

PULSAR BLUE END MILLS

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DESIGNED
SPECIFICALLY FOR
USE IN DRY CUTTING
CONDITIONS



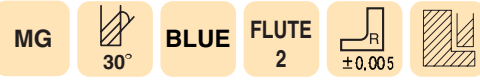
Europa Tool 8TH EDITION

PULSAR BLUE END MILL CONTENTS

(Carbide high speed & dry cutting condition materials up to Hrc 70)

PRODUCTS	SERIES	DESCRIPTION	PAGE
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2 FLUTE, MINIATURE



CAT No. 100350



NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	OAL
1003500030	-	0.3	6	0.45	50
1003500040	-	0.4	6	0.6	50
1003500050	0.05	0.5	6	0.7	50
1003500060	0.05	0.6	6	0.9	50
1003500080	0.05	0.8	6	1.2	50
1003500100	0.10	1	6	1.5	50
1003500120	0.10	1.2	6	1.8	50
1003500150	0.15	1.5	6	2.2	50
1003500200	0.15	2	6	2.2	50

MILL DIA TOLERANCE(mm)	CORNER R TOLERANCE	SHANK DIA TOLERANCE
0~-0.012	±0.010	h6

2 FLUTE, STUB CUT LENGTH, with CORNER RADIUS



Series No. 101350

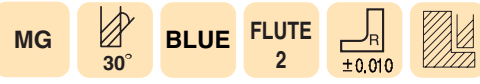


NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1013500030	-	0.3	3	0.45	-	40	-
1013500040	-	0.4	3	0.6	-	40	-
1013500050	0.05	0.5	3	0.7	-	40	-
1013500060	0.05	0.6	3	0.9	-	40	-
1013500080	0.05	0.8	3	1.2	-	40	-
1013500100	0.10	1	3	1.5	-	40	-
1013500901	0.1	1	4	1.5	-	40	-
1013500150	0.10	1.5	3	2.2	-	40	-
1013500200	0.10	2	3	3	6	40	1.9
1013500902	0.1	2	4	3	6	40	1.9
1013500250	0.10	2.5	3	4	6	40	2.4
1013500300	0.10	3	6	4	7	45	2.9
1013500350	0.10	3.5	6	5	9	45	3.3
1013500400	0.10	4	6	5	9	45	3.8
1013500450	0.10	4.5	6	6	10	45	4.3
1013500500	0.20	5	6	6	11	50	4.8
1013500600	0.20	6	6	7	14	50	5.8
1013500800	0.20	8	8	9	18	60	7.8
1013501000	0.20	10	10	12	25	75	9.7
1013501200	0.30	12	12	15	30	75	11.7
1013501600	0.30	16	16	18	38	90	15.7
1013502000	0.30	20	20	24	45	100	19.7

MILL DIA TOLERANCE(mm)	CORNER R TOLERANCE	SHANK DIA TOLERANCE
0~-0.012(up to φ6) 0~-0.015(over φ6)	±0.010(up to φ6) ±0.015(over φ6)	h6

2FLUTE, CORNER RADIUS END MILLS for RIB PROCESSING



CAT No. 102350



NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS R	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1023500050	0.05	0.5	6	0.7	1.5	50	0.45
1023500901	0.05	0.5	6	0.7	3.3	50	0.45
1023500060	0.05	0.6	6	0.9	2.0	50	0.55
1023500902	0.05	0.6	6	0.9	4.0	50	0.55
1023500080	0.05	0.8	6	1.2	2.5	50	0.75
1023500903	0.05	0.8	6	1.2	5.5	50	0.42
1023500100	0.10	1	6	1.5	3.3	50	0.95
1023500904	0.10	1	6	1.5	6.7	50	0.95
1023500120	0.10	1.2	6	1.8	4.4	50	1.15
1023500905	0.10	1.2	6	1.8	8.0	50	1.15
1023500906	0.15	1.5	6	2.2	9.7	50	1.40
1023500200	0.15	2	6	2.2	6.0	50	1.90
1023500907	0.15	2	6	2.2	13.0	50	1.90

MILL DIA TOLERANCE(mm)	CORNER R TOLERANCE	SHANK DIA TOLERANCE
0~-0.012	±0.010	h6

4FLUTE, STUB CUT LENGTH, with EXTENDED NECK



Series No. 103350

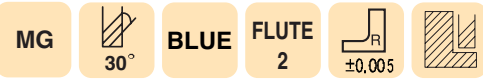


NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1033500100	0.10	1	3	1.5	-	40	-
1033500150	0.10	1.5	3	2.2	-	40	-
1033500200	0.10	2	3	3	6	40	1.9
1033500250	0.10	2.5	3	4	6	40	2.4
1033500300	0.10	3	6	4	7	45	2.9
1033500350	0.10	3.5	6	5	9	45	3.3
1033500400	0.10	4	6	5	9	45	3.8
1033500450	0.10	4.5	6	6	10	45	4.3
1033500500	0.20	5	6	6	11	50	4.8
1033500600	0.20	6	6	7	14	50	5.8
1033500800	0.20	8	8	9	18	60	7.8
1033501000	0.20	10	10	12	25	75	9.7
1033501200	0.30	12	12	15	30	75	11.7
1033501600	0.30	16	16	18	38	90	15.7
1033502000	0.30	20	20	24	45	100	19.7

MILL DIA TOLERANCE(mm)	CORNER R TOLERANCE	SHANK DIA TOLERANCE
0~-0.012(up to φ6) 0~-0.015(over φ6)	±0.010(up to φ6) ±0.015(over φ6)	h6

2 FLUTE, MINIATURE, BALL NOSE



CAT No. 104350



NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	OAL
1043500040	0.20	0.4	6	0.4	50
1043500050	0.25	0.5	6	0.5	50
1043500060	0.30	0.6	6	0.6	50
1043500080	0.40	0.8	6	0.8	50
1043500100	0.50	1	6	1.0	50
1043500120	0.60	1.2	6	1.2	50
1043500150	0.75	1.5	6	1.5	50
1043500200	1.00	2	6	2.0	50

RADIUS TOLERANCE	SHANK DIA TOLERANCE
±0.005	h6

2 FLUTE, STUB CUT LENGTH BALL NOSE, with EXTENDED NECK



Series No. 105350

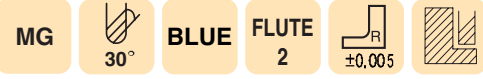


NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1053500100	0.50	1	4	1.0	2.2	50	0.95
1053500120	0.60	1.2	4	1.2	2.6	50	1.1
1053500150	0.75	1.5	4	1.5	3.0	50	1.4
1053500200	1.00	2	6	2	4.0	50	1.9
1053500300	1.50	3	6	3	6.0	60	2.9
1053500400	2.00	4	6	4	8.0	70	3.9
1053500500	2.50	5	6	5	10.0	80	4.9
1053500600	3.00	6	6	6	12.0	90	5.9
1053500700	3.50	7	8	7	14.0	90	6.9
1053500800	4.00	8	8	8	16.0	100	7.9
1053500900	4.50	9	10	9	18.0	100	8.9
1053501000	5.00	10	10	10	20.0	100	9.9
1053501200	6.00	12	12	12	24.0	110	11.9
1053501400	7.00	14	14	14	28.0	110	13.8
1053501600	8.00	16	16	16	32.0	140	15.8
1053501800	9.00	18	18	18	36.0	140	17.8
1053502000	10.00	20	20	20	40.0	160	19.8
1053502500	12.50	25	25	25	50.0	180	24.8

RADIUS TOLERANCE	SHANK DIA TOLERANCE
±0.005(up to R6) ±0.010(over R6)	h6

2FLUTE, BALL NOSE END MILLS for RIB PROCESSING



CAT No. 106350

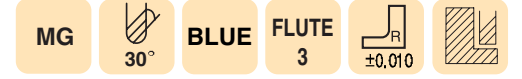


NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1063500050	0.25	0.5	6	0.5	1.5	50	0.45
1063500901	0.25	0.5	6	0.5	3.3	50	0.45
1063500060	0.30	0.6	6	0.6	2.0	50	0.55
1063500902	0.30	0.6	6	0.6	4.0	50	0.55
1063500080	0.40	0.8	6	0.8	2.5	50	0.75
1063500903	0.40	0.8	6	0.8	5.5	50	0.75
1063500100	0.50	1	6	1	3.3	50	0.95
1063500904	0.50	1	6	1	6.7	50	0.95
1063500905	0.50	1	6	1	12.0	50	0.95
1063500120	0.60	1.2	6	1.2	4.4	50	1.15
1063500906	0.60	1.2	6	1.2	8.0	50	1.15
1063500150	0.75	1.5	6	1.5	5.0	50	1.40
1063500907	0.75	1.5	6	1.5	9.7	50	1.40
1063500908	0.75	1.5	6	1.5	15.0	50	1.40
1063500200	1.00	2	6	2	6.0	50	1.90
1063500909	1.00	2	6	2	13.0	50	1.90
1063500910	1.00	2	6	2	20.0	60	1.90

RADIUS TOLERANCE	SHANK DIA TOLERANCE
±0.005	h6

3FLUTE, BALL NOSE, LONG LENGTH



Series No. 107350



NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	OAL
1073500300	1.5	3	6	8	60
1073500400	2.0	4	6	8	70
1073500500	2.5	5	6	10	80
1073500600	3.0	6	6	12	90
1073500800	4.0	8	8	14	100
1073501000	5.0	10	10	18	100
1073501200	6.0	12	12	22	110
1073501600	8.0	16	16	30	140
1073502000	10.0	20	20	38	160

RADIUS TOLERANCE	SHANK DIA TOLERANCE
±0.005(up to R3) ±0.010(over R3)	h6

6 FLUTE, 45° HELIX, with CORNER RADIUS



CAT No. 108350

NANO GRAIN
ALCRN COATING

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1083500600	0.5	6	6	6	14	50	5.7
1083500800	0.5	8	8	8	24	60	7.65
1083501000	1.0	10	10	10	30	70	9.65
1083501200	1.0	12	12	12	30	75	11.6

EDP. No	CORNER RADIUS	O.D	S.D	LOC	LENGTH BELOW SHANK	OAL	NECK DIA
1083500901	0.5	6	6	13	-	70	-
1083500910	0.5	6	6	26	-	70	-
1083500902	0.5	8	8	19	-	90	-
1083500911	0.5	8	8	36	-	90	-
1083500903	0.5	10	10	22	-	100	-
1083500904	1.0	10	10	22	-	100	-
1083500912	1.0	10	10	46	-	100	-
1083500905	0.5	12	12	26	-	110	-
1083500906	1.0	12	12	26	-	110	-
1083500913	1.0	12	12	56	-	110	-
1083501600	1.0	16	16	32	-	130	-
1083500907	1.5	16	16	32	-	130	-
1083500914	1.5	16	16	66	-	130	-
1083502000	1.0	20	20	38	-	140	-
1083500908	1.5	20	20	38	-	140	-
1083500909	2.0	20	20	38	-	140	-
1083500915	2.0	20	20	76	-	140	-

MILL DIA TOLERANCE(mm)	CORNER R TOLERANCE	SHANK DIA TOLERANCE
0~-0.02 (Extra Long Type: 0~-0.03)	±0.010(up to φ6) ±0.015(over φ6)	h6

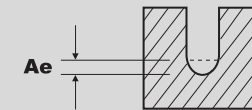
PULSAR BLUE CUTTING CONTENTS

2 FLUTE BALL NOSE ENDMILL for RIB PROCESSING

106350



MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS						COPPER		
	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 65					
HARDNESS	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)
R0.1	50000	300~350	0.006~0.016	50000	265~310	0.005~0.013	50000	225~265	0.005~0.012	50000	455~530	0.010~0.022
R0.15	48000~50000	480~520	0.010~0.017	48000~50000	440~460	0.008~0.014	46000~50000	390~420	0.007~0.013	48000~50000	690~790	0.002~0.023
R0.2	48000~50000	720~790	0.013~0.032	48000~50000	450~550	0.011~0.026	46000~50000	400~460	0.010~0.024	48000~50000	1000~1150	0.019~0.048
R0.25	34100~49500	600~870	0.007~0.028	31900~35200	490~540	0.005~0.023	31900~35200	440~480	0.005~0.021	49000~50000	1100~1400	0.010~0.042
R0.3	28600~40700	590~850	0.007~0.034	26400~29700	480~540	0.006~0.028	26400~29700	400~480	0.006~0.025	42000~50000	1100~1700	0.011~0.050
R0.4	22000~30800	640~890	0.016~0.064	19800~22000	490~550	0.013~0.052	19800~22000	440~500	0.012~0.048	31000~50000	1100~2250	0.024~0.096
R0.5	17600~24200	600~850	0.008~0.080	15400~17600	470~540	0.007~0.065	15400~17600	440~500	0.006~0.060	24000~49500	1100~2200	0.012~0.120
R0.6	14300~18700	590~780	0.024~0.032	12000~14000	480~540	0.020~0.026	12000~14000	420~480	0.018~0.024	28500~38500	1480~1950	0.036~0.048
R0.75	11000~14300	580~760	0.031~0.048	10000~11500	480~540	0.025~0.039	10000~11500	420~480	0.023~0.036	17000~28500	1100~1950	0.046~0.072
R1	8500~11000	590~800	0.024~0.160	7900~8800	470~530	0.020~0.130	7900~8800	440~480	0.018~0.120	12600~24000	1100~2150	0.036~0.240
R1.5	5700~8200	730~1000	0.064~0.240	5300~5800	590~650	0.052~0.195	5300~5800	550~620	0.048~0.120	11900~17000	1850~2700	0.096~0.360
R2	4300~6200	680~990	0.080~0.320	3950~4400	550~620	0.065~0.026	3850~4400	530~570	0.060~0.240	6600~12500	1260~2500	0.120~0.480



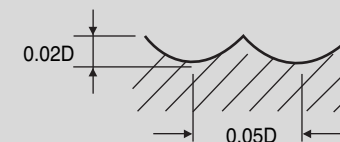
RPM = rev./min.
Feed = mm/min.

3 FLUTE LONG LENGTH BALL NOSE END MILLS

107350



MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
	HRc 30 ~ HRc 45		HRc 45 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
HARDNESS	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.5	32000	8600	26840	5800	19840	4280	18680	4040	12780	2760
R2	24080	7700	20130	5430	14880	3880	14220	3650	9580	2500
R2.5	20000	7250	16780	5430	12400	3690	11670	3470	8000	2370
R3	18000	8570	15200	6220	12200	4500	11100	3830	7590	2460
R4	13500	7350	11300	5250	9200	3980	8320	3350	5690	2130
R5	10800	6530	9100	4590	7350	3450	6660	2870	4550	1960
R6	9050	6100	7590	4260	6130	3190	5530	2400	3800	1640
R8	6700	4600	5690	3250	4600	2480	4160	1800	2850	1230
R10	5400	3600	4550	2620	3670	1980	3300	1440	2280	980

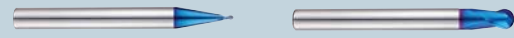


RPM = rev./min.
Feed = mm/min.

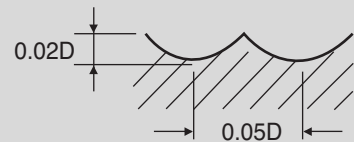
PULSAR BLUE CUTTING CONTENTS

2 FLUTE BALL NOSE MINIATURE END MILLS

104350, 105350



MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
HARDNESS	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R0.1	50000	1200	50000	1050	45000	960	40000	770	35000	674	31500	570
R0.15	50000	1500	50000	1350	45000	1200	40000	965	35000	840	31500	700
R0.2	50000	1900	50000	1700	45000	1500	40000	1200	35000	1050	31500	890
R0.25	50000	2400	50000	2100	45000	1900	40000	1500	35000	1300	31500	1100
R0.3	50000	2900	50000	2500	45000	2200	40000	1800	35000	1600	31500	1400
R0.4	50000	3900	50000	3300	45000	3000	40000	2400	35000	2100	31500	1800
R0.5	50000	4800	50000	4200	45000	3800	40000	3000	35000	2600	35000	2300
R0.6	50000	5100	48000	4300	43000	3850	38000	3000	34000	2700	30600	2300
R0.75	50000	5400	48000	4500	43000	4000	37000	3100	33000	2700	29700	2300
R1	49700	5700	47800	4800	40000	4000	35000	3150	32000	2800	28500	2300
R1.5	33100	6000	31800	5300	26500	4000	23500	3150	21000	2800	19000	2300
R2	24900	6000	23900	5300	20000	4000	17500	3150	16000	2800	14500	2300
R2.5	18600	5800	17800	4900	15000	3750	13500	3050	11500	2550	10500	2100
R3	13900	4850	13400	4100	11000	3100	10000	2500	8800	2150	8000	1750
R4	11100	4200	10700	3500	9000	2700	8000	2150	7000	1850	6500	1550
R5	9300	3700	8900	3100	7500	2400	6600	1900	5800	1650	5300	1380
R6	6950	2950	6680	2500	5600	1900	5000	1550	4400	1250	4000	1050
R8	5570	2650	5350	2200	4500	1700	4000	1350	3500	1000	3200	850
R10	4450	2350	4300	1950	3600	1500	3200	1200	2800	800	2550	660



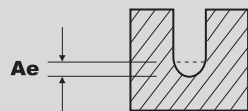
RPM = rev./min.
Feed = mm/min.

2 FLUTE CORNER RADIUS ENDMILL for RIB PROCESSING

102350



MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS					
	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 60		
HARDNESS	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)
0.5	25650-33000	370-470	0.0056-0.0350	23750-26000	285-315	0.0040-0.0250	14200-18000	115-130	0.0024-0.0150
0.6	20900-35200	330-560	0.0063-0.0294	19900-22000	260-290	0.0450-0.0210	11900-15500	100-120	0.0027-0.0126
0.8	16150-26400	360-590	0.0084-0.0392	15200-16700	280-310	0.0060-0.0280	9000-11700	110-125	0.0036-0.0168
1.0	12300-18700	350-540	0.0105-0.0280	10500-11500	250-280	0.0075-0.0200	6300-8050	100-115	0.0045-0.0120
1.2	10450-17600	350-590	0.0245-0.0700	9100-10000	250-280	0.0150-0.0420	5400-7000	100-115	0.0090-0.0252
1.5	9100-17600	430-830	0.0161-0.0770	7000-8000	250-280	0.0115-0.0550	4300-5500	100-115	0.0069-0.0330
2.0	6350-10550	340-570	0.0210-0.1400	6100-6700	270-300	0.0150-0.1000	3600-4700	100-120	0.0090-0.0600



RPM = rev./min.
Feed = mm/min.

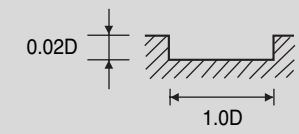
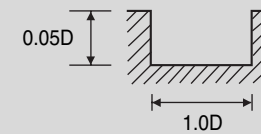
PULSAR BLUE CUTTING CONTENTS

3 FLUTE MINIATURE END MILLS

100350



MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
HARDNESS	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.3	50000	190	45000	140	40000	115	33000	70	25000	40
0.4	50000	235	45000	180	40000	140	33000	90	25000	55
0.5	50000	370	45000	280	40000	220	33000	140	25000	85
0.6	50000	470	45000	360	40000	285	30000	160	25000	105
0.8	50000	600	40000	440	30000	295	25000	185	19000	110
1.0	48000	750	38000	570	25500	360	20500	215	16000	135
1.2	42000	790	34000	640	22500	380	20000	250	14500	145
1.5	37000	800	30500	670	21000	410	17000	250	13000	155
2.0	33300	850	26000	680	17500	420	14500	260	11000	160



RPM = rev./min.
Feed = mm/min.

PULSAR BLUE CUTTING CONTENTS

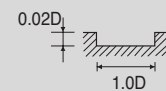
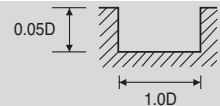
2 FLUTE STUB CUT LENGTH with EXTENDED NECK

101350



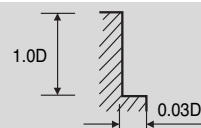
SLOTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HARDNESS		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.2	50000	130	45000	115	40000	95	33000	60	33000	45	26400	30
0.3	50000	190	45000	140	40000	115	33000	70	25000	50	20000	35
0.4	50000	235	45000	180	40000	140	33000	90	25000	55	20000	40
0.5	50000	370	45000	280	40000	220	33000	140	25000	85	20000	60
0.6	50000	470	45000	360	40000	285	30000	160	25000	105	20000	75
0.8	50000	600	40000	440	30000	295	25000	185	19000	110	15200	80
0.9	49000	655	39000	520	27800	330	22700	205	17500	125	14000	90
1	48000	750	38000	570	25500	360	20500	215	16000	135	12500	85
2	33300	850	26000	680	17500	420	14500	260	11000	160	9500	115
3	21800	850	17300	680	11500	420	9500	260	7500	160	6400	115
4	16700	880	13200	700	8800	440	7200	270	5600	170	4750	118
5	15700	1000	12500	805	8300	500	6400	285	5100	180	4450	132
6	13100	950	10350	770	6900	480	5300	280	4200	180	3700	130
8	9880	930	7800	720	5200	445	4000	255	3200	165	2800	120
10	7800	850	6150	680	4100	415	3200	240	2550	155	2200	112
12	6650	850	5250	680	3500	415	2650	240	2100	155	1860	112
16	4900	730	3900	580	2600	365	2000	210	1600	135	1400	95
20	3900	660	3100	525	2050	335	1600	195	1300	125	1100	85



SIDE CUTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HARDNESS		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	48000	1050	38000	820	25500	510	20500	310	16000	190	12500	125
2	33300	1200	26000	970	17500	600	14500	370	11000	230	9500	165
3	21800	1200	17300	970	11500	600	9500	370	7500	230	6400	165
4	16700	1250	13200	1000	8800	625	7200	385	5600	240	4750	170
5	15700	1450	12500	1150	8300	710	6400	410	5100	260	4450	190
6	13100	1350	10350	1100	6900	690	5300	400	4200	255	3700	185
8	9880	1320	7800	1030	5200	635	4000	365	3200	235	2800	170
10	7800	1200	6150	970	4100	590	3200	340	2550	220	2200	160
12	6650	1200	5250	970	3500	590	2650	340	2100	220	1860	160
16	4900	1050	3900	840	2600	520	2000	300	1600	190	1400	140
20	3900	950	3100	750	2050	475	1600	275	1300	175	1100	125



RPM = rev./min.
Feed = mm/min.

PULSAR BLUE CUTTING CONTENTS

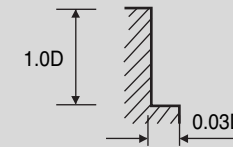
4 FLUTE STUB CUT LENGTH with EXTENDED NECK

103350



SIDE CUTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HARDNESS		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	48000	1480	38000	1050	25500	710	20500	430	16000	270	12500	175
2	33300	1750	26000	1250	17500	840	14500	520	11000	320	9500	230
3	21800	1750	17300	1250	11500	840	9500	520	7500	320	6400	230
4	16700	1800	13200	1300	8800	880	7200	540	5600	335	4750	240
5	15700	2000	12500	1500	8300	1000	6400	580	5100	370	4450	270
6	13100	1950	10350	1400	6900	950	5300	560	4200	350	3700	260
8	9880	1880	7800	1350	5200	900	4000	520	3200	330	2800	240
10	7800	1750	6150	1260	4100	840	3200	480	2550	310	2200	220
12	6650	1750	5250	1260	3500	840	2650	480	2100	300	1860	220
16	4900	1500	3900	1100	2600	730	2000	420	1600	270	1400	200
20	3900	1300	3100	970	2050	650	1600	380	1300	250	1100	180



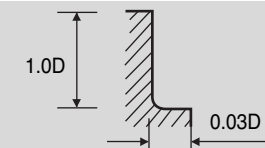
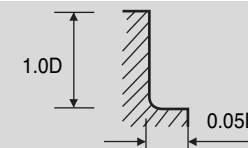
RPM = rev./min.
Feed = mm/min.

6 FLUTE 45° HELIX with CORNER RADIUS END MILLS

108350



MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HARDNESS		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	24800	5350	23500	4900	16000	4900	13500	3300	10500	2100	8000	1450
8	20000	5500	19000	5000	12000	4600	10000	3100	8000	2000	6000	1400
10	16000	4900	15500	4500	9500	4100	8000	2900	6400	1800	4800	1300
12	13000	4500	12500	4100	8000	3800	6600	2500	5300	1600	4000	1150
16	10000	4000	9700	3700	6000	3400	5000	2300	4000	1250	3000	870
20	8000	3350	7800	3400	4800	3200	4000	2100	3200	1020	2400	690



※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
Feed = mm/min.