

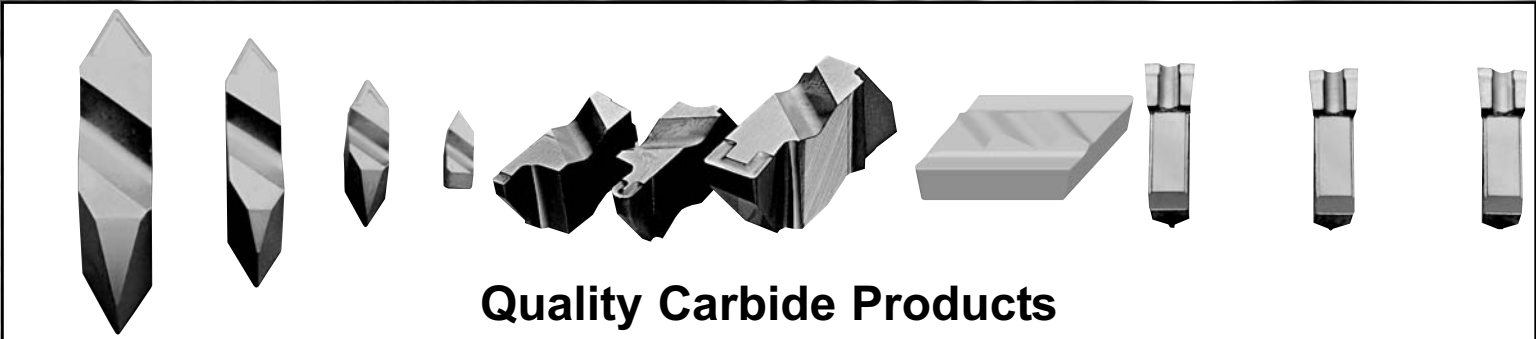


A PRODUCT OF KENNAMETAL INC.

PowerNotch™

Indexable Carbide Tooling

PowerNotch Threading, Grooving, Profiling & Cutoff Products



Quality Carbide Products

Decimal Equivalent Chart

Size	Decimal Inches	Size	Decimal Inches	Size	Decimal Inches	Size	Decimal Inches	Size	Decimal Inches
107	0.0019	57	0.0430	9/64	0.1406	6.60mm	0.2598	7/16	0.4375
106	0.0023	1.10mm	0.0433	3.60mm	0.1417	G	0.2610	11.20mm	0.4409
105	0.0027	1.15mm	0.0453	27	0.1440	6.70mm	0.2638	11.50mm	0.4528
104	0.0031	56	0.0465	3.70mm	0.1457	17/64	0.2656	29/64	0.4531
103	0.0035	3/64	0.0469	26	0.1470	6.75mm	0.2657	11.80mm	0.4646
102	0.0039	1.20mm	0.0472	3.75mm	0.1476	H	0.2660	15/32	0.4688
101	0.0043	1.25mm	0.0492	25	0.1495	6.80mm	0.2677	12.00mm	0.4724
100	0.0047	1.30mm	0.0512	3.80mm	0.1496	6.90mm	0.2717	12.20mm	0.4803
99	0.0051	55	0.0520	24	0.1520	I	0.2720	31/64	0.4844
98	0.0055	1.35mm	0.0531	3.90mm	0.1535	7.00mm	0.2756	12.50mm	0.4921
97	0.0059	54	0.0550	23	0.1540	J	0.2770	1/2	0.5000
96	0.0063	1.40mm	0.0551	5/32	0.1562	7.10mm	0.2795	12.80mm	0.5039
95	0.0067	1.45mm	0.0571	22	0.1570	K	0.2810	13.00mm	0.5118
94	0.0071	1.50mm	0.0591	4.00mm	0.1575	9/32	0.2812	33/64	0.5156
93	0.0075	53	0.0595	21	0.1590	7.20mm	0.2835	13.20mm	0.5197
92	0.0079	1.55mm	0.0610	20	0.1610	7.25mm	0.2854	17/32	0.5312
0.20mm	0.0079	1/16	0.0625	4.10mm	0.1614	7.30mm	0.2874	13.50mm	0.5315
91	0.0083	1.60mm	0.0630	4.20mm	0.1654	L	0.2900	13.80mm	0.5433
90	0.0087	52	0.0635	19	0.1660	7.40mm	0.2913	35/64	0.5469
0.22mm	0.0087	1.65mm	0.0650	4.25mm	0.1673	M	0.2950	14.00mm	0.5512
89	0.0091	1.70mm	0.0669	4.30mm	0.1693	7.50mm	0.2953	14.25mm	0.5610
88	0.0095	51	0.0670	18	0.1695	19/64	0.2969	9/16	0.5625
0.25mm	0.0098	1.75mm	0.0689	11/64	0.1719	7.60mm	0.2992	14.50mm	0.5709
87	0.0100	50	0.0700	17	0.1730	N	0.3020	37/64	0.5781
86	0.0105	1.80mm	0.0709	4.40mm	0.1732	7.70mm	0.3031	14.75mm	0.5807
85	0.0110	1.85mm	0.0728	16	0.1770	7.75mm	0.3051	15.00mm	0.5906
0.28mm	0.0110	49	0.0730	4.50mm	0.1772	7.80mm	0.3071	19/32	0.5938
84	0.0115	1.90mm	0.0748	15	0.1800	7.90mm	0.3110	15.25mm	0.6004
0.30mm	0.0118	48	0.0760	4.60mm	0.1811	5/16	0.3125	39/64	0.6094
83	0.0120	1.95mm	0.0768	14	0.1820	8.00mm	0.3150	15.50mm	0.6102
82	0.0125	5/64	0.0781	13	0.1850	O	0.3160	15.75mm	0.6201
0.32mm	0.0126	47	0.0785	4.7mm	0.1850	8.10mm	0.3189	5/8	0.6250
81	0.0130	2.00mm	0.0787	4.75mm	0.1870	8.20mm	0.3228	16.00mm	0.6299
80	0.0135	2.05mm	0.0807	3/16	0.1875	P	0.3230	16.25mm	0.6398
0.35mm	0.0138	46	0.0810	4.8mm	0.1890	8.25mm	0.3248	41/64	0.6406
79	0.0145	45	0.0820	12	0.1890	8.30mm	0.3268	16.50mm	0.6496
0.38mm	0.0150	2.10mm	0.0827	11	0.1910	21/64	0.3281	21/32	0.6562
1/64	0.0156	2.15mm	0.0846	4.90mm	0.1929	8.40mm	0.3307	16.75mm	0.6594
0.40mm	0.0157	44	0.0860	10	0.1935	Q	0.3320	17.00mm	0.6693
78	0.0160	2.20mm	0.0866	9	0.1960	8.50mm	0.3346	43/64	0.6719
0.42mm	0.0165	2.25mm	0.0886	5.00mm	0.1969	8.60mm	0.3386	17.25mm	0.6791
0.45mm	0.0177	43	0.0890	8	0.1990	R	0.3390	11/16	0.6875
77	0.0180	2.30mm	0.0906	5.10mm	0.2008	8.70mm	0.3425	17.50mm	0.6890
0.48mm	0.0189	2.35mm	0.0925	7	0.2010	11/32	0.3438	45/64	0.7031
0.50mm	0.0197	42	0.0935	13/64	0.2031	8.75mm	0.3445	18.00mm	0.7087
76	0.0200	3/32	0.0938	6	0.2040	8.80mm	0.3465	23/32	0.7188
75	0.0210	2.40mm	0.0945	5.20mm	0.2047	S	0.3480	18.50mm	0.7283
0.55mm	0.0217	41	0.0960	5	0.2055	8.90mm	0.3504	47/64	0.7344
74	0.0225	2.45mm	0.0965	5.25mm	0.2067	9.00mm	0.3543	19.00mm	0.7480
0.60mm	0.0236	40	0.0980	5.30mm	0.2087	T	0.3580	3/4	0.7500
73	0.0240	2.50mm	0.0984	4	0.2090	9.10mm	0.3583	49/64	0.7656
0.62mm	0.0244	39	0.0995	5.40mm	0.2126	23/64	0.3594	19.50mm	0.7677
72	0.0250	38	0.1015	3	0.2130	9.20mm	0.3622	25/32	0.7812
0.65mm	0.0256	2.60mm	0.1024	5.50mm	0.2165	9.25mm	0.3642	20.00mm	0.7874
71	0.0260	37	0.1040	7/32	0.2188	9.30mm	0.3661	51/64	0.7969
0.70mm	0.0276	2.70mm	0.1063	5.60mm	0.2205	U	0.3680	20.50mm	0.8071
70	0.0280	36	0.1065	2	0.2211	9.40mm	0.3701	13/16	0.8125
69	0.0292	2.75mm	0.1083	5.70mm	0.2244	9.50mm	0.3740	21.00mm	0.8268
0.75mm	0.0295	7/64	0.1094	5.75mm	0.2264	3/8	0.3750	53/64	0.8281
68	0.0310	35	0.1100	I	0.2280	V	0.3770	27/32	0.8438
1/32	0.0312	2.80mm	0.1102	5.80mm	0.2283	9.60mm	0.3780	21.50mm	0.8465
0.80mm	0.0315	34	0.1110	5.90mm	0.2323	9.70mm	0.3819	55/64	0.8594
67	0.0320	33	0.1130	A	0.2340	9.75mm	0.3839	22.00mm	0.8661
66	0.0330	2.90mm	0.1142	15/64	0.2344	9.80mm	0.3858	7/8	0.8750
0.85mm	0.0335	32	0.1160	6.00mm	0.2362	W	0.3860	22.50mm	0.8858
65	0.0350	3.00mm	0.1181	B	0.2380	9.90mm	0.3898	57/64	0.8906
0.90mm	0.0354	31	0.1200	6.10mm	0.2402	25/64	0.3906	23.00mm	0.9055
64	0.0360	3.10mm	0.1220	C	0.2420	10.00mm	0.3937	29/32	0.9062
63	0.0370	1/8	0.1250	6.20mm	0.2441	X	0.3970	59/64	0.9219
0.95mm	0.0374	3.20mm	0.1260	D	0.2460	10.20mm	0.4016	23.50mm	0.9252
62	0.0380	3.25mm	0.1280	6.25mm	0.2461	Y	0.4040	15/16	0.9375
61	0.0390	30	0.1285	6.30mm	0.2480	13/32	0.4062	24.00mm	0.9449
1.00mm	0.0394	3.30mm	0.1299	E	0.2500	Z	0.4130	61/64	0.9531
60	0.0400	3.40mm	0.1339	1/4	0.2500	10.50mm	0.4134	24.50mm	0.9646
59	0.0410	29	0.1360	6.40mm	0.2520	27/64	0.4219	31/32	0.9688
1.05mm	0.0413	3.50mm	0.1378	6.50mm	0.2559	10.80mm	0.4252	25.00mm	0.9843
58	0.0420	28	0.1405	F	0.2570	11.00mm	0.4331	63/64	0.9844
								1"	1.0000

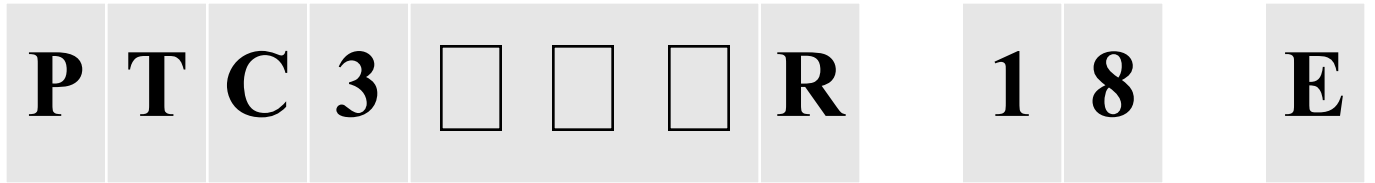


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Threading Insert Nomenclature



PowrNotch
Style Insert

B = Buttress
C = Cresting
F = Fine Pitch
K = Fine Pitch
 Positive
N = Coarse
P = Positive
 Rake
S = Stub Acme

Insert Size
Thickness

Insert Number	T
2	.150"
3	.195"
4	.255"

Hand
R = Right
L = Left

- Threads per inch or pitch (for Metric)
- Buttress insert
 A = Push 7° lead
 B = Pull 45° lead
- Taper per foot for API threads

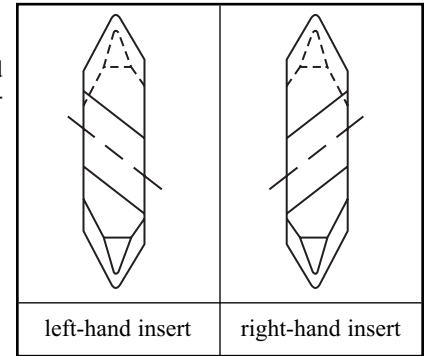
A = ACME
B = Blank
D = API or NPT
J = UNJ thread
T = 60° V thread
W = 55° Whitworth

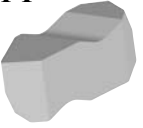

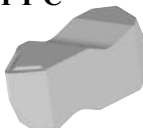


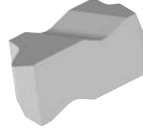
Industry thread identification
 Position indicates API or drilling industry (e.g. - 10RD, 8RD, .038)
 or
 Controlled root radius threading inserts indicate the root radius in .001" increments (PJ, PJF, PJP, PJK)

I = Internal thread
C = Standard chip control
E = External thread
 (used only if internal and external thread forms are different)


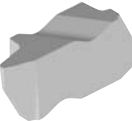
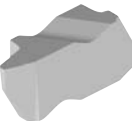
- All PowrNotch threading inserts are precision ground to provide accurate edge location and secure locking of the insert in the toolholder pocket.
- PowrNotch threading and grooving inserts can be used in either toolholders or boring bars.
- All non-cresting type threading inserts can be used for either external or internal applications. All cresting type inserts are designated specifically for external or internal use.



- Right-hand PowrNotch toolholders use right-hand inserts. Left-hand PowrNotch toolholders use left-hand inserts.
- Right-hand PowrNotch boring bars use left-hand inserts. Left-hand PowrNotch boring bars use right-hand inserts.

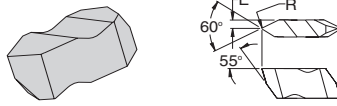


insert style	thread form	rake angle	cresting	tpi range (pitch in mm)		application
				external	internal	
60° Partial Profile						
PT 	60°V UN class 2 ISO 6g/6H	neutral	no	size 2 = 8 - 36 (0,70 - 3,00) size 3 = 6 - 20 (1,25 - 4,00) size 4 = 4 - 20 (1,25 - 6,25)	size 2 = 7 - 20 (1,25 - 3,50) size 3 = 5 - 12 (2,00 - 5,00) size 4 = 4 - 12 (2,00 - 6,25)	general purpose <ul style="list-style-type: none"> • a popular threading insert style for general use • provides satisfactory performance in most applications
PTP 	60°V UN class 2 ISO 6g/6H	5° positive	no	size 2 = 8 - 36 (0,70 - 3,00) size 3 = 6 - 20 (1,25 - 4,00) size 4 = 4 - 20 (1,25 - 6,25)	size 2 = 7 - 20 (1,25 - 3,50) size 3 = 5 - 12 (2,00 - 5,00) size 4 = 4 - 12 (2,00 - 6,25)	general purpose <ul style="list-style-type: none"> • ground positive rake reduces cutting forces • recommended for threading aluminum and difficult-to-machine materials
PT-C 	60°V UN class 2 ISO 6g/6H	10° positive chip control	no	size 2 = 8 - 36 (0,70 - 3,00) size 3 = 6 - 20 (1,25 - 4,00) size 4 = 4 - 20 (1,25 - 6,25)	size 2 = 7 - 20 (1,25 - 3,50) size 3 = 5 - 12 (2,00 - 5,00) size 4 = 4 - 12 (2,00 - 6,25)	general purpose with chip control <ul style="list-style-type: none"> • threading insert with chip control and positive cutting action • especially helpful for internal threading operations
PTN 	60°V UN class 2 ISO 6g/6H	neutral	no	size 3 = 6 - 11 (2,50 - 4,00) size 4 = 4.5 - 11 (2,50 - 5,50)	size 3 = 6 only (4,00 only) size 4 = 4.5 - 6 (4,00 - 5,50)	coarse pitches <ul style="list-style-type: none"> • larger nose radius than general purpose inserts • promotes longer tool life
PTN-C 	60°V UN class 2 ISO 6g/6H	10° positive chip control	no	size 3 = 6 - 11 (2,50 - 4,00) size 4 = 4.5 - 11 (2,50 - 5,50)	size 3 = 6 only (4,00 only) size 4 = 4.5 - 6 (4,00 - 5,50)	coarse pitches with chip control <ul style="list-style-type: none"> • positive cutting action • larger nose radius than general purpose inserts • promotes longer tool life
PTF 	60°V UN class 2 ISO 6g/6H	neutral	no	size 2 = 14 - 44 (0,60 - 1,75) size 3 = 10 - 44 (0,60 - 2,50) size 4 = 10 - 44 (0,60 - 2,50)	size 2 = 12 - 24 (1,00 - 2,00) size 3 = 9 - 24 (1,00 - 2,50) size 4 = 9 - 24 (1,00 - 2,50)	fine pitches, close to shoulder operations <ul style="list-style-type: none"> • smaller nose radius than general purpose inserts • use this style insert only when required for the operation

insert style	thread form	rake angle	cresting	tpi range (pitch in mm)		application
				external	internal	
60° Partial Profile (cont'd)						
PTK 	60° V UN class 2 ISO 6g/6H	5° positive	no	size 2 = 14 - 44 (0,60 - 1,75) size 3 = 10 - 44 (0,60 - 2,50) size 4 = 10 - 44 (0,60 - 2,50)	size 2 = 12 - 24 (1,00 - 2,00) size 3 = 9 - 24 (1,00 - 2,50) size 4 = 9 - 24 (1,00 - 2,50)	fine pitches, close to shoulder operations <ul style="list-style-type: none"> ground positive rake smaller nose radius than general purpose inserts use this insert only when required for the operation
60° American UN						
PTC 	60° V UN class 2	neutral	yes	each insert produces a specific tpi	each insert produces a specific tpi	cresting style for UN inch threads <ul style="list-style-type: none"> offers the best possible tool life for the application produces the best surface finish, and accurate thread depth
60° UNJ						
PJ 	60° V UNJ class 3	neutral	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	UNJ external threads <ul style="list-style-type: none"> close tolerance on nose radius to control thread root radius meets or exceeds SPEC MIL-S-8879C
PJP 	60° V UNJ class 3	5° positive	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	UNJ external threads <ul style="list-style-type: none"> ground positive rake close tolerance on nose radius to control thread root radius meets or exceeds SPEC MIL-S-8879C
PJF 	60° V UNJ class 3	neutral	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	UNJ external threads, fine pitches, close to shoulder <ul style="list-style-type: none"> close to shoulder applications close tolerance on nose radius to control thread root radius meets or exceeds SPEC MIL-S-8879C
PJK 	60° V UNJ class 3	5° positive	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	UNJ external threads, fine pitches, close to shoulder <ul style="list-style-type: none"> ground positive rake close to shoulder applications close tolerance on nose radius to control thread root radius meets or exceeds SPEC MIL-S-8879C

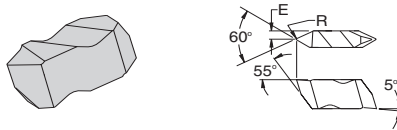
insert style	thread form	rake angle	cresting	tpi range (pitch in mm)		application
				external	internal	
API						
PD 	API 60° V	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	API rotary shouldered connections – tapered <ul style="list-style-type: none"> for thread forms: V-.038R, V-.040 and V-.050
Acme Threads						
PA 	29° Acme	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	Acme threads <ul style="list-style-type: none"> strong PowerNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
PAS 	29° Acme	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	Stub Acme threads <ul style="list-style-type: none"> strong PowerNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert

insert style	thread form	rake angle	cresting	tpi range (pitch in mm)		application
				external	internal	
American Buttress						
PTB-A 	52° American Buttress with radius	neutral	no	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	7° pressure flank leading <ul style="list-style-type: none"> strong PowerNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
PTB-B 	52° American Buttress with radius	neutral	no	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	45° clearance flank leading <ul style="list-style-type: none"> strong PowerNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
Specials						
	—	—	—	—	—	made to your order <ul style="list-style-type: none"> let our expert design team and manufacturing personnel make the insert required for your application, including special API thread forms.



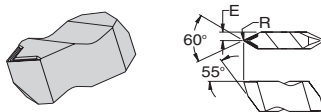
PT Style Threading

Description	R +/--.001		E +/--.001		pitch (mm)		tpi		RC706	R321	R541
	inch	mm	inch	mm	ext	int	ext	int			
PT2R	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20	094702	094701	
PT2L	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20	094705	094704	
PT3R	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094708	094707	094706
PT3L	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094711	094710	
PT4R	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12	094714	094713	
PT4L	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12	094717	094716	



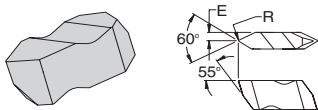
PTP Style Threading

Description	R +/--.001		E +/--.001		pitch (mm)		tpi		R321	R541	R013
	inch	mm	inch	mm	ext	int	ext	int			
PTP2R	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20	094739	094738	0703274
PTP2L	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20	094741		0703275
PTP3R	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094743	094742	0703276
PTP3L	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094745	094744	0703277
PTP4R	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12	0703278		0703279
PTP4L	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12			0703281



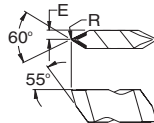
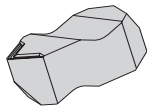
PT-C Style Threading

Description	R +/--.001		E +/--.001		pitch (mm)		tpi		RC706	R321	R013
	inch	mm	inch	mm	ext	int	ext	int			
PT2RC	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20		0703282	0703283
PT2LC	.003/.005	0,08/0,13	.075	1,91	(0,70-3,0)	(1,25-3,5)	8-36	7-20		0703284	0703285
PT3RC	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094979	094980	0703286
PT3LC	.005/.008	0,13/0,20	.098	2,49	(1,25-4,0)	(2,0-5,0)	6-20	5-12	094976	094977	0703287
PT4RC	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12		0703288	0703289
PT4LC	.005/.008	0,13/0,20	.128	3,25	(1,25-6,25)	(2,0-6,25)	4-20	4-12		0703290	0703291



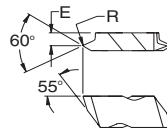
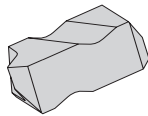
PTN Style Threading

Description	R +/--.001		E +/--.001		pitch (mm)		tpi		R321
	inch	mm	inch	mm	ext	int	ext	int	
PTN3R	.012/.015	0,31/0,38	.098	2,49	(2,5-4,0)	(4,0)	6-11	6	0703292
PTN3L	.012/.015	0,31/0,38	.098	2,49	(2,5-4,0)	(4,0)	6-11	6	0703293
PTN4R	.012/.015	0,31/0,38	.128	3,25	(2,5-5,5)	(4,0-5,5)	4.5-11	4.5-6	0703294
PTN4L	.012/.015	0,31/0,38	.128	3,25	(2,5-5,5)	(4,0-5,5)	4.5-11	4.5-6	0703295



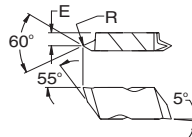
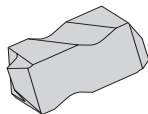
**PTN-C Style
Threading**

Description	R +/- .001		E +/- .001		pitch (mm)		tpi		RC706	R321	R013
	inch	mm	inch	mm	ext	int	ext	int			
PTN3RC	.012/.015	0,31/0,38	.098	2,49	(2,5-4,0)	(4,0)	6-11	6	094973	094974	0703296
PTN3LC	.012/.015	0,31/0,38	.098	2,49	(2,5-4,0)	(4,0)	6-11	6		094972	0703297
PTN4RC	.012/.015	0,31/0,38	.128	3,25	(2,5-5,5)	(4,0-5,5)	4.5-11	4.5-6		0703298	0703299
PTN4LC	.012/.015	0,31/0,38	.128	3,25	(2,5-5,5)	(4,0-5,5)	4.5-11	4.5-6		0703300	0703301



**PTF Style
Threading**

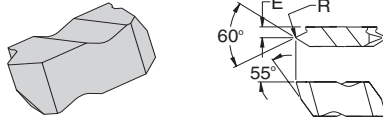
Description	R +/- .001		E +/- .001		pitch (mm)		tpi		RC706	R321	R013
	inch	mm	inch	mm	ext	int	ext	int			
PTF2R	.002/.004	0,05/0,10	.110	2,79	(0,6-1,75)	(1,0-2,0)	14-44	12-24	094720	094719	0703302
PTF2L	.002/.004	0,05/0,10	.110	2,79	(0,6-1,75)	(1,0-2,0)	14-44	12-24	094723	094722	0703303
PTF3R	.002/.004	0,05/0,10	.141	3,58	(0,6-2,5)	(1,0-2,5)	10-44	9-24	094726	094725	0703304
PTF3L	.002/.004	0,05/0,10	.141	3,58	(0,6-2,5)	(1,0-2,5)	10-44	9-24	094729	094728	0703305
PTF4R	.002/.004	0,05/0,10	.201	5,11	(0,6-2,5)	(1,0-2,5)	10-44	9-24		0703306	0703307
PTF4L	.002/.004	0,05/0,10	.201	5,11	(0,6-2,5)	(1,0-2,5)	10-44	9-24		0703308	0703309



**PTK Style
Threading**

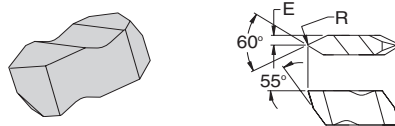
Description	R +/- .001		E +/- .001		pitch (mm)		tpi		R321	R541	R013
	inch	mm	inch	mm	ext	int	ext	int			
PTK2R	.002/.004	0,05/0,10	.110	2,79	(0,6-1,75)	(1,0-2,0)	14-44	12-24	094731		0703310
PTK2L	.002/.004	0,05/0,10	.110	2,79	(0,6-1,75)	(1,0-2,0)	14-44	12-24	094733		0703311
PTK3R	.002/.004	0,05/0,10	.141	3,58	(0,6-2,5)	(1,0-2,5)	10-44	9-24	094735	094734	0703312
PTK3L	.002/.004	0,05/0,10	.141	3,58	(0,6-2,5)	(1,0-2,5)	10-44	9-24	094737		0703313
PTK4R	.002/.004	0,05/0,10	.201	5,11	(0,6-2,5)	(1,0-2,5)	10-44	9-24	0703314		
PTK4L	.002/.004	0,05/0,10	.201	5,11	(0,6-2,5)	(1,0-2,5)	10-44	9-24	0703316		0703317

PTC Style Threading



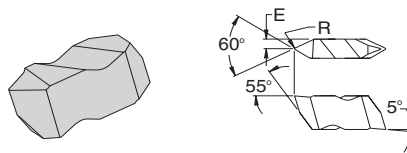
Description	R +/- .001		E +/- .001		pitch (mm)		tpi		R321
	inch	mm	inch	mm	ext	int	ext	int	
PTC3R12E	.0100	0,25	.148	3,76	—	—	12	—	094756
PTC3R16E	.0075	0,20	.148	3,76	—	—	16	—	094760
PTC3R18E	.0070	0,18	.148	3,76	—	—	18	—	094764

PJ Style Threading

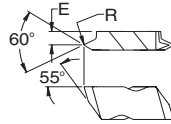
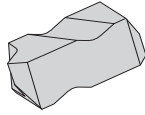


Description	R +/- .001		E +/- .001		pitch (mm)		tpi		R013	R323
	inch	mm	inch	mm	ext	int	ext	int		
PJ3020R8	.0188/.0198	0,478/0,503	.098	2,49	—	—	8	—	0703379	0703378
PJ3020L8	.0188/.0198	0,478/0,503	.098	2,49	—	—	8	—	0703381	0703380
PJ3014R12	.0125/.0135	0,318/0,343	.098	2,49	—	—	12	—	0703383	0703382
PJ3014L12	.0125/.0135	0,318/0,343	.098	2,49	—	—	12	—	0703385	0703384
PJ3010R16	.0094/.0104	0,239/0,264	.098	2,49	—	—	16	—	0703387	0703386
PJ3010L16	.0094/.0104	0,239/0,264	.098	2,49	—	—	16	—	0703389	0703388

PJP Style Threading

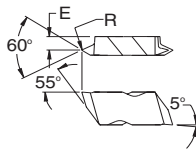
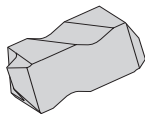


Description	R +/- .001		E +/- .001		pitch (mm)		tpi		R013	R323
	inch	mm	inch	mm	ext	int	ext	int		
PJP3020R8	.0188/.0198	0,478/0,503	.098	2,49	—	—	8	—	0703391	0703390
PJP3020L8	.0188/.0198	0,478/0,503	.098	2,49	—	—	8	—		0703392
PJP3014R12	.0125/.0135	0,318/0,343	.098	2,49	—	—	12	—	0703395	0703394
PJP3014L12	.0125/.0135	0,318/0,343	.098	2,49	—	—	12	—	0703397	0703396
PJP3010R16	.0094/.0104	0,239/0,264	.098	2,49	—	—	16	—	0703399	0703398
PJP3010L16	.0094/.0104	0,239/0,264	.098	2,49	—	—	16	—	0703401	0703400



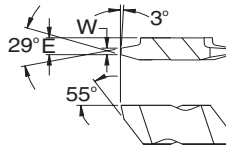
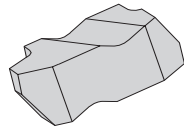
PJF Style Threading

Description	R +/-0.001		E +/-0.001		pitch (mm)		tpi		R013	R323
	inch	mm	inch	mm	ext	int	ext	int		
PJF3012R14	.0107/.0117	0,272/0,297	.141	3,48	—	—	14	—	0703403	0703402
PJF3012L14	.0107/.0117	0,272/0,297	.141	3,48	—	—	14	—	0703405	0703404
PJF3010R16	.0094/.0104	0,239/0,264	.141	3,48	—	—	16	—	0703407	0703406
PJF3010L16	.0094/.0104	0,239/0,264	.141	3,48	—	—	16	—	0703409	0703408
PJF3009R18	.0083/.0093	0,211/0,236	.141	3,48	—	—	18	—	0703411	0703410
PJF3009L18	.0083/.0093	0,211/0,236	.141	3,48	—	—	18	—	0703413	0703412
PJF3008R20	.0075/.0085	0,190/0,216	.141	3,48	—	—	20	—	0703415	0703414
PJF3008L20	.0075/.0085	0,190/0,216	.141	3,48	—	—	20	—	0703417	0703416
PJF3007R24	.0063/.0073	0,160/0,185	.141	3,48	—	—	24	—	0703419	0703418
PJF3007L24	.0063/.0073	0,160/0,185	.141	3,48	—	—	24	—	0703421	0703420
PJF3006R28	.0054/.0064	0,137/0,163	.141	3,48	—	—	28	—	0703423	0703422
PJF3006L28	.0054/.0064	0,137/0,163	.141	3,48	—	—	28	—	0703425	0703424
PJF3005R32	.0047/.0056	0,119/0,142	.141	3,48	—	—	32	—	0703427	0703426
PJF3005L32	.0047/.0056	0,119/0,142	.141	3,48	—	—	32	—	0703429	0703428



PJK Style Threading

Description	R +/-0.001		E +/-0.001		pitch (mm)		tpi		R013	R323
	inch	mm	inch	mm	ext	int	ext	int		
PJK3012R14	.0107/.0117	0,272/0,297	.141	3,48	—	—	14	—	0703431	0703430
PJK3012L14	.0107/.0117	0,272/0,297	.141	3,48	—	—	14	—	0703433	0703432
PJK3010R16	.0094/.0104	0,239/0,264	.141	3,48	—	—	16	—	0703435	0703434
PJK3010L16	.0094/.0104	0,239/0,264	.141	3,48	—	—	16	—	0703437	0703436
PJK3009R18	.0083/.0093	0,211/0,236	.141	3,48	—	—	18	—	0703439	0703438
PJK3009L18	.0083/.0093	0,211/0,236	.141	3,48	—	—	18	—	0703441	0703440
PJK3008R20	.0075/.0085	0,190/0,216	.141	3,48	—	—	20	—	0703443	0703442
PJK3008L20	.0075/.0085	0,190/0,216	.141	3,48	—	—	20	—	0703445	0703444
PJK3007R24	.0063/.0073	0,160/0,185	.141	3,48	—	—	24	—	0703447	0703446
PJK3007L24	.0063/.0073	0,160/0,185	.141	3,48	—	—	24	—	0703449	0703448
PJK3006R28	.0054/.0064	0,137/0,163	.141	3,48	—	—	28	—	0703451	0703450
PJK3006L28	.0054/.0064	0,137/0,163	.141	3,48	—	—	28	—	0703453	0703452
PJK3005R32	.0047/.0056	0,119/0,142	.141	3,48	—	—	32	—	0703455	0703454
PJK3005L32	.0047/.0056	0,119/0,142	.141	3,48	—	—	32	—	0703457	0703456

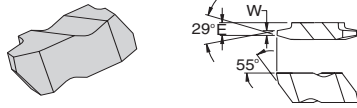


**PA Style
Threading**

Description	W +/- .001		E +/- .001		tpi	RC706	R013	R323
	inch	mm	inch	mm				
PA3R16	.0206	0,532	.149	3,78	16			0703468
PA3L16	.0206	0,532	.149	3,78	16		0703471	0703470
PA3R14	.0239	0,607	.149	3,78	14		0703473	0703472
PA3L14	.0239	0,607	.149	3,78	14			0703474
PA3R12	.0283	0,719	.149	3,78	12		0703477	0703476
PA3L12	.0283	0,719	.149	3,78	12		0703479	0703478
PA3R10	.0319	0,810	.149	3,78	10	094754	0703481	0703480
PA3L10	.0319	0,810	.149	3,78	10	094755	0703483	0703482
PA3R8	.0411	1,044	.149	3,78	8	094752	0703485	0703484
PA3L8	.0411	1,044	.149	3,78	8	094753	0703487	0703486
PA3R6	.0566	1,438	.149	3,78	6	094750	0703489	0703488
PA3L6	.0566	1,438	.149	3,78	6	094751	0703491	0703490
PA3R5	.0689	1,750	.149	3,78	5	094748	0703493	0703492
PA3L5	.0689	1,750	.149	3,78	5	094749	0703495	0703494
PA3R4	.0875	2,222	.133	3,38	4	094746	0703497	0703496
PA3L4	.0875	2,222	.133	3,38	4	094747	0703499	0703498
PA4R10	.0319	0,810	.202	5,13	10		0703501	0703500
PA4L10	.0319	0,810	.202	5,13	10		0703503	0703502
PA4R8	.0411	1,044	.202	5,13	8		0703505	0703504
PA4L8	.0411	1,044	.202	5,13	8		0703507	0703506
PA4R6	.0566	1,438	.202	5,13	6		0703509	0703508
PA4L6	.0566	1,438	.202	5,13	6		0703511	0703510
PA4R5	.0689	1,750	.202	5,13	5		0703513	0703512
PA4L5	.0689	1,750	.202	5,13	5		0703515	0703514
PA4R4	.0875	2,222	.202	5,13	4		0703517	0703516
PA4L4	.0875	2,222	.202	5,13	4		0703519	0703518

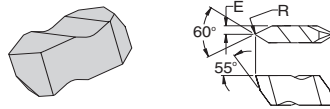
RTW PowrNotch™

PAS Style Threading



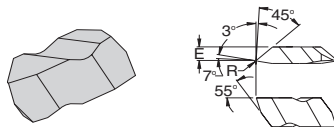
Description	W +/- .001		E +/- .001		tpi	R321	R013	R323
	inch	mm	inch	mm				
PAS3R16	.0238	0,604	.149	3,78	16	0703520	0703521	
PAS3L16	.0238	0,604	.149	3,78	16	0703522	0703523	
PAS3R14	.0276	0,701	.149	3,78	14	0703524	0703525	
PAS3L14	.0276	0,701	.149	3,78	14	0703526	0703527	
PAS3R12	.0326	0,828	.149	3,78	12	0703528	0703529	
PAS3L12	.0326	0,828	.149	3,78	12	0703530	0703531	
PAS3R10	.0370	0,940	.149	3,78	10		0703533	0703532
PAS3L10	.0370	0,940	.149	3,78	10		0703535	0703534
PAS3R8	.0476	1,209	.149	3,78	8		0703537	0703536
PAS3L8	.0476	1,209	.149	3,78	8		0703539	0703538
PAS3R6	.0652	1,656	.149	3,78	6		0703541	0703540
PAS3L6	.0652	1,656	.149	3,78	6		0703543	0703542
PAS3R5	.0793	2,014	.149	3,78	5		0703545	0703544
PAS3L5	.0793	2,014	.149	3,78	5		0703547	0703546

PD Style Threading



Description	R +/- .001		E +/- .001		tpi	R321	R013	R323
	inch	mm	inch	mm				
PD3040R	.015/.020	0,38/0,51	.082	2,08	4		0703549	0703548
PD3040L	.015/.020	0,38/0,51	.082	2,08	4		0703551	0703550
PD3038R	.033/.038	0,84/0,97	.082	2,08	4		0703553	0703552
PD3038L	.033/.038	0,84/0,97	.082	2,08	4		0703555	0703554
PD4040R	.015/.020	0,38/0,51	.128	3,25	5	0703556	0703557	
PD4040L	.015/.020	0,38/0,51	.128	3,25	5		0703558	
PD4050R	.020/.025	0,51/0,64	.128	3,25	4		0703560	0703559
PD4050L	.020/.025	0,51/0,64	.128	3,25	4		0703562	0703561

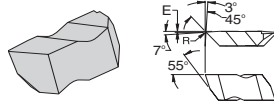
PTB-A Style Threading



Description	R +/- .001		E +/- .001		tpi	R013	R323
	inch	mm	inch	mm			
PTB2RA	.002/.004	0,05/0,10	.126	3,20	16-20	0703591	0703590
PTB2LA	.002/.004	0,05/0,10	.126	3,20	16-20	0703593	0703592
PTB3RA	.005/.008	0,13/0,20	.164	4,17	8-16	0703595	0703594
PTB3LA	.005/.008	0,13/0,20	.164	4,17	8-16	0703597	0703596
PTB4RA	.008/.012	0,20/0,30	.206	5,23	4-6	0703599	0703598
PTB4LA	.008/.012	0,20/0,30	.206	5,23	4-6	0703601	0703600



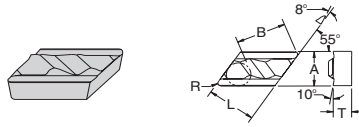
PowrNotch™



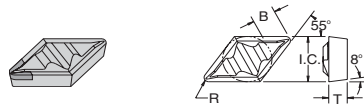
PTB-B Style Threading

Description	R +/- .001		E +/- .001		tpi	R013	R323
	inch	mm	inch	mm			
PTB2RB	.002/.004	0,05/0,10	.010	0,25	16-20	0703603	0703602
PTB2LB	.002/.004	0,05/0,10	.010	0,25	16-20	0703605	0703604
PTB3RB	.005/.008	0,13/0,20	.012	0,30	8-16	0703607	0703606
PTB3LB	.005/.008	0,13/0,20	.012	0,30	8-16	0703609	0703608
PTB4RB	.008/.012	0,20/0,30	.016	0,40	4-6	0703611	0703610
PTB4LB	.008/.012	0,20/0,30	.016	0,40	4-6	0703613	0703612

PPR/L Style Profiling



Description	ISO	A		T		R		B		L		RC706	R321
		in	mm	in	mm	in	mm	in	mm	in	mm		
PPR130.5	KNGX 15 04 01 R15	.375	9,53	3/16	4,76	.005	0,1	.5416	13,760	.500	12,70		0701035
PPL130.5	KNGX 15 04 01 L15	.375	9,53	3/16	4,76	.005	0,1	.5416	13,760	.500	12,70		
PPR131F	KNGX 15 04 04 R20	.375	9,53	3/16	4,76	1/64	0,4	.5293	13,440	.500	12,70	0701038	0701037
PPL131F	KNGX 15 04 04 L20	.375	9,53	3/16	4,76	1/64	0,4	.5293	13,440	.500	12,70	0701040	0701039
PPR132F	KNGX 15 04 08 R20	.375	9,53	3/16	4,76	1/32	0,8	.5110	12,980	.500	12,70	0701042	0701041
PPL132F	KNGX 15 04 08 L20	.375	9,53	3/16	4,76	1/32	0,8	.5110	12,980	.500	12,70	0701044	
PPR50.5	KCGX 11 03 01 R15	.250	6,35	1/8	3,18	.004	0,1	.3712	9,430	.375	9,52	0701022	0701021
PPL50.5	KCGX 11 03 01 L15	.250	6,35	1/8	3,18	.005	0,1	.3712	9,430	.375	9,52	0701024	0701023
PPR50.8	KCGX 11 03 02 R15	.250	6,35	1/8	3,18	.008	0,2	.3712	9,340	.375	9,52		0701025
PPL50.8	KCGX 11 03 02 L15	.250	6,35	1/8	3,18	.008	0,2	.3712	9,340	.375	9,52		0701026
PPR51	KCGX 11 03 04 R15	.250	6,35	1/8	3,18	1/64	0,4	.3677	9,100	.375	9,52	0701028	0701027
PPL51	KCGX 11 03 04 L15	.250	6,35	1/8	3,18	1/64	0,4	.3677	9,100	.375	9,52	0701030	0701029
PPR52	KCGX 11 03 08 R15	.250	6,35	1/8	3,18	1/32	0,8	.3677	8,660	.375	9,52	0701032	0701031
PPL52	KCGX 11 03 08 L15	.250	6,35	1/8	3,18	1/32	0,8	.3677	8,660	.375	9,52	0701034	0701033

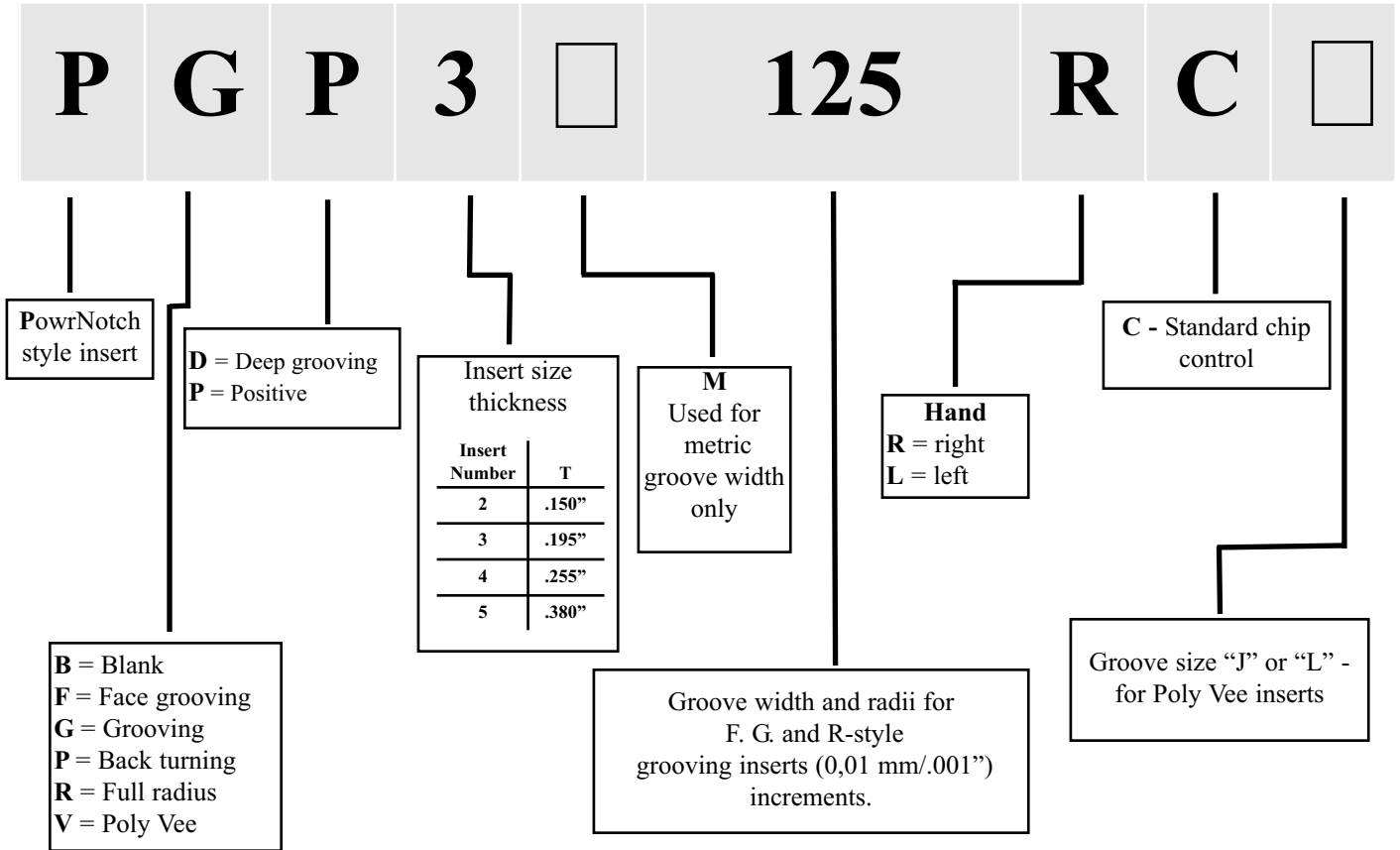


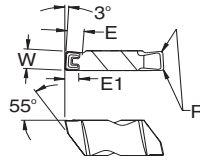
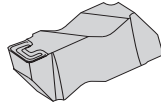
DPGR Style

Description	ISO	A		T		R		B		RD2010
		in	mm	in	mm	in	mm	in	mm	
DPGR-432	DCGR 15 04 08	1/2	12,70	3/16	4,76	1/32	0,8	.2550	6,477	0700778



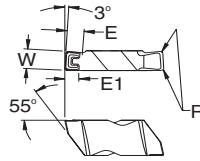
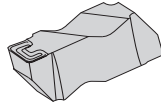
Grooving Insert Nomenclature





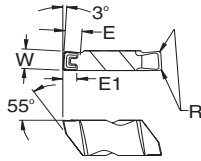
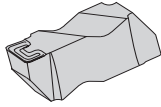
**PG-C Style
Grooving**

Description	W		R		E		E1		RC706	R321	R013	RTC4010
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm				
PG2031RC	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76	094767	094766	0702898	0702899
PG2031LC	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76	094769	094768	0702900	0702901
PG2M100RC	0.039	1,00	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		094770	0702902	0702903
PG2M100LC	0.039	1,00	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		094772	0702904	0702905
PG2047RC	0.047	1,19	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		0702906	0702907	0702908
PG2047LC	0.047	1,19	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		0702909	0702910	0702911
PG2M120RC	0.047	1,20	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76			0702912	0702913
PG2M120LC	0.047	1,20	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76			0702914	0702915
PG2M140RC	0.055	1,40	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		094778	0702916	0702917
PG2M140LC	0.055	1,40	0.002/0.005	0,05/0,13	0.050	1,27	0.030	0,76		094780	0702918	0702919
PG2M150RC	0.059	1,50	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702920	0702921	0702922
PG2M150LC	0.059	1,50	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702923	0702924	0702925
PG2062RC	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094783	094782	0702926	0702927
PG2062LC	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094785	094784	0702928	0702929
PG2M170RC	0.067	1,70	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094786	0702930	0702931
PG2M170LC	0.067	1,70	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094788	0702932	0702933
PG2M175RC	0.069	1,75	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702934	0702935	
PG2M175LC	0.069	1,75	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702936	0702937	
PG2M195RC	0.077	1,95	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094790	0702938	0702939
PG2M195LC	0.077	1,95	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094792	0702940	0702941
PG2M200RC	0.079	2,00	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094794	0702942	0702943
PG2M200LC	0.079	2,00	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09			0702944	0702945
PG2M220RC	0.087	2,20	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702948	0702946	
PG2M220LC	0.087	2,20	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702951	0702947	
PG2M225RC	0.089	2,25	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094798	0702949	0702950
PG2M225LC	0.089	2,25	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09			0702952	0702953
PG2094RC	0.094	2,39	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094803	094802	0702954	0702955
PG2094LC	0.094	2,39	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094805	094804	0702956	0702957
PG2M250RC	0.098	2,50	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702958	0702959	
PG2M250LC	0.098	2,50	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702960	0702961	
PG2M275RC	0.108	2,75	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094807	094806	0702962	0702963
PG2M275LC	0.108	2,75	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09			0702964	0702965
PG2M300RC	0.118	3,00	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094810	0702966	0702967
PG2M300LC	0.118	3,00	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		094812	0702968	0702969
PG2125RC	0.125	3,18	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094815	094814	0702970	0702971
PG2125LC	0.125	3,18	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09	094817	094816	0702972	0702973
PG2M325RC	0.128	3,25	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702974	0702975	
PG2M325LC	0.128	3,25	0.005/0.010	0,13/0,25	0.110	2,79	0.043	1,09		0702976	0702977	
PG3M100RC	0.039	1,00	0.005/0.010	0,13/0,25	0.075	1,90	0.030	0,76		0702978	0702979	0702980
PG3M100LC	0.039	1,00	0.005/0.010	0,13/0,25	0.075	1,90	0.030	0,76		0702981	0702982	0702983
PG3047RC	0.047	1,19	0.005/0.010	0,13/0,25	0.075	1,90	0.030	0,76	094819	094818	0702984	
PG3047LC	0.047	1,19	0.005/0.010	0,13/0,25	0.075	1,90	0.030	0,76	094821	094820	0702985	
PG3M150RC	0.059	1,50	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0702986	0702987	0702988
PG3M150LC	0.059	1,50	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0702989	0702990	0702991
PG3062RC	0.062	1,57	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094823	094822	0702992	0702993
PG3062LC	0.062	1,57	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094825	094824	0702994	0702995



PG-C Style Grooving

Description	W		R		E		E1		RC706	R321	R013	RTC4010
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm				
PG3M175RC	0.069	1,75	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0702996	0702997	
PG3M175LC	0.069	1,75	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0702998	0702999	
PG3072RC	0.072	1,83	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094827	094826	0703000	
PG3072LC	0.072	1,83	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094829	094828	0703001	
PG3078RC	0.078	1,98	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094831	094830	0703002	
PG3078LC	0.078	1,98	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094833	094832	0703003	
PG3M225RC	0.089	2,25	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094835	094834	0703007	0703008
PG3M225LC	0.089	2,25	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02	094837	094836	0703010	0703011
PG3094RC	0.094	2,39	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094839	094838	0703012	0703013
PG3094LC	0.094	2,39	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094841	094840	0703014	0703015
PG3M250RC	0.098	2,50	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703016	0703017	0703018
PG3M250LC	0.098	2,50	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703019	0703020	0703021
PG3M275RC	0.108	2,75	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094843	094842	0703022	0703023
PG3M275LC	0.108	2,75	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094845		0703024	0703025
PG3M300RC	0.118	3,00	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		094846	0703026	0703027
PG3M300LC	0.118	3,00	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094849	094848	0703028	0703029
PG3125RC	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094851	094850	0703030	0703031
PG3125LC	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094853	094852	0703032	0703033
PG3M320RC	0.087	2,20	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0703006	0703004	
PG3M320LC	0.087	2,20	0.005/0.010	0,13/0,25	0.094	2,39	0.040	1,02		0703009	0703005	
PG3M325RC	0.128	3,25	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703034	0703035	0703036
PG3M325LC	0.128	3,25	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703037	0703038	0703039
PG3M350RC	0.138	3,50	0.010/0.015	0,25/0,38	0.150	3,81	0.040	1,02		0703040	0703041	0703042
PG3M350LC	0.138	3,50	0.010/0.015	0,25/0,38	0.150	3,81	0.040	1,02		0703043	0703044	
PG3156RC	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81	0.115	2,92	094855	094854	0703046	
PG3156LC	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81	0.115	2,92	094857	094856	0703047	
PG3M425RC	0.167	4,25	0.010/0.015	0,25/0,38	0.150	3,81	0.115	2,92		0703048	0703049	
PG3M425LC	0.167	4,25	0.010/0.015	0,25/0,38	0.150	3,81	0.115	2,92		0703050	0703051	
PG3M450RC	0.177	4,50	0.010/0.015	0,25/0,38	0.150	3,81	0.115	2,92		0703052	0703053	
PG3M450LC	0.177	4,50	0.010/0.015	0,25/0,38	0.150	3,81	0.115	2,92		0703054	0703055	
PG3189RC	0.189	4,80	0.020/0.025	0,51/0,64	0.150	3,81	0.115	2,92	094859	094858	0703056	0703057
PG3189LC	0.189	4,80	0.020/0.025	0,51/0,64	0.150	3,81	0.115	2,92	094861	094860	0703058	0703059
PG4M300RC	0.118	3,00	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703060	0703061	
PG4M300LC	0.118	3,00	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02		0703062	0703063	
PG4125RC	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094863		0703064	0703065
PG4125LC	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094865	094864	0703066	0703067
PG4M350RC	0.138	3,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703068	0703069	
PG4M350LC	0.138	3,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703070	0703071	
PG4M400RC	0.157	4,00	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703072	0703073	
PG4M400LC	0.157	4,00	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703074	0703075	
PG4M450RC	0.177	4,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703076	0703077	
PG4M450LC	0.177	4,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703078	0703079	
PG4189RC	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92	094867	094866	0703080	0703081
PG4189LC	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92	094869	094868	0703082	0703083
PG4M500RC	0.197	5,00	0.010/0.015	0,25/0,38	0.250	6,35	0.115	2,92	094871	094870	0703084	0703085
PG4M500LC	0.197	5,00	0.010/0.015	0,25/0,38	0.250	6,35	0.115	2,92	094873		0703086	0703087

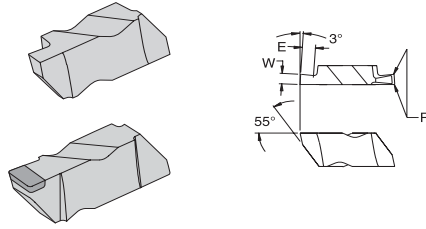


PG-C Style
Grooving

Description	W		R		E		E1		RC706	R321	R013	RTC4010
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm				
PG4M550RC	0.217	5,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703088	0703089	
PG4M550LC	0.217	5,50	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703090	0703091	
PG4M600RC	0.236	6,00	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703092	0703093	
PG4M600LC	0.236	6,00	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92		0703094	0703095	
PG4250RC	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35	0.150	3,81	094875	094874	0703096	0703097
PG4250LC	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35	0.150	3,81	094877	094876	0703098	0703099



PowerNotch™

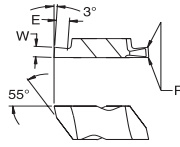
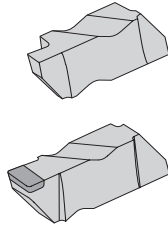


PG Style Grooving

Description	W		R		E		CQ23	RC706	R321	RB3005	RD2010
	in+/-0.001	mm	in	mm	in+/-0.005	mm					
PG2031R	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	0701068	0700943	0703100		
PG2031L	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	0701069	0700945	0703101		
PG2041R	0.041	1,04	0.002/0.005	0,05/0,13	0.050	1,27			0703102		
PG2041L	0.041	1,04	0.002/0.005	0,05/0,13	0.050	1,27			0703103		
PG2047R	0.047	1,19	0.002/0.005	0,05/0,13	0.050	1,27			0703104		
PG2047L	0.047	1,19	0.002/0.005	0,05/0,13	0.050	1,27			0703105		
PG2058R	0.058	1,47	0.005/0.010	0,13/0,25	0.050	1,27			0703106		
PG2058L	0.058	1,47	0.005/0.010	0,13/0,25	0.050	1,27			0703107		
PG2062R	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79	0701070	0700947	0703108		
PG2062L	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79	0701071	0700949	0703109		
PG2094R	0.094	2,39	0.005/0.010	0,13/0,25	0.110	2,79	0701072	0700951	0703110		
PG2094L	0.094	2,39	0.005/0.010	0,13/0,25	0.110	2,79	0701073	0700953	0703111		
PG2125R	0.125	3,18	0.005/0.010	0,13/0,25	0.110	2,79	0701074	0700955	0703112		
PG2125L	0.125	3,18	0.005/0.010	0,13/0,25	0.110	2,79	0701075	0700957	0703113		
PG3047R	0.047	1,19	0.005/0.010	0,13/0,25	0.075	1,91	0701076	0700959	0703114		
PG3047L	0.047	1,19	0.005/0.010	0,13/0,25	0.075	1,91	0701077	0700961	0703115		
PG3062R	0.062	1,57	0.005/0.010	0,13/0,25	0.094	2,39	0701078	0700963	0703116		0700796
PG3062L	0.062	1,57	0.005/0.010	0,13/0,25	0.094	2,39	0701079	0700965	0703117		0700797
PG3072R	0.072	1,83	0.005/0.010	0,13/0,25	0.094	2,39		0700967	0703118		
PG3072L	0.072	1,83	0.005/0.010	0,13/0,25	0.094	2,39		0700969	0703119		
PG3078R	0.078	1,98	0.005/0.010	0,13/0,25	0.094	2,39		0700971	0703120		
PG3078L	0.078	1,98	0.005/0.010	0,13/0,25	0.094	2,39		0700973	0703121		
PG3088R	0.088	2,24	0.005/0.010	0,13/0,25	0.094	2,39			0703122		
PG3088L	0.088	2,24	0.005/0.010	0,13/0,25	0.094	2,39			0703123		
PG3094R	0.094	2,39	0.005/0.010	0,13/0,25	0.150	3,81	0701084	0700975	0703124		0700806
PG3094L	0.094	2,39	0.005/0.010	0,13/0,25	0.150	3,81		0701061	0703125		0700807
PG3097R	0.097	2,46	0.010/0.015	0,25/0,38	0.150	3,81			0703126		
PG3097L	0.097	2,46	0.010/0.015	0,25/0,38	0.150	3,81			0703127		
PG3105R	0.105	2,67	0.005/0.010	0,13/0,25	0.150	3,81			0703128		
PG3105L	0.105	2,67	0.005/0.010	0,13/0,25	0.150	3,81			0703129		
PG3110R	0.110	2,79	0.010/0.015	0,25/0,38	0.150	3,81			0703130		
PG3110L	0.110	2,79	0.010/0.015	0,25/0,38	0.150	3,81			0703131		
PG3122R	0.122	3,10	0.005/0.010	0,13/0,25	0.150	3,81					
PG3122L	0.122	3,10	0.005/0.010	0,13/0,25	0.150	3,81			0703132		
PG3125R	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0701085	0700977	0703133	0700742	
PG3125L	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	0701086	0700979	0703134		
PG3142R	0.142	3,61	0.010/0.015	0,25/0,38	0.150	3,81			0703135		
PG3142L	0.142	3,61	0.010/0.015	0,25/0,38	0.150	3,81			0703136		
PG3156R	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81		0700981	0703137		
PG3156L	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81		0700983	0703138		
PG3178R	0.178	4,52	0.005/0.010	0,13/0,25	0.150	3,81					
PG3178L	0.178	4,52	0.005/0.010	0,13/0,25	0.150	3,81			0703139		
PG3185R	0.185	4,70	0.020/0.025	0,51/0,64	0.150	3,81			0703140		
PG3185L	0.185	4,70	0.020/0.025	0,51/0,64	0.150	3,81			0703141		
PG3189R	0.189	4,80	0.020/0.025	0,51/0,64	0.150	3,81	0701089	0700985	0703142		
PG3189L	0.189	4,80	0.020/0.025	0,51/0,64	0.150	3,81	0701090	0700987	0703143		
PG4125R	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81		0700988	0703144		
PG4125L	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81		0700989	0703145		
PG4189R	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35		0700990	0703146		

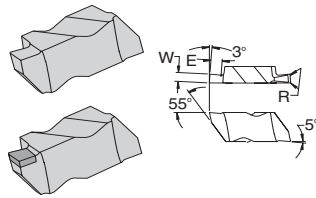


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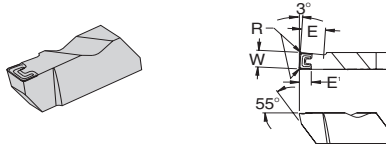
PG Style Grooving

Description	W		R		E		CQ23	RC706	R321	RB3005	RD2010
	in+/- .001	mm	in	mm	in+/- .005	mm					
PG4189L	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35		0700991	0703147		
PG4213R	0.213	5,41	0.005/0.010	0,13/0,25	0.250	6,35			0703148		
PG4213L	0.213	5,41	0.005/0.010	0,13/0,25	0.250	6,35			0703149		
PG4250R	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35		0700992	0703150		
PG4250L	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35		0700993	0703151		



PGP Style Grooving

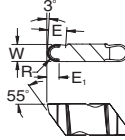
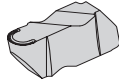
Description	W		R		E		RC706	R321	RD2010
	in+/-0.001	mm	in	mm	in+/-0.005	mm			
PGP2031R	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	094879	094878	
PGP2031L	0.031	0,79	0.002/0.005	0,05/0,13	0.050	1,27	094881		
PGP2062R	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79		0703152	
PGP2062L	0.062	1,57	0.005/0.010	0,13/0,25	0.110	2,79		0703153	
PGP3088R	0.088	2,23	0.005/0.010	0,13/0,25	0.094	2,39	094883	094882	
PGP3088L	0.088	2,23	0.005/0.010	0,13/0,25	0.094	2,39	094885	094884	
PGP3125R	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	094887	094886	0700804
PGP3125L	0.125	3,18	0.005/0.010	0,13/0,25	0.150	3,81	094889	094888	
PGP3156R	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81		0703154	
PGP3156L	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81		0703155	
PGP4189R	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35		0703156	
PGP4189L	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35			
PGP4250R	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35			
PGP4250L	0.250	6,35	0.020/0.025	0,51/0,64	0.250	6,35	094892		



PGD-C Style Deep Grooving

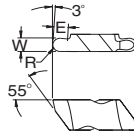
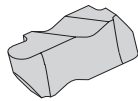
Description	W		R		E		E1		RC706	R321	R013
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm			
PGD3062RC	0.062	1,57	0.005/0.010	0,13/0,25	0.125	3,18	0.040	1,02	094894	094893	0703157
PGD3062LC	0.062	1,57	0.005/0.010	0,13/0,25	0.125	3,18	0.040	1,02	094896	094895	0703158
PGD3094RC*	0.094	2,39	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094898	094897	0703159
PGD3094LC*	0.094	2,39	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094900	094899	0703160
PGD3125RC*	0.125	3,18	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094902	094901	0703161
PGD3125LC*	0.125	3,18	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094904	094903	0703162
PGD3189RC*	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92	094906	094905	0703163
PGD3189LC*	0.189	4,80	0.020/0.025	0,51/0,64	0.250	6,35	0.115	2,92	094908	094907	0703164
PGD4125RC	0.125	3,18	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094910	094909	0703165
PGD4125LC	0.125	3,18	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094912	094911	0703166
PGD4185RC*	0.185	4,70	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92		094913	0703167
PGD4185LC*	0.185	4,70	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92			
PGD4189RC*	0.189	4,80	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92	094916	094915	0703168
PGD4189LC*	0.189	4,80	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92	094918	094917	0703169
PGD4250RC*	0.250	6,35	0.020/0.025	0,51/0,64	0.500	12,70	0.150	3,81	094920	094919	0703170
PGD4250LC*	0.250	6,35	0.020/0.025	0,51/0,64	0.500	12,70	0.150	3,81	094922	094921	0703171

* These inserts have one cutting edge



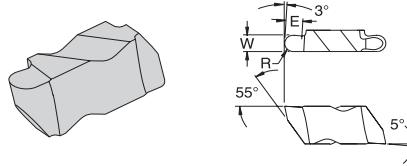
PR-C Style Grooving

	W		R		E		E1		RC706	R321	R013
	in+/- .001	mm	in	mm	in+/- .005	mm	in	mm			
PR3031RC	0.062	1,57	0.031	0,79	0.094	2,39	0.078	1,98			0703172
PR3031LC	0.062	1,57	0.031	0,79	0.094	2,39	0.078	1,98			0703173
PR3047RC	0.094	2,39	0.047	1,19	0.150	3,81	0.100	2,54	094928	094927	0703174
PR3047LC	0.094	2,39	0.047	1,19	0.150	3,81	0.100	2,54	094930	094929	0703175
PR3062RC	0.125	3,18	0.062	1,57	0.150	3,81	0.100	2,54	094932	094931	0703176
PR3062LC	0.125	3,18	0.062	1,57	0.150	3,81	0.100	2,54	094934	094933	0703177
PR3078RC	0.156	3,96	0.078	1,98	0.150	3,81	0.100	2,54		094935	0703178
PR3078LC	0.156	3,96	0.078	1,98	0.150	3,81	0.100	2,54	094938		0703179
PR4062RC	0.125	3,18	0.062	1,57	0.150	3,81	0.100	2,54		0703180	0703181
PR4062LC	0.125	3,18	0.062	1,57	0.150	3,81	0.100	2,54		0703182	0703183
PR4094RC	0.188	4,78	0.094	2,39	0.250	6,35	0.150	3,81		0703184	0703185
PR4094LC	0.188	4,78	0.094	2,39	0.250	6,35	0.150	3,81		0703186	0703187
PR4125RC	0.250	6,35	0.125	3,18	0.250	6,35	0.150	3,81		0703188	0703189
PR4125LC	0.250	6,35	0.125	3,18	0.250	6,35	0.150	3,81		0703190	0703191



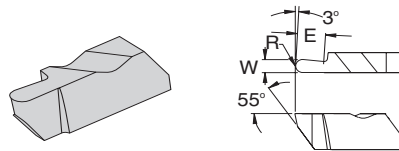
PR Style Grooving

Description	W		R		E		RC706	R321	R013
	in+/- .001	mm	in	mm	in+/- .005	mm			
PR2031R	0.062	1,57	0.031	0,79	0.110	2,79		0703192	0703193
PR2031L	0.062	1,57	0.031	0,79	0.110	2,79		0703194	0703195
PR2047R	0.094	2,39	0.047	1,19	0.110	2,79		0703196	0703197
PR2047L	0.094	2,39	0.047	1,19	0.110	2,79		0703198	0703199
PR2062R	0.125	3,18	0.062	1,57	0.110	2,79		0703200	0703201
PR2062L	0.125	3,18	0.062	1,57	0.110	2,79		0703202	0703203
PR3031R	0.062	1,57	0.031	0,79	0.094	2,39	094924	094923	
PR3031L	0.062	1,57	0.031	0,79	0.094	2,39	094926	094925	
PR3047R	0.094	2,39	0.047	1,19	0.150	3,81	0701003	0703614	
PR3047L	0.094	2,39	0.047	1,19	0.150	3,81	0701005	0703615	
PR3062R	0.125	3,18	0.062	1,57	0.150	3,81	0701007	0703616	
PR3062L	0.125	3,18	0.062	1,57	0.150	3,81	0701009	0703617	
PR3078R	0.156	3,96	0.078	1,98	0.150	3,81	0701011	0703618	
PR3078L	0.156	3,96	0.078	1,98	0.150	3,81	0701013	0703619	
PR3094R	0.188	4,78	0.094	2,39	0.150	3,81	0701063	0703620	
PR3094L	0.188	4,78	0.094	2,39	0.150	3,81		0703621	
PR4062R	0.125	3,18	0.062	1,57	0.150	3,81		0703204	
PR4062L	0.125	3,18	0.062	1,57	0.150	3,81		0703205	
PR4094R	0.188	4,78	0.094	2,39	0.250	6,35		0703206	
PR4094L	0.188	4,78	0.094	2,39	0.250	6,35		0703207	
PR4125R	0.250	6,35	0.125	3,18	0.250	6,35		0703208	
PR4125L	0.250	6,35	0.125	3,18	0.250	6,35		0703209	



PRP Style Grooving

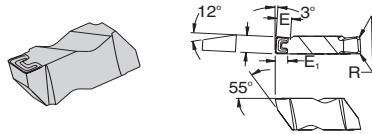
Description	W		R		E		RC706	R321
	in+/-0.001	mm	in	mm	in+/-0.005	mm		
PRP3031R	0.062	1,57	0.03	0,79	0.094	2,39	094944	094943
PRP3031L	0.062	1,57	0.03	0,79	0.094	2,39	094946	094945
PRP3047R	0.094	2,39	0.05	1,19	0.150	3,81	094948	094947
PRP3047L	0.094	2,39	0.05	1,19	0.150	3,81	094950	094949
PRP3062R	0.125	3,18	0.06	1,57	0.150	3,81	094952	094951
PRP3062L	0.125	3,18	0.06	1,57	0.150	3,81	094954	094953
PRP3078R	0.156	3,96	0.08	1,98	0.150	3,81		0703210
PRP3094R	0.188	4,78	0.09	2,39	0.150	3,81	094956	094955
PRP3094L	0.188	4,78	0.09	2,39	0.150	3,81	094958	094957
PRP4062R	0.125	3,18	0.06	1,57	0.150	3,81		0703211
PRP4062L	0.125	3,18	0.06	1,57	0.150	3,81		0703212
PRP4094R	0.188	4,78	0.09	2,39	0.250	6,35		0703213
PRP4094L	0.188	4,78	0.09	2,39	0.250	6,35		0703214
PRP4125R	0.250	6,35	0.13	3,18	0.250	6,35		0703215
PRP4125L	0.250	6,35	0.13	3,18	0.250	6,35		0703216



PRD Style Deep Grooving

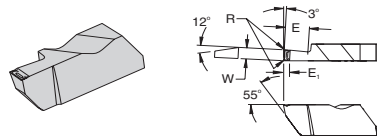
Description	W		R		E		R321	R013
	in+/-0.001	mm	in	mm	in+/-0.005	mm		
PRD3031R	0.062	1,57	0.03	0,79	0.125	3,18	094939	0703217
PRD3031L	0.062	1,57	0.03	0,79	0.125	3,18	094940	0703218
PRD3062R*	0.125	3,17	0.06	1,57	0.25	6,35	094941	0703219
PRD3062L*	0.125	3,17	0.06	1,57	0.25	6,35	094942	0703220
PRD4062R	0.125	3,17	0.06	1,57	0.25	6,35	0703221	0703222
PRD4062L	0.125	3,17	0.06	1,57	0.25	6,35	0703223	0703224
PRD4094R*	0.188	4,77	0.09	2,39	0.5	12,70	0703225	0703226
PRD4094L*	0.188	4,77	0.09	2,39	0.5	12,70	0703227	0703228
PRD4125R*	0.25	6,35	0.13	3,18	0.5	12,70	0703229	0703230
PRD4125L*	0.25	6,35	0.13	3,18	0.5	12,70	0703231	0703232

* These inserts have one cutting edge



**PF-C Style
Face Grooving**

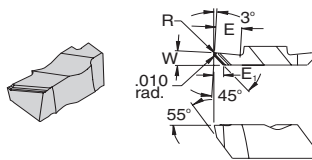
Description	W		R		E		E1		R321	R013
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm		
PF3125RC	0.125	3,17	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094959	0703233
PF3125LC	0.125	3,17	0.005/0.010	0,13/0,25	0.150	3,81	0.040	1,02	094960	0703234
PF3156RC	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81	0.115	2,92		0703235
PF3156LC	0.156	3,96	0.005/0.010	0,13/0,25	0.150	3,81	0.115	2,92	094962	0703236



**PFD-C Style
Face Grooving**

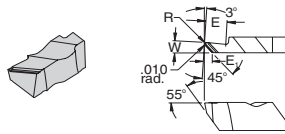
Description	W		R		E		E1		R321	R013
	in+/-0.001	mm	in	mm	in+/-0.005	mm	in	mm		
PFD3125RC*	0.125	3,17	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094963	0703237
PFD3125LC*	0.125	3,17	0.005/0.010	0,13/0,25	0.250	6,35	0.040	1,02	094964	0703238
PFD4189RC*	0.189	4,80	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92	0703239	0703240
PFD4189LC*	0.189	4,80	0.020/0.025	0,51/0,64	0.375	9,52	0.115	2,92	0703241	0703242
PFD4250RC*	0.250	6,35	0.020/0.025	0,51/0,64	0.500	12,75	0.150	3,81	0703243	0703244
PFD4250LC*	0.250	6,35	0.020/0.025	0,51/0,64	0.500	12,75	0.150	3,81	0703245	0703246

*These inserts have one cutting edge



**PP-C Style
Back Turning**

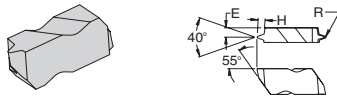
Description	W		R		E		E1		RC706	R321	R013
	in+/-0.005	mm	in	mm	in+/-0.005	mm	in	mm			
PP2002RC	0.140	3,55	0.002/0.005	0,05/0,13	0.110	2,79	0.108	2,74		0703247	0703248
PP2012RC	0.140	3,55	0.012/0.015	0,31/0,38	0.110	2,79	0.108	2,74		0703249	0703250
PP3001RC	0.125	3,18	0.000/0.002	0,00/0,05	0.250	6,35	0.092	2,33		0701176	
PP3002RC	0.180	4,57	0.002/0.005	0,05/0,13	0.200	5,08	0.151	3,83		0703251	0703252
PP3012RC	0.180	4,57	0.012/0.015	0,31/0,38	0.200	5,08	0.151	3,83		0703253	0703254
PP3014RC	0.125	3,18	0.013/0.015	0,33/0,38	0.250	6,35	0.092	2,33	0701177	0701178	



**PPD-C Style
Back Turning**

Description	W		R		E		E1		R321	R013	R323
	in+/- .005	mm	in	mm	in+/- .005	mm	in	mm			
PPD2002RC*	0.140	3.55	0.002/0.005	0.05/0.13	0.200	5.08	0.108	2.74	0703255	0703256	
PPD2012RC*	0.140	3.55	0.012/0.015	0.31/0.38	0.200	5.08	0.108	2.74			0703257
PPD3002RC*	0.180	4.57	0.002/0.005	0.05/0.13	0.250	6.35	0.151	3.83	0703258	0703259	
PPD3012RC*	0.180	4.57	0.012/0.015	0.31/0.38	0.250	6.35	0.151	3.83	0703260	0703261	

*These inserts have one cutting edge



**PV Style
Poly Vee**

	H		R		E		R321	R013
	in	mm	in	mm	in+/- .005	mm		
PV3RJ	0.087	2.21	0.0125	0.30	0.125	3.18	0703262	0703263
PV3LJ	0.087	2.21	0.0125	0.30	0.125	3.18	0703264	0703265
PV4RL	0.201	5.11	0.0125	0.30	0.118	3.00	0703266	0703267
PV4LL	0.201	5.11	0.0125	0.30	0.118	3.00	0703268	0703269



**PB Style
Blank**

Description	W*		R		E		E1		CQ23
	in+/- .001	mm	in	mm	in+/- .005	mm	in	mm	
PB2R	0.150	3.81	—	—	—	—	—	—	094965
PB2L	0.150	3.81	—	—	—	—	—	—	094966
PB3R	0.195	4.95	—	—	—	—	—	—	094967
PB3L	0.195	4.95	—	—	—	—	—	—	094968
PB4R	0.255	6.48	—	—	—	—	—	—	094969
PB4L	0.255	6.48	—	—	—	—	—	—	094970

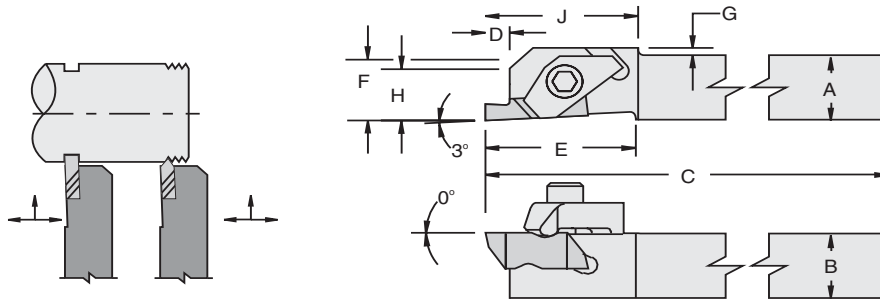
* NOTE: PB and PBD blanks are designed to allow modification of the "W" dimension and end form. The "W" dimension is given to indicate maximum possible width.



**PBD Style
Blank**

Description	W*		R		E		E1		CQ6
	in+/- .001	mm	in	mm	in+/- .005	mm	in	mm	
PBD2R	0.150	3.81	—	—	—	—	—	—	0703270
PBD3R	0.195	4.95	—	—	—	—	—	—	0703272
PBD3L	0.195	4.95	—	—	—	—	—	—	0703273

* NOTE: PB and PBD blanks are designed to allow modification of the "W" dimension and end form. The "W" dimension is given to indicate maximum possible width.



**PASR/L Style
Tool Holder**

Description	EDP	A	B	C	D	E	F**	G	H	J	Gage insert*	Clamp	Clamp Screw
PASR062D	094588	3/8	3/8	6	.138	.75	.375	.070	.35	.88	PG2R	CM182	S310
PASL062D	094583	3/8	3/8	6	.138	.75	.375	.070	.35	.88	PG2L	CM183	S310
PASR082D	094589	1/2	1/2	6	.138	.75	.500		.35		PG2R	CM182	S310
PASR083D	094590	1/2	1/2	6	.210	1.25	.500	.125	.50	1.32	PG3R	CM184	S412
PASL083D	094585	1/2	1/2	6	.210	1.25	.500	.125	.50	1.32	PG3L	CM185	S412
PASR102B	094591	5/8	5/8	4 1/2	.138	.75	.625		.35		PG2R	CM74	S310
PASR103B	094592	5/8	5/8	4 1/2	.210	1.25	.625		.50		PG3R	CM184	S412
PASL103B	094587	5/8	5/8	4 1/2	.210	1.25	.625		.50		PG3L	CM185	S412

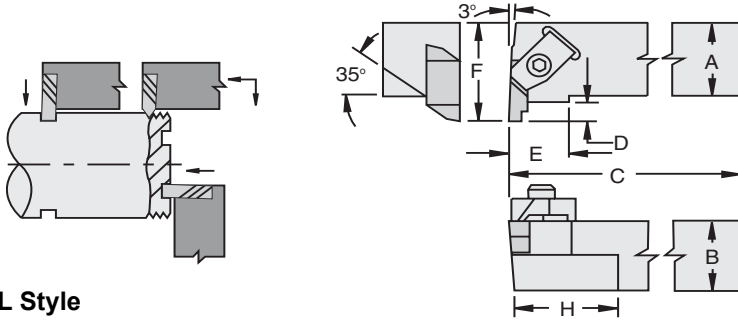
PASR 1616K3Q	0730401	16	16	125	3.51	32	16		12		PG3R	CM184	MS412
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* Gage insert specified: other styles of threading and grooving inserts of the same size and hand may be used in tool holders.

** Over sharp point of grooving insert.



PowerNotch™



**PER/L Style
Tool Holder**

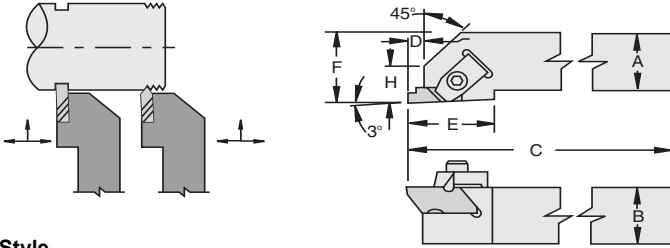
Description	EDP	A	B	C	D	E	F**	H	Gage insert*	Clamp	Clamp Screw
PER122B	094608	3/4	3/4	4 1/2	.138	.50	1.000	1	PG2L	CM75	S310
PER123B	094609	3/4	3/4	4 1/2	.210	.75	1.125	2	PG3L	CM73	S412
PEL123B	094597	3/4	3/4	4 1/2	.210	.75	1.125	2	PG3R	CM72	S412
PER162C	094610	1	1	5	.138	.50	1.250	1	PG2L	CM75	S310
PER163C	094611	1	1	5	.210	.75	1.250	2	PG3L	CM73	S412
PER163D	094612	1	1	6	.210	.75	1.250	2	PG3L	CM73	S412
PER164D	094614	1	1	6	.294	.75	1.375	2	PG4L	CM73	S412
PEL204D	094604	1 1/4	1 1/4	6	.294	.75	1.625	2	PG4R	CM72	S412

* Gage insert specified: other styles of threading and grooving inserts of the same size and hand may be used in tool holders.

** Over sharp point of grooving insert.

*** "C" Dimension qualified to +/- .020.

RH holders use LH inserts. LH holders use RH inserts



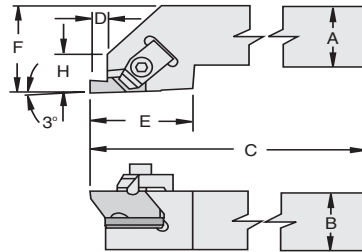
**PSR/L Style
Tool Holder**

Description	EDP	A	B	C	D	E	F**	H	Gage insert*	Clamp	Clamp Screw
PSR062 ***	094632	3/8	3/8	2 1/2	.138	.75	.562	.35	PG2R	CM74	S310
PSR082V	094633	1/2	1/2	3 1/2	.138	.75	.750	.35	PG2R	CM74	S310
PSL102B	094619	5/8	5/8	4 1/2	.138	.75	.875	.35	PG2L	CM75	S310
PSR122B	094635	3/4	3/4	4 1/2	.138	.75	1.000	.35	PG2R	CM74	S310
PSL122B	094620	3/4	3/4	4 1/2	.138	.75	1.000	.35	PG2L	CM75	S310
PSR123A	094636	3/4	3/4	4	.210	1.25	1.000	.50	PG3R	CM72	S412
PSL123A	094621	3/4	3/4	4	.210	1.25	1.000	.50	PG3L	CM73	S412
PSR123B	094637	3/4	3/4	4 1/2	.210	1.25	1.000	.50	PG3R	CM72	S412
PSL123B	094622	3/4	3/4	4 1/2	.210	1.25	1.000	.50	PG3L	CM73	S412
PSR162C	094638	1	1	5	.138	.75	1.250	.35	PG2R	CM74	S310
PSL162C	094623	1	1	5	.138	.75	1.250	.35	PG2L	CM75	S310
PSR163C	094639	1	1	5	.210	1.25	1.250	.50	PG3R	CM72	S412
PSL163C	094624	1	1	5	.210	1.25	1.250	.50	PG3L	CM73	S412
PSR163D	094640	1	1	6	.210	1.25	1.250	.50	PG3R	CM72	S412
PSL163D	094625	1	1	6	.210	1.25	1.250	.50	PG3L	CM73	S412
PSR203D	094643	1 1/4	1 1/4	6	.210	1.25	1.500	.50	PG3R	CM72	S412
PSL203D	094628	1 1/4	1 1/4	6	.210	1.25	1.500	.50	PG3L	CM73	S412
PSR243D	094645	1 1/2	1 1/2	6	.210	1.38	2.000	.50	PG3R	CM72	S412

* Gage insert specified: other styles of threading and grooving inserts of the same size and hand may be used in tool holders.

** Over sharp point of grooving insert.

*** "C" Dimension qualified to +/- .020.

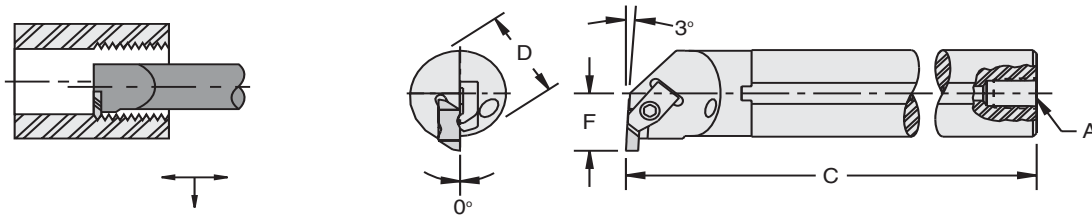


**PSR/L Style
Tool Holder**

Description	EDP	A	B	C	D	E	F**	H	Shim	Shim Screw	Gage insert*	Clamp	Clamp Screw
PSR164D	094642	1	1	6	.294	1.38	1.250	.54	SM420	SL344	PG4R	CM72	S412
PSR204D	094644	1 1/4	1 1/4	6	.294	1.38	1.50	.54	SM420	SL344	PG4R	CM72	S412
PSL204D	094629	1 1/4	1 1/4	6	.294	1.38	1.50	.54	SM420	SL344	PG4L	CM73	S412
PSR244D	094646	1 1/2	1 1/2	6	.294	1.50	2.00	.54	SM420	SL344	PG4R	CM72	S412

* Gage insert specified: other styles of threading and grooving inserts of the same size and hand may be used in tool holders.

** Over sharp point of grooving insert.



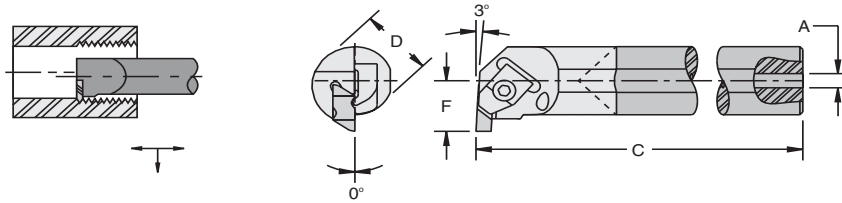
**A-PER/L Style
Boring Bar**

Description	EDP	D	C	F	Min. Bore	A	Gage insert	Clamp	Clamp Screw
A08PER2	094664	1/2	8	.437	.730	1/16-27NP	PG2L	CM147	S39
A08PEL2	094663	1/2	8	.437	.730	1/16-27NP	PG2R	CM146	S39
A10PER2	094666	5/8	10	.500	1.000	1/8-27NPT	PG2L	CM75	S310
A10PEL2	094665	5/8	10	.500	1.000	1/8-27NPT	PG2R	CM74	S310
A12PER2	094668	3/4	10	.562	1.125	1/8-27NPT	PG2L	CM75	S310
A12PEL2	094667	3/4	10	.562	1.125	1/8-27NPT	PG2R	CM74	S310
A16PER2	094671	1	12	.688	1.375	1/4-18NPT	PG2L	CM75	S310
A16PEL2	094669	1	12	.688	1.375	1/4-18NPT	PG2R	CM74	S310
A16PER3	094672	1	12	.688	1.375	1/4-18NPT	PG3L	CM73	S412
A16PEL3	094670	1	12	.688	1.375	1/4-18NPT	PG3R	CM72	S412
A20PER3	094674	1 1/4	14	.875	1.750	1/4-18NPT	PG3L	CM73	S412
A20PEL3	094673	1 1/4	14	.875	1.750	1/4-18NPT	PG3R	CM72	S412
A24PER3	094676	1 1/2	14	1.000	2.000	1/4-18NPT	PG3L	CM73	S412
A24PEL3	094675	1 1/2	14	1.000	2.000	1/4-18NPT	PG3R	CM72	S412
A28PER3	094679	1 3/4	14	1.125	2.250	1/4-18NPT	PG3L	CM73	S412
A28PEL3	094677	1 3/4	14	1.125	2.250	1/4-18NPT	PG3R	CM72	S412
A28PER4	094680	2	16	1.250	2.500	1/4-18NPT	PG4L	CM73	S412
A32PEL3	094681	1 3/4	14	1.250	2.500	1/4-18NPT	PG3R	CM72	S412

Right hand bars use left hand inserts. Left hand bars use right hand inserts.



E-PER/L Style Boring Bar



Description	EDP	D	C	F	Min. Bore	A	Gage insert	Clamp	Clamp Screw	Steel Head	edp
E08PER2	094648	1/2	8	.437	.730	1/8	PG2L	CM147	S39	08PER2	094656
E10PER2	094650	5/8	10	.500	1.000	1/8	PG2L	CM75	S310	10PER2	094658
E10PEL2	094649	5/8	10	.500	1.000	1/8	PG2R	CM74	S310	10PEL2	094657
E12PER2	094652	3/4	10	.562	1.125	5/32	PG2L	CM75	S310	12PER2	094660
E16PER3	094654	1	12	.688	1.375	5/32	PG3L	CM73	S412	16PER3	094662
E16PEL3	094653	1	12	.688	1.375	5/32	PG3R	CM72	S412	16PEL3	094661

Right hand bars use left hand inserts. Left hand bars use right hand inserts.

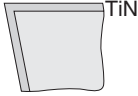
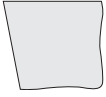
Hardware

CM146	094689
CM147	094690
CM182	094691
CM183	094692
CM184	094693
CM185	094694
CM72	094685
CM73	094686
CM74	094687
CM75	094688
MS1025PKG	0701193
MS412PKG	0701184
S310PKG (10=PK)	094696
S39PKG (10=PK)	094695
S412PKG (10=PK)	094697
SL344PKG (10=PK)	094699
SM420	094698

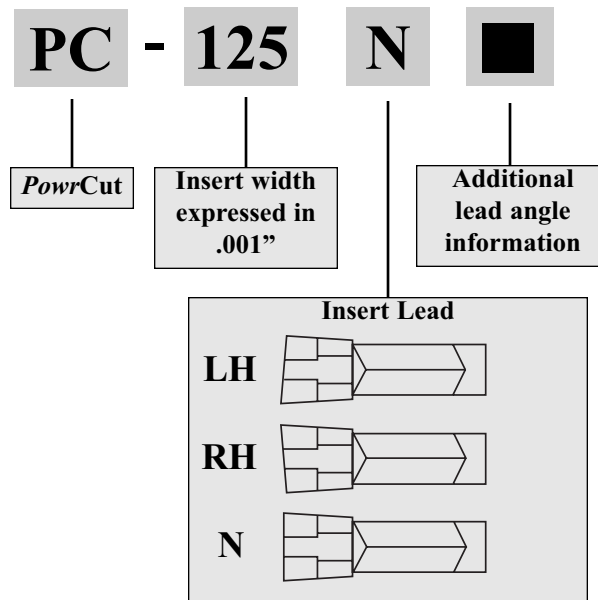
PowrNotch Kits

POWRNOTCH KIT (PT3L)	0701360
POWRNOTCH KIT (PT3R)	0701359

PowerCut Grade Information

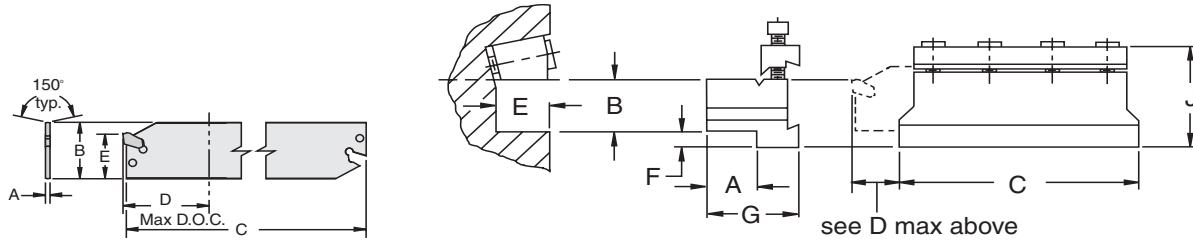
Grade	Coating	Composition and Application	C Class	ISO Class
R111	 TiN	<p>Composition : PVD TiN coating over a medium tough WC/Co unalloyed fine grain substrate.</p> <p>Application : Specifically developed for cutoff; use in all types of steel, austenitic, ferritic, and martensitic stainless steel, tool steels, high-temperature alloys, and titanium.</p> <p>The fine grain substrate provides just the right amount of wear resistance and toughness for the intended applications. The coating contributes crater wear resistance and resistance to built-up edge, as well as higher speed capability when desired, Most inserts are lightly honed.</p>	C2 C6	K15-K25 M25-M35 P25-P40
CQ11		<p>Composition : Uncoated medium hardness, low binder content, unalloyed WC/Co grade.</p> <p>Application : Use for machining cast iron, ductile iron, austenitic stainless steel, aluminum, high-temperature alloys, titanium and nonmetallic materials.</p> <p>Grade CQ11 has the wear resistance needed to machine these materials with added toughness required for cutoff applications.</p>	C3	K10-K30 M15-M25

PowerCut Cutoff insert Nomenclature





PowerCut



PowerCut Guide to Component Selection									
INSERT	Blade						Block		
	EDP	DESC.	Blade Size	Blade Width A	Blade Height B	Max. Cut Depth D	Block Desc.	Base to Top of Insert B	Block EDP
PC-094N/L/R	094569	PCB4-340-104	4	0.078	0.995	1.750	PCTB-12-4	0.750	094576
							PCTB-16-4	1.000	
							PCTB-20-4	1.250	
PC-125N/L/R	094570	PCB4-340-105	4	0.094	0.995	1.750	PCTB-12-4	0.750	094576
							PCTB-16-4	1.000	
							PCTB-20-4	1.250	
PC-160N/L/R	094571	PCB5-340-110	5	0.125	1.232	3.000	PCTB-16-5	1.000	094578
							PCTB-20-5	1.250	
							PCTB-12-4	0.750	094576
PC-188N/L/R	094572	PCB4-340-106	4	0.125	0.987	1.750	PCTB-16-4	1.000	
							PCTB-20-4	1.250	
							PCTB-16-5	1.000	094578
PC-188N/L/R	094573	PCB5-340-111	5	0.156	1.224	3.000	PCTB-20-5	1.250	
							PCTB-12-4	0.750	094576
							PCTB-16-4	1.000	
PC-188N/L/R		PCB4-340-107	4	0.156	0.979	1.750	PCTB-12-4	0.750	094576
							PCTB-16-4	1.000	
							PCTB-20-4	1.250	
PC-188N/L/R		PCB5-340-112	5	0.156	1.226	3.000	PCTB-16-5	1.000	094578
							PCTB-20-5	1.250	
							PCTB-12-4	0.750	094576

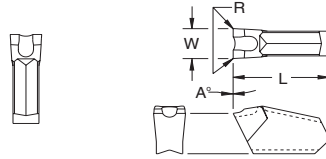
#4 Blade - Shorter in length and height is lower than #5 blade (Max cut depth 1.75)

#5 blade - For deeper cutoffs of up to 3.0 depth (Not available for smaller size insert PC-094N/L/R)



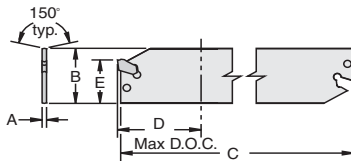
PowerCut

PC Style Insert



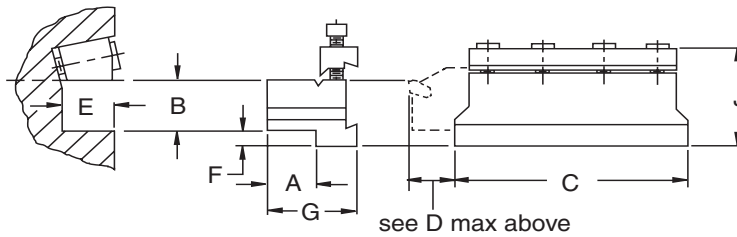
Description	W		R		L		A	EDP	
	inch	mm	inch	mm	inch	mm		CQ11	R111
PC094N	0.094	2,4	.005/.008	0,13/0,20	.47	11,9	0		094548
PC125N	0.125	3,2	.005/.008	0,13/0,20	.47	11,9	0	094553	094554
PC160N	0.160	4,0	.005/.008	0,13/0,20	.47	11,9	0		094560
PC188N	0.188	4,8	.007/.010	0,18/0,25	.47	11,9	0		094566
PC125L	0.125	3,2	.005/.008	0,13/0,20	.47	11,9	4		094552
PC160L	0.160	4,0	.005/.008	0,13/0,20	.47	11,9	4		094558
PC188L	0.188	4,8	.007/.010	0,18/0,25	.47	11,9	4		094564
PC125R	0.125	3,2	.005/.008	0,13/0,20	.47	11,9	4	094555	094556
PC160R	0.160	4,0	.005/.008	0,13/0,20	.47	11,9	4		094562
PC188R	0.188	4,8	.007/.010	0,18/0,25	.47	11,9	4		094568

PCB Style Blade



Description	EDP	Gage Insert	A	B	C	D	E
PCB4-340-104	094569	PC-094N	.078	.995	4.34	1.750	.830
PCB4-340-105	094570	PC-125N	.094	.995	4.34	1.750	.830
PCB5-340-110	094571	PC-125N	.094	1.232	5.87	3.000	.972
PCB4-340-106	094572	PC-160N	.125	.987	4.34	1.750	.826
PCB5-340-111	094573	PC-160N	.125	1.224	5.87	3.000	.968

PCTB Style Block



Description	EDP	Support Blade	A	B	C	J	E	F	G	Clamp	Clamp Screw	Number Req'd
											MS-1595	3
PCTB-12-4	094576	PCB4	.780	.750	3.38	1.760	.750	.452	1.48	CGS-4	MS-1595	3
PCTB-16-5	094578	PCB5	1.030	1.000	4.33	1.836	1.250	.302	1.73	CGS-5	MS-1595	4

Clamp Style	EDP	A	B	C	D	No of Holes
						3
CGS-4 CLAMP	094983	2.650	.658	.541	.261	3
CGS-5 CLAMP	094984	3.830	.658	.631	.261	4

Style	EDP	A	B	D	Torx	Threads
MS1595	094986	16mm	6mm	10mm	T30	M6 x 1.0

Technical Guide

PowrNotch Threading Recommended Speed (SFM)

Work Piece Group	CARBIDE				
	PVD				CVD
	TiALN		TiN		TiN
	R323	R013	R541	R321	RC706
1	300-650	150-650	150-500	300-500	500-800
2	250-650	150-575	125-400	250-500	400-700
3	250-650	125-550	125-350	250-500	350-600
4	200-525	*	*	200-400	*
5	200-780	150-400	75-300	200-600	*
6	150-575	50-250	50-200	150-450	*
7	150-650	100-525	100-400	150-500	300-600
8	200-650	150-450	125-350	200-500	400-650
9	150-525	100-400	100-300	150-400	300-500
10	80-400	40-250	40-75	80-300	*
11	100-250	20-200	20-125	100-200	*
12	110-325	*	*	110-250	*
13	400-1200	*	*	400-1000	*
14	250-1000	150-775	150-600	250-800	*
15	400-1300	150-1000	150-800	400-1500	*

* Grade not recommended for this material

Group	Workpiece Group	Workpiece Material	Group	Workpiece Group	Workpiece Material
1	Free-machining Carbon Steel	10L18, 10L45, 12L13, 12L14, 1140, 1141, 11L44, 1151, 10L50	9	Martensitic	416, 420F, 440F, 405, 409, 429, 430, 434, 436, 442, PH
2	Plain Carbon Steel	1006, 1008, 1010, 1015, 1018, 1020, 1025, 1026, 1108, 1117	10	High-temperature Alloys 125-269 BHN (up to 27 HRC)	Nickel 200, Monel, R405, Monel K500, Inconel 600, Inconel 625/901/750/718, Waspalloy, Hastelloy C
3	Alloy Steels, Tool Steels, 150-325 BHN up to 35 Rc	1042, 1045, 1070, 1080, 1085, 1090, 1095, 1541, 1561, 1572, 5140, 8620, W1, O1, S1, P20, H13, D2, A6, H13, L6	11	High-temperature Alloys 260-450 BHN (26 HRC to 47 HRC)	Rene 95, Waspalloy A286, Incoloy 800, Haynes 188, Stellite F, Haynes 25
4	Alloy Steels, Tool Steels 330-450 BHN 36HRC to 47HRC	1042, 1045, 1070, 1080, 1085, 1090, 1095, 1541, 1561, 1572, 5140, 8620, W1, O1, S1, P20, H13, D2, A6, H13, L6	12	Titanium Alloys	Ti-6Al-4V, Ti-5Al-2.5Sn
5	Gray Cast Iron 135-270 BHN	Class 20, 30, 35, 45	13	Free-machining Aluminum Alloys	2024-T4, 2014-T6, 6061-T6, 2011-T3, 3003-H18, A2, Alcan, Alcoa 510, Duralumin
6	Gray Cast iron 275-450 BHN	Class 50, 55, 60	14	Copper / Zinc / Brass	
7	Alloy/Ductile Iron	A536, J434C, 60-40-18, 80-55-06, 100-70-03	15	Nonmetallics	Graphite Nylon, Plastics, Rubbers, Phenolics, Carbon
8	Austenitic Stainless Steel	201, 202, 301, 303, 304, 305, 321, 347, 348, 310, 314, 316, 316L, 330			

PowrNotch Grooving Recommended Feed (IPR) Speed (SFM)

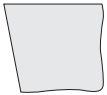
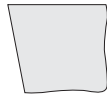
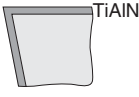

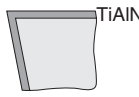




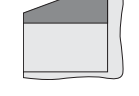
Work Piece Group	CARBIDE						CERMET	CBN			DIAMOND	Feed IPR
	PVD			CVD			PVD	UNCOATED				
	TiALN		TiN	TiN		UNCOATED	TiCN/TiN	UNCOATED				
	R323	R013	R321	RC706	CQ6	CQ23	RTC4010	RB3005	RB3010	RD 2010		
1	500-750	450-700	300-650	550-900	*	*	700-1400	700-1400	600-1300	*	.005-.011	
2	450-700	400-650	250-600	475-800	*	*	550-1200	550-1200	500-1100	*	.005-.011	
3	450-700	400-650	250-500	325-700	*	*	450-1100	450-1100	400-1000	*	.005-.011	
4	400-600	350-550	200-400	225-425	*	*	300-750	300-750	275-700	*	.003-.009	
5	350-700	350-650	250-650	*	100-400	100-400	400-1000	400-1000	350-900	1400-2500	.005-.011	
6	350-700	350-650	250-650	*	100-400	100-400	400-1000	400-1000	300-900	*	.005-.011	
7	300-650	250-500	175-500	250-500	*	*	300-850	300-850	250-800	*	.005-.011	
8	350-700	300-650	225-550	300-600	200-425	200-425	500-900	500-900	400-800	*	.003-.008	
9	300-650	250-550	150-500	250-575	*	*	450-700	450-700	400-650	*	.005-.011	
10	110-300	80-225	80-350	*	80-150	80-150	*	*	*	*	.003-.008	
11	60-225	30-175	30-175	*	30-100	30-100	*	*	*	*	.003-.008	
12	120-300	90-250	90-250	*	90-200	90-200	*	*	*	*	.003-.008	
13	600-2500	600-2500	500-3000	*	500	500	2000	*	*	*	.005-.012	
14	400-1000	300-900	250-900	*	250-700	250-700	*	*	*	*	.005-.012	
15	400-1500	350-1200	400-1500	*	400-1500	400-1500	*	*	*	*	.005-.012	

* Grade not recommended for this material

Technical Guide

Grade Information



UNCOATED	<p>CQ6</p> 	<p>Composition: A hard, low binder content, unalloyed WC/Co fine-grained grade. Application: Exceptional edge wear resistance combined with very high strength for machining titanium, cast irons, austenitic stainless steels, non-ferrous metals, non-metals, and most high-temperature alloys. Superior thermal deformation and depth of cut notch resistance.</p>	<p>C3-C4 K05-K20 M10-M20</p>
	<p>CQ23</p> 	<p>Composition: Uncoated general purpose grade Application: For finish to light rough machining of aluminum, high temperature alloys, stainless steels, irons, plastics & other non-metals</p>	<p>C3</p>
PVD COATED	<p>R013</p> 	<p>Composition: A PVD TiAlN coated grade with a tough, ultra-fine grain unalloyed substrate. Application: For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons and non-ferrous materials. Speeds may vary from low to medium, and will handle interruptions and high feed rates.</p>	<p>C2 C6 K15-K35 M15-M30 P20-P40</p>
	<p>R321</p> 	<p>Composition: A PVD TiN coating over a very wear-resistant unalloyed carbide substrate. Application: For general purpose machining of high-temperature alloys, aerospace materials, refractory metals and 200 or 300 series stainless steels. The thin, uniformly dense, smooth coating increases wear resistance and reduces problems with built-up edge. It also provides an unusually good combination of properties for cutting difficult-to-machine materials and aluminum. The substrate offers superior thermal deformation resistance, depth of cut notch resistance, and edge strength. Performs at higher speeds than uncoated grades. Most ground periphery inserts have a sharp edge.</p>	<p>C2-C4 K05-K20 M10-M25 P10-P20</p>
	<p>R323</p> 	<p>Composition: A PVD TiAlN coating over a very deformation-resistant unalloyed, carbide substrate. Application: The R323 grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials and super alloys under stable conditions. It also performs well machining hardened and short chipping materials.</p>	<p>C3-C4 K05-K20 M10-M20 P10-P20</p>
	<p>R541</p> 	<p>Composition: A tough, durable PVD TiN coating over an unalloyed carbide substrate. Application: Developed for cutting high-temperature alloys, most stainless steels, and titanium alloys at low to moderate speeds. Its unique mechanical and thermal shock resistant properties and resistance to edge build-up enable R541 to deliver superior performance and reliability on difficult operations like cutoff and interrupted turning. Consider it to be your problem solving grade. Most ground periphery inserts have a sharp edge, others are lightly honed.</p>	<p>C1-C5 K25-K35 M30-M40 P25-P45</p>
CVD COATED	<p>RC706</p> 	<p>Composition: A tri-phase coating on an extra strong, cobalt-enriched substrate. Application: Low, medium, and high carbon steels, as well as medium hardness alloy and tool steels. Excellent thermal and mechanical shock resistance makes it ideally suited for difficult applications.</p>	<p>C5-C6 M30-M45 P25-P45</p>
PCD	<p>RD2010</p> 	<p>Composition: A polycrystalline diamond tip (PCD) brazed onto a carbide substrate. Application: The RD2010 grade is for general purpose turning. The cutting tool material contains a binder in addition to diamond particles. This makes the RD2010 grade suitable for rouging to finishing all types of highly abrasive workpieces, including non-ferrous metals and non-metallic. Use as your first choice on high content silicon aluminum alloys (hypereutectic). Will generally produce good surface finishes. Provides the best mechanical shock resistance of the diamond tool materials. The cutting edge is sharp. This grade operates at very high speeds</p>	<p>C4 K03-K20</p>
Cermet	<p>RTC4010</p> 	<p>Composition: A multi-layered, PVD TiN/TiCN/TiN, coated cermet turning grade. Application: Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications too. Provides long and consistent tool life and will produce excellent workpiece finishes.</p>	<p>C3 C7 K10-K20 M10-M20 P10-P20</p>
PCBN	<p>RB3005</p> 	<p>Composition : A low CBN content, PCBN tip brazed onto a carbide insert. Application : Designed for rouging to semi-finishing of hardened steels (>45 HRC). Use on bearing steel, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings. Do not apply on soft steel, rapid crater wear will result.</p>	<p>C8 K03-K05</p>



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