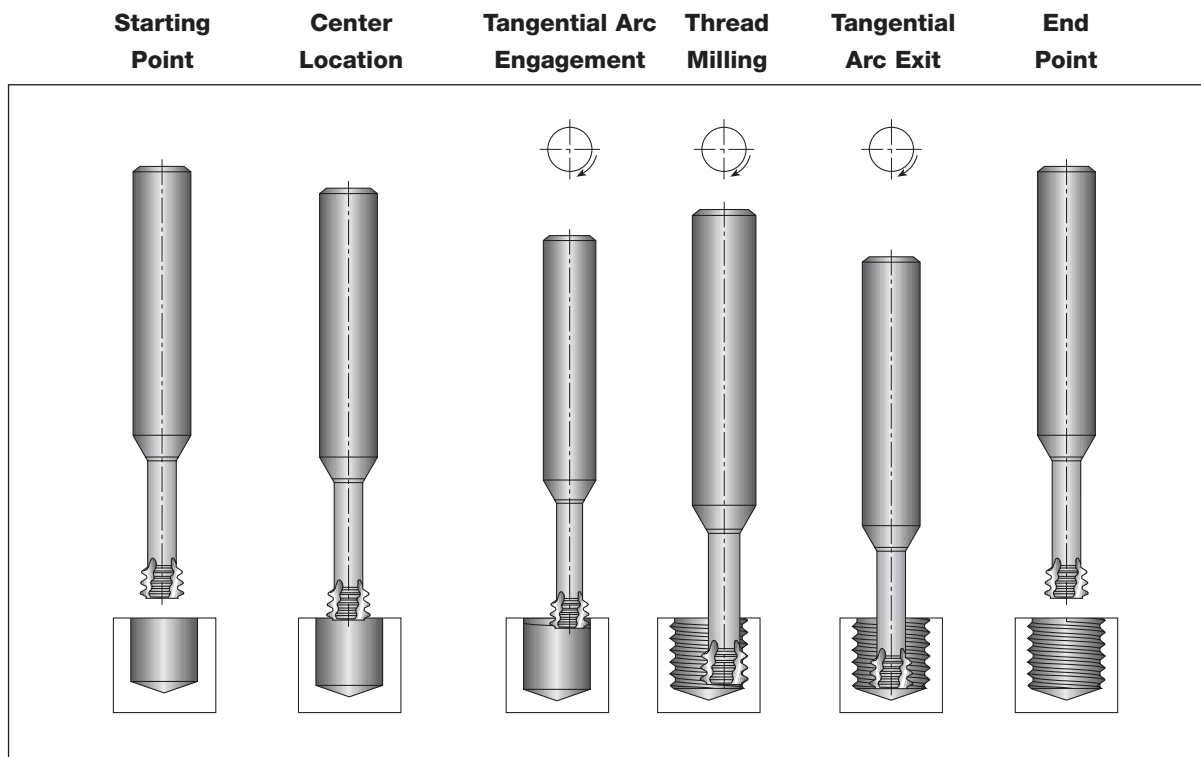
Cutting Speed (m/min)	Cutting Diameter											
	Feed (mm/tooth)											
AC22	2	3	4	6	8	10	12	14	16	20	25	30
100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
80-210	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
65-170												
110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
95-160	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
90-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
65-200	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
70-210	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
95-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
75-100	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
110-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
70-155	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
85-100	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
120-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
75-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
110-140	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
120-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
110-140	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.21	0.15	0.18	0.21
160-300	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
100-400	0.05	0.06	0.07	0.09	0.1	0.11	0.12	0.13	0.15	0.18	0.22	0.25
20-80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
20-80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
55-65												
45-55												
90-105												
55-65												

* For cutters with long cutting flute, reduce feed rate by 40%.



TC SERIES THREAD MILLING

TFMTECS Small Diameter, Short Solid Carbide Thread Mills Thread Milling - Recommended Procedure



Cutting Data

ISO	Materials	Cutting Speed, m/min	Feed (mm/tooth) for Diameter (mm)												
			Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø15
P	Low & medium carbon steels	60-120	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	High carbon steels	60-90	0.04	0.05	0.06	0.08	0.09	0.1	0.12	0.13	0.14	0.14	0.16	0.17	0.18
	Alloy steels, treated steels	50-80	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14
	Cast steels	70-90	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14
M	Stainless steels	60-90	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13
S	Nickel alloys, titanium alloys.	20-40	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08
K	Cast iron	40-80	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
N	Aluminum	80-150	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	Synthetics, duroplastics, thermoplastics	50-200	0.1	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.2	0.2



TOOL-FLO MTECS Small Diameter, Short Solid Carbide Thread Mills

The TFMTECS (**M**ill **T**hread **E**ndmills **C**arbide **S**hort) solid carbide thread mills are used for the production of small internal threads. These thread mills feature a short 3-tooth cutting zone with 3 flutes and a released neck between the cutting zone and the shank.

This unique tool design offers very precise profiles and a high performance AC22 submicron carbide grade with PVD titanium aluminum nitride coating. The very short profile exerts a low force which minimizes tool bending. This facilitates parallel and high thread precision for the entire length.



Compared to taps, the **MILLTHREAD** is more accurate, thread machining is substantially faster and there is no danger of a broken tap being stuck in the hole.

Thread Mill vs. Tap

Features	Solid Carbide Thread Mills	Taps
Thread surface quality	High	Medium
Thread geometry	Very accurate	Medium
Thread tolerance	4H, 5H, 6H with std. cutter	6H with standard tap, 4H with special tap
Machining time	Shorter or same as tap	Short
Machining load	Very low	High
Range of thread diameters	Wide range of diameters	Specific tap for each thread size
Right-/Left-hand threading	Same cutter	Specific tap for right- and left-hand
Geometric shape	Full profile	Partial profile

Features

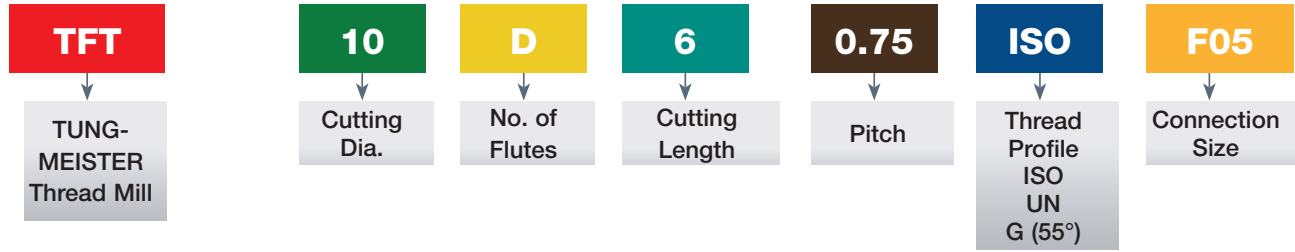
- Minimum thread size: M1.4x0.3 (1.1 mm bore diameter)
- up to M20x2.50
- 2xD and 3xD threading lengths
- High cutting speeds
- Short cycle time
- Low cutting forces due to the short contact profile resulting in accurate and parallel thread
- Prevents oval threads near thin walls
- No more dealing with broken taps
- Reliable threading in blind holes
- Excellent performance on hardened steel, high temperature alloys and titanium.





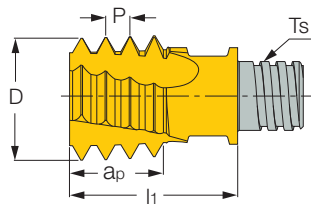
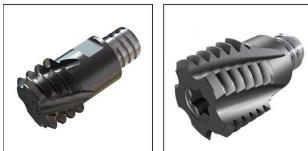
TC SERIES THREAD MILLING

THREAD MILL Identification Chart



TFT-ISO-TM

Carbide Milling Heads with a Threaded Connection
for Internal ISO Metric Thread



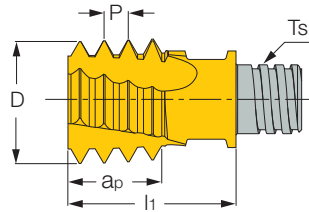
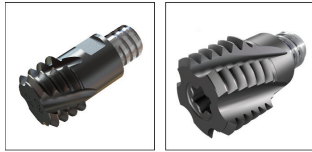
Designation	Pitch	M Coarse	M Fine	D	Flute	a _p	l ₁	Ts	Grade
TFT100L06IS07-4F05	0.75	-	≥12	10.00	4	6.00	13.35	T05	AC22
TFT100L06IS10-4F05	1.00	-	≥12	10.00	4	6.00	13.35	T05	AC22
TFT100L06IS15-4F05	1.50	-	≥14	10.00	4	6.00	13.35	T05	AC22
TFT120L09IS15-4F06	1.50	-	≥16	12.00	4	7.50	17.05	T06	AC22
TFT120L10IS20-4F06	2.00	M16	≥17	12.00	4	8.00	17.05	T06	AC22
TFT160L12IS15-6F08	1.50	-	≥20	16.00	6	12.00	20.85	T08	AC22
TFT160L12IS20-5F08	2.00	-	≥19	16.00	5	12.00	20.85	T08	AC22
TFT150L13IS25-5F08	2.50	M20	≥22	15.40	5	12.50	20.85	T08	AC22
TFT160L12IS30-3F08	3.00	M24	≥25	16.00	3	12.00	20.85	T08	AC22

- Do not apply lubricant to the threaded connection.



TFT-UN-TM

Carbide Milling Heads with a Threaded Connection,
for Internal UN Thread Profile

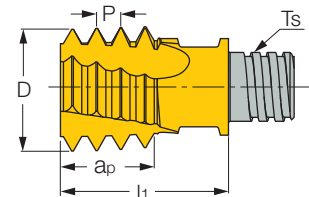
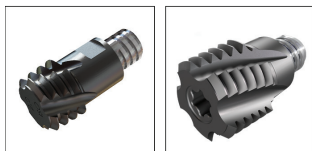


Designation	TPI	UNC	UNF	UNEF	D	Flute	ap	l1	Ts	Grade
TFT100L06UN24-4F05	24.00	-	-	9/16-5/8	10	4	5.3	12.75	F05	AC22
TFT100L06UN20-4F05	20.00	-	42371	-	10	4	5.1	12.75	F05	AC22
TFT100L06UN18-4F05	18.00	-	9/16-5/8	1 1/8-1 5/8	10	4	5.6	12.75	F05	AC22
TFT120L10UN16-4F06	16.00	-	42433	-	12	4	10	17.05	F06	AC22
TFT120L10UN14-4F06	14.00	-	42559	-	16	4	10	20.85	F08	AC22
TFT160L13UN12-5F08	12.00	-	1-1 1/2	-	16	5	12.7	20.85	F08	AC22
TFT150L13UN10-4F08	10.00	42433	-	-	15.3	4	12.7	20.85	F08	AC22
TFT160L11UN09-3F08	9.00	42559	-	-	16	3	11.3	20.85	F08	AC22
TFT160L12UN08-3F08	8.00	1	-	-	16	3	12.7	20.85	F08	AC22

- Do not apply lubricant to the threaded connection.

TFT-W-TM

Carbide Milling Heads with a Threaded Connection,
for Internal and External 55° BSW Thread Profile



Designation	TPI	BSP	D	Flute	ap	l1	Ts	Grade
TFT100L06W19-4F05	19.00	G1/4-3/8	10	4	5.3	12.75	F05	AC22
TFT160L12W14-4F08	14.00	G1/2-7/8	16	4	12.7	20.85	F08	AC22
TFT160L11W11-4F08	11.00	G>=1	16	4	11.6	20.85	F08	AC22

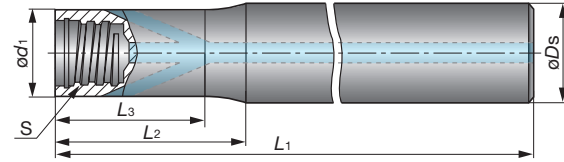
- Do not apply lubricant to the threaded connection.



TC SERIES THREAD MILLING

TFSSD-W-A

Straight shank and neck with coolant hole



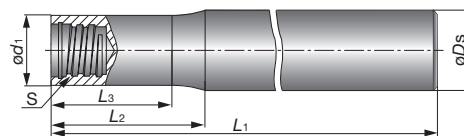
Designation	ϕD_s	ϕd_1	L1	L2	L3	S	Shank Material
TFSSD10L070F06-W-A	10	9.6	70	20	19	F06	Tungsten
TFSSD10L090F06-W-A	10	9.6	90	40	39	F06	
TFSSD10L110F06-W-A	10	9.6	110	60	59	F06	
TFSSD12L070F08-W-A	12	11.5	70	20	19	F08	
TFSSD12L090F08-W-A	12	11.5	90	40	39	F08	
TFSSD12L110F08-W-A	12	11.5	110	60	59	F08	
TFSSD12L130F08-W-A	12	11.5	130	80	79	F08	

TFSSD

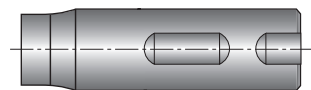
Straight shank and neck



Cylindrical type



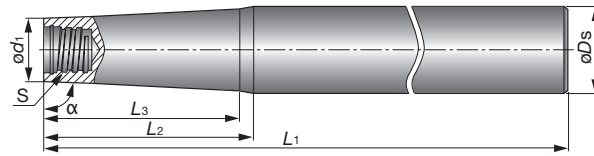
Weldon type



Designation	ϕD_s	ϕd_1	L1	L2	L3	S	Shank Style	Shank Material
TFSSD08L060F05-S	8	7.6	60	15	12.5	F05	Cylindrical	Steel
TFSSD10L075F06-S	10	9.6	75	20	17.5	F06		
TFSSD12L090F08-S	12	11.5	90	16	13.5	F08	Cylindrical	Carbide
TFSSD08L070F05-C	8	7.6	70	20	18.5	F05		
TFSSD08L090F05-C	8	7.6	90	40	38.5	F05		
TFSSD08L110F05-C	8	7.6	110	60	58.5	F05		
TFSSD10L070F06-C	10	9.6	70	20	18.5	F06		
TFSSD10L090F06-C	10	9.6	90	40	38.5	F06		
TFSSD10L110F06-C	10	9.6	110	60	58.5	F06		
TFSSD10L150F06-C	10	9.6	150	100	98.5	F06		
TFSSD12L070F08-C	12	11.5	70	20	18	F08		
TFSSD12L090F08-C	12	11.5	90	40	38	F08		
TFSSD12L110F08-C	12	11.5	110	60	58	F08	Weldon	Steel
TFSSD12L130F08-C	12	11.5	130	80	78	F08		
TFSSD12L055W05-S	12	7.6	55	3.8	-	F05		
TFSSD16L065W06-S	16	9.5	65	6	-	F06	Weldon	Steel
TFSSD16L065W08-S	16	11.5	65	4	-	F08		

TFTSD

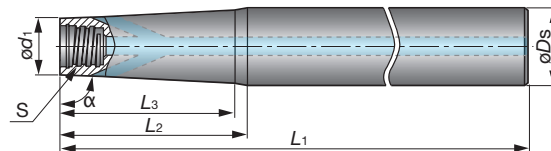
Straight shank and taper neck



Designation	α	ϕD_s	ϕd_1	L1	L2	L3	S	Shank Material
TFTSD12L080F05-S	85°	12	7.6	80	25	-	F05	Steel
TFTSD12L100F05-S	89°	12	7.6	100	35	29	F05	
TFTSD16L125F06-S	85°	16	9.6	125	34	31	F06	
TFTSD16L160F06-S	89°	16	9.6	160	55	46.5	F06	
TFTSD16L140F08-S	85°	16	11.5	140	22	19	F08	
TFTSD20L170F08-S	89°	20	11.5	170	80	69.5	F08	
TFTSD12L110F05-C	89°	12	7.6	110	60	56	F05	Carbide
TFTSD12L130F05-C	89°	12	7.6	130	80	77	F05	
TFTSD16L150F05-C	89°	16	7.6	150	100	91	F05	
TFTSD16L150F06-C	89°	16	9.6	150	100	98	F06	
TFTSD16L170F06-C	89°	16	9.6	170	120	116.5	F06	
TFTSD16L130F08-C	89°	16	11.5	130	80	76.5	F08	
TFTSD16L150F08-C	89°	16	11.5	150	100	98	F08	
TFTSD20L170F08-C	89°	20	11.5	170	120	112	F08	

TFTSD-W-A

Straight shank and taper neck with coolant hole



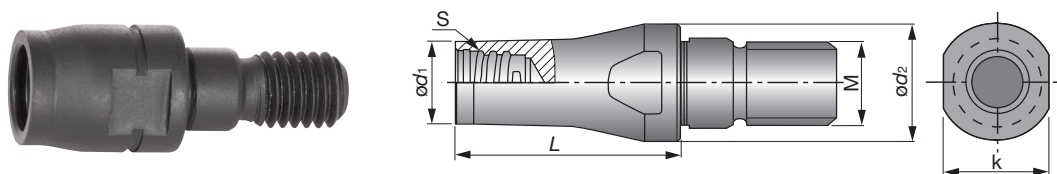
Designation	α	ϕD_s	ϕd_1	L1	L2	L3	S	Shank Material
TFTSD12L110F06-W-A	89°	12	9.6	110	60	59	F06	Tungsten
TFTSD16L170F06-W-A	89°	16	9.6	170	120	116	F06	



TC SERIES THREAD MILLING

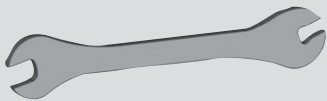
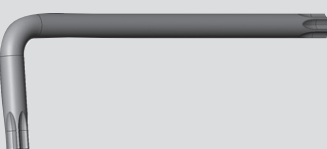
TFVAD-M

Adaptors for Depo



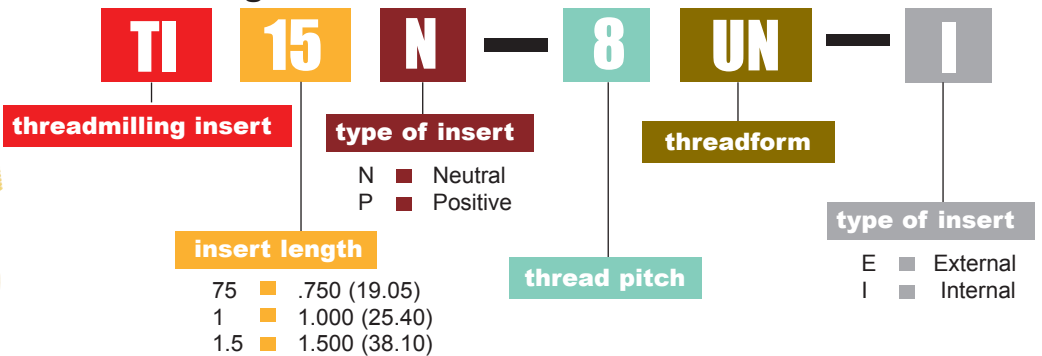
Designation	ød1	ød2	L	S	M	k	Shank Material
TFAD130L016F08-S-M8	11.7	13	16	F08	M8	11	Steel
TFAD130L025F08-S-M8	11.7	13	25	F08	M8	11	

Wrench

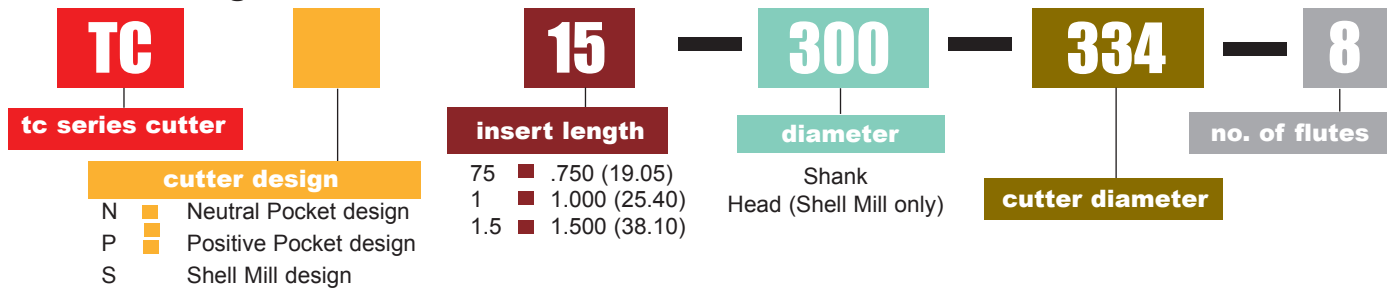
Type	Designation	Screw size	Torque (N-m)
	KEYV-F05	F05	7
	KEYV-F06	F06	10
	KEYV-F08	F08	15
	KEYV-177	F06	10
	KEYV-217	F08	15
	KEYV-T40L	F08	15
	KEYV-T20	F05	7
		F06	10
	KEYV-T25	F06	10
	KEYV-T30L	F08	15
	KEYV-T50L	F08	28



Threadmilling Insert Nomenclature Chart



Threadmilling Cutter Nomenclature Chart



TCT/TCN

- TCT cutters offer tapered head to accommodate NPT and NPTF style inserts
- TCN cutters offer straight head to accommodate UN and ISO style inserts
- Inserts are CNC ground to tolerance of ± 0.0005 effective in the cutter
- Positive geometry provides high shear action which results in better quality threads

TCP

- Cutters feature our patented locking system for accurate indexes
- Inserts are CNC ground to tolerance of ± 0.0005 effective in the cutter
- Positive geometry provides high shear action which results in better quality threads
- Design allows for maximum number of flutes in minimum part diameter

TCS

- Cutters feature our patented locking system for accurate indexes
- Inserts are CNC ground to tolerance of ± 0.0005 effective in the cutter
- Positive geometry provides high shear action which results in better quality threads
- Design allows for maximum number of flutes in minimum part diameter
- Run at high speeds to reduce machining time by as much as 50%



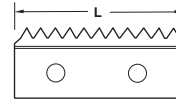
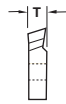
TC SERIES THREAD MILLING

BSPT THREADING

TI_P

Positive Rake

Internal/External



Description	EDP Code	Pitch	L	T	C3	GP3	ZS3
TI75P-19BSPT-I/E	TMIA4419I/E	19	.750 (19.05)	.080 (2.03)			●
TI1P-19BSPT-I/E	TMIB4419I/E	19	1.000 (25.40)	.140 (3.56)			●
TI1P-14BSPT-I/E	TMIB4414I/E	14	1.000 (25.40)	.140 (3.56)			●
TI1N-11BSPT-I/E - Neutral Rake	TMIC4411I/E	11	1.000 (25.40)	.140 (3.56)			●

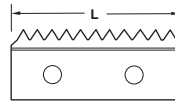
Uncoated	TIN Coated	AlTiN Coated
C3	GP3	ZS3

BSPP THREADING

TI_P

Positive Rake

Internal/External



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI75P-19BSPP-I/E	TMIA8519I/E	19	.750 (19.05)	.080 (2.03)			●
TI1P-19BSPP-I/E	TMIB8519I/E	19	1.000 (25.40)	.140 (3.56)			●
TI1P-14BSPP-I/E	TMIB8514I/E	14	1.000 (25.40)	.140 (3.56)			●

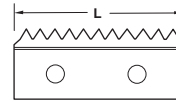
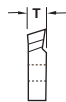
Uncoated	TIN Coated	AlTiN Coated
C3	GP3	ZS3

NPT/NPTF THREADING

TI_P

Positive Rake

Internal/External



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI75P-18NPT-I/E	TMIA3618I/E	18	.750 (19.05)	.080 (2.03)			●
TI75P-18NPTF-I/E	TMIA4618I/E	18	.750 (19.05)	.080 (2.03)			●
TI1P-14NPT-I/E	TMIB3614I/E	14	1.000 (25.40)	.140 (3.56)			●
TI1P-14NPTF-I/E	TMIB4614I/E	14	1.000 (25.40)	.140 (3.56)			●

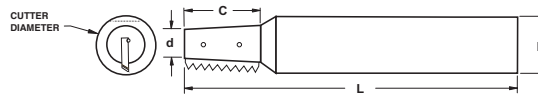
C3	GP3	ZS3
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NPT/NPTF THREADING

TCT_

Cutter Bodies

Internal/External



Description	EDP Code	Insert	D	d	L	Cutter Dia	C	Flutes	Screw*
TCT75-500-400-1	TMTA084001	TI75P-18NPT/NPTF/BSPP/BSPT	.500	.229	3.000	.400	.750	1	TS250
TCT1-500-659-1	TMTB086591	TI1P-14NPT/NPTF/BSPP/BSPT	.500	.379	3.000	.659	1.000	1	TS45

*TS250 uses K-2 wrench, TS45 uses K-3 wrench

Description	EDP Code	Insert	D	d	L	Cutter Dia	C	Flutes	Screw*
TCT75-13M-400-1	TMTA13M4001	TI75P-18NPT/NPTF/BSPP/BSPT	13.00	5.82	76.99	10.44	19.00	1	TS250
TCT1-13M-659-1	TMTB13M6591	TI1P-14NPT/NPTF/BSPP/BSPT	13.00	9.40	76.99	16.74	25.00	1	TS252

*TS250 uses K-2 wrench, TS45 uses K-3 wrench

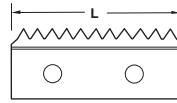
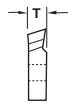


UN THREADING

TI_P

Positive Rake

Internal



Description	EDP Code	Pitch	L	T	C3	GP3	ZS3
TI75P-32UN-I	TMIA6632I	32	.750 (19.05)	.080 (2.03)			●
TI75P-24UN-I	TMIA6624I	24	.750 (19.05)	.080 (2.03)			●
TI75P-20UN-I	TMIA6620I	20	.750 (19.05)	.080 (2.03)			●
TI75P-18UN-I	TMIA6618I	18	.750 (19.05)	.080 (2.03)			●
TI75P-16UN-I	TMIA6616I	16	.750 (19.05)	.080 (2.03)			●
TI1P-32UN-I	TMIB6632I	32	1.000 (25.40)	.140 (3.56)			●
TI1P-24UN-I	TMIB6624I	24	1.000 (25.40)	.140 (3.56)			●
TI1P-20UN-I	TMIB6620I	20	1.000 (25.40)	.140 (3.56)			●
TI1P-18UN-I	TMIB6618I	18	1.000 (25.40)	.140 (3.56)			●
TI1P-16UN-I	TMIB6616I	16	1.000 (25.40)	.140 (3.56)			●
TI1P-13UN-I	TMIB6613I	13	1.000 (25.40)	.140 (3.56)			●
TI1P-14UN-I	TMIB6614I	14	1.000 (25.40)	.140 (3.56)			●
TI1P-12UN-I	TMIB6612I	12	1.000 (25.40)	.140 (3.56)			●
TI1P-10UN-I*	TMIB6610I	10	1.000 (25.40)	.140 (3.56)			●

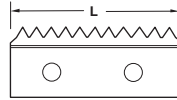
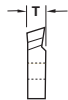
*To be used in TCN1 750-611-1 cutter only.

UNJ THREADING

TI_P

Positive Rake

Internal



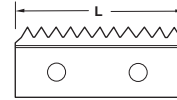
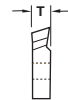
Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI75P-32UNJ-I	TMIA6832I	32	.750 (19.05)	.080 (2.03)			●
TI75P-24UNJ-I	TMIA6824I	24	.750 (19.05)	.080 (2.03)			●
TI75P-20UNJ-I	TMIA6820I	20	.750 (19.05)	.080 (2.03)			●
TI75P-18UNJ-I	TMIA6818I	18	.750 (19.05)	.080 (2.03)			●
TI75P-16UNJ-I	TMIA6816I	16	.750 (19.05)	.080 (2.03)			●
TI1P-32UNJ-I	TMIB6832I	32	1.000 (25.40)	.140 (3.56)			●
TI1P-24UNJ-I	TMIB6824I	24	1.000 (25.40)	.140 (3.56)			●
TI1P-20UNJ-I	TMIB6820I	20	1.000 (25.40)	.140 (3.56)			●
TI1P-18UNJ-I	TMIB6818I	18	1.000 (25.40)	.140 (3.56)			●
TI1P-16UNJ-I	TMIB6816I	16	1.000 (25.40)	.140 (3.56)			●
TI1P-14UNJ-I	TMIB6814I	14	1.000 (25.40)	.140 (3.56)			●
TI1P-12UNJ-I	TMIB6812I	12	1.000 (25.40)	.140 (3.56)			●
TI1P-10UNJ-I	TMIB6810I	10	1.000 (25.40)	.140 (3.56)			●

ISO THREADING

TI_P

Positive Rake

Internal



Description	EDP Code	Pitch	L	T	C3	GP3	ZS3
TI75P-1.5 ISO-I	TMIA7015I	1,5	.750 (19.05)	.080 (2.03)			●
TI75P-1.25 ISO-I	TMIA70125I	1,25	.750 (19.05)	.080 (2.03)			●
TI75P-1.0 ISO-I	TMIA7010I	1,0	.750 (19.05)	.080 (2.03)			●
TI75P-0.5 ISO-I	TMIA7005I	0,5	.750 (19.05)	.080 (2.03)			●
TI1P-2.0 ISO-I	TMIB7020I	2,0	1.000 (19.05)	.140 (3.56)			●
TI1P-1.5 ISO-I	TMIB7015I	1,5	1.000 (19.05)	.140 (3.56)			●
TI1P-1.0 ISO-I	TMIB7010I	1,0	1.000 (19.05)	.140 (3.56)			●



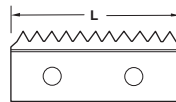
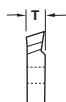
TC SERIES THREAD MILLING

UN THREADING

TI_P

Positive Rake

■ External



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI75P-32UN-E	TMIA6632E	32	.750 (19.05)	.080 (2.03)			●
TI75P-24UN-E	TMIA6624E	24	.750 (19.05)	.080 (2.03)			●
TI75P-20UN-E	TMIA6620E	20	.750 (19.05)	.080 (2.03)			●
TI75P-18UN-E	TMIA6618E	18	.750 (19.05)	.080 (2.03)			●
TI75P-16UN-E	TMIA6616E	16	.750 (19.05)	.080 (2.03)			●
TI1P-32UN-E	TMIB6632E	32	1.000 (25.40)	.140 (3.56)			●
TI1P-24UN-E	TMIB6624E	24	1.000 (25.40)	.140 (3.56)			●
TI1P-20UN-E	TMIB6620E	20	1.000 (25.40)	.140 (3.56)			●
TI1P-18UN-E	TMIB6618E	18	1.000 (25.40)	.140 (3.56)			●
TI1P-16UN-E	TMIB6616E	16	1.000 (25.40)	.140 (3.56)			●
TI1P-13UN-E	TMIB6613E	13	1.000 (25.40)	.140 (3.56)			●
TI1P-12UN-E	TMIB6612E	12	1.000 (25.40)	.140 (3.56)			●
TI1P-10UN-E	TMIB6610E	10	1.000 (25.40)	.140 (3.56)			●

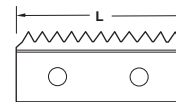
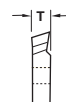
Uncoated	TIN Coated	AlTiN Coated
C3	GP3	ZS3

UNJ THREADING

TI_P

Positive Rake

■ External



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI75P-32UNJ-E	TMIA6832E	32	.750 (19.05)	.080 (2.03)			●
TI75P-24UNJ-E	TMIA6824E	24	.750 (19.05)	.080 (2.03)			●
TI75P-20UNJ-E	TMIA6820E	20	.750 (19.05)	.080 (2.03)			●
TI75P-18UNJ-E	TMIA6818E	18	.750 (19.05)	.080 (2.03)			●
TI75P-16UNJ-E	TMIA6816E	16	.750 (19.05)	.080 (2.03)			●
TI1P-32UNJ-E	TMIB6832E	32	1.000 (25.40)	.140 (3.56)			●
TI1P-24UNJ-E	TMIB6824E	24	1.000 (25.40)	.140 (3.56)			●
TI1P-20UNJ-E	TMIB6820E	20	1.000 (25.40)	.140 (3.56)			●
TI1P-18UNJ-E	TMIB6818E	18	1.000 (25.40)	.140 (3.56)			●
TI1P-16UNJ-E	TMIB6816E	16	1.000 (25.40)	.140 (3.56)			●
TI1P-12UNJ-E	TMIB6812E	12	1.000 (25.40)	.140 (3.56)			●

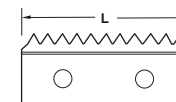
Uncoated	TIN Coated	AlTiN Coated
C3	GP3	ZS3

ISO THREADING

TI1P

Positive Rake

■ External



Description	EDP Code	Pitch	L	T	C3	GP3	ZS3
TI1P-2.0 ISO-E	TMIB7020E	2,0	1.000 (25.40)	.140 (3.56)			●
TI1P-1.5 ISO-E	TMIB7015E	1,5	1.000 (25.40)	.140 (3.56)			●
TI1P-1.0 ISO-E	TMIB7010E	1,0	1.000 (25.40)	.140 (3.56)			●

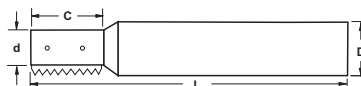
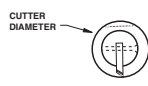
Uncoated	TIN Coated	AlTiN Coated
C3	GP3	ZS3

UN THREADING

TCN_

Cutter Bodies

■ Internal/External



Description	EDP Code	Insert	D	d	L	Cutter Dia	C	Flutes	Screw*
TCN75-500-394-1#	TMNA083941	TI75P-UN/ISO/UNJ	.500	.250	3.000	.394	.750	1	TS250
TCN75-500-468-1#	TMNA084681	TI75P-UN/ISO/UNJ	.500	.330	3.500	.468	.750	1	TS25
TCN1-750-625-1	TMNB126251	TI1P-UN/ISO/UNJ	.750	.454	3.500	.625	1.000	1	TS40
TCN1-750-611-1	TMNB126111	TI1P-10UN	.750	.383	3.500	.611	1.000	1	TS40

*TS250 and TS25 uses K-2 wrench, TS40 uses K-3 wrench

*Excludes BSPP, NPT and NPTF inserts

Description	EDP Code	Insert	D	d	L	Cutter Dia	C	Flutes	Screw*
TCN75-13M-394-1#	TMNA13M3941	TI75P-UN/ISO/UNJ	13.00	6.35	76.99	10.01	19.05	1	TS250
TCN75-13M-468-1#	TMNA13M4681	TI75P-UN/ISO/UNJ	13.00	8.38	90.47	11.89	19.05	1	TS25
TCN1-20M-625-1	TMNB20M6251	TI1P-UN/ISO/UNJ	19.20	11.53	90.47	15.88	25.40	1	TSM40
TCN1-20M-611-1	TMNB20M6111	TI1P-10UN	19.20	9.73	90.47	15.52	25.40	1	TSM40

*TS250 and TS25 uses K-2 wrench, TS40 uses K-3 wrench

*Excludes BSPP, BSPT, NPT and NPTF inserts

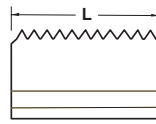
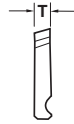


NGT/SGT THREADING

TI_N

Neutral Rake

Internal/External



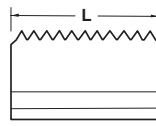
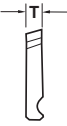
Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI15N-14NGT-I/E	TMID4714I/E	14	1.500 (38.10)	.140 (3.56)			●
TI15N-14SGT-I/E	TMID4914I/E	14	1.500 (38.10)	.140 (3.56)			●

NPT/NPTF THREADING

TI_N

Neutral Rake

Internal/External



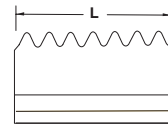
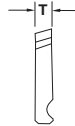
Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI15N-11.5NPT-I/E	TMID3611I/E	11.5	1.500 (38.10)	.140 (3.56)			●
TI15N-11.5NPTF-I/E	TMID4611I/E	11.5	1.500 (38.10)	.140 (3.56)			●
TI15N-8NPT-I/E	TMID3608I/E	8	1.500 (38.10)	.140 (3.56)			●
TI15N-8NPTF-I/E	TMID4608I/E	8	1.500 (38.10)	.140 (3.56)			●

API ROUND THREADING

TI15N

Neutral Rake

Internal/External



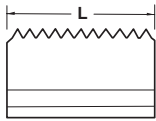
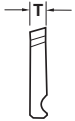
Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI15N-10RD-I/E	TMID3410I/E	10	1.500 (38.10)	.140 (3.56)			●
TI15N-8RD-I/E	TMID3200I/E	8	1.500 (38.10)	.140 (3.56)			●

UN THREADING

TI_N

Neutral Rake

Internal



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI1N-32UN-I	TMIC6632I	32	1.000 (25.40)	.140 (3.56)			●
TI1N-24UN-I	TMIC6624I	24	1.000 (25.40)	.140 (3.56)			●
TI1N-20UN-I	TMIC6620I	20	1.000 (25.40)	.140 (3.56)			●
TI1N-18UN-I	TMIC6618I	18	1.000 (25.40)	.140 (3.56)			●
TI1N-16UN-I	TMIC6616I	16	1.000 (25.40)	.140 (3.56)			●
TI1N-12UN-I	TMIC6612I	12	1.000 (25.40)	.140 (3.56)			●
TI1N-10UN-I	TMIC6610I	10	1.000 (25.40)	.140 (3.56)			●
TI1N-8UN-I	TMIC6608I	8	1.000 (25.40)	.140 (3.56)			●
TI15N-24UN-I	TMID6624I	24	1.500 (38.10)	.140 (3.56)			●
TI15N-20UN-I	TMID6620I	20	1.500 (38.10)	.140 (3.56)			●
TI15N-18UN-I	TMID6618I	18	1.500 (38.10)	.140 (3.56)			●
TI15N-16UN-I	TMID6616I	16	1.500 (38.10)	.140 (3.56)			●
TI15N-14UN-I	TMID6614I	14	1.500 (38.10)	.140 (3.56)			●
TI15N-12UN-I	TMID6612I	12	1.500 (38.10)	.140 (3.56)			●
TI15N-10UN-I	TMID6610I	10	1.500 (38.10)	.140 (3.56)			●
TI15N-8UN-I	TMID6608I	8	1.500 (38.10)	.140 (3.56)			●
TI15N-7UN-I	TMID6607I	7	1.500 (38.10)	.140 (3.56)			●
TI15N-6UN-I	TMID6606I	6	1.500 (38.10)	.140 (3.56)			●



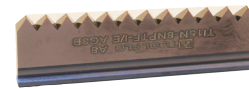
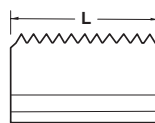
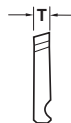
TC SERIES THREAD MILLING

UNJ THREADING

TI_N

Neutral Rake

Internal



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI1N-32UNJ-I	TMIC6832I	32	1.000 (25.40)	.140 (3.56)			●
TI1N-24UNJ-I	TMIC6824I	24	1.000 (25.40)	.140 (3.56)			●
TI1N-20UNJ-I	TMIC6820I	20	1.000 (25.40)	.140 (3.56)			●
TI1N-18UNJ-I	TMIC6818I	18	1.000 (25.40)	.140 (3.56)			●
TI1N-16UNJ-I	TMIC6816I	16	1.000 (25.40)	.140 (3.56)			●
TI1N-12UNJ-I	TMIC6812I	12	1.000 (25.40)	.140 (3.56)			●
TI1N-10UNJ-I	TMIC6810I	10	1.000 (25.40)	.140 (3.56)			●
TI15N-24UNJ-I	TMID6824I	24	1.500 (38.10)	.140 (3.56)			●
TI15N-20UNJ-I	TMID6820I	20	1.500 (38.10)	.140 (3.56)			●
TI15N-18UNJ-I	TMID6818I	18	1.500 (38.10)	.140 (3.56)			●
TI15N-16UNJ-I	TMID6816I	16	1.500 (38.10)	.140 (3.56)			●
TI15N-12UNJ-I	TMID6812I	12	1.500 (38.10)	.140 (3.56)			●
TI15N-10UNJ-I	TMID6810I	10	1.500 (38.10)	.140 (3.56)			●
TI15N-8UNJ-I	TMID6808I	8	1.500 (38.10)	.140 (3.56)			●

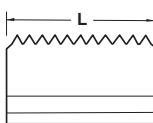
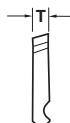
Uncoated	TIN Coated	AlTiN Coated
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ISO THREADING

TI15N

Neutral Rake

Internal



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI15N-6.0 ISO-I	TMID7060I	6.0	1.500 (38.10)	.140 (3.56)			●
TI15N-5.0 ISO-I	TMID7050I	5.0	1.500 (38.10)	.140 (3.56)			●
TI15N-4.5 ISO-I	TMID7045I	4.5	1.500 (38.10)	.140 (3.56)			●
TI15N-4.0 ISO-I	TMID7040I	4.0	1.500 (38.10)	.140 (3.56)			●
TI15N-3.5 ISO-I	TMID7035I	3.5	1.500 (38.10)	.140 (3.56)			●
TI15N-3.0 ISO-I	TMID7030I	3.0	1.500 (38.10)	.140 (3.56)			●
TI15N-2.5 ISO-I	TMID7025I	2.5	1.500 (38.10)	.140 (3.56)			●
TI15N-2.0 ISO-I	TMID7020I	2.0	1.500 (38.10)	.140 (3.56)			●
TI15N-1.5 ISO-I	TMID7015I	1.5	1.500 (38.10)	.140 (3.56)			●

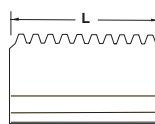
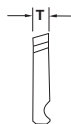
Uncoated	TIN Coated	AlTiN Coated
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ACME THREADING

TI_N

Neutral Rake - Full Profile

Internal only



Description	EDP Code	TPI	L	T	C3	GP3	ZS3
TI1N-12ACME-I	TMIC0212I	12	1.000 (25.40)	.140 (3.56)			●
TI1N-10ACME-I	TMIC0210I	10	1.000 (25.40)	.140 (3.56)			●
TI1N-8ACME-I	TMIC0208I	8	1.000 (25.40)	.140 (3.56)			●
TI15N-12ACME-I	TMID0212I	12	1.500 (38.10)	.140 (3.56)			●
TI15N-10ACME-I	TMID0210I	10	1.500 (38.10)	.140 (3.56)			●
TI15N-8ACME-I	TMID0208I	8	1.500 (38.10)	.140 (3.56)			●
TI15N-6ACME-I	TMID0206I	6	1.500 (38.10)	.140 (3.56)			●
TI15N-5ACME-I	TMID0205I	5	1.500 (38.10)	.140 (3.56)			●
TI15N-4ACME-I	TMID0204I	4	1.500 (38.10)	.140 (3.56)			●

Uncoated	TIN Coated	AlTiN Coated
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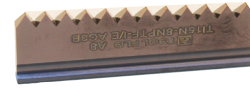
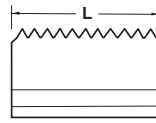
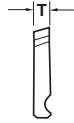


UN THREADING

TI_N

Neutral Rake

■ External



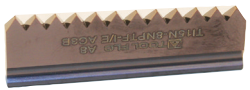
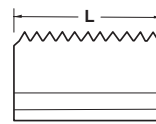
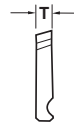
Description	EDP Code	TPI	L	T	C3	GP3	ZS3	Uncoated	TiN Coated	AlTiN Coated
TI1N-32UN-E	TMIC6632E	32	1.000 (25.40)	.140 (3.56)			●			
TI1N-24UN-E	TMIC6624E	24	1.000 (25.40)	.140 (3.56)			●			
TI1N-20UN-E	TMIC6620E	20	1.000 (25.40)	.140 (3.56)			●			
TI1N-18UN-E	TMIC6618E	18	1.000 (25.40)	.140 (3.56)			●			
TI1N-16UN-E	TMIC6616E	16	1.000 (25.40)	.140 (3.56)			●			
TI1N-12UN-E	TMIC6612E	12	1.000 (25.40)	.140 (3.56)			●			
TI1N-10UN-E	TMIC6610E	10	1.000 (25.40)	.140 (3.56)			●			
TI15N-24UN-E	TMID6624E	24	1.500 (38.10)	.140 (3.56)			●			
TI15N-20UN-E	TMID6620E	20	1.500 (38.10)	.140 (3.56)			●			
TI15N-18UN-E	TMID6618E	18	1.500 (38.10)	.140 (3.56)			●			
TI15N-16UN-E	TMID6616E	16	1.500 (38.10)	.140 (3.56)			●			
TI15N-12UN-E	TMID6612E	12	1.500 (38.10)	.140 (3.56)			●			
TI15N-10UN-E	TMID6610E	10	1.500 (38.10)	.140 (3.56)			●			
TI15N-8UN-E	TMID6608E	8	1.500 (38.10)	.140 (3.56)			●			
TI15N-6UN-E	TMID6606E	6	1.500 (38.10)	.140 (3.56)			●			

UNJ THREADING

TI_N

Neutral Rake

■ External



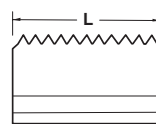
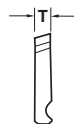
Description	EDP Code	TPI	L	T	C3	GP3	ZS3	Uncoated	TiN Coated	AlTiN Coated
TI1N-32UNJ-E	TMIC6832E	32	1.000 (25.40)	.140 (3.56)			●			
TI1N-24UNJ-E	TMIC6824E	24	1.000 (25.40)	.140 (3.56)			●			
TI1N-20UNJ-E	TMIC6820E	20	1.000 (25.40)	.140 (3.56)			●			
TI1N-18UNJ-E	TMIC6818E	18	1.000 (25.40)	.140 (3.56)			●			
TI1N-16UNJ-E	TMIC6816E	16	1.000 (25.40)	.140 (3.56)			●			
TI1N-12UNJ-E	TMIC6812E	12	1.000 (25.40)	.140 (3.56)			●			
TI1N-10UNJ-E	TMIC6810E	10	1.000 (25.40)	.140 (3.56)			●			
TI15N-24UNJ-E	TMID6824E	24	1.500 (38.10)	.140 (3.56)			●			
TI15N-20UNJ-E	TMID6820E	20	1.500 (38.10)	.140 (3.56)			●			
TI15N-18UNJ-E	TMID6818E	18	1.500 (38.10)	.140 (3.56)			●			
TI15N-16UNJ-E	TMID6816E	16	1.500 (38.10)	.140 (3.56)			●			
TI15N-12UNJ-E	TMID6812E	12	1.500 (38.10)	.140 (3.56)			●			
TI15N-10UNJ-E	TMID6810E	10	1.500 (38.10)	.140 (3.56)			●			
TI15N-8UNJ-E	TMID6808E	8	1.500 (38.10)	.140 (3.56)			●			

ISO THREADING

TI15N

Neutral Rake

■ External



Description	EDP Code	TPI	L	T	C3	GP3	ZS3	Uncoated	TiN Coated	AlTiN Coated
TI15N-6.0 ISO-E	TMID7060E	6.0	1.500 (38.10)	.140 (3.56)			●			
TI15N-5.0 ISO-E	TMID7050E	5.0	1.500 (38.10)	.140 (3.56)			●			
TI15N-4.5 ISO-E	TMID7045E	4.5	1.500 (38.10)	.140 (3.56)			●			
TI15N-4.0 ISO-E	TMID7040E	4.0	1.500 (38.10)	.140 (3.56)			●			
TI15N-2.0 ISO-E	TMID7020E	2.0	1.500 (38.10)	.140 (3.56)			●			



TC SERIES THREAD MILLING

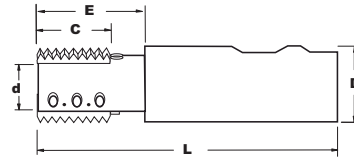
UN/NPT/ISO/ACME/API THREADING

TCP_

Cutter Bodies

Internal/External

CUTTER
DIAMETER



Description	EDP Code	Insert	Coolant Port	D	d	E	L	Cutter Dia. (UN/115NPT)	Cutter Dia. (8NPT)	C	Flutes	Screw	Pin
TCP1 100-969-2	TMPB169692	TI1N		1.000	.625	1.500	4.500	.969	.969	1.000	2	TSS-3	DP1
TCP1 125-175-5	TMPB201755	TI1N	✓	1.250	1.500	1.750	4.000	1.755	1.755	1.000	5	TSS-2	DP1
TCP15 100-932-1	TMPC169321	TI15N		1.000	.722	1.900	4.500	.932	1.065	1.500	1	TSS-2	DP135
TCP15 100-111-3	TMPC161113	TI15N	✓	1.000	.812	2.000	4.500	1.116	1.247	1.500	3	TSS-3	DP135
TCP15 125-175-5	TMPC201755	TI15N	✓	1.250	1.500	2.250	4.500	1.755	1.888	1.500	5	TSS-2	DP135
TCP15 125-175-5L	TMPC201755L	TI15N	✓	1.250	1.500	2.750	8.250	1.755	1.888	1.500	5	TSS-2	DP135

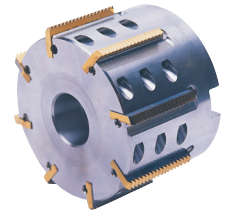
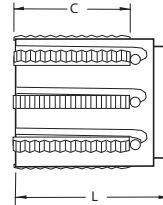
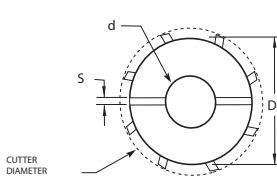
Description	EDP Code	Insert	Coolant Port	D	d	E	L	Cutter Dia. (UN/115NPT)	Cutter Dia. (8NPT)	C	Flutes	Screw	Pin
TCP1 25M-969-2	TMPB25M9692	TI1N		25.00	15.87	38.10	114.30	24.61	24.61	25.40	2	TSSM-3	DP1
TCP1 32M-175-5	TMPB32M1755	TI1N	✓	32.00	38.10	44.45	101.60	44.58	44.58	25.40	5	TSSM-2	DP1
TCP15 25M-932-1	TMPC25M9321	TI15N		25.00	18.34	48.26	114.30	23.67	27.05	38.10	1	TSSM-2	DP135
TCP15 25M-969-2	TMPC25M9692	TI15N		25.00	18.34	50.80	127.00	24.61	27.05	38.10	2	TSSM-2	DP135
TCP15 25M-111-3	TMPC25M1113	TI15N	✓	25.00	27.81	57.15	139.70	28.35	31.67	38.10	3	TSSM-3	DP135
TCP15 32M-175-5	TMPC32M1755	TI15N	✓	32.00	38.10	64.77	209.55	44.58	47.96	38.10	5	TSSM-2	DP135

UN/NPT/ISO/ACME THREADING

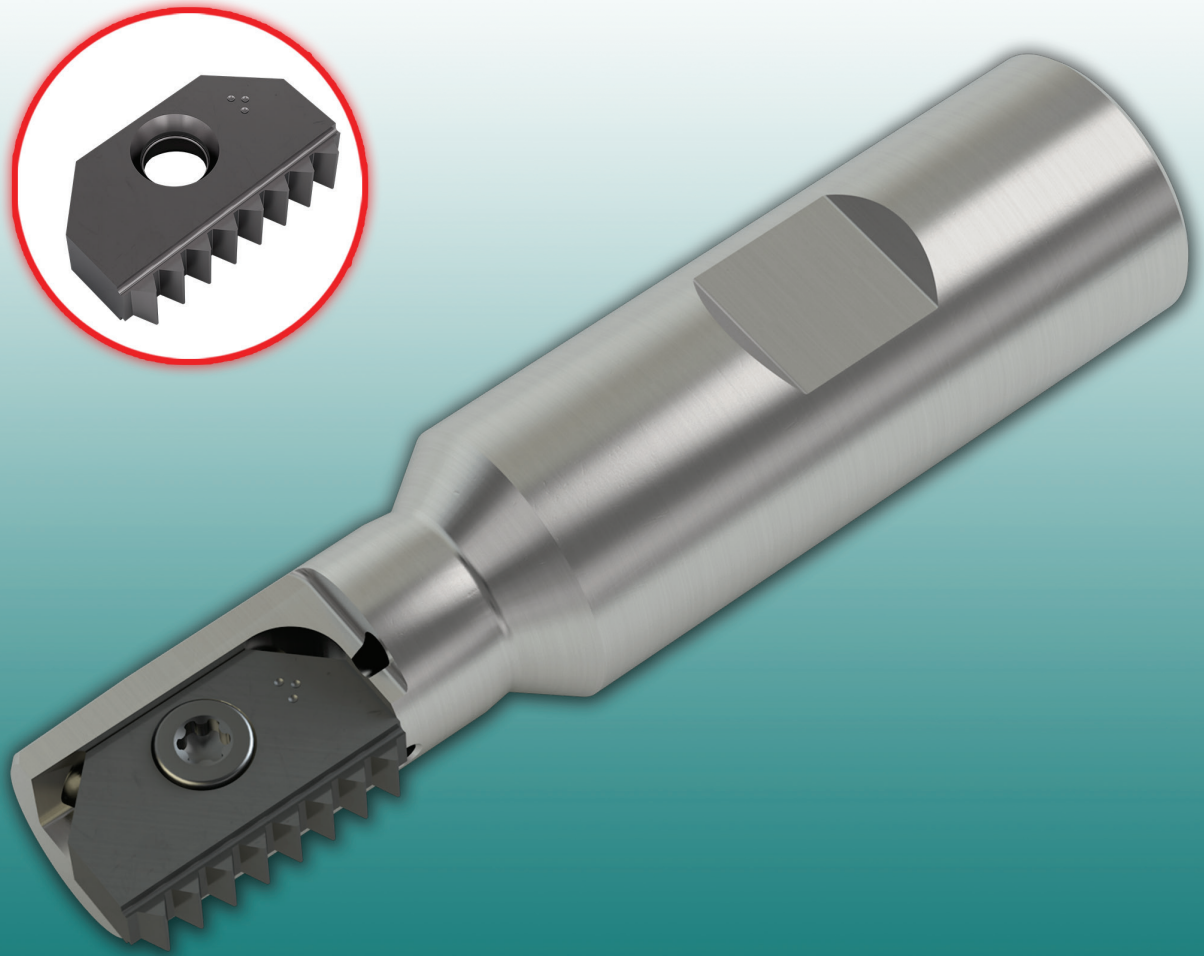
TCS_

Shell Mill Cutter Bodies

Internal/External



Description	EDP Code	Insert	D	d	S	L	Cutter Dia.	C	Flutes	Pin	Screw
TCS15 200-234-6	TMSC322346	TI15N	2.000 (50.80)	.750 (19.05)	.312 (7.92)	2.250 (57.15)	2.349 (59.66)	1.500 (38.10)	6	DP135	TSS-2
TCS15 250-274-7	TMSC402747	TI15N	2.500 (63.50)	1.000 (25.40)	.375 (9.53)	2.250 (57.15)	2.846 (72.29)	1.500 (38.10)	7	DP135	TSS-2
TCS15 300-334-8	TMSC483348	TI15N	3.000 (76.20)	1.250 (31.75)	.500 (12.70)	2.250 (57.15)	3.341 (84.86)	1.500 (38.10)	8	DP135	TSS-2

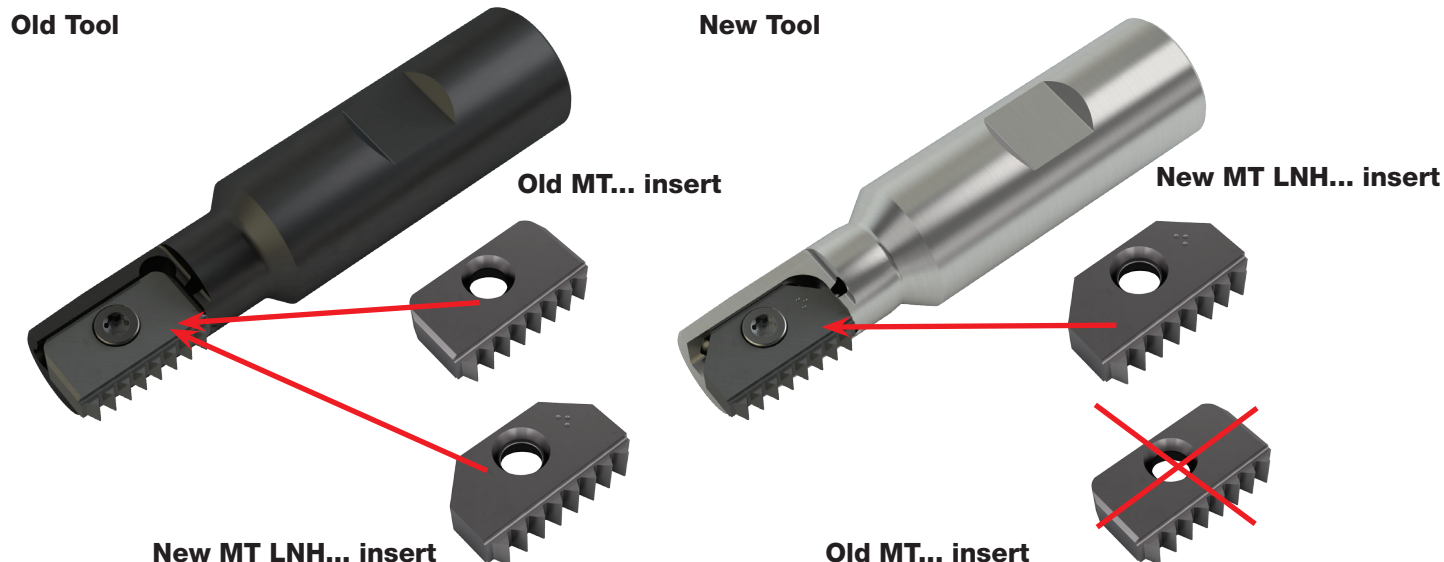


Upgraded THREAD MILL Indexable Inserts Line



Important note

The old inserts can only be clamped on to the older tools, while the new inserts can be clamped on either the new or old tools.



Please inform your customers about these modifications and upgrades.
No changes are required for the new items regarding cutting conditions.

Availability*

In the first stage, insert sizes 14 and 21 mm, and their suitable tools will gradually replace the old thread milling items.

The older items will be supplied until their stock is depleted, then the new tools will be supplied.

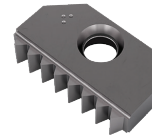
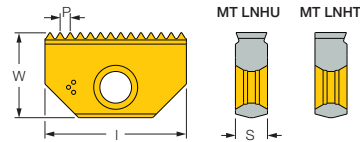
*All items will be available on July 2017



UN (Internal)

MT LNH#-UN (Internal)

Thread Milling Inserts for American (UN, UNC, UNF, UNEF, UNS) Full Profile Threads for General Applications



■ Internal

Description	TPI	I	W	S	AC22
MT LNHT 1202 I32UN	32.0	12.00	6.50	2.90	●
MT LNHT 1202 I28UN	28.0	12.00	6.50	2.90	●
MT LNHT 1202 I24UN	24.0	12.00	6.50	2.90	●
MT LNHT 1202 I20UN	20.0	12.00	6.50	2.90	●
MT LNHT 1202 I18UN	18.0	12.00	6.50	2.90	●
MT LNHT 1202 I16UN	16.0	12.00	6.50	2.90	●
MT LNHU 1403 I32UN	32.0	14.00	7.90	3.20	●
MT LNHU 1403 I28UN	28.0	14.00	7.90	3.20	●
MT LNHU 1403 I27UN	27.0	14.00	7.90	3.20	●
MT LNHU 1403 I24UN	24.0	14.00	7.90	3.20	●
MT LNHU 1403 I20UN	20.0	14.00	7.90	3.20	●
MT LNHU 1403 I18UN	18.0	14.00	7.90	3.20	●
MT LNHU 1403 I16UN	16.0	14.00	7.90	3.20	●
MT LNHU 1403 I14UN	14.0	14.00	7.90	3.20	●
MT LNHU 1403 I12UN	12.0	14.00	7.90	3.20	●
MT LNHU 1403 I11UN	11.0	14.00	7.90	3.20	●
MT LNHU 1403 I10UN	10.0	14.00	7.90	3.20	●
MT LNHU 2104 I24UN	24.0	21.00	12.60	4.80	●
MT LNHU 2104 I20UN	20.0	21.00	12.60	4.80	●
MT LNHU 2104 I18UN	18.0	21.00	12.60	4.80	●
MT LNHU 2104 I16UN	16.0	21.00	12.60	4.80	●
MT LNHU 2104 I14UN	14.0	21.00	12.60	4.80	●
MT LNHU 2104 I12UN	12.0	21.00	12.60	4.80	●
MT LNHU 2104 I10UN	10.0	21.00	12.60	4.80	●
MT LNHU 2104 I8UN	8.0	21.00	12.60	4.80	●
MT LNHU 2104 I7UN	7.0	21.00	12.60	4.80	●
MT LNHU 3005 I20UN	20.0	30.00	16.70	5.60	●
MT LNHU 3005 I18UN	18.0	30.00	16.70	5.60	●
MT LNHU 3005 I16UN	16.0	30.00	16.70	5.60	●
MT LNHU 3005 I14UN	14.0	30.00	16.70	5.60	●
MT LNHU 3005 I12UN	12.0	30.00	16.70	5.60	●
MT LNHU 3005 I10UN	10.0	30.00	16.70	5.60	●
MT LNHU 3005 I8UN	8.0	30.00	16.70	5.60	●
MT LNHU 3005 I6UN	6.0	30.00	16.70	5.60	●
MT LNHU 3005 I5UN	5.0	30.00	16.70	5.60	●
MT LNHU 4006 I8UN	16.0	40.00	20.80	6.40	●
MT LNHU 4006 I14UN	14.0	40.00	20.80	6.40	●
MT LNHU 4006 I12UN	12.0	40.00	20.80	6.40	●
MT LNHU 4006 I10UN	10.0	40.00	20.80	6.40	●
MT LNHU 4006 I6UN	6.0	40.00	20.80	6.40	●
MT LNHU 4006 I4.5UN	4.5	40.00	20.80	6.40	●
MT LNHU 4006 I4UN	4.0	40.00	20.80	6.40	●

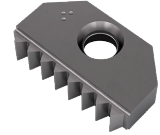
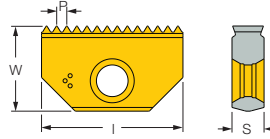


MT SERIES THREAD MILLING

UN (External)

MT LNHU-UN (External)

External UN (UN, UNC, UNF, UNEF, UNS) Full Profile Thread Milling Inserts, for General Industries



■ External

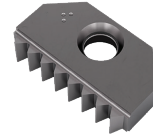
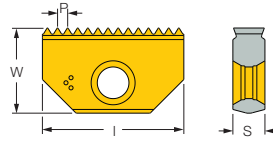
Designation	TPI	L	W	S	AC22
MT LNHU 1403 E32UN	32.0	14.00	7.90	3.20	●
MT LNHU 1403 E28UN	28.0	14.00	7.90	3.20	●
MT LNHU 1403 E24UN	24.0	14.00	7.90	3.20	●
MT LNHU 1403 E20UN	20.0	14.00	7.90	3.20	●
MT LNHU 1403 E18UN	18.0	14.00	7.90	3.20	●
MT LNHU 1403 E16UN	16.0	14.00	7.90	3.20	●
MT LNHU 1403 E14UN	14.0	14.00	7.90	3.20	●
MT LNHU 1403 E12UN	12.0	14.00	7.90	3.20	●
MT LNHU 2104 E24UN	24.0	21.00	12.60	4.80	●
MT LNHU 2104 E20UN	20.0	21.00	12.60	4.80	●
MT LNHU 2104 E18UN	18.0	21.00	12.60	4.80	●
MT LNHU 2104 E16UN	16.0	21.00	12.60	4.80	●
MT LNHU 2104 E14UN	14.0	21.00	12.60	4.80	●
MT LNHU 2104 E12UN	12.0	21.00	12.60	4.80	●
MT LNHU 2104 E10UN	10.0	21.00	12.60	4.80	●
MT LNHU 3005 E20UN	20.0	30.00	16.70	5.60	●
MT LNHU 3005 E18UN	18.0	30.00	16.70	5.60	●
MT LNHU 3005 E16UN	16.0	30.00	16.70	5.60	●
MT LNHU 3005 E14UN	14.0	30.00	16.70	5.60	●
MT LNHU 3005 E12UN	12.0	30.00	16.70	5.60	●
MT LNHU 3005 E10UN	10.0	30.00	16.70	5.60	●
MT LNHU 3005 E8UN	8.0	30.00	16.70	5.60	●
MT LNHU 3005 E6UN	6.0	30.00	16.70	5.60	●
MT LNHU 4006 E16UN	16.0	40.00	20.80	6.40	●
MT LNHU 4006 E14UN	14.0	40.00	20.80	6.40	●
MT LNHU 4006 E12UN	12.0	40.00	20.80	6.40	●
MT LNHU 4006 E10UN	10.0	40.00	20.80	6.40	●
MT LNHU 4006 E8UN	8.0	40.00	20.80	6.40	●
MT LNHU 4006 E6UN	6.0	40.00	20.80	6.40	●



ISO (External)

MT LNHU-ISO (External)

Thread Milling Inserts for External ISO Metric Profile



■ External

Designation	I	Pitch	W	S	AC22
MT LNHU 1403 E0.75ISO	14.00	0.75	7.90	3.20	●
MT LNHU 1403 E1.00ISO	14.00	1.00	7.90	3.20	●
MT LNHU 1403 E1.25ISO	14.00	1.25	7.90	3.20	●
MT LNHU 1403 E1.50ISO	14.00	1.50	7.90	3.20	●
MT LNHU 1403 E1.75ISO	14.00	1.75	7.90	3.20	●
MT LNHU 1403 E2.00ISO	14.00	2.00	7.90	3.20	●
MT LNHU 1403 E2.50ISO	14.00	2.50	7.90	3.20	●
MT LNHU 2104 E1.00ISO	21.00	1.00	12.60	4.80	●
MT LNHU 2104 E1.50ISO	21.00	1.50	12.60	4.80	●
MT LNHU 2104 E2.00ISO	21.00	2.00	12.60	4.80	●
MT LNHU 2104 E2.50ISO	21.00	2.50	12.80	4.80	●
MT LNHU 2104 E3.00ISO	21.00	3.00	12.80	4.80	●
MT LNHU 3005 E1.50ISO	30.00	1.50	16.70	5.60	●
MT LNHU 3005 E2.00ISO	30.00	2.00	16.70	5.60	●
MT LNHU 3005 E3.00ISO	30.00	3.00	16.70	5.60	●
MT LNHU 3005 E3.50ISO	30.00	3.50	16.70	5.60	●
MT LNHU 3005 E4.00ISO	30.00	4.00	16.70	5.60	●
MT LNHU 4006 E1.50ISO	40.00	1.50	20.80	6.40	●
MT LNHU 4006 E2.00ISO	40.00	2.00	20.80	6.40	●
MT LNHU 4006 E3.00ISO	40.00	3.00	20.80	6.40	●
MT LNHU 4006 E4.00ISO	40.00	4.00	20.80	6.40	●
MT LNHU 4006 E5.00ISO	40.00	5.00	20.80	6.40	●

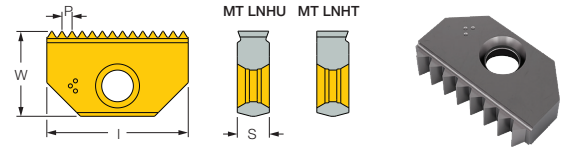


MT SERIES THREAD MILLING

ISO (Internal)

MT LNH#-ISO (Internal)

Thread Milling Inserts for Internal ISO Metric Profile



Internal

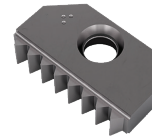
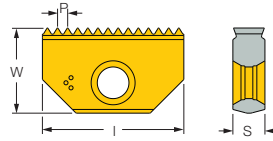
Designation	L	Pitch	W	S	AC22
MT LNHT 1202 I0.50ISO	12.00	0.50	6.50	2.90	●
MT LNHT 1202 I0.75ISO	12.00	0.75	6.50	2.90	●
MT LNHT 1202 I1.00ISO	12.00	1.00	6.50	2.90	●
MT LNHT 1202 I1.25ISO	12.00	1.25	6.50	2.90	●
MT LNHT 1202 I1.50ISO	12.00	1.50	6.50	2.90	●
MT LNHU 1403 I0.50ISO	14.00	0.50	7.90	3.20	●
MT LNHU 1403 I0.75ISO	14.00	0.75	7.90	3.20	●
MT LNHU 1403 I1.00ISO	14.00	1.00	7.90	3.20	●
MT LNHU 1403 I1.25ISO	14.00	1.25	7.90	3.20	●
MT LNHU 1403 I1.50ISO	14.00	1.50	7.90	3.20	●
MT LNHU 1403 I1.75ISO	14.00	1.75	7.90	3.20	●
MT LNHU 1403 I2.00ISO	14.00	2.00	7.90	3.20	●
MT LNHU 1403 I2.50ISO	14.00	2.50	7.90	3.20	●
MT LNHU 2104 I1.00ISO	21.00	1.00	12.60	4.80	●
MT LNHU 2104 I1.50ISO	21.00	1.50	12.60	4.80	●
MT LNHU 2104 I1.75ISO	21.00	1.75	12.60	4.80	●
MT LNHU 2104 I2.00ISO	21.00	2.00	12.60	4.80	●
MT LNHU 2104 I2.50ISO	21.00	2.50	12.60	4.80	●
MT LNHU 2104 I3.00ISO	21.00	3.00	12.60	4.80	●
MT LNHU 2104 I3.50ISO	21.00	3.50	12.60	4.80	●
MT LNHU 3005 I1.50ISO	30.00	1.50	16.70	5.60	●
MT LNHU 3005 I2.00ISO	30.00	2.00	16.70	5.60	●
MT LNHU 3005 I3.00ISO	30.00	3.00	16.70	5.60	●
MT LNHU 3005 I3.50ISO	30.00	3.50	16.70	5.60	●
MT LNHU 3005 I4.00ISO	30.00	4.00	16.70	5.60	●
MT LNHU 3005 I4.50ISO	30.00	4.50	16.70	5.60	●
MT LNHU 3005 I5.00ISO	30.00	5.00	16.70	5.60	●
MT LNHU 4006 I1.50ISO	40.00	1.50	20.80	6.40	●
MT LNHU 4006 I2.00ISO	40.00	2.00	20.80	6.40	●
MT LNHU 4006 I3.00ISO	40.00	3.00	20.80	6.40	●
MT LNHU 4006 I3.50ISO	40.00	3.50	20.80	6.40	●
MT LNHU 4006 I4.00ISO	40.00	4.00	20.80	6.40	●
MT LNHU 4006 I4.50ISO	40.00	4.50	20.80	6.40	●
MT LNHU 4006 I5.00ISO	40.00	5.00	20.80	6.40	●
MT LNHU 4006 I5.50ISO	40.00	5.50	20.80	6.40	●
MT LNHU 4006 I6.00ISO	40.00	6.00	20.80	6.40	●

ACME (Internal)

MT LNHU-ACME (Internal)

Internal ACME Profile Thread Milling Inserts, for Feed Screws

Internal



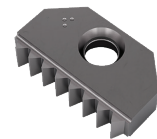
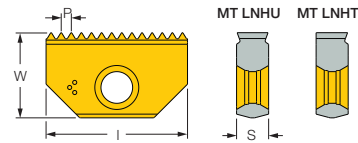
Designation	TPI	I	W	S	AC22
MT LNHU 2104 I12ACME	12.0	21.00	12.00	4.70	●
MT LNHU 2104 I10ACME	10.0	21.00	12.00	4.70	●
MT LNHU 3005 I12ACME	12.0	30.00	16.00	5.50	●
MT LNHU 3005 I10ACME	10.0	30.00	16.00	5.50	●
MT LNHU 3005 I8ACME	8.0	30.00	16.00	5.50	●
MT LNHU 3005 I6ACME	6.0	30.00	16.00	5.50	●
MT LNHU 3005 I5ACME	5.0	30.00	16.00	5.50	●
MT LNHU 3005 I4ACME	4.0	30.00	16.00	5.50	●
MT LNHU 4006 I4ACME	4.0	40.00	20.00	6.30	●
MT LNHU 4006 I3.5ACME	3.5	40.00	20.00	6.30	●
MT LNHU 4006 I3ACME	3.0	40.00	20.00	6.30	●

WHITWORTH

MT LNH#-W

External & Internal Whitworth (BSW, BSF, BSP) Full Profile Thread Milling Inserts, for Fittings and Pipe Couplings

Internal/External



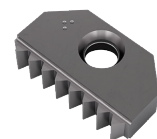
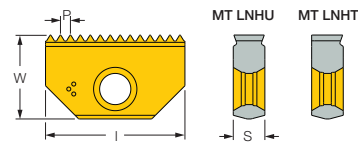
Designation	TPI	I	W	S	AC22
MT LNHT 1202 19W	19.0	12.00	6.50	2.90	●
MT LNHU 1403 24W	24.0	14.00	7.90	3.20	●
MT LNHU 1403 20W	20.0	14.00	7.90	3.20	●
MT LNHU 1403 19W	19.0	14.00	7.90	3.20	●
MT LNHU 1403 16W	16.0	14.00	7.90	3.20	●
MT LNHU 1403 14W	14.0	14.00	7.90	3.20	●
MT LNHU 2104 20W	20.0	21.00	12.60	4.80	●
MT LNHU 2104 19W	19.0	21.00	12.60	4.80	●
MT LNHU 2104 16W	16.0	21.00	12.60	4.80	●
MT LNHU 2104 14W	14.0	21.00	12.60	4.80	●
MT LNHU 2104 11W	11.0	21.00	12.60	4.80	●
MT LNHU 3005 16W	16.0	30.00	16.70	5.60	●
MT LNHU 3005 14W	14.0	30.00	16.70	5.60	●
MT LNHU 3005 11W	11.0	30.00	16.70	5.60	●
MT LNHU 4006 11W	11.0	40.00	20.80	6.40	●
MT LNHU 4006 8W	8.0	40.00	20.80	6.40	●

NPS

MT LNH#-NPS

External and Internal NPS Full Profile Thread Milling Inserts for Mechanical Joining and Pipe Fittings

Internal/External



Designation	TPI	I	W	S	AC22
MT LNHT 1202 18NPS	18.0	12.00	6.30	2.90	●
MT LNHU 1403 18NPS	18.0	14.00	7.50	3.10	●
MT LNHU 1403 15NPS	14.0	14.00	7.50	3.10	●
MT LNHU 2104 14NPS	14.0	21.00	12.00	4.70	●
MT LNHU 2104 11.5NPS	11.5	21.00	12.00	4.70	●
MT LNHU 3005 11.5NPS	11.5	30.00	16.00	5.51	●
MT LNHU 3005 8NPS	8.0	30.00	16.00	5.51	●
MT LNHU 4006 11.5NPS	11.5	40.00	20.00	6.30	●
MT LNHU 4006 8NPS	8.0	40.00	20.00	6.30	●

• The same insert for external & internal thread.

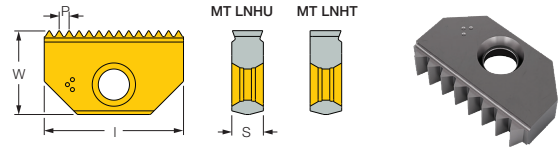


MT SERIES THREAD MILLING

NPSF

MT LNH#-NPSF

External and Internal NPSF Full Profile Thread Milling Inserts



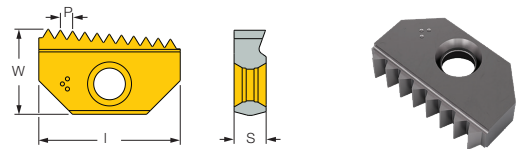
Internal/External

Designation	TPI	I	W	S	AC22
MT LNHT 1202 18NPSF	18.0	0.47	0.25	0.11	●
MT LNHU 1403 18NPSF	18.0	0.55	0.30	0.12	●
MT LNHU 1403 14NPSF	14.0	0.55	0.30	0.12	●
MT LNHU 2104 14NPSF	14.0	0.83	0.47	0.19	●
MT LNHU 2104 11.5NPSF	11.5	0.83	0.47	0.19	●
MT LNHU 3005 11.5NPSF	11.5	1.18	0.63	0.22	●
MT LNHU 3005 8NPSF	8.0	1.18	0.63	0.22	●
MT LNHU 4006 11.5NPSF	11.5	1.58	0.79	0.25	●
MT LNHU 4006 8NPSF	8.0	1.58	0.79	0.25	●

NPT

MT LNHT-NPT

External and Internal NPT Full Profile Thread Milling Inserts, for Steam, Gas and Water Pipes



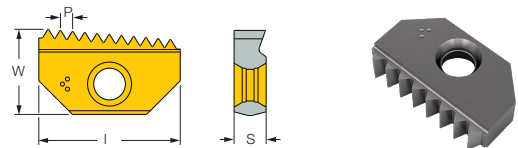
Internal/External

Designation	TPI	I	W	S	AC22
MT LNHT 1202 18NPT	18.0	12.00	6.50	2.90	●
MT LNHT 1403 18NPT	18.0	14.00	7.90	3.20	●
MT LNHT 1403 14NPT	14.0	14.00	7.90	3.20	●
MT LNHT 2104 14NPT	14.0	21.00	12.60	4.80	●
MT LNHT 2104 11.5NPT	11.5	21.00	12.60	4.80	●
MT LNHT 3005 11.5NPT	11.5	30.00	16.70	5.60	●
MT LNHT 3005 8NPT	8.0	30.00	16.70	5.60	●
MT LNHT 4006 11.5NPT	11.5	40.00	20.80	6.40	●
MT LNHT 4006 8NPT	8.0	40.00	20.80	6.40	●

BSPT

MT LNHT-BSPT

External and Internal Thread Milling Inserts for BSPT Full Profile



Internal/External

Designation	TPI	I	W	S	AC22
MT LNHT 1202 19BSPT	19.0	12.00	6.50	2.90	●
MT LNHT 1403 19BSPT	19.0	14.00	7.90	3.20	●
MT LNHT 1403 14BSPT	14.0	14.00	7.90	3.20	●
MT LNHT 2104 14BSPT	14.0	21.00	12.60	4.80	●
MT LNHT 2104 11BSPT	11.0	21.00	12.60	4.80	●
MT LNHT 3005 11BSPT	11.0	30.00	16.70	5.60	●
MT LNHT 4006 11BSPT	11.0	40.00	20.80	6.40	●

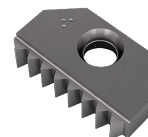
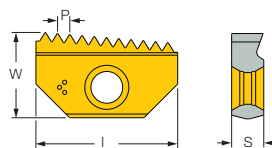


NPTF

MT LNHT-NPTF

External and Internal NPTF Full Profile Thread Milling Inserts, for Steam, Gas and Water Pipes

■ Internal/External



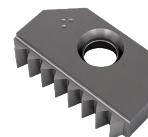
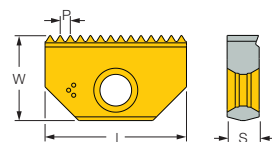
Designation	TPI	I	W	S	AC22
MT LNHT 1202 18NPTF	18.0	12.00	6.50	2.90	●
MT LNHT 1403 18NPTF	18.0	14.00	7.90	3.20	●
MT LNHT 1403 14NPTF	14.0	14.00	7.90	3.20	●
MT LNHT 2104 14NPTF	14.0	21.00	12.80	4.80	●
MT LNHT 2104 11.5NPTF	11.5	21.00	12.60	4.80	●
MT LNHT 3005 11.5NPTF	11.5	30.00	16.70	5.60	●
MT LNHT 3005 8NPTF	8.0	30.00	16.70	5.60	●
MT LNHT 4006 11.5NPTF	11.5	40.00	20.80	6.40	●
MT LNHT 4006 8NPTF	8.0	40.00	20.80	6.40	●

ABUT

MT LNHT-ABUT

External & Internal Single-Sided American Buttress Thread Milling Inserts

■ Internal/External



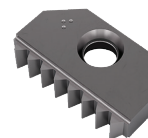
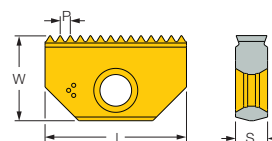
Designation	TPI	I	W	S	AC22
MT LNHT 2104 16ABUT	16.0	21.00	12.00	4.70	●
MT LNHT 2104 12ABUT	12.0	21.00	12.00	4.70	●
MT LNHT 2104 10ABUT	10.0	21.00	12.00	4.70	●
MT LNHT 2104 8ABUT	8.0	21.00	12.00	4.70	●
MT LNHT 3005 16ABUT	16.0	30.00	16.00	5.50	●
MT LNHT 3005 12ABUT	12.0	30.00	16.00	5.50	●
MT LNHT 3005 10ABUT	10.0	30.00	16.00	5.50	●
MT LNHT 3005 8ABUT	8.0	30.00	16.00	5.50	●
MT LNHT 3005 6ABUT	6.0	30.00	16.00	5.50	●
MT LNHT 3005 4ABUT	4.0	30.00	16.00	5.50	●
MT LNHT 4006 4ABUT	4.0	40.00	20.00	6.30	●

PG

MT LNHT-PG

External and Internal PG Full Profile Thread Milling Inserts (DIN 40430), for Electrical Connectors

■ Internal/External



Designation	TPI	I	PG	W	S	AC22
MT LNHT 1403 18PG	18.0	14.00	PG9,11,13.5,16	7.90	3.20	●
MT LNHT 2104 18PG	18.0	21.00	PG16	12.60	4.80	●
MT LNHT 2104 16PG	16.0	21.00	PG21,29,36,42,48	12.60	4.80	●
MT LNHT 3005 16PG	16.0	30.00	PG36,42,48	16.70	5.60	●



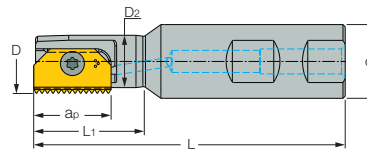
MT SERIES THREAD MILLING

Cutter Bodies

MTE D

Indexable Threading Endmills

Internal/External



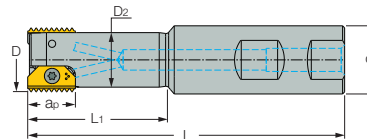
Designation	ap	D	d	D2	L1	L	Shank	Nxcm
MTE D09.5-1-W20-12	12.00	9.50	20.00	7.50	15.5	85.00	W	128
MTE D09.9-1-W20-12	12.00	9.90	20.00	7.50	16.0	85.00	W	128
MTE D12.2-1-W20-14	14.00	12.00	20.00	8.60	20.0	75.00	W	128
MTE D14.5-1-W20-14	14.00	14.50	20.00	11.20	25.0	85.00	W	128
MTE D17.0-1-W20-14	14.00	17.00	20.00	12.80	30.0	85.00	W	128
MTE D18-1-W20-21	21.00	18.00	20.00	14.20	30.0	85.00	W	515
MTE D21-1-W20-21	21.00	21.00	20.00	15.90	40.0	94.00	W	515
MTE D25-1-W20-21	21.00	25.00	20.00	-	-	125.00	W	515
MTE D29-1-W25-30	30.00	29.00	25.00	22.20	50.0	110.00	W	1020
MTE D31-1-W25-30	30.00	31.00	25.00	-	-	150.00	W	1020
MTE D38-1-W32-30	30.00	38.00	32.00	-	-	150.00	W	1020
MTE D48-1-W40-40	40.00	48.00	40.00	35.00	78.0	153.00	W	1020
MTE D48-1-W40-40-B	40.00	48.00	40.00	-	-	210.00	W	1020

Cutter Bodies

MTE D (Double Insert)

Double Insert Threading Endmills with Weldon Shanks

Internal/External



Designation	ap	D	d	D2	L1	L	Shank	Nxcm
MTE D20.0-2-W20-14	14.00	20.00	20.00	16.00	41.0	93.00	W	128
MTE D30-2-W25-21	21.00	30.00	25.00	24.00	52.0	108.00	W	515
MTE D40-2-W32-30	30.00	40.00	32.00	30.00	70.0	130.00	W	1020
MTE D50-2-W40-40	40.00	50.00	40.00	38.00	78.0	153.00	W	1020

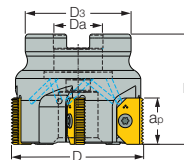
• Minimum bore should be one-third larger than D • All endmills are equipped with a bore for internal coolant

Cutter Bodies

MTF D (Shell Mill)

Thread Milling Multi-Insert Shell Mills

Internal/External



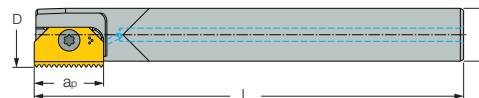
Designation	D	ap	Z	D3	Da	L	Nxcm	kg
MTF D063-5-22-21	63.00	21.00	5	40.00	22.00	50.00	515	0.70
MTF D063-4-22-30	63.00	30.00	4	48.00	22.00	50.00	1020	0.00
MTF D080-4-27-30	80.00	30.00	4	60.00	27.00	50.00	1020	0.00
MTF D080-4-27-40	80.00	40.00	4	60.00	27.00	65.00	1020	0.00
MTF D100-4-32-30	100.00	30.00	4	78.00	32.00	50.00	1020	0.00
MTF D100-4-32-40	100.00	40.00	4	78.00	32.00	65.00	1020	0.00

Cutter Bodies

MTE D-C

Indexable Threading Endmills with Cylindrical Carbide Shanks

Internal/External



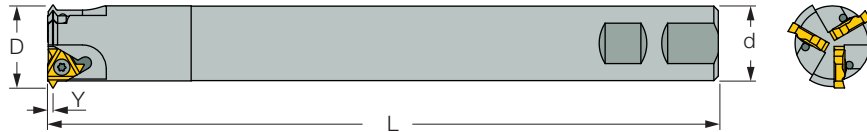
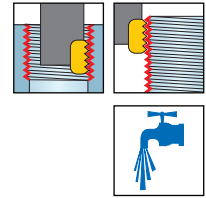
Designation	ap	D	d	D2	L	Shank	Nxcm	kg
MTE D09.9-1-C08C-12	12.00	9.90	8.00	8.00	127.00	C	128	0.10
MTE D13.7-1-C10C-14	14.00	13.20	10.00	10.00	110.00	C	128	0.12
MTE D13.7-1-C10C-14-B	14.00	13.20	10.00	10.00	153.50	C	128	0.17
MTE D15.2-1-C12C-14	14.00	15.20	12.00	12.00	182.30	C	128	0.30
MTE D21-1-C16C-21	21.00	21.00	16.00	16.00	130.00	C	515	0.35
MTE D21-1-C16C-21-B	21.00	21.00	16.00	16.00	206.30	C	515	0.50
MTE D27-1-C20C-30	30.00	27.00	20.00	20.00	263.00	C	1020	1.20

• For holders with long overhang, reduce the cutting speed and feed rate, between 20 to 40% (depending on workpiece, material, pitch and overhang)



MTSR M.I. S.P.

Indexable Multi-Insert Threading Endmills with Weldon Shanks,
for Single Point Inserts



Designation	D	Y	Z	d	L	Insert	Kg
MTSR 0023 Q11	23.50	1.0	3	20.00	190.00	MT3 11..D	0.41
MTSR 0031 R16	31.00	1.8	3	25.00	225.00	MT3 16..D	0.76

- Minimum bore should be one-third larger than D

SPARE PARTS



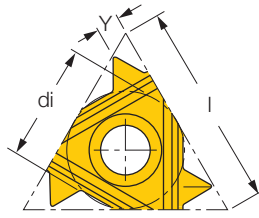
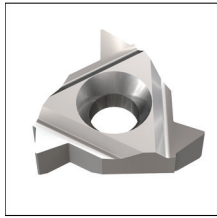
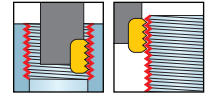
Designation	Screw	Key
MTSR 0023 Q11	S11	T-8/5
MTSR 0031 R16	S16S	K16



TC SERIES THREAD MILLING

MT3-55D

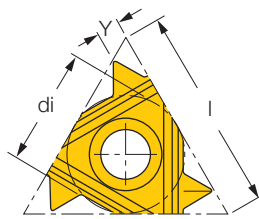
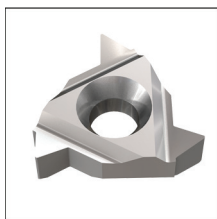
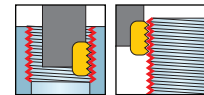
55° Partial Profile Laydown Thread Milling Inserts, for General Industry



Designation	di	TPI _{max}	TPI _{min}	I	Y	AC22
MT3 1155D	6.35	24	14	11.00	1.0	●
MT3 1655D	9.52	12	8	16.00	1.8	●

MT3-60D

60° Partial Profile Laydown Thread Milling Inserts, for General Industry

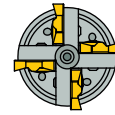
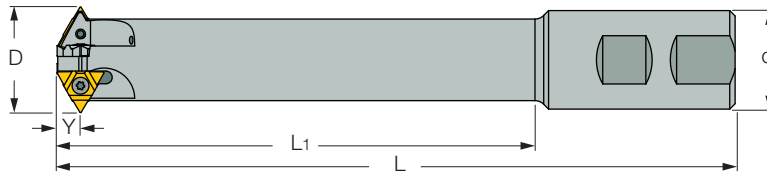
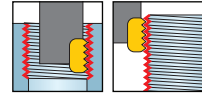


Designation	di	P _{min}	P _{max}	TPI _{max}	TPI _{min}	I	Y	AC22
MT3 1160D	6.35	1.00	2.00	24	12	11.00	1.0	●
MT3 1660D	9.52	2.50	3.50	10	7	16.00	1.8	●



MTSR M.I. S.P.-U

Indexable Multi-Insert Threading Endmills with Welded Shanks, for Single Point U-Type Inserts



Designation	D	Y	Z	d	L ₁	L	Insert	Kg
MTSR 0023 M11U	23.00	5.0	3	25.00	88.0	150.00	MT3 11U..D	0.32
MTSR 0035 R16U	35.50	7.6	4	32.00	155.0	220.00	MT3 16U..D	0.95

• Minimum bore should be one-third larger than D

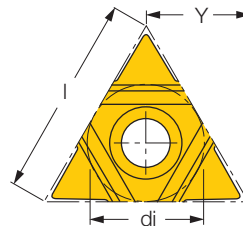
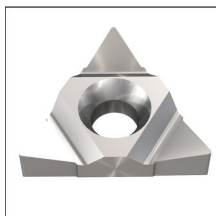
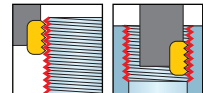
Spare Parts



Designation	Screw	Key
MTSR 0023 M11U	S11	T-8/5
MTSR 0035 R16U	S16S	K16

MT3-U55D

55° Partial Profile Laydown U-Type Thread Milling Inserts, for General Industry

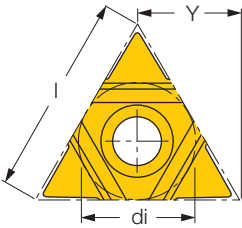
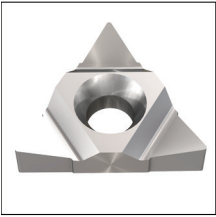
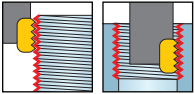


Designation	di	TPI _{max}	TPI _{min}	I	Y	AC22
MT3 11U55D	6.35	12	7	11.00	5.0	●
MT3 16U55D	9.52	6	4.5	16.00	7.6	●



MT3-U60D

60° Partial Profile Laydown U-Type Thread Milling Inserts, for General Industry



Designation	di	Pitch In	Pitch Ex	TPI Int	TPI Ext	I	Y	AC22
MT3 11U60D	6.35	2.5-4.0	2.0-3.0	10-6	12-8	11.00	5.0	●
MT3 16U60D	9.52	4.0-6.0	3.0-5.0	6-4	8-5	16.00	7.6	●



Technical Information

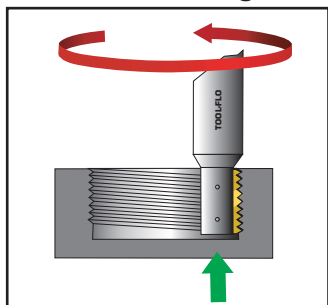
NPT & NPTF

When programming an NPT or NPTF thread form, a correction factor to compensate for the tapered thread form may need to be made. This is achieved by dividing the circular move into quarters or eighths, and moving the cutter out as the arc is generated so that the taper is included in the movement. The amount of taper for a given form is determined by the following formula:

$$\text{Taper per pitch} = \frac{.0625''}{\text{pitch}}$$

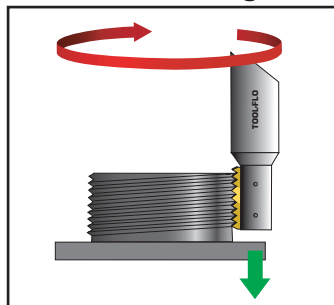
This amount of taper per pitch is then divided by number of programmed quadrants. This determines the amount that the cutter forms of the thread.

Climb Milling



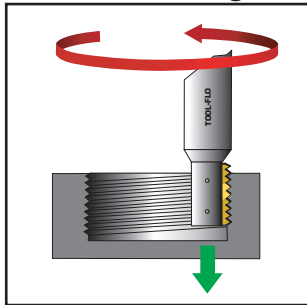
INTERNAL RIGHT HAND

Climb Milling



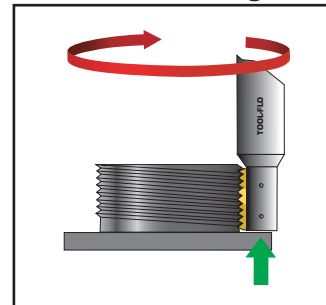
EXTERNAL RIGHT HAND

Climb Milling



INTERNAL LEFT HAND

Climb Milling



EXTERNAL LEFT HAND

NPT SELECTION CHART

SIZE	CUTTER	INSERT
1/4", 3/8"	TCT75 500-400-1	TI75P-18NPT
1/2", 3/4"	TCT1 500-659-1	TI1P-14NPT
1"	TCP15 100-932-1	TI15N-11.5NPT
1-1/4", 1-1/2"	TCP15 100-111-3	TI15N-11.5NPT
2"	TCP15 125-175-5	TI15N-11.5NPT
3"	TCP15 125-175-5	TI15N-8NPT

RECOMMENDED SPEED AND FEED RATES

MATERIAL	CHIP LOAD	SPEED (SFPM)
1018 Steel	.0008 - .002	250 - 500
Standard steel (4140)	.0005 - .002	175 - 350
300 Series Stainless	.0005 - .0035	250 - 500
400 Series Stainless	.0002 - .0015	125 - 300
Gray Iron	.0005 - .003	400 - 800
Ductile iron	.001 - .005	600 - 1000
Aluminum	.0015 - .006	800 - 1200
Brass	.002 - .0065	400 - 700



TC SERIES THREAD MILLING

Minimum internal thread size vs threads per pitch for given cutter body for ISO threads

cutter body	pitch	0.5	1.0	1.25	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0
TCN75 500-394-1		M16	M16	M16	M16								
TCN75 500-468-1		M18	M18	M18	M20								
TCN1 750-625-1			M24		M25	M25							
TCP15 100-932-1					M36	M36	M39	M39	M39	M39	M42	M48	M50
TCP15 100-111-3					M45	M45	M45	M45	M48	M48	M48	M48	M52
TCP15 125-175-5					M68	M68	M68	M68	M70	M70	M72	M72	M72

Minimum internal thread size vs threads per inch (tpi) for given cutter body for UN threads

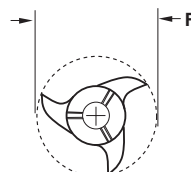
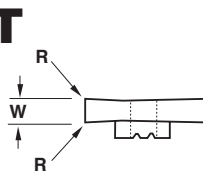
cutter body	tpi	32	24	20	18	16	14	12	10	8	7	6
TCN75 500-394-1		5/8"	5/8"	5/8"	3/4"	11/16"						
TCN75 500-468-1		3/4"	3/4"	3/4"	3/4"	13/16"						
TCN1 750-625-1		15/16"	1"	1"	1"	1-1/16"	1-1/8"	1-1/8"	1-1/8"			
TCP1 100-969-2			1-1/2"	1-1/2"	1-7/16"	1-1/2"	1-1/2"	1-1/2"	1-1/2"			
TCP1 125-175-5				2-5/8"	2-5/8"	2-5/8"	2-3/4"	2-3/4"	2-3/4"			
TCP15 100-932-1				1-7/16"	1-7/16"	1-7/16"	1-7/16"	1-1/2"	1-1/2"	1-1/2"	1-5/8"	1-5/8"
TCP15 100-111-3				1-11/16"	1-11/16"	1-11/16"	1-3/4"	1-11/16"	1-3/4"	1-3/4"	1-13/16"	1-13/16"
TCP15 125-175-5				2-5/8"	2-5/8"	2-5/8"	2-3/4"	2-3/4"	2-3/4"	2-3/4"	2-3/4"	2-3/4"



MILL GROOVING INSERT

TFMG

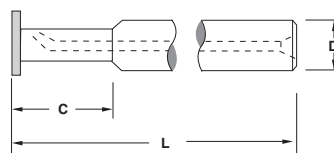
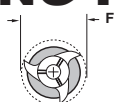
Grooving



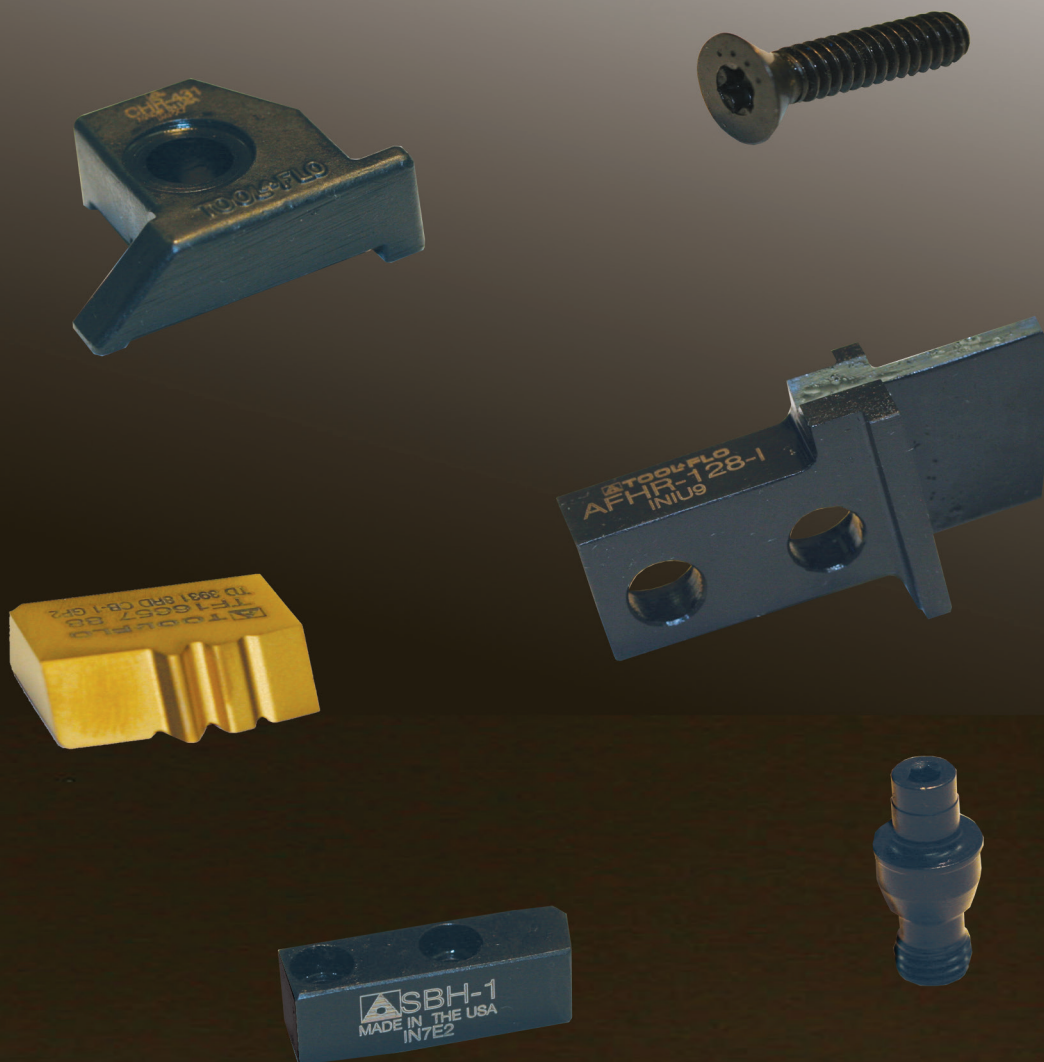
Description	W	D.O.C.	R	F	GP22
TFMG-039W	0.039	.177	-	0.854	●
TFMG-056W	0.056	.177	-	0.854	●
TFMG-062W	0.062	.177	0.008	0.854	●
TFMG-078W	0.078	.177	0.008	0.854	●
TFMG-094W	0.094	.177	0.008	0.854	●
TFMG-125W	0.125	.177	0.008	0.854	●
TFMG-187W	0.187	.177	0.008	0.854	●
TFMG-250W	0.250	.177	0.008	0.854	●

MILL GROOVING HOLDER

TFM

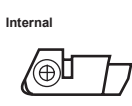


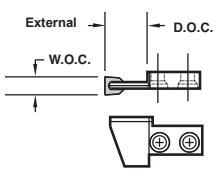
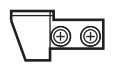
Description	C	L	D	F	Insert Screw
TFM-7-12M-100C	Straight shank	100mm	12mm	0.854	SD25
TFM-7-12M-130C	Straight shank	130mm	12mm	0.854	SD25
TFM-7-16M-42C	42mm	100mm	16mm	0.854	SD25
TFM-7-16M-60C	60mm	130mm	16mm	0.854	SD25
TFM-7-16M-85C	85mm	160mm	16mm	0.854	SD25
TFM-7-500-394C	Straight shank	3.94	0.500	0.854	SD25
TFM-7-500-512C	Straight shank	5.12	0.500	0.854	SD25
TFM-7-625-165C	1.650	3.94	0.625	0.854	SD25
TFM-7-625-236C	2.630	5.12	0.625	0.854	SD25
TFM-7-625-335C	3.350	6.30	0.625	0.854	SD25



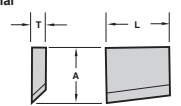
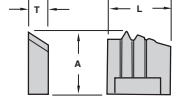
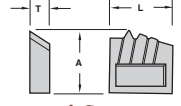
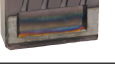
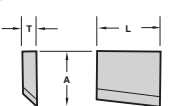
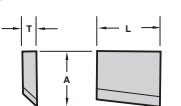
SPARE PARTS

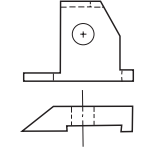
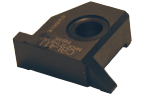
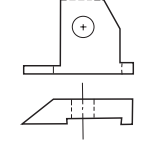


	Description	D.O.C.	W.O.C.	Insert
ANVILS Threading  Internal  RH Shown	ABL-113	7.92	2.67-3.18	DBP/VDB
	ABR-113	7.92	2.67-3.18	DBP/VDB
	ABL-131	4.57	4.78-6.35	V84/V85
	ABR-131	4.57	4.78-6.35	V84/V85
	ABL-135	13.46	4.32-4.78	DBP/VDB
	ABR-135	13.46	4.32-4.78	DBP/VDB
	ABL-143	7.92	7.49-7.93	V84/V85
	ABR-143	7.92	7.49-7.93	V84/V85
	ABL-145	13.46	5.59-6.35	VDB 250A
	ABR-145	13.46	5.59-6.35	VDB 250A
	ABL-171	4.57	60° V	V84/V85
	ABR-171	4.57	60° V	V84/V85
	ABL-245	13.46	5.59-6.35	DBP/VDB
	ABR-245	13.46	5.59-6.35	DBP/VDB

 External W.O.C. D.O.C.  RH Shown	AHL-138	20.62	4.32-4.78	VDB
	AHR-138	20.62	4.32-4.78	VDB
	AHL-148	20.62	5.59-6.35	VDB
	AHR-148	20.62	5.59-6.35	VDB
	AHL-173	20.62	V-THD	V84/V85
	AHR-173	20.62	V-THD	V84/V85
	AHL-248	20.62	6.35-7.93	VDB250B
	AHR-248	20.62	6.35-7.93	VDB250B

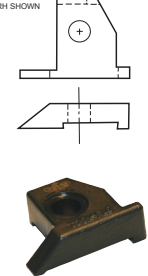
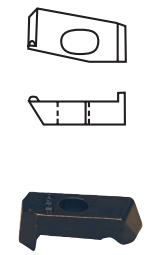
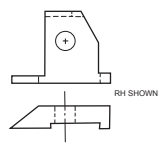
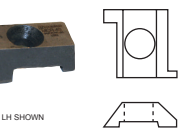
FITTINGS For Coolant Fed Clamps  1/8" (125) NPT elbow (Connection to clamp)  1/8" (125) NPT straight (Connection to clamp)  M6 x 1 elbow (Connection to machine)  M6 x 1 straight (Connection to machine)	1/8" NPT ELBOW	1/8" (0.125) x 27NPT
	1/8" NPT STRAIGHT	1/8" (0.125) x 27NPT
	M6X1 ELBOW	6MM X 1.0
	M6X1 STRAIGHT	6MM X 1.0

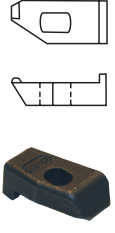
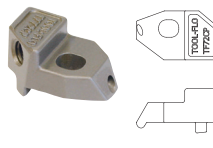
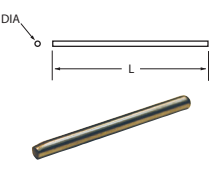
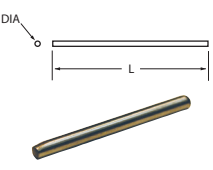
	Description	Insert
CHIPBREAKERS External  	CR 5B75/5B1-4E CB TF2993	CR-5B75-4E
	CR 8R/10R-3E/4E CB 1353E	CR-8RD-3E
	#3 CB w/o Coolant Grooves TF26424	CR-8R/10R-3E
External with coolant grooves  	TD4601 5B75-1 CB	CR-5B75-3E #1
	TD4602 5B75-2 CB	CR-5B75-3E #2
	TD4603 5B75-3 CB	CR-5B75-3E #3
	TD3931 8RD-1 CB	CR-8R-3E #1
	TD3932 8RD-2 CB	CR-8R-3E #2
	TD3933 8RD-3 CB	CR-8R-3E #3
	TA2237 10RD-1 CB	CR-10R-3E #1
	TA2238 10RD-2 CB	CR-10R-3E #2
External with coolant cavity  	TA2239 10RD-3 CB	CR-10R-3E #3
	#3 CB w/Coolant Grooves .170	CR-8R/10R-3E
Internal  	TD4601 5B75-1 CB W/CAVITY	CR-5B75-3E #1
	TD4602 5B75-2 CB W/CAVITY	CR-5B75-3E #2
	TD4603 5B75-3 CB W/CAVITY	CR-5B75-3E #3
	TD3931 8RD-1 CB W/CAVITY	CR-8R-3E #1
	TD3932 8RD-2 CB W/CAVITY	CR-8R-3E #2
	TD3933 8RD-3 CB W/CAVITY	CR-8R-3E #3
Internal  	CR 5B75/5B1-4I-CB TF16104	CR-5B75-4I
	CR-8R/10R-3I/4I-CB TF1353	CR-8RD-3I
	CR 5B75-5I-CB TF28765I	CR-5B75-5I
	CR 8R-7I-CB TF3435I	CR-8RD-3I

	Description	D.O.C.	W.O.C.	Insert
CLAMPS Internal  RH SHOWN 	CBLM-84	-	-	V84/V85
	CBRM-84	-	-	V84/V85
	CBL-98	-	-	V96/V98
	CBR-98	-	-	V96/V98
	CBL-120	-	-	V120
	CBR-120	-	-	V120
	CBL-132	7.92	2.67-3.18	DBP/VDB
	CBR-132	7.92	2.67-3.18	DBP/VDB
	CBL-352			DBP/VDB
	CBR-352			DBP/VDB
	CBL-411	4.57	4.78-6.35	V84/V85
	CBR-411	4.57	4.78-6.35	V84/V85
	CBL-452	13.46	5.59-6.35	DBP/VDB
	CBR-452	13.46	5.59-6.35	DBP/VDB
	CBL-531	7.92	7.49-7.93	V84/V85
	CBR-531	7.92	7.49-7.93	V84/V85
External  RH SHOWN 	CHL-98	-	-	V96/V98
	CHR-98	-	-	V96/V98
	CHL-120	-	-	V120
	CHR-120	-	-	V120
	CHL-132	7.92	2.67-3.18	DBP/VDB
	CHR-132	7.92	2.67-3.18	DBP/VDB
	CHL-182	7.92	2.67-3.18	DBP/VDB
	CHR-182	7.92	2.67-3.18	DBP/VDB
	CHL-382	20.62	4.32-4.78	DBP/VDB
	CHR-382	20.62	4.32-4.78	DBP/VDB
	CHL-431	7.92	5.59-7.93	V84/V85
	CHR-431	7.92	5.59-7.93	V84/V85
	CHL-452	-	-	V84/V85
	CHR-452	-	-	V84/V85
	CHL-482	20.62	5.59-7.93	DBP/VDB
	CHR-482	20.62	5.59-7.93	DBP/VDB
	CHL-582	20.62	8.89-9.53	DBP/VDB
	CHR-582	20.62	8.89-9.53	DBP/VDB
	CHR-FCI094	13.49	2.39	FC-094
	CHR-FCI125	13.49	3.18	FC-125
	CHL-FCS094	20.62	2.39	FC-094
	CHL-FCS125	20.62	3.18	FC-125
	CHR-FCS094	20.62	2.39	FC-094
	CHR-FCS125	20.62	3.18	FC-125



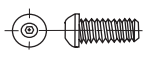
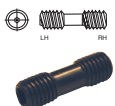
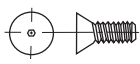
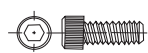
SPARE PARTS

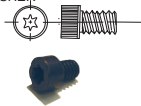
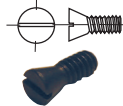
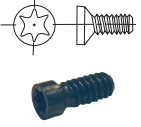
	Description	D.O.C.	W.O.C.	Insert
CLAMPS External 	CHR-FC094	12.70		FC-094
	CHR-FC125	25.40		FC-125
	CHR-FC187	25.40		FC-187
	CHL-FC094	12.70		FC-094
	CHL-FC125	25.40		FC-125
	CHL-FC187	25.40		FC-187
	CHR-FCED125	38.10		FC-125
	CHR-FCED187	38.10		FC-187
	CHL-FCED125	38.10		FC-125
	CHL-FCED187	38.10		FC-187
	CHR-FCI094	13.49		FC-094
	CHR-FCI125	13.49		FC-125
	CHR-FCL094	12.70		FC-094
	CHR-FCL125/187	20.32	3.182/4.76	FC-125/187
	CHL-FCS094	20.62	2.38	FC-094
	CHL-FCS125	20.62	3.18	FC-125
	CHR-FCS094	20.62	2.38	FC-094
	CHR-FCS125	20.62	3.18	FC-125
Face Grooving 	CHLF-282I	20.62	2.67-3.18	DBP/VDB
	CHLF-282O	20.62	2.67-3.18	DBP/VDB
	CHRF-282I	20.62	2.67-3.18	DBP/VDB
	CHRF-282O	20.62	2.67-3.18	DBP/VDB
	CHLF-382I	20.62	4.32-4.78	DBP/VDB
	CHLF-382O	20.62	4.32-4.78	DBP/VDB
	CHRF-382I	20.62	4.32-4.78	DBP/VDB
	CHRF-382O	20.62	4.32-4.78	DBP/VDB
	CHLF-482I	20.62	5.59-7.93	DBP/VDB
	CHLF-482O	20.62	5.59-7.93	DBP/VDB
	CHRF-482I	20.62	5.59-7.93	DBP/VDB
	CHRF-482O	20.62	5.59-7.93	DBP/VDB
	CHLF-582I	20.62	8.89-9.53	DBP/VDB
	CHLF-582O	20.62	8.89-9.53	DBP/VDB
	CHRF-582I	20.62	8.89-9.53	DBP/VDB
	CHRF-582O	20.62	8.89-9.53	DBP/VDB
	Description		Length	
	CLM-6		14.73	
	CLM-7		16.26	
	CLM-9		19.05	
	CLM-12		22.35	
	CLM-20		18.54	
	CLM-24		25.40	
	CLM-30		25.40	
	Description		Insert	
	CM-65		FLPL/R-33	
	CM-66		FLPL/R-33	
	CM-68		FLPR-5	
	CM-71		FLPL-5	
	CM-79		FLPR-5	
	CM-81		FL-5L	
	CM-111		FLPR-5	
	CM-112		FLPL-5	
	CM-113		VPGR (RH HOLDER)	
	CM-114		VPGR (LH HOLDER)	
	CM-116		DPGR (RH HOLDER)	
	CM-117		DPGR (LH HOLDER)	
	CM-118		DPGR (RH BAR)	
	CM-119		DPGR (LH BAR)	
	CM-121		Replaced with TF-121	
	CM-180		FLPR-5	
	CM-181		FLPL-5	
	Description	D.O.C.	W.O.C.	Insert
	DGCHL-132	31.75	2.67-3.18	VDG
	DGCHR-132	31.75	2.67-3.18	VDG
	DGCHL-382	34.93	4.32-4.78	VDG
	DGCHR-382	34.93	4.32-4.78	VDG
	DGCHL-482	38.10	5.54-6.35	VDG
	DGCHR-482	38.10	5.54-6.35	VDG
	DGCHL-500	38.10	6.35-7.93	VDG
	DGCHR-500	38.10	6.35-7.93	VDG
	DGCHL-582M	44.45	8.89-9.53	VDG
	DGCHR-582M	44.45	8.89-9.53	VDG
	Description		Insert	
	MCL-30		MLPE-1251	
	MCR-30		MLPE-1251	
	MCL-40		MLPE-2532	
	MCR-40		MLPE-2532	
	MCL-50		MLPE-3425	
	MCR-50		MLPE-3425	

CLAMPS 	Description		Length		
	TC-190		13.46		
	TC-191		16.26		
	TC-250		18.54		
	TC-311		22.35		
		TC-380	25.40		
Flo-Lock 	Description		Insert		
	TF-72		FL-3R/4R		
	TF-73		FL-3L/4L		
	TF-74		FL-2R		
	TF-75		FL-2L		
	TF-77*		FL-4L/3L*		
	TF-78*		FL-4R/3R*		
	TF-80		FL-5R		
	TF-81		FL-5L		
	TF-120		FL-6R		
	TF-121		FL-6L		
	TF-146		FL-2R		
	TF-147		FL-2L		
	TF-182		FL-2R		
	TF-183		FL-2L		
	TF-184		FL-3R		
	TF-185		FL-3L		
Coolant Fed Clamps 	Description		Insert		
	TF-72CP		FL-3R/4R		
	TF-73CP		FL-3L/4L		
	TF-74CP		FL-2R		
	TF-75CP		FL-2L		
	TF-182CP		FL-6R		
	TF-183CP		FL-6L		
	TF-184CP		FL-6R		
	TF-185CP		FL-6L		
CAM PINS 	CLP-25				
	CLP-36				
	CLP-38				
	CLP-48				
	CLP-58				
	CLP-310				
	CLP-312				
	CLP-410				
	CLP-412				
	CLP-412T				
	CLP-510				
	CLP-512T				
	CLP-612				
	DOWEL PINS 	Description		DIA	L
DP-1		3.18	25.40		
DP-2		3.18	38.10		
DP-3		6.35	9.65		
DP-4		4.83	9.65		
DP-5		2.29	4.83		
DP-6		6.35	25.40		
DP-7		4.0	10.0		
DP-8		4.0	8.0		
DP-9		6.35	12.70		
DP-10		6.35	19.05		
DP-11		4.83	16.00		
DP-135		3.30	35.05		
LOCK PINS 	Description		Threads	Length	Wrench
	NLM-33		1/4-20	8.64	5-64 HEX
	NLM-33L		1/4-20	10.41	5-64 HEX
	NLM-34		1/4-20	11.43	5-64 HEX
	NLM-34L		1/4-20	12.95	5-64 HEX
	NLM-44		1/4-28	12.95	3/32 HEX
	NLM-46		1/4-28	17.27	3/32 HEX
	NLM-46L		1/4-28	18.54	3/32 HEX
	NLM-56		5/16-24	17.53	1/8 HEX
	NLM-58		5/16-24	21.84	1/8 HEX
	NLM-66		3/8-24	17.53	9/64 HEX
	NLM-68		3/8-24	21.84	9/64 HEX
	NLM-810		7/16-20	29.72	5/32 HEX
	H-410-1		5/8 IC	17.02	3.0MM HEX
	H-310-1		M5 x 0.8	17.02	3.0MM HEX

*Designed for Sandvik® Toolholders & Bars.

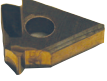


	Description	Threads	Length	Wrench
SCREWS Button Head 	SB10	4-40	6.35	1/16 HEX
	SB90	5/16-18	19.05	3/16 HEX
	SB100	5/16-18	25.40	3/16 HEX
	SBM428	-	-	-
	SBM518	M4 x 0.7	9MM	2.25MM HEX
	SBM524	M5 x 0.8	12MM	2.0MM HEX
	SBM526	M5 x 0.8	10MM	3MM HEX
	SBM532	M6 x 1.0	19MM	4.0MM HEX
	SBM625	M6 x 1.0	22MM	4.0MM HEX
	SBM628	-	-	-
Clamp Screw 	STCM8	M8 x 1.0	25MM	4.0MM HEX
	STCM9	M5 x 0.8	15MM	2.5MM HEX
	STCM11	M6 x 1.0	20MM	3.0MM HEX
Flat Head Cap Screw  	S-111 (SF-20)	4 - 40	9.53	T-9 TORX
	SAM3	M3.5 x 0.5	11MM	2.0 HEX
	SAM4	M4 x 0.7	15MM	2.5 HEX
	SAM5	M5 x 0.8	22MM	T-25 TORX
	SFM10	M3 x 0.5	6MM	2.0MM HEX
	SFM30	M3 x 0.5	10MM	2.0MM HEX
	SFM40	M3.5 x 0.5	12MM	2.0MM HEX
	SFM42	M3.5 x 0.5	15MM	2.0MM HEX
	SFM45	M3.5 x 0.5	19MM	2.0MM HEX
	SFM47	M3.5 x 0.5	13MM	2.0MM HEX
	SFM48	M3.5 x 0.5	6MM	2.0MM HEX
	SFM50	M5 x 0.7	10MM	2.5MM HEX
	SFM60	M5 x 0.7	12MM	2.5MM HEX
	SFM65	M5 x 0.8	13MM	3.0MM HEX
	SFM69	M5 x 0.8	19MM	3.0MM HEX
	SFM80	M5 x 0.8	13MM	3.0MM HEX
	SFM85	M5 x 0.8	16MM	3.0MM HEX
	SFM90	M8 x 1.25	25MM	5.0MM HEX
	SFM95	M6 x 1.0	19MM	3.0MM HEX
	SN-2T	M2.5 x 0.45	.265	T-8 TORX
	SN-3T	5 - 40	.375	T-8 TORX
	PT-324	5 - 40	9.53	1/16 HEX
	PT-586T	M3 x 0.5	.410	T-8 TORX
SCREWS SD Torx Flat Head  	SD1	6 - 40	12.70	T-10 TORX
	SD2	10 - 32	19.05	T-20 TORX
	SD3	10 - 32	19.05	T-20 TORX
	SD4	1/4 - 20	31.75	1/8 HEX
	SDM-25	-	-	-
	SSM82	M5 x 0.8	16MM	-
Socket Head Cap Screw  	SM352 (SSM90)	5/16 - 18	25.40	1/4 HEX
	SM412	10 - 32	19.05	5/32 HEX
	SSM20	4 - 40	9.53	3/32 HEX
	SSM51	M4 x 0.7	20MM	3.0MM HEX
	SSM61	M4 x 0.7	20MM	3.0MM HEX
	SSM62	M3 x 0.5	10MM	2.5MM HEX
	SSM63	M3 x 0.6	10MM	2.5MM HEX
	SSM64	M4 x 0.7	12MM	3.0MM HEX
	SSM65	M4 x 0.7	16MM	3.0MM HEX
	SSM81	M5 x 0.8	18MM	4.0MM HEX
	SSM82	-	-	-
	SSM83	M8 x 1.25	20MM	5.0MM HEX
	SSM85	M5 x 0.8	16MM	4.0MM HEX
	SSM89	M5 x 0.8	10MM	4.0MM HEX
	SSM90	M8 x 1.25	25MM	6.0MM HEX
	SSM91	M5 x 0.8	12MM	3.0MM HEX
	SSM94	M8 x 1.0	16MM	6.0MM HEX
	SSM95	M8 x 1.0	25MM	6.0MM HEX
	SSM100	M6 x 1.0	18MM	5.0MM HEX
	SSM110	M6 x 1.0	25MM	5.0MM HEX
	TS-61	M6 x 1.0	16MM	5.0MM HEX

	Description	Threads	Length	Wrench
Socket Head Torx Screw W/WASHER 	SYM-3	5-40	6.35	T-10 TORX
	SYM-4	8-32	9.53	T-20 TORX
Special Flat Head Screw 	SL-344	4-40	7.94	-
	S-34	10-32	2.34	-
	S-46	1/4-28	-	-
	S-58	5/16-24	-	-
	S-68	3/8-24	-	-
	S-69	-	-	-
	S-959	2-56	6.35	-
TS Torx Head Screw 	TS1	1 - 72	2.38	T-6 TORX
	TS25	M2.5 x 0.45	5.5MM	T-8 TORX
	TS250	M2.5 x 0.45	4.8MM	T-8 TORX
	TS252 (SF05)	M2.5 x 0.45	8.0MM	T-8 TORX
	TS3	2 - 56	3.18	T-7 TORX
	TSM40	5 - 40	9.53	T-10 TORX
	TS42	M4 x 0.7	8.69	T-15 TORX
	TSM6	4 - 40	5.16	T-10 TORX
	TSSM2	10 - 32	12.70	T-20 TORX
	TSSM3	M5 x 0.8	6MM	-
Differential Screw 	XNS-35	10 - 32	14.99	3/32 HEX
	XNS-510	5/16 - 24	31.75	5/32 HEX
	XNS-51	-	-	-
	XNSM-0515	M5 x 0.8	15.0	2.5MM HEX
	XNSM-0825	M8 x 1.0	25.0	4.0MM HEX
SEATS Chaser Style 	Description		Insert	
	TF1207		CR-8R-3E/4E	
	TF1780		CR-8R-3I/4I	
	TF3218		CR-8R-7I	
	TF8132-E		CR-5B75-4E	
	TF8132-I		CR-5B75-4I	
SEATS Flo-Lock Style 	SM-267		FLPL-33	
	SM-268		FLPR-33	
	SM-271		FLPL-13	
	SM-272		FLPR-13	
	SM-285		FLPR-5	
	SM-286		FLPL-5	
	SM-412		VPGR	
	SM-414		DPGR	
	SM-416		FL-6	
	SM-420		FL-4	

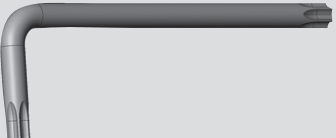


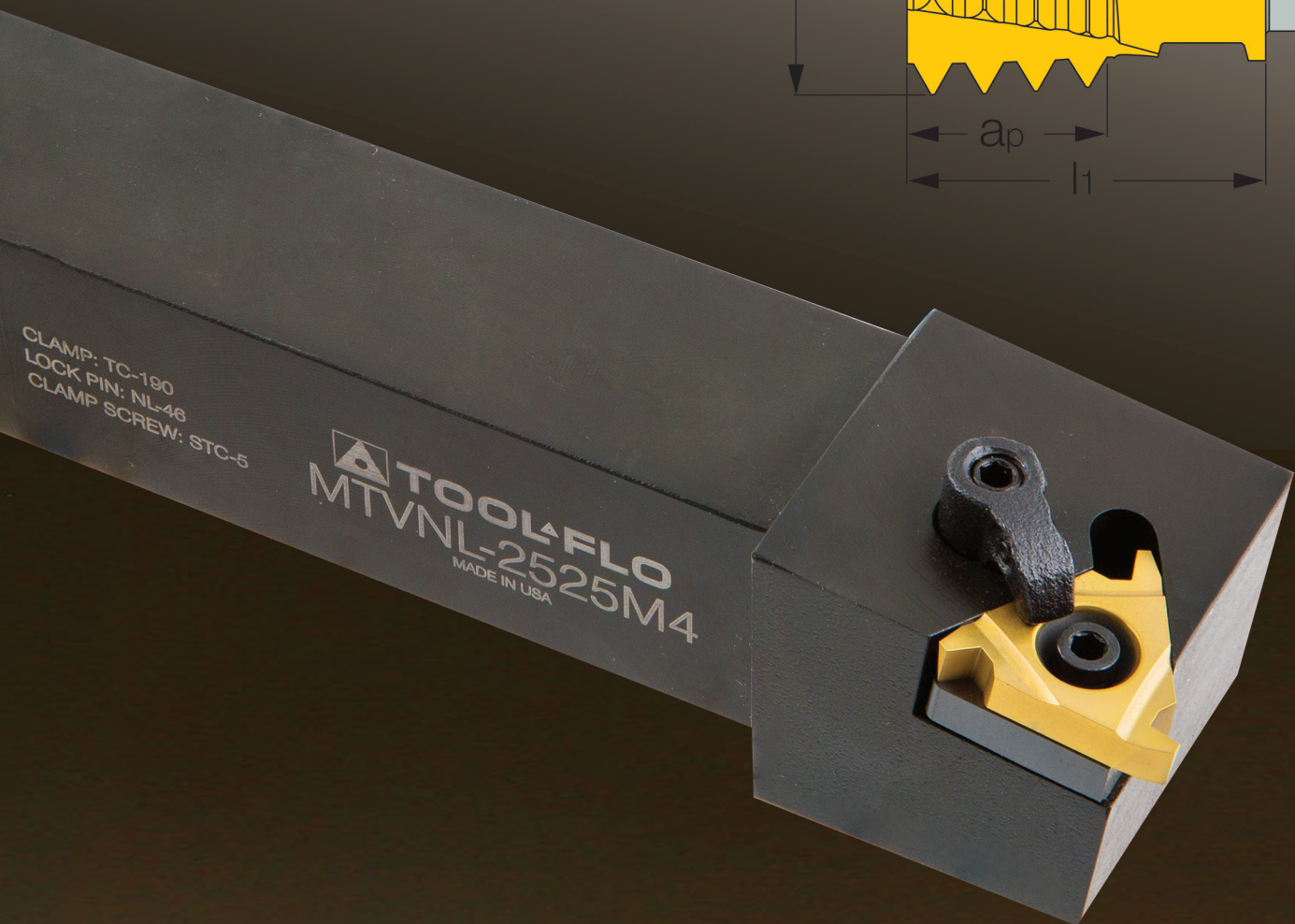
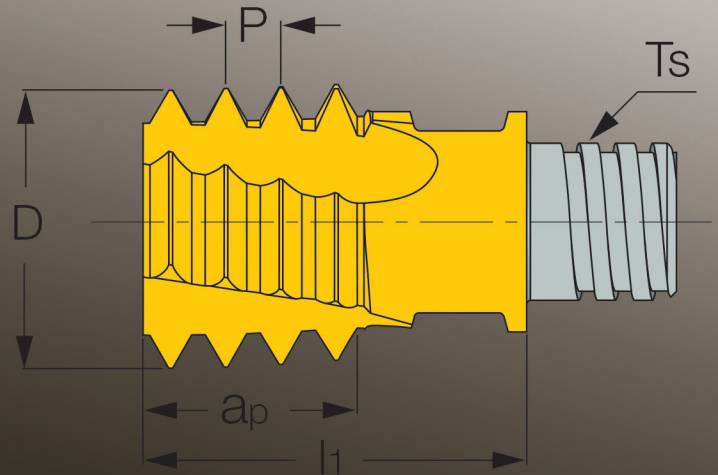
SPARE PARTS

Description		Length		Description	Description	
SEATS (cont.) Laydown L Style 	LS 43 NO FORM EXT		L43 EXT	STOP BLOCKS 	SBH-1	
	LS 43 NO FORM INT		L43 INT		SBH-2	
Laydown LT Style 	LS 53 NO FORM EXT		L53 EXT	WRENCHES Flag Style Torx 	SBH-4	
	LS 53 NO FORM INT		L53 INT			
	LS 43 API EXT		L43 API EXT	L-Style Torx 	K05	T-6 TORX
	LS 43 API INT		L43 API INT		K1	T-7 TORX
	LS 53 API EXT		L53 API EXT		K2	T-8 TORX
	LS 53 API INT		L53 API INT		K3	T-10 TORX
					K4	T-20 TORX
					K5	T-25TORX
Description	Angle°	Insert		Description	Wrench	
YE3 3N	-1.5°	16ER/16NL				
YE3 2N	-0.5°	16ER/16NL				
YE3 1.5N	0°	16ER/16NL				
YE3 1N	0.5°	16ER/16NL				
YE3	1.5°	16ER/16NL				
YE3 1P	2.5°	16ER/16NL				
YE3 2P	3.5°	16ER/16NL				
YE3 3P	4.5°	16ER/16NL				
YE3M NO FORM	1.5°	16ER/16NL				
YE3M 1N	0.5°	16ER/16NL				
YE3M 1.5N	0°	16ER/16NL				
YE3M 2N	-0.5°	16ER/16NL				
YE4 3N	-1.5°	22ER/22NL				
YE4 2N	-0.5°	22ER/22NL				
YE4 1.5N	0°	22ER/22NL				
YE4 1N	0.5°	22ER/22NL				
YE4	1.5°	22ER/22NL				
YE4 1P	2.5°	22ER/22NL				
YE4 2P	3.5°	22ER/22NL				
YE4 3P	4.5°	22ER/22NL				
YE4M NO FORM	1.5°	22ER/22NL				
YE4M 1N	0.5°	22ER/22NL				
YE4M 1.5N	0°	22ER/22NL				
YE4M 2N	-0.5°	22ER/22NL				
YE5 3N	-1.5°	27ER/27NL				
YE5 2N	-0.5°	27ER/27NL				
YE5 1.5N	0°	27ER/27NL				
YE5 1N	0.5°	27ER/27NL				
YE5	1.5°	27ER/27NL				
YE5 1P	2.5°	27ER/27NL				
YE5 2P	3.5°	27ER/27NL				
YE5 3P	4.5°	27ER/27NL				
YE5 8NPT 2M	1.5°	27ER/NL 8NPT 2M				
YE5 8RD 2M	1.5°	27ER/NL 8RD 2M				
YE5M NO FORM	1.5°	27ER/27NL				
YE5M 1N	0.5°	27ER/27NL				
YE5M 1.5N	0°	27ER/27NL				
YI3 3N	-1.5°	16NR/16EL				
YI3 2N	-0.5°	16NR/16EL				
YI3 1.5N	0°	16NR/16EL				
YI3 1N	0.5°	16NR/16EL				
YI3	1.5°	16NR/16EL				
YI3 1P	2.5°	16NR/16EL				
YI3 2P	3.5°	16NR/16EL				
YI3 3P	4.5°	16NR/16EL				
YI3M NO FORM	1.5°	16NR/16EL				
YI3M 1N	0.5°	16NR/16EL				
YI3M 1.5N	0°	16NR/16EL				
YI3M 2N	-0.5°	16NR/16EL				
YI4 3N	-1.5°	22NR/22EL				
YI4 2N	-0.5°	22NR/22EL				
YI4 1.5N	0°	22NR/22EL				
YI4 1N	0.5°	22NR/22EL				
YI4	1.5°	22NR/22EL				
YI4 1P	2.5°	22NR/22EL				
YI4 2P	3.5°	22NR/22EL				
YI4 3P	4.5°	22NR/22EL				
YI4M NO FORM	1.5°	22NR/22EL				
YI4M 1N	0.5°	22NR/22EL				
YI4M 1.5N	0°	22NR/22EL				
YI4M 2N	-0.5°	22NR/22EL				
YI5 3N	-1.5°	27NR/27EL				
YI5 2N	-0.5°	27NR/27EL				
YI5 1.5N	0°	27NR/27EL				
YI5 1N	0.5°	27NR/27EL				
YI5	1.5°	27NR/27EL				
YI5 1P	2.5°	27NR/27EL				
YI5 2P	3.5°	27NR/27EL				
YI5 3P	4.5°	27NR/27EL				
YI5 8NPT 2M	1.5°	27NR/EL 8NPT 2M				
YI5 8RD 2M	1.5°	27NR/EL 8RD 2M				
YI5M NO FORM	1.5°	27NR/27EL				
YI5M 1N	0.5°	27NR/27EL				
YI5M 1.5N	0°	27NR/27EL				



Wrench

Type	Designation	Screw size	Torque (N·m)
	KEYV-F05	F05	7
	KEYV-F06	F06	10
	KEYV-F08	F08	15
	KEYV-177	F06	10
	KEYV-217	F08	15
	KEYV-T40L	F08	15
	KEYV-T20	F05	7
		F06	10
	KEYV-T25	F06	10
	KEYV-T30L	F08	15
	KEYV-T50L	F08	28



TECHNICAL



Number of Cutting Passes for Regular Type Inserts

Pitch mm TPI	0.5 48	1.0 24	1.5 16	2.0 12	2.5 10	3.0 8	4.0 6	6.0 4
Number of Passes	46-	59-	512-	614-	715-	817-	1020-	1122-

For mini-tools (06IR or 08IR) add 1-3 passes. Increase for hard materials.

Maximum Depth of First Cut, for CNC Control External Threading - M-Type Inserts

Full Profile	Pitch	TPI	Insert Designation	No. of Passes		Max Depth for First Pass ⁽¹⁾ mm									
						Low Carbon Steel		High Carbon Steel		Alloy Steel		Stainless Steel		Nonferrous Aluminium	
						Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾	Eq. ⁽²⁾	Dim. ⁽³⁾
ISO Metric	1.00		16 ERM 1.00 ISO	5	9	0.34	0.51	0.31	0.46	0.27	0.41	0.22	0.33	0.48	0.71
	1.25		16 ERM 1.25 ISO	6	11	0.42	0.63	0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
	1.50		16 ERM 1.50 ISO	6	12	0.46	0.69	0.41	0.62	0.37	0.55	0.30	0.45	0.64	0.97
	1.75		16 ERM 1.75 ISO	8	13	0.48	0.72	0.43	0.65	0.38	0.58	0.31	0.47	0.67	1.01
	2.00		16 ERM 2.00 ISO	8	14	0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	2.50		16 ERM 2.50 ISO	10	15	0.53	0.80	0.48	0.72	0.42	0.64	0.34	0.52	0.74	1.12
American UN	3.00		16 ERM 3.00 ISO	12	17	0.56	0.84	0.50	0.76	0.45	0.67	0.36	0.55	0.78	1.18
		24	16 ERM 24 UN	5	9	0.34	0.51	0.31	0.46	0.27	0.41	0.22	0.33	0.48	0.71
		20	16 ERM 20 UN	6	10	0.42	0.63	0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
		18	16 ERM 18 UN	6	11	0.46	0.69	0.41	0.62	0.37	0.55	0.30	0.45	0.64	0.97
		16	16 ERM 16 UN	7	12	0.47	0.71	0.42	0.64	0.38	0.57	0.31	0.46	0.66	0.99
		14	16 ERM 14 UN	6	13	0.46	0.69	0.41	0.62	0.37	0.55	0.28	0.41	0.64	0.97
British BSW		12	16 ERM 12 UN	8	14	0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
		8	16 ERM 8 UN	12	17	0.56	0.84	0.50	0.76	0.45	0.67	0.36	0.55	0.78	1.18
		19	16 ERM 19 W	6	11	0.35	0.52	0.32	0.47	0.28	0.42	0.21	0.31	0.49	0.73
		16	16 ERM 16 W	7	12	0.47	0.71	0.42	0.64	0.38	0.57	0.31	0.46	0.66	0.99
NPT		14	16 ERM 14 W	8	13	0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
		11	16 ERM 11 W	9	14	0.44	0.66	0.40	0.59	0.35	0.53	0.29	0.43	0.62	0.92
Round		18	16 ERM 18 NPT	10	20	0.24	0.36	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
		14	16 ERM 14 NPT	13	26	0.24	0.36	0.22	0.32	0.19	0.29	0.14	0.22	0.34	0.50
		11.5	16 ERM 11.5 NPT	15	24	0.27	0.40	0.24	0.36	0.22	0.32	0.18	0.26	0.38	0.56
		8	16 ERM 8 NPT	17	30	0.31	0.46	0.28	0.41	0.25	0.37	0.20	0.30	0.43	0.64
Partial Profile 60°		6	16 ERM 6 Rnd	9	20	0.42	0.63	0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
	1.50-0.50	16-48	16 ERM A60		(1)	0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	3.00-1.75	8-14	16 ERM G60			0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	3.00-0.50	8-48	16 ERM AG60			0.24	0.36	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
Partial Profile 55°	5.00-3.50	5-7	22 ERM N60			0.41	0.62	0.37	0.56	0.33	0.50	0.27	0.40	0.57	0.87
	3.00-1.75	8-14	16 ERM G55			0.50	0.75	0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
	3.00-0.50	8-48	16 ERM AG55			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46

⁽¹⁾ Per the number of passes for the relevant pitch

⁽²⁾ Equal depth of cut method

⁽³⁾ Diminished depth of cut for each pass method



Cutting Data

Maximum Depth of First Cut, for CNC Control

Internal Threading - CP-Type Inserts

Full Profile	Pitch	TPI	Insert Designation	No. of Passes		Max Depth for First Pass ⁽¹⁾ mm									
						Low Carbon Steel		High Carbon Steel		Alloy Steel		Stainless Steel		Nonferrous Aluminium	
						'Eq.' ⁽²⁾	'Dim.' ⁽³⁾	'Eq.' ⁽²⁾	'Dim.' ⁽³⁾	'Eq.' ⁽²⁾	'Dim.' ⁽³⁾	'Eq.' ⁽²⁾	'Dim.' ⁽³⁾	'Eq.' ⁽²⁾	'Dim.' ⁽³⁾
ISO Metric	1.50		11 IR 1.50 ISO-CP	10	20	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
	1.00		16 IR 1.00 ISO-CP	9	16	0.14	0.20	0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28
	1.25		16 IR 1.25 ISO-CP	9	16	0.19	0.28	0.17	0.25	0.15	0.22	0.12	0.18	0.27	0.39
	1.50		16 IR 1.50 ISO-CP	10	20	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
	1.75		16 IR 1.75 ISO-CP	11	18	0.21	0.32	0.19	0.29	0.17	0.26	0.14	0.21	0.29	0.45
	2.00		16 IR 2.00 ISO-CP	12	21	0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	2.50		16 IR 2.50 ISO-CP	14	21	0.23	0.34	0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
	3.00		16 IR 3.00 ISO-CP	16	22	0.24	0.35	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
American UN 16		20	16 IR 20 UN-CP	7	13	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
		18	16 IR 18 UN-CP	8	15	0.20	0.30	0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
			16 IR 16 UN-CP	11	19	0.20	0.30	0.18	0.27	0.16	0.24	0.13	0.20	0.28	0.42
		14	16 IR 14 UN-CP	11	20	0.21	0.31	0.19	0.28	0.17	0.25	0.13	0.19	0.29	0.43
		12	16 IR 12 UN-CP	12	21	0.23	0.34	0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
		8	16 IR 8 UN-CP	14	20	0.24	0.36	0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
British BSW		19	16 IR 19 W-CP	7	12	0.28	0.42	0.25	0.38	0.22	0.34	0.17	0.25	0.39	0.59
		16	16 IR 16 W-CP	9	14	0.26	0.39	0.23	0.35	0.21	0.31	0.17	0.25	0.36	0.55
		14	16 IR 14 W-CP	10	16	0.27	0.41	0.24	0.37	0.22	0.33	0.18	0.27	0.38	0.57
		11	16 IR 11 W-CP	12	19	0.31	0.46	0.28	0.41	0.25	0.37	0.20	0.30	0.43	0.64
NPT		14	16 IR 14 NPT-CP	21	35	0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.12	0.18	0.28
		11.5	16 IR 11.5 NPT-CP	21	33	0.17	0.25	0.15	0.23	0.14	0.20	0.11	0.16	0.24	0.35
		8	16 IR 8 NPT-CP	20	34	0.23	0.34	0.21	0.31	0.18	0.27	0.14	0.20	0.32	0.48
Round		6	16 IR 6 RND-CP	12	24	0.30	0.46	0.27	0.41	0.24	0.37	0.20	0.30	0.42	0.64
Partial Profile 60°	0.50-1.25	48-16	06 IR A60-CP			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	0.50-1.50	48-16	08 IR A60-CP		⁽¹⁾	0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	0.50-1.50	48-16	11 IR A60-CP			0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	0.50-1.50	48-16	16 IR A60-CP			0.13	0.20	0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
	1.75-3.00	14-8	16 IR G60-CP			0.22	0.33	0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
	0.50-3.00	48-8	16 IR AG60-CP			0.14	0.21	0.13	0.19	0.11	0.17	0.09	0.14	0.20	0.29
Partial Profile 55°	3.50-5.00	7-5	22 IR N60-CP			0.23	0.34	0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
	1.75-3.00	14-8	16 IR G55-CP			0.34	0.50	0.31	0.45	0.27	0.40	0.22	0.33	0.48	0.70
	0.50-3.00	48-8	16 IR AG55-CP			0.14	0.20	0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28

⁽¹⁾ Per the number of passes for the relevant pitch

⁽²⁾ Equal depth of cut method

⁽³⁾ Diminished depth of cut for each pass method



Recommended Number of Passes for Multi-Tooth Insert

ISO - (Metric)

External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 ER 1.0 ISO 3M	2	0.39	0.24	—	—
16 ER 1.5 ISO 2M	3	0.40	0.31	0.21	—
22 ER 1.5 ISO 3M	2	0.54	0.38	—	—
22 ER 2.0 ISO 2M	3	0.56	0.42	0.27	—
22 ER 2.0 ISO 3M	2	0.75	0.50	—	—
27 ER 3.0 ISO 2M	4	0.60	0.52	0.44	0.30

Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 IR 1.0 ISO 3M	2	0.32	0.26	—	—
16 IR 1.5 ISO 2M	3	0.36	0.29	0.22	—
22 IR 1.5 ISO 3M	2	0.49	0.38	—	—
22 IR 2.0 ISO 2M	3	0.50	0.40	0.25	—
22 IR 2.0 ISO 3M	2	0.72	0.43	—	—
27 IR 3.0 ISO 2M	4	0.57	0.45	0.38	0.33

UN

External

INSERT Description	No. OF Passes	1 ST Pass	2 ND Pass	3 RD Pass	4 TH Pass
16 ER 16 UN 2M	3	0.45	0.32	0.20	—
22 ER 16 UN 3M	2	0.60	0.37	—	—
22 ER 12 UN 2M	3	0.60	0.39	0.31	—
22 ER 12 UN 3M	2	0.80	0.50	—	—
27 ER 8 UN 2M	4	0.63	0.55	0.42	0.36

Internal

INSERT Description	No. OF Passes	1 ST Pass	2 ND Pass	3 RD Pass	4 TH Pass
16 IR 16 UN 2M	3	0.40	0.29	0.23	—
22 IR 16 UN 3M	2	0.57	0.35	—	—
22 IR 12 UN 2M	3	0.55	0.39	0.28	—
22 IR 12 UN 3M	2	0.75	0.47	—	—
27 IR 8 UN 2M	4	0.65	0.49	0.42	0.27



TECHNICAL

Recommended Number of Passes for Multi-Tooth Insert

NPT

External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 ER 11.5 NPT 2M	4	0.55	0.46	0.35	0.32
27 ER 11.5 NPT 3M	3	0.75	0.57	0.36	—
27 ER 8 NPT 2M	4	0.80	0.62	0.54	0.45

Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 IR 11.5 NPT 2M	4	0.55	0.46	0.35	0.32
27 IR 11.5 NPT 3M	3	0.75	0.57	0.36	—
27 IR 8 NPT 2M	4	0.80	0.62	0.54	0.45

WHITWORTH

External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 ER 14 W 2M	3	0.51	0.39	0.26	—
22 ER 14 W 3M	2	0.72	0.44	—	—
22 ER 11 W 2M	3	0.65	0.46	0.37	—

Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
16 IR 14 W 2M	3	0.51	0.39	0.26	—
22 IR 14 W 3M	2	0.72	0.44	—	—
22 IR 11 W 2M	3	0.65	0.46	0.37	—

API-ROUND

External

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 ER 10 API RD 2M	3	0.58	0.53	0.30	—
27 ER 10 API RD 3M	2	0.98	0.43	—	—
27 ER 8 API RD 2M	3	0.82	0.59	0.40	—

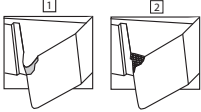
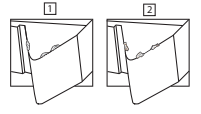
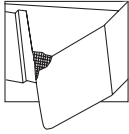
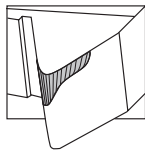
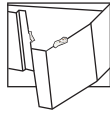
Internal

Insert Description	No. of Passes	1 st Pass	2 nd Pass	3 rd Pass	4 th Pass
22 IR 10 API RD 2M	3	0.58	0.53	0.30	—
27 IR 10 API RD 3M	2	0.98	0.43	—	—
27 IR 8 API RD 2M	3	0.82	0.59	0.40	—



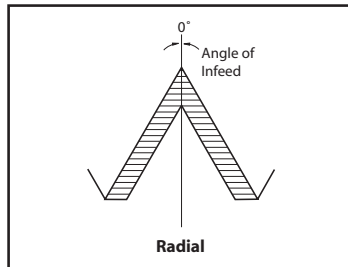
Trouble Shooting & Optimizing Tool Life/ Threading Economy

Modern PVD grades and insert geometries have done much to improve the productivity and reliability of thread turning. They have also helped to eliminate or minimize problems in threading. The following chart lists problems, in order of severity, which may still occur in modern threading.

Problem	Cause	Solution	Problem	Cause	Solution
Plastic Deformation  Starts as plastic deformation (1) which leads to plastic break (2)	Excessive temperature in the cutting area Unsuitable grade Inadequate coolant supply	Reduce cutting speed Increase number of infeeds Reduce the largest infeed depth Check diameter before threading Improve coolant supply Choose grade with better resistance to plastic deformation	Poor Chip Control	Incorrect method of infeed Wrong geometry	Modified Flank infeed 3P-5P "CB" or "HCB" geometry with modified flank infeed 1P
Built-up Edge/ Edge Spalling  Built-up edge (1) and edge spalling (2) often occur in combination. Built-up edge accumulates and is then ripped away taking insert material with it	Cutting edge temperature too low Stainless material; CMC codes 05.2, 05.51, and 05.52 Low carbon steel Unsuitable grade	Increase cutting speed Choose an insert with good toughness, preferably PVD coated	Shallow Profile	Wrong center height Insert breakage Excessive wear	Adjust the center height Change cutting edge
Insert Breakage 	Wrong Diameter prior to threading operation Infeed series too tough Unsuitable grade Poor chip control Center height incorrect	Turn to correct diameter before threading—0.0012-0.0028 radially larger than maximum diameter for thread Increase number of infeeds Reduce size of the large infeeds Choose a tougher grade Change to "CB" geometry and use modified flank infeed Correct center height	Incorrect Thread Profile	Unsuitable thread profile angle of thread and nose radius; external inserts used for internal operation and vice versa Wrong center height Holder not 90P to center line Pitch error in machine	Correct tool / insert combination Adjust the center height Adjust to 90P Correct in machine
Rapid Flank Wear 	Highly abrasive material Cutting speed too high Infeed depths too shallow Insert is above centerline	Choose a more wear resistant grade Reduce cutting speed Reduce number of infeeds Correct center height	Excessive Edge Pressure 	Work hardening material in combination with infeed depths which are too shallow Excessive pressure on cutting edge Profile with too small thread profile angle	Reduce the number of infeeds Change to "CB" or "HCB" geometry Use a tougher grade Use incremental flank infeed
Abnormal Flank Wear Poor Finish on One Flank of Thread	Incorrect method for flank infeed Insert's inclination angle does not agree with thread's lead angle	Change method of infeed Change shim to obtain correct angle of inclination			
Vibration	Incorrect clamping work piece Incorrect set-up of the tool Incorrect cutting data Incorrect center height	Use softer jaws Minimize overhang of tool Check that the clamping sleeve for bars is not worn Increase cutting speed; if this does not help lower speed dramatically Use constant infeed series Try "CB" or "HCB" geometry Adjust the center height Use heavy metal, solid carbide or carbide cored bar.			
Poor Surface Quality on Thread	Cutting speed too low The insert is above center Uncontrolled chips	Increase cutting speed Adjust center height Use "CB" or "HCB" geometry and modified flank infeed			



Optional Infeed Angles for Threading Applications



Advantage-

Cutting on both sides of the thread form places all of the cutting edge in the cut and protects edge from chipping.

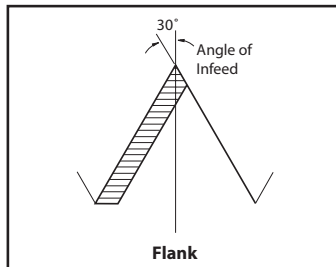
Disadvantage-

Tool develops a channel chip which may be difficult to handle.

Tip chipping occurs when cutting high-tensile materials.

Burr condition is increased.

Entire cutting edge is engaged at finish of thread, causing increased tendency to chatter.

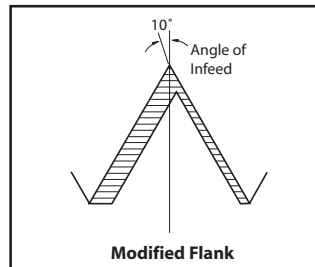


Advantage-

Cutting with the leading edge of the threading tool gives the chip a definite flow out of the thread form area. This reduces the burr problem on the trailing edge of the tool. To avoid bad surface finish, chipping, or excessive flank wear due to rubbing of the trailing edge, the infeed angle should be 3° to 5° smaller than the angle of the thread. This is a type of modified flank.

Disadvantage-

Trailing edge of threading insert may drag or rub, and tends to chip. Torn or poor surface finish threads result when cutting soft, gummy materials such as low carbon steels, aluminum, and stainless steels.

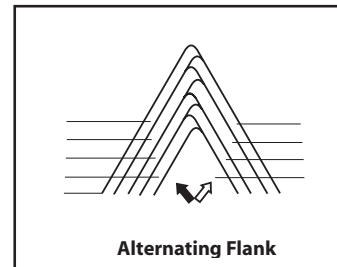


Advantage-

Tool cuts both sides of thread form and, therefore, is protected from chipping similar to 0° infeed. Channel-type chip develops but uneven chip thickness helps remove the chip similar to flank infeed.

Disadvantage-

Similar disadvantages as with 0° infeed, although slightly reduced in magnitude as the cutting forces are better equalized and chip flow is much less of a problem.



Advantage-

Increased tool life because both edges are used equally. NOTE: Some machine tools may require special programming techniques to achieve this method.

Disadvantage-

Difficult to cut on conventional machinery.

*For premium performance based upon optimal machining conditions, select the grade that will provide you with the highest allowable SFM for the material that is being machined. Optimum grades are in bold print. Grades are specific to certain insert styles. The grades listed below in bold print are stock within the style listed, see appropriate catalog page for precise stocking status.

Bantam: C22 GP22 GP4 AC22 Ballnose: C26 ZS26 CB400 DX200 Chasers: G50 GP50 AC50 ZA50 Cutoff: GP22 AC22 AC50 C22	Flo-Lock: C25 GP4 GP3 GP4 GP5 GP50 AC22 AC3 AC50 GPM6 CB200 CB400 PC33 C22 C3 Laydown: GP22 (LT style) GP4 GP50 AC22 AC50 C22	Laydown: GP22 GP3 GP5 GP50 AC22 AC50 C22 Milling: GP5 C5H On Edge: GP22 GP3 GP54 GP50 GPM6 AC22 AC3 AC50 AC54 C22 C25 C3	Threadmill: C3 GP3 GP22 Turning: G525 (Negative) AG525 AG535 AG615 Turning: AC3 (Positive) AC50 C3 V-Bottom: GP3 (V84/V85) GP50 AC50 C3 V-Bottom: C3 (VDB/VDG) GP3 AC3 AC50 CB200/CB400
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Recommended SFM for Grooving Applications

	Free Machining Carbon Steels	Plain Carbon Steels	Alloy Steels 190-330 HB	Alloy Steels 330-450 HB	Martensitic/Ferritic Stainless Steel 400 Series	Austenitic Stainless 300 Series	Gray Cast Iron 190-330 HB	Gray Cast Iron 330-450 HB	Alloy / Ductile Irons	Free Machining Aluminum Alloys	High-Silicon Aluminum Alloys	Copper / Zinc / Brass	Non-Metallics	High Temperature Alloys 200-260 HB	High Temperature Alloys 260-450 HB	Titanium Alloys (Ti 6Al-4V)	Hardened Materials 48-65 HRC
C22	---	---	---	---	---	45-91	30-106	30-91	---	30-457	---	30-152	30-304	24-39	15-30	30-60	---
C25	---	---	---	---	---	60-106	30-114	30-106	---	60-518	---	60-182	121-365	24-39	15-30	30-60	---
C26S	---	---	---	---	---	---	---	---	---	457-914	---	121-243	121-365	---	---	---	---
C3	---	---	---	---	---	60-121	30-114	30-106	---	60-609	---	60-213	121-426	24-39	15-30	30-60	---
G50	91-213	91-213	91-213	91-182	91-182	---	---	---	91-182	---	---	---	---	---	---	---	---
GP22	45-91	45-91	45-91	45-91	45-91	45-121	45-121	45-106	45-91	45-609	---	45-213	152-457	30-53	24-45	30-76	---
GP25	45-91	45-91	45-91	45-91	45-91	45-121	45-121	45-106	45-91	45-609	---	45-213	152-457	30-53	24-45	30-76	---
GP26	121-243	121-2434	91-182	60-152	91-182	60-152	121-243	91-182	91-182	365-1066	---	91-2438	91-365	30-60	30-60	30-76	---
GP3	60-121	60-121	60-121	60-106	60-121	60-152	60-182	60-152	30-60	91-609	---	60-274	91-457	30-60	30-53	45-91	---
GP4	18-53	18-53	18-45	18-45	18-45	18-45	18-45	18-45	18-45	18-45	---	---	---	15-24	15-24	15-24	---
GP5	60-152	60-152	60-121	60-121	60-121	---	---	---	60-121	---	---	---	---	---	---	---	---
GP54	60-152	60-152	60-121	60-121	60-121	---	---	---	60-121	---	---	---	---	---	---	---	---
GP50	60-182	60-182	60-152	60-137	60-152	---	---	---	60-152	---	---	---	---	---	---	---	---
AC22	76-152	76-152	76-137	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
AC26	152-304	152-304	121-243	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
AC3	76-137	76-137	76-121	76-121	76-137	76-213	91-213	91-182	60-137	182-762	---	121-304	121-457	30-76	30-60	30-91	24-45
AC54	106-152	106-152	106-152	91-152	91-152	---	---	---	91-152	---	---	---	---	---	---	---	---
AC50	121-243	137-243	121-243	121-228	106-213	---	---	---	91-213	---	---	---	---	---	---	---	---
ZA22	76-152	76-152	76-137	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
ZA26	152-304	152-304	121-243	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
ZA3	76-137	76-137	76-121	76-121	76-137	76-213	91-213	91-182	60-137	182-762	---	121-304	121-457	30-76	30-60	30-91	24-45
ZA50	121-243	137-243	121-243	121-228	106-213	---	---	---	91-213	---	---	---	---	---	---	---	---
ZL22	76-152	76-152	76-137	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
ZL26	152-304	152-304	121-243	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
ZL3	76-137	76-137	76-121	76-121	76-137	76-213	91-213	91-182	60-137	182-762	---	121-304	121-457	30-76	30-60	30-91	24-45
ZR22	76-152	76-152	76-137	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
ZR26	152-304	152-304	121-243	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
ZR3	76-137	76-137	76-121	76-121	76-137	76-213	91-213	91-182	60-137	182-762	---	121-304	121-457	30-76	30-60	30-91	24-45
ZR50	121-243	137-243	121-243	121-228	106-213	---	---	---	91-213	---	---	---	---	---	---	---	---
ZS22	76-152	76-152	76-137	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
ZS26	152-304	152-304	121-243	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
ZS3	76-137	76-137	76-121	76-121	76-137	76-213	91-213	91-182	60-137	182-762	---	121-304	121-457	30-76	30-60	30-91	24-45
ZS50	121-243	137-243	121-243	121-228	106-213	---	---	---	91-213	---	---	---	---	---	---	---	---
ZU22	760-1520	760-1520	760-1376	76-121	60-137	91-182	91-182	60-167	76-137	182-670	---	91-274	106-365	24-60	24-53	24-91	---
ZU26	1520-3040	1520-3040	1212-2434	91-182	121-243	91-213	152-304	121-243	121-243	457-1524	---	121-304	121-457	30-60	30-60	60-91	---
ZU3	760-1376	760-1376	760-1212	76-121	76-137	76-213	91-213	91-182	600-137	1828-762	---	121-304	121-457	30-76	30-60	308-91	24-45
ZU50	121-243	137-243	121-243	121-228	106-213	---	---	---	91-213	---	---	---	---	---	---	---	---
GPM6	182-457	182-365	152-335	182-243	152-243	152-304	121-335	106-289	106-289	---	---	---	---	---	---	---	---
CB200	---	---	---	---	---	---	121-762	304-548	---	---	---	---	---	91-182	76-137	---	45-106
CB400	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60-152
PC33	---	---	---	---	---	---	---	---	---	304-2438	304-1524	304-1219	304-1371	---	---	---	---
DX200	---	---	---	---	---	---	---	---	---	304-2133	304-914	304-1066	304-1219	---	---	---	---



Zenith

TOOL-FLO's New Premium Coatings

Grade Name	ANSI range	ISO range	Coating	Description
C2	C1-C2	K05-K15	Uncoated	Uncoated general purpose C2 grade. Good for all non-ferrous materials.
C22	C1	K30	Uncoated	Uncoated grade with a tough, micro-grain, unalloyed substrate. Good for threading at low to medium speeds, while capable of handling interruptions. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
C25	C1-C2	K05-K10 M05-M10	Uncoated	Uncoated general purpose C2 grade. Good for all non-ferrous materials.
C26S	C1	K30-K40	Uncoated	Uncoated grade with a tough, fine grain, unalloyed substrate. Main uncoated grade for Rigid-lock endmill inserts. Edge is up-sharp for use in non-ferrous and composite applications.
C3	C3	K15-K25 M05-M20	Uncoated	Uncoated micro-grain C3 grade. Versatile grade that combines high hardness with toughness. Good for all non-ferrous, stainless steel, and nickel-based alloys at low to medium SFM.
GFI	C1-C5A	K30/P30	Uncoated	Uncoated extremely tough grade that perform well at very slow SFPM with minimal breakage or chipping.
C5	C5	P10-P35 M15-M30	Uncoated	Uncoated general purpose C5 grade. Good for all carbon/alloy steels at low to medium SFM.
C6	C6	P15-P20 M10-M20	Uncoated	Uncoated general purpose C5/C6 harder grade. Good for all carbon/alloy steels at low to medium SFM.
GP2	C1-C2	K05-K15	PVD TiN coated	PVD TiN coated grade. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
GP22	C1	K30	PVD TiN coated	PVD TiN grade with a tough, micro-grain substrate. Good for threading at low to medium speeds, while capable of handling interruptions. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
GP25	C1-C2	K05-K10 M05-M10	PVD TiN coated	PVD TiN coated general purpose C2 grade. Good for all non-ferrous materials at low to medium SFM.
GP26	C1	K30-K40	PVD TiN coated	PVD TiN grade with a tough, micro-grain, unalloyed substrate. Rigid-Lok endmill grade. Good choice for steels, stainless, high-temperature alloys, and non-ferrous materials. Good in low to high SFM, will handle interruptions and high feed rates.
GP3	C3	K15-K25 M05-M20	PVD TiN coated	PVD TiN grade with a wear resistant micro-grain substrate. Excellent choice in stainless steels, high-temperature alloys, aerospace materials, and non-ferrous materials. Good in standard steels at low to medium SFM.
GP4	C1-C5A	K30/P30	PVD TiN coated	PVD TiN grade with our toughest substrate. First choice at low SFM (50-150) applications and heavy interruptions. Used in all applications where tool breakage is an issue.
GP44	C5A	P35-P50	PVD TiN coated	PVD TiN coated extremely tough sub-micron grade that perform well at very slow SFPM with minimal breakage or chipping.
GP5	C5	P10-P35 M15-M30	PVD TiN coated	PVD TiN grade with a medium tough substrate. Good general purpose grade for steel applications. Primary grade in LPGC and TPGC style inserts.
GP50	C5	P10-P35 M15-M30	PVD TiN coated	PVD TiN grade with a medium tough substrate and excellent wear properties. Great general purpose grade for steel applications.
GP54	C5A	P35-P50	PVD TiN coated	PVD TiN grade with a tough substrate.
GP6	C6	P15-P20 M10-M20	PVD TiN coated	PVD TiN coated general purpose grade. Good for all carbon/alloy steels at medium SFM.
AC2	C1-C2	K05-K15	PVD AlTiN coated	PVD AlTiN coated grade with a tough, micro-grain, unalloyed substrate. Good for threading at low to medium speeds, while capable of handling interruptions. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
AC22	C1	K30	PVD AlTiN coated	PVD TiAlN grade with a tough, micro-grain substrate. First choice in Laydown Threading in all materials. Dry machining capable.
AC25	C1-C2	K05-K10 M05-M10	PVD AlTiN coated	PVD AlTiN coated general purpose C2 grade. Good for all non-ferrous materials at medium to high SFM.
AC26	C1	K30-K40	PVD AlTiN coated	PVD TiAlN grade with a tough, fine grain, unalloyed substrate with excellent wear properties. First choice in Rigid-Lock inserts for steels, stainless, high-temp alloys, and non-ferrous materials. Performs very well at low to high SFM and will handle interruptions and high feed rates. Coating provides highest resistance to oxidation, physical abrasion, and chip welding. Dry machining capable.
AC3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD TiAlN grade. First choice for grooving and threading in stainless steel, high-temperature alloys, aerospace materials, and non-ferrous materials. Excellent in standard steels at medium SFM. Dry machining capable.
AC5	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD AlTiN coated general purpose grade. Good for all carbon/alloy steels at medium to high SFM.
AC50	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD TiAlN grade. First choice for grooving and threading in all standard steels and 400 series stainless. Application range is medium to high SFM. Dry machining capable.
AC54	C5A	P35-P50	PVD AlTiN coated	PVD AlTiN coated grade. Good for all carbon/alloy steels at medium SFM.
AC6	C6	P15-P20 M10-M20	PVD AlTiN coated	PVD AlTiN coated grade. Good for all carbon/alloy steels at medium SFM.

COATINGS



Grade Name	ANSI range	ISO range	Coating	Description
ZA22	C1	K30	PVD AlTiN coated	PVD TiAlN grade with a tough, micro-grain substrate. Dry machining capable.
ZA26	C1	K30-K40	PVD AlTiN coated	PVD TiAlN grade with a tough, fine grain, unalloyed substrate with excellent wear properties. First choice in Rigid-Lock inserts for steels, stainless, high-temp alloys, and non-ferrous materials. Performs very well at low to high SFM and will handle interruptions and high feed rates. Coating provides highest resistance to oxidation, physical abrasion, and chip welding. Dry machining capable.
ZA3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD TiAlN grade. First choice for grooving in stainless steel, high-temperature alloys, aerospace materials, and non-ferrous materials. Excellent in standard steels at medium SFM. Dry machining capable.
ZA50	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD TiAlN grade. First choice for grooving and threading in all standard steels and 400 series stainless. Application range is medium to high SFM. Dry machining capable.
ZS22	C1	K30	PVD AlTiN coated	PVD AlTiN grade with a tough, micro-grain substrate. Good in Laydown Threading in all materials. Dry machining capable.
ZS26	C1	K30-K40	PVD AlTiN coated	PVD AlTiN grade with extra lubricity, a tough, fine grain, unalloyed substrate with excellent wear properties. First choice in Rigid-Lock inserts for steels, stainless, high-temp alloys, and non-ferrous materials. Performs very well at low to high SFM and will handle interruptions and high feed rates. Coating provides highest resistance to oxidation, physical abrasion, and chip welding. Dry machining capable.
ZS3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD AlTiN grade for grooving and threading in stainless steel, high-temperature alloys, aerospace materials, and non-ferrous materials. Excellent in standard steels at medium SFM. Dry machining capable.
ZS50	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD AlTiN grade for grooving and threading in all standard steels and 400 series stainless. Application range is medium to high SFM. Dry machining capable.
ZL22	C1	K30	PVD AlTiN coated	PVD grade with a tough, micro-grain, unalloyed substrate. Good for turning at low to medium speeds, while capable of handling interruptions. Works well in high-temperature alloys and aluminum.
ZL26	C1	K30-K40	PVD AlTiN coated	PVD grade with a tough, micro-grain, unalloyed substrate. Rigid-Lok endmill grade. Good choice for aluminum, high-temperature alloys, and non-ferrous materials. Good in low to high SFM, will handle interruptions and high feed rates.
ZL3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD grade with a wear resistant micro-grain substrate. Excellent choice in high-temperature alloys, aerospace materials, and non-ferrous materials.
ZR22	C1	K30	PVD AlTiN coated	PVD AlTiN grade with a tough, micro-grain, unalloyed substrate. Good for threading at low to medium speeds, while capable of handling interruptions. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
ZR26	C1	K30-K40	PVD AlTiN coated	PVD AlTiN grade with a tough, micro-grain, unalloyed substrate. Rigid-Lok endmill grade. Good choice for steels, stainless, high-temperature alloys, and non-ferrous materials. Good in low to high SFM, will handle interruptions and high feed rates.
ZR3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD AlTiN grade with a wear resistant micro-grain substrate. Excellent choice in stainless steels, high-temperature alloys, aerospace materials, and non-ferrous materials. Good in standard steels at low to medium SFM.
ZR50	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD AlTiN grade with a medium tough substrate and excellent wear properties. Great general purpose grade for steel applications.
ZU22	C1	K30	PVD AlTiN coated	PVD AlTiN grade with a tough, micro-grain, unalloyed substrate. Good for threading at low to medium speeds, while capable of handling interruptions. Works well in stainless steel, high-temperature alloys, and standard steels at low to medium SFM.
ZU26	C1	K30-K40	PVD AlTiN coated	PVD AlTiN grade with a tough, micro-grain, unalloyed substrate. Rigid-Lok endmill grade. Good choice for steels, stainless, high-temperature alloys, and non-ferrous materials. Good in low to high SFM, will handle interruptions and high feed rates.
ZU3	C3	K15-K25 M05-M20	PVD AlTiN coated	PVD AlTiN grade with a wear resistant micro-grain substrate. Excellent choice in stainless steels, high-temperature alloys, aerospace materials, and non-ferrous materials. Good in standard steels at low to medium SFM.
ZU50	C5	P10-P35 M15-M30	PVD AlTiN coated	PVD AlTiN grade with a medium tough substrate and excellent wear properties. Great general purpose grade for steel applications.
GPM6	C6/C7	P1-P10 K1-K10	PVD TiN coated Cermet	PVD TiN coated cermet grade. First choice for grooving in high-speed finishing of most carbon, alloy, and stainless steels. Performs very well in cast and ductile irons. Provides excellent workpiece finishes.
G50	C5	P10-P35 M15-M30	CVD coated	CVD TiN/TiC/TiN grade. API chaser grade for Q-Series material.
CB200	C8	K01	PCBN	PCBN tip brazed onto a carbide insert. High content CBN. First choice for cast iron and high-temperature alloys. Suited for roughing to finishing in hardened steels greater than 45 HRC, such as bearing steel, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, nitrided irons, and some hard coatings.
CB400	C8		PCBN	PCBN tip brazed onto a carbide insert. Low content CBN. First choice for roughing to finishing of hardened steels 45 HRC and higher. Use on bearing steel, hot and cold work steels, die steels, case hardened steels, carburized and nitrided irons.
CB410	C8		PCBN	PCBN tip brazed onto a carbide insert. Low content CBN. First choice for roughing to finishing of hardened steels 45 HRC and higher. Use on bearing steel, hot and cold work steels, die steels, case hardened steels, carburized and nitrided irons.
PC33			PCD	PCD tip brazed onto a carbide insert. First choice for high silicone aluminum applications at high SFM. Use on all types of highly abrasive materials including non-ferrous metals and non-metals. High SFM only!
DX200	C1-C2	K05-K15	PCD CVD coated	PCD CVD coated grade. Rigid-Lock insert grade. First choice at high SFM in non-metallic materials such as graphite, epoxy based resins, plastics and aluminum.



COATINGS

ORDERING INFORMATION

CONDITION OF SALE

Sales are made in accordance with our standard Conditions of Sale current at the time orders are accepted. Specifications and prices subject to change without notice.

QUOTATIONS

Will be subject to acceptance 60 days from the date of quotation unless otherwise agreed. **In order to receive special quoted pricing, a quote number must be referenced at the time the order is placed.**

TERMS OF PAYMENT

Net 30 Days

DELIVERY TERMS

F.O.B. Shipping point; Charges will be added to invoice.

WARRANTY

We will replace any material which is proven defective within 90 days from date of shipment to the customer. No claim for labor or damage will be allowed. Claims for error must be made upon receipt of material.

PRICING

So far as the resale of items in this price list is concerned, the prices referred to are to be regarded as suggested only. The distributor, in its sole discretion, determines the actual resale price. These suggested resale prices are based on quantities of identical items released by purchaser on one order for shipment at one time to one destination. The reseller should determine whether savings in cost can justify the suggested quantity price differential, as may be required by the Robinson-Patman Act or other applicable law.

OVER AND UNDER SHIPMENTS

For Non-Stock or Special items, unless otherwise specified or agreed, the following over and under allowances may be made:

Lots of	10-19	20-49	50-99	100+
Over/Under	1 piece	2 pieces	3 pieces	5%

MINIMUM ORDER

\$50 Net per order. For Extended Discount Program - \$100 Net per order.

RETURNS

Each Distributor will be allowed at a certain time of year to exchange 1% of their Net Sales for the previous year up to a maximum of \$1,000. These exchanges will be limited to Stock Standard items only and will be replaced by such. The exchange schedule is as follows:

Group A Distributors:	January - March
Group B Distributors:	July - September
Group C Distributors:	April - June
Group D Distributors:	October - December

All Non-Stock and Specials are non-returnable and/or non-exchangeable.

A Returned Material Authorization (RMA) number must be assigned by Tool-Flo prior to any material being returned. Purchase Order numbers and original invoice numbers must be supplied before an RMA number can be issued.

RELEASE ORDER POLICY

- A. Prices are to be based on total quantity of each item. Prices will be firm for six (6) months from the date of purchase. In the event of a price increase during the term of the order, one of the following conditions will apply:
1. If the increase becomes effective during the first six (6) months of the order, the balance of the order can be released within six (6) months from the date of purchase at existing prices. Any subsequent releases will be invoiced at the new price.
 2. If the increase becomes effective after the first six (6) months of the order, the balance can be released immediately upon notification of the price increase at existing prices. All items not released immediately will be invoiced at the new price.
- B. Minimum release order is 400 pieces. Releases must be made ever 30 days. Initial release must be made within 30 days of order date. Minimum release is 50 pieces every 30 days. Releases not to exceed twelve (12) months. At the end of the twelve (12) month period from the date of the order, any remaining pieces will be shipped.



Grade Crossover Chart

	Carboloy®	Kennametal®	Sandvik®	Carmex	ISCAR	Vardex®
GFI		K1				
GP4						
AC4						
C22				P30 , K20	IC08	VK2 , VK2P
GP22	CP50	KC722	GC1020			
AC22	CP500			BMA	IC908	VTX , VCB
GP222						
AC222						
C25	HX	K68				VK2
GP25						
AC25						
C26S						
GP26						
AC26						
C2	883					
GP2						
AC2						
C3		K313	H13A			
GP3		KC730		BLU	IC1007	VM7 , VKX
AC3		KC5010				VTX
GP50	CP30	KC810/KC850	225G		IC250	
AC50	CP300	KC5025	225G			
AG50	560	KC950				
G50				MXC		
C5H	P30	K420	S4			
GP5		KC710/KC810	GC135			
AC5						
C6H	S10M		SM			
GP6	550					
GP313				BXC	IC228	
M6		KT175				
GPM6		KT315				
M3						
CB200		KD120				
CB400		KD050	CB20			
DX200						
PC33		KD100				



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