◎ : Excellent ○ : Good

ITEM	MODEL	DESCRIPTION	SIZE MIN	SIZE MAX	PAGE	P: Carbon Steels ~HRc20	P: Alloy Steels HRc20~30	P: Prehardened Steels HRc30~40	P: Hardened Steels HRc40~45	P: Hardened Steels HRc45~55	H: High Hardened Steels HRc55~70	M: Stainless Steels	K: Cast Iron	N: Copper	N: Graphite	N: Aluminum	N: Acrylic	N: CFRP	S: Titanium	S: High Temperature Alloy
INCH																				
G826	High Feed End Mill	CARBIDE, 4FLUTE STUB LENGTH CORNER RADIUS HIGH FEED ◆	D1/8	D1/2	630			○	○	◎	◎									
G8A43		CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK ◆	R1/64	R1/4	631			○	○	◎	◎									
G850		CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK ◆	D1/16	D3/4	632			○	○	◎	◎									
G851		CARBIDE, 6&8 FLUTE 45°HELIX CORNER RADIUS ◆	D1/4	D1	633			○	○	◎	◎									
METRIC																				
G859	High Feed End Mill	CARBIDE, 4FLUTE STUB LENGTH CORNER RADIUS HIGH FEED ◇	D2.0	D16.0	634			○	○	◎	◎									
G854	High Feed End Mill	CARBIDE, 4FLUTE STUB LENGTH CORNER RADIUS HIGH FEED ◇	D2.0	D16.0	635			○	○	◎	◎									
G8A46		CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING ◇	R0.05	R2.0	636			○	○	◎	◎									
G8A54		CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING ◇	R0.25	R1.0	640			○	○	◎	◎									
G8A28		CARBIDE, 2 FLUTE BALL NOSE ◇	R0.05	R6.0	641			○	○	◎	◎									
G8A38		CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK ◇	R0.5	R12.5	642			○	○	◎	◎									
G8A53		CARBIDE, 2 FLUTE MINIATURE BALL NOSE ◇	R0.2	R1.0	643			○	○	◎	◎									
G8A59		CARBIDE, 3 FLUTE BALL NOSE ◇	R1.5	R10.0	644			○	○	◎	◎									
G8A36		CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK ◇	D0.3	D20.0	645			○	○	◎	◎									
G8A50		CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS ◇	D0.3	D2.0	647			○	○	◎	◎									
G8A47		CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK ◇	D3.0	D12.0	648			○	○	◎	◎									
G8A37		CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK ◇	D1.0	D20.0	649			○	○	◎	◎									
G8A39		CARBIDE, 6 FLUTE 45°HELIX CORNER RADIUS with EXTENDED NECK ◇	D6.0	D20.0	650			○	○	◎	◎									
		RECOMMENDED CUTTING CONDITIONS			651															

◆ U.S.A Stock

◇ Call for Availability

X5070 END MILLS

G826 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED

- Excellent wear resistance at heavy feed rates on high hardened material.
- Designed with reduced clearance angles and short flutes for strength.
- High hardness & heat resistance coating for long life in dry applications.

NG | 4 | BLUE | PLAIN | R ±.0002 P.651

High Feed End Mill

◆ U.S.A Stock

Unit : Inch

EDP No.	Corner Radius R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G826082	R1/32	1/8	1/4	.050	3/8	2-1/4	.110
G826124	R1/16	3/16	1/4	.075	3/8	2-1/4	.180
G826164	R1/16	1/4	1/4	.100	1/2	2-1/2	.220
G826206	R3/32	5/16	5/16	.130	5/8	2-1/2	.280
G826246	R3/32	3/8	3/8	.150	3/4	2-3/4	.330
G826328	R1/8	1/2	1/2	.200	1	3-1/4	.460

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance (inch)	Corner Radius Tolerance (inch)	Shank Dia. Tolerance
0~-.0008	±.0002	h6

◎ : Excellent ○ : Good

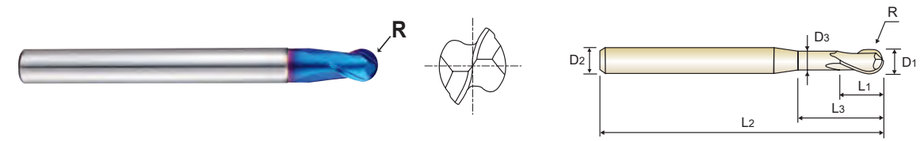
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A43 SERIES PLAIN SHANK

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

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±.0002 | R ±.0004 | PLAIN P.652

R1/64~R1/8 R5/32~R1/4

◆ U.S.A Stock

Unit : Inch

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A43002	R1/64	1/32	1/4	1/32	1/16	2	.029
G8A43004	R1/32	1/16	1/4	1/16	1/8	2	.059
G8A43006	R3/64	3/32	1/4	3/32	3/16	2	.090
G8A43008	R1/16	1/8	1/4	1/8	1/4	2-1/2	.121
G8A43012	R3/32	3/16	1/4	3/16	3/8	3	.184
G8A43016	R1/8	1/4	1/4	1/4	1/2	3-1/2	.246
G8A43020	R5/32	5/16	5/16	5/16	5/8	4	.309
G8A43024	R3/16	3/8	3/8	3/8	3/4	4	.371
G8A43032	R1/4	1/2	1/2	1/2	1	4-1/2	.496

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Radius Tolerance (Inch)	Mill Dia. Tolerance (Inch)	Shank Dia. Tolerance
up to Ø1/4	±.0002	0~-.0005	h6
over Ø1/4	±.0004	0~-.0006	

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G850 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUSwith EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.

NG | 4 | BLUE | 30° | R ±.0002 | PLAIN

P.653

◆ U.S.A Stock

Unit : Inch

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1	D2	L1	L3	L2	D3
G85004	R.004	1/16	1/8	3/32	-	1-1/2	-
G85008	R.004	1/8	1/4	5/32	1/4	2	.119
G85012	R.004	3/16	1/4	1/4	3/8	2	.181
G85016	R.008	1/4	1/4	5/16	9/16	2	.238
G85020	R.008	5/16	5/16	3/8	3/4	2-1/2	.301
G85024	R.008	3/8	3/8	1/2	1	3	.363
G85032	R.012	1/2	1/2	5/16	1-3/16	3	.488
G85040	R.012	5/8	5/8	3/4	1-1/2	3-1	.613
G85048	R.012	3/4	3/4	1	1-3/4	4	.738

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Corner Radius Tolerance (Inch)	Mill Dia. Tolerance (Inch)	Shank Dia. Tolerance
up to Ø1/4	±.0002	0~-.0005	h6
over Ø1/4	±.0004	0~-.0006	

◎ : Excellent ○ : Good

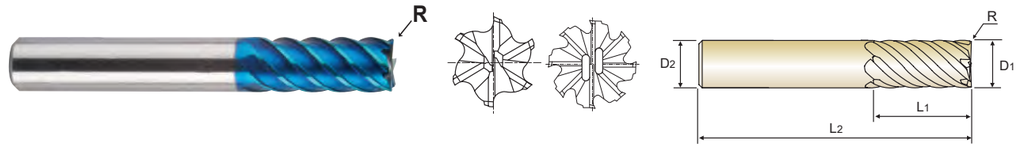
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G851 SERIES PLAIN SHANK

CARBIDE, 6&8 FLUTE 45° HELIX CORNER RADIUS

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 6&8 | BLUE | 45° | R ±.0002 | PLAIN

P.653

◆ U.S.A Stock

Unit : Inch

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
	R	D1	D2	L1	L2	
G85116	R.02	1/4	1/4	1/2	2-1/4	6
G85120	R.02	5/16	5/16	3/4	2-1/2	6
G85125	R.03	3/8	3/8	7/8	2-7/8	6
G85133	R.03	1/2	1/2	1	3-1/4	6
G85140	R.03	5/8	5/8	1-1/4	3-5/8	6
G85141	R.06	5/8	5/8	1-1/4	3-5/8	6
G85148	R.03	3/4	3/4	1-1/2	4-1/8	8
G85149	R.06	3/4	3/4	1-1/2	4-1/8	8
G85164	R.03	1	1	1-3/4	4-1/4	8
G85165	R.06	1	1	1-3/4	4-1/4	8
G85167	R.03	1	1	4-1/8	7	8
G85168	R.06	1	1	4-1/8	7	8

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Corner Radius Tolerance (Inch)	Mill Dia. Tolerance (Inch)	Shank Dia. Tolerance
up to Ø1/4	±.0002	0~-.0005	h6
over Ø1/4	±.0004	0~-.0006	

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

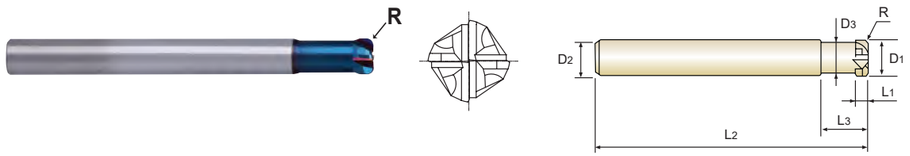
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS

G859 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED

- Excellent wear resistance at heavy feed rates on high hardened material.
- Designed with reduced clearance angles and short flutes for strength.
- High hardness & heat resistance coating for long life in dry applications.



NG 4 BLUE PLAIN R ±0.005 P.654

High Feed End Mill

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G859020	R0.5	2.0	.0787	6	1	6	50	1.8
G859030	R0.5	3.0	.1181	6	1.2	8	50	2.8
G859040	R0.5	4.0	.1575	6	1.5	10	50	3.8
G859060	R0.5	6.0	.2362	6	2.5	12	60	5.4
G859061	R1.0	6.0	.2362	6	2.5	12	60	5.4
G859081	R1.0	8.0	.3150	8	3.5	16	60	7.2
G859082	R2.0	8.0	.3150	8	3.5	16	60	7.2
G859101	R1.0	10.0	.3937	10	4	20	70	9
G859102	R2.0	10.0	.3937	10	4	20	70	9
G859122	R2.0	12.0	.4724	12	5	25	80	11
G859123	R3.0	12.0	.4724	12	5	25	80	11
G859163	R3.0	16.0	.6299	16	6.5	30	90	15

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance (inch)	Corner Radius Tolerance (inch)	Shank Dia. Tolerance
0 ~ -.0008	±.0002	h6

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G854 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED

- Excellent wear resistance at heavy feed rates on high hardened material.
- Designed with reduced clearance angles and short flutes for strength.
- High hardness & heat resistance coating for long life in dry applications.

NG 4 BLUE PLAIN R ±0.005 P.654

High Feed End Mill

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G854020	R0.5	2.0	.0787	6	1	6	70	1.8
G854030	R0.5	3.0	.1181	6	1.2	8	70	2.8
G854040	R0.5	4.0	.1575	6	1.5	10	70	3.8
G854050	R1.0	5.0	.1969	6	2	10	70	4.6
G854060	R0.5	6.0	.2362	6	2.5	12	90	5.4
G854061	R1.0	6.0	.2362	6	2.5	12	90	5.4
G854062	R1.5	6.0	.2362	6	2.5	12	90	5.4
G854081	R1.0	8.0	.3150	8	3.5	16	100	7.2
G854082	R2.0	8.0	.3150	8	3.5	16	100	7.2
G854101	R1.0	10.0	.3937	10	4	20	100	9
G854102	R2.0	10.0	.3937	10	4	20	100	9
G854122	R2.0	12.0	.4724	12	5	25	110	11
G854123	R3.0	12.0	.4724	12	5	25	110	11
G854163	R3.0	16.0	.6299	16	6.5	30	130	15

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance (inch)	Corner Radius Tolerance (inch)	Shank Dia. Tolerance
0 ~ -.0008	±.0002	h6

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

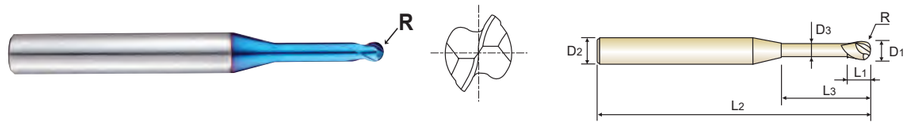
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS

G8A46 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46805	R0.05	0.1	.0039	4	0.1	0.3	45	0.085
G8A46806	R0.05	0.1	.0039	4	0.1	0.5	45	0.085
G8A46002	R0.1	0.2	.0079	4	0.2	0.5	45	0.17
G8A46977	R0.1	0.2	.0079	4	0.2	1	45	0.17
G8A46958	R0.1	0.2	.0079	4	0.2	1.5	45	0.17
G8A46003	R0.15	0.3	.0118	4	0.3	1	45	0.27
G8A46959	R0.15	0.3	.0118	4	0.3	2	45	0.27
G8A46986	R0.15	0.3	.0118	4	0.3	3	45	0.27
G8A46004	R0.2	0.4	.0157	4	0.4	1	45	0.37
G8A46960	R0.2	0.4	.0157	4	0.4	2	45	0.37
G8A46961	R0.2	0.4	.0157	4	0.4	3	45	0.37
G8A46981	R0.2	0.4	.0157	4	0.4	4	45	0.37
G8A46987	R0.2	0.4	.0157	4	0.4	5	45	0.37
G8A46005	R0.25	0.5	.0197	4	0.4	2	45	0.45
G8A46804	R0.25	0.5	.0197	4	0.4	2.5	45	0.45
G8A46962	R0.25	0.5	.0197	4	0.4	4	45	0.45
G8A46963	R0.25	0.5	.0197	4	0.4	6	45	0.45
G8A46964	R0.25	0.5	.0197	4	0.4	8	45	0.45
G8A46957	R0.3	0.6	.0236	4	0.5	2	45	0.55
G8A46988	R0.3	0.6	.0236	4	0.5	3	45	0.55
G8A46915	R0.3	0.6	.0236	4	0.5	4	45	0.55
G8A46989	R0.3	0.6	.0236	4	0.5	5	45	0.55

The original bright blue color may discolor during use, however, the performance will not be negatively affected

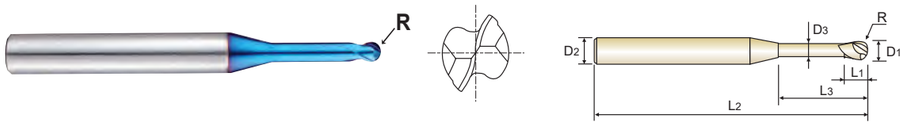
▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS
G8A46 SERIES PLAIN SHANK
CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46916	R0.3	0.6	.0236	4	0.5	6	45	0.55
G8A46917	R0.3	0.6	.0236	4	0.5	8	45	0.55
G8A46990	R0.3	0.6	.0236	4	0.5	10	45	0.55
G8A46918	R0.4	0.8	.0315	4	0.6	2	45	0.75
G8A46919	R0.4	0.8	.0315	4	0.6	4	45	0.75
G8A46008	R0.4	0.8	.0315	4	0.6	6	45	0.75
G8A46901	R0.4	0.8	.0315	4	0.6	8	45	0.75
G8A46965	R0.4	0.8	.0315	4	0.6	10	45	0.75
G8A46920	R0.5	1.0	.0394	4	0.8	3	45	0.95
G8A46921	R0.5	1.0	.0394	4	0.8	4	45	0.95
G8A46923	R0.5	1.0	.0394	4	0.8	5	45	0.95
G8A46010	R0.5	1.0	.0394	4	0.8	6	45	0.95
G8A46924	R0.5	1.0	.0394	4	0.8	7	45	0.95
G8A46902	R0.5	1.0	.0394	4	0.8	8	45	0.95
G8A46925	R0.5	1.0	.0394	4	0.8	9	45	0.95
G8A46903	R0.5	1.0	.0394	4	0.8	10	45	0.95
G8A46904	R0.5	1.0	.0394	4	0.8	12	45	0.95
G8A46926	R0.5	1.0	.0394	4	0.8	14	50	0.95
G8A46927	R0.5	1.0	.0394	4	0.8	16	50	0.95
G8A46966	R0.5	1.0	.0394	4	0.8	20	55	0.95
G8A46982	R0.6	1.2	.0472	4	1.0	6	45	1.15
G8A46012	R0.6	1.2	.0472	4	1.0	8	45	1.15

The original bright blue color may discolor during use, however, the performance will not be negatively affected

▶ NEXT PAGE

◎ : Excellent ○ : Good

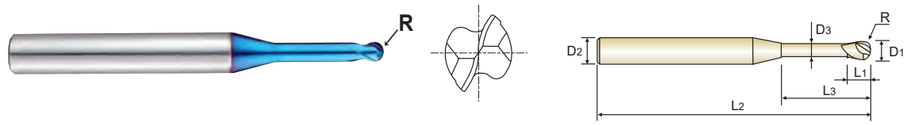
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A46 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46983	R0.6	1.2	.0472	4	1.0	10	45	1.15
G8A46905	R0.6	1.2	.0472	4	1.0	12	45	1.15
G8A46930	R0.75	1.5	.0472	4	1.2	6	45	1.45
G8A46015	R0.75	1.5	.0472	4	1.2	8	45	1.45
G8A46931	R0.75	1.5	.0472	4	1.2	10	45	1.45
G8A46906	R0.75	1.5	.0472	4	1.2	12	45	1.45
G8A46992	R0.75	1.5	.0472	4	1.2	14	50	1.45
G8A46907	R0.75	1.5	.0472	4	1.2	16	50	1.45
G8A46932	R0.75	1.5	.0472	4	1.2	20	55	1.45
G8A46939	R1.0	2.0	.0787	4	1.6	4	45	1.95
G8A46940	R1.0	2.0	.0787	4	1.6	6	45	1.95
G8A46020	R1.0	2.0	.0787	4	1.6	8	45	1.95
G8A46941	R1.0	2.0	.0787	4	1.6	10	45	1.95
G8A46942	R1.0	2.0	.0787	4	1.6	12	50	1.95
G8A46943	R1.0	2.0	.0787	4	1.6	14	50	1.95
G8A46909	R1.0	2.0	.0787	4	1.6	16	50	1.95
G8A46993	R1.0	2.0	.0787	4	1.6	18	55	1.95
G8A46910	R1.0	2.0	.0787	4	1.6	20	55	1.95
G8A46944	R1.0	2.0	.0787	4	1.6	22	60	1.95
G8A46945	R1.0	2.0	.0787	4	1.6	25	60	1.95
G8A46967	R1.0	2.0	.0787	4	1.6	30	70	1.95
G8A46948	R1.5	3.0	.1181	6	2.4	12	50	2.85

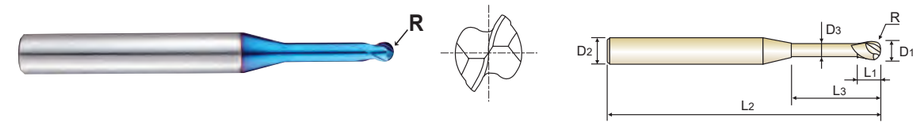
The original bright blue color may discolor during use, however, the performance will not be negatively affected

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS
G8A46 SERIES PLAIN SHANK
CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46984	R1.5	3.0	.1181	6	2.4	14	55	2.85
G8A46030	R1.5	3.0	.1181	6	2.4	16	55	2.85
G8A46985	R1.5	3.0	.1181	6	2.4	18	60	2.85
G8A46911	R1.5	3.0	.1181	6	2.4	20	60	2.85
G8A46968	R1.5	3.0	.1181	6	2.4	25	65	2.85
G8A46969	R1.5	3.0	.1181	6	2.4	30	70	2.85
G8A46970	R1.5	3.0	.1181	6	2.4	35	80	2.85
G8A46950	R2.0	4.0	.1575	6	3.2	12	60	3.85
G8A46040	R2.0	4.0	.1575	6	3.2	16	60	3.85
G8A46912	R2.0	4.0	.1575	6	3.2	20	65	3.85
G8A46913	R2.0	4.0	.1575	6	3.2	25	70	3.85
G8A46971	R2.0	4.0	.1575	6	3.2	30	70	3.85
G8A46972	R2.0	4.0	.1575	6	3.2	35	80	3.85
G8A46973	R2.0	4.0	.1575	6	3.2	40	90	3.85
G8A46974	R2.0	4.0	.1575	6	3.2	45	90	3.85
G8A46975	R2.0	4.0	.1575	6	3.2	50	100	3.85

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

◎ : Excellent ○ : Good

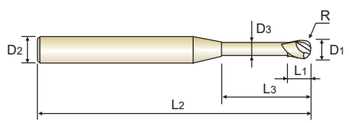
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A54 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A54005	R0.25	0.5	.0197	6	0.5	1.5	50	0.45
G8A54901	R0.25	0.5	.0197	6	0.5	3.3	50	0.45
G8A54006	R0.3	0.6	.0236	6	0.6	2	50	0.55
G8A54902	R0.3	0.6	.0236	6	0.6	4	50	0.55
G8A54008	R0.4	0.8	.0315	6	0.8	2.5	50	0.75
G8A54903	R0.4	0.8	.0315	6	0.8	5.5	50	0.75
G8A54010	R0.5	1.0	.0394	6	1	3.3	50	0.95
G8A54904	R0.5	1.0	.0394	6	1	6.7	50	0.95
G8A54905	R0.5	1.0	.0394	6	1	12	50	0.95
G8A54012	R0.6	1.2	.0472	6	1.2	4.4	50	1.15
G8A54906	R0.6	1.2	.0472	6	1.2	8	50	1.15
G8A54015	R0.75	1.5	.0591	6	1.5	5	50	1.45
G8A54907	R0.75	1.5	.0591	6	1.5	9.7	50	1.45
G8A54908	R0.75	1.5	.0591	6	1.5	15	50	1.45
G8A54020	R1.0	2.0	.0787	6	2	6	50	1.95
G8A54909	R1.0	2.0	.0787	6	2	13	50	1.95
G8A54910	R1.0	2.0	.0787	6	2	20	60	1.95

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

◎ : Excellent ○ : Good

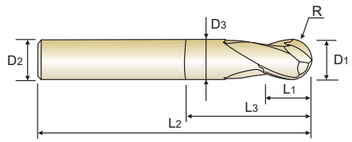
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A28 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE BALL NOSE

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 (R0.5~R3) | R ±0.010 (R3.5~R6) | PLAIN

P.658

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G8A28001	R0.05	0.1	.0039	4	0.2	-	40	-
G8A28002	R0.1	0.2	.0079	4	0.3	-	40	-
G8A28003	R0.15	0.3	.0118	4	0.5	-	40	-
G8A28004	R0.2	0.4	.0157	4	0.6	-	40	-
G8A28005	R0.25	0.5	.0197	4	0.7	-	40	-
G8A28006	R0.3	0.6	.0236	4	0.9	-	40	-
G8A28007	R0.35	0.7	.0276	4	1.1	-	40	-
G8A28008	R0.4	0.8	.0315	4	1.2	-	40	-
G8A28009	R0.45	0.9	.0354	4	1.4	-	40	-
G8A280104S	R0.5	1.0	.0394	4	1.5	3	50	0.95
G8A28010	R0.5	1.0	.0394	6	1.5	3	50	0.95
G8A280154S	R0.75	1.5	.0591	4	2	4	50	1.45
G8A28015	R0.75	1.5	.0591	6	2	4	50	1.45
G8A280204S	R1.0	2.0	.0787	4	2.5	5	50	1.95
G8A28020	R1.0	2.0	.0787	6	2.5	5	50	1.95
G8A280254S	R1.25	2.5	.0984	4	3	7	50	2.4
G8A28025	R1.25	2.5	.0984	6	3	7	50	2.4
G8A28030	R1.5	3.0	.1181	6	4	10	60	2.85
G8A28035	R1.75	3.5	.1378	6	4.5	10	60	3.35
G8A28040	R2.0	4.0	.1575	6	5	10	60	3.85
G8A28045	R2.25	4.5	.1772	6	5.5	10	60	4.35
G8A28050	R2.5	5.0	.1969	6	6	12	60	4.85
G8A28055	R2.75	5.5	.2165	6	6.5	12	60	5.35
G8A28060	R3.0	6.0	.2362	6	7	15	60	5.85
G8A28903	R3.0	6.0	.2362	6	9	30	90	5.85
G8A28901	R4.0	8.0	.3150	8	9	15	60	7.7
G8A28080	R4.0	8.0	.3150	8	9	15	80	7.7
G8A28904	R4.0	8.0	.3150	8	12	30	100	7.7
G8A28902	R5.0	10.0	.3937	10	11	25	60	9.7
G8A28100	R5.0	10.0	.3937	10	11	25	80	9.7
G8A28905	R5.0	10.0	.3937	10	15	30	100	9.7
G8A28120	R6.0	12.0	.4724	12	14	25	80	11.7

Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~-0.012	h6
over R3	±0.010	0~-0.015	

The original bright blue color may discolor during use, however, the performance will not be negatively affected

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

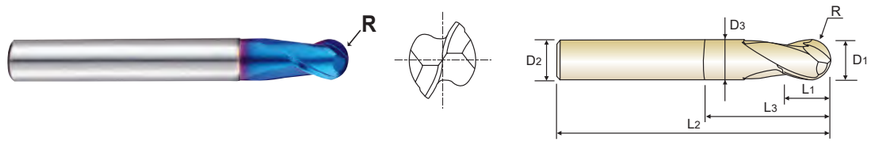
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS

G8A38 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.5~R3 R3.5~R12.5

P.658

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter		Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		Metric	Inch					
	R	D1		D2	L1	L3	L2	D3
G8A38010	R0.5	1.0	.0394	4	1	2.2	50	0.95
G8A38012	R0.6	1.2	.0472	4	1.2	2.6	50	1.15
G8A38015	R0.75	1.5	.0591	4	1.5	3	50	1.45
G8A380204S	R1.0	2.0	.0787	4	2	4	50	1.95
G8A38020	R1.0	2.0	.0787	6	2	4	50	1.95
G8A38030	R1.5	3.0	.1181	6	3	6	60	2.85
G8A38040	R2.0	4.0	.1575	6	4	8	70	3.85
G8A38050	R2.5	5.0	.1969	6	5	10	80	4.85
G8A38060	R3.0	6.0	.2362	6	6	12	90	5.85
G8A38070	R3.5	7.0	.2756	8	7	14	90	6.7
G8A38080	R4.0	8.0	.3150	8	8	16	100	7.7
G8A38090	R4.5	9.0	.3543	10	9	18	100	8.7
G8A38100	R5.0	10.0	.3937	10	10	20	100	9.7
G8A38120	R6.0	12.0	.4724	12	12	24	110	11.7
G8A38140	R7.0	14.0	.5512	14	14	28	110	13.7
G8A38160	R8.0	16.0	.6299	16	16	32	140	15.7
G8A38180	R9.0	18.0	.7087	18	18	36	140	17.7
G8A38200	R10.0	20.0	.7874	20	20	40	160	19.7
G8A38250	R12.5	25.0	.9843	25	25	50	180	24.7

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~-0.012	h6
over R3	±0.010	0~-0.015	

◎ : Excellent ○ : Good

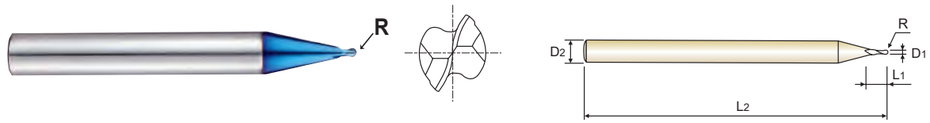
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A53 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE MINIATURE BALL NOSE

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.658

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
		Metric	Inch			
	R (±0.005)	D1		D2	L1	L2
G8A53004	R0.2	0.4	.0157	6	0.4	50
G8A53005	R0.25	0.5	.0197	6	0.5	50
G8A53006	R0.3	0.6	.0236	6	0.6	50
G8A53008	R0.4	0.8	.0315	6	0.8	50
G8A53010	R0.5	1.0	.0394	6	1.0	50
G8A53012	R0.6	1.2	.0472	6	1.2	50
G8A53015	R0.75	1.5	.0591	6	1.5	50
G8A53020	R1.0	2.0	.0787	6	2.0	50

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

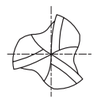
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

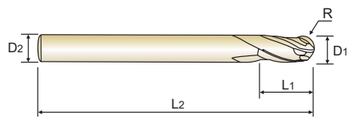
X5070 END MILLS

G8A59 SERIES PLAIN SHANK

CARBIDE, 3 FLUTE BALL NOSE

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.





NG | 3 | BLUE | 30° | R ±0.005 (R1.5~R3) | R ±0.010 (R4~R10) | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Overall Length
	R	D1		D2	L1	L2
G8A59030	R1.5	3.0	.1181	6	8	60
G8A59040	R2.0	4.0	.1575	6	8	70
G8A59050	R2.5	5.0	.1969	6	10	80
G8A59060	R3.0	6.0	.2362	6	12	90
G8A59080	R4.0	8.0	.3150	8	14	100
G8A59100	R5.0	10.0	.3937	10	18	100
G8A59120	R6.0	12.0	.4724	12	22	110
G8A59160	R8.0	16.0	.6299	16	30	140
G8A59200	R10.0	20.0	.7874	20	38	160

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~-0.012	h6
over R3	±0.010	0~-0.015	

◎ : Excellent ○ : Good

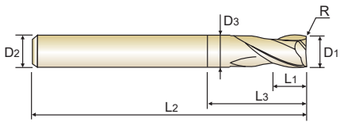
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A36 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.010 (Ø0.3~Ø6) | R ±0.015 (Ø8~Ø20) | PLAIN

P.656~657

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G8A36003	-	0.3	.0118	3	0.45	-	40	-
G8A36004	-	0.4	.0157	3	0.6	-	40	-
G8A36005	R0.05	0.5	.0197	3	0.7	-	40	-
G8A36907	R0.05	0.5	.0197	4	1	-	40	-
G8A36006	R0.05	0.6	.0236	3	0.9	-	40	-
G8A36908	R0.05	0.6	.0236	4	1.2	-	40	-
G8A36909	R0.05	0.7	.0276	4	1.4	-	40	-
G8A36008	R0.05	0.8	.0315	3	1.2	-	40	-
G8A36910	R0.05	0.8	.0315	4	1.6	-	40	-
G8A36911	R0.05	0.9	.0354	4	2	-	40	-
G8A36010	R0.1	1.0	.0394	3	1.5	-	40	-
G8A36901	R0.1	1.0	.0394	4	1.5	-	40	-
G8A36903	R0.1	1.0	.0394	6	1.5	-	40	-
G8A36015	R0.1	1.5	.0591	3	2.2	-	40	-
G8A36904	R0.1	1.5	.0591	6	2.2	-	40	-
G8A36020	R0.1	2.0	.0787	3	3	6	40	1.95
G8A36902	R0.1	2.0	.0787	4	3	6	40	1.95
G8A36905	R0.1	2.0	.0787	6	3	6	40	1.95
G8A36025	R0.1	2.5	.0984	3	4	6	40	2.4
G8A36906	R0.1	2.5	.0984	6	4	6	40	2.4

The original bright blue color may discolor during use, however, the performance will not be negatively affected

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

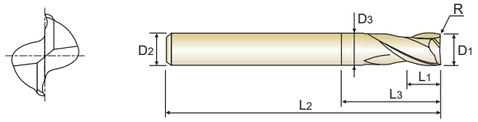
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS

G8A36 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.010 (Ø0.3~Ø6) | R ±0.015 (Ø8~Ø20) | PLAIN

P.656~657

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter		Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		Metric	Inch					
	R	D1		D2	L1	L3	L2	D3
G8A36030	R0.1	3.0	.1181	6	4	7	45	2.85
G8A36035	R0.1	3.5	.1378	6	5	9	45	3.35
G8A36040	R0.1	4.0	.1575	6	5	9	45	3.85
G8A36045	R0.1	4.5	.1772	6	6	10	45	4.35
G8A36050	R0.2	5.0	.1969	6	6	11	50	4.85
G8A36060	R0.2	6.0	.2362	6	7	14	50	5.85
G8A36080	R0.2	8.0	.3150	8	9	18	60	7.7
G8A36100	R0.2	10.0	.3937	10	12	25	75	9.7
G8A36120	R0.3	12.0	.4724	12	15	30	75	11.7
G8A36160	R0.3	16.0	.6299	16	18	38	90	15.7
G8A36200	R0.3	20.0	.7874	20	24	45	100	19.7

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~-0.012	h6
over Ø6	±0.015	0~-0.015	

◎ : Excellent ○ : Good

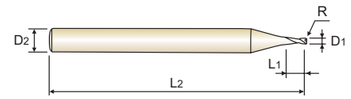
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A50 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.010 | PLAIN

P.659

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
		Metric	Inch			
	R (±0.010)	D1		D2	L1	L2
G8A50003	-	0.3	.0118	6	0.45	50
G8A50004	-	0.4	.0157	6	0.6	50
G8A50005	R0.05	0.5	.0197	6	0.7	50
G8A50006	R0.05	0.6	.0236	6	0.9	50
G8A50008	R0.05	0.8	.0315	6	1.2	50
G8A50010	R0.1	1.0	.0394	6	1.5	50
G8A50012	R0.1	1.2	.0472	6	1.8	50
G8A50015	R0.15	1.5	.0591	6	2.2	50
G8A50020	R0.15	2.0	.0787	6	2.2	50

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

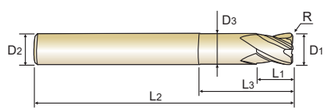
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS

G8A47 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 4 | BLUE | 30° | R ±0.010 (Ø1~Ø6) | R ±0.015 (Ø8~Ø12) | PLAIN

P.659

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G8A47916	R0.3	3.0	.1181	6	4	12	55	2.85
G8A47917	R0.3	3.0	.1181	6	4	16	55	2.85
G8A47918	R0.3	3.0	.1181	6	4	20	55	2.85
G8A47030	R0.5	3.0	.1181	6	4	10	55	2.85
G8A47901	R0.5	3.0	.1181	6	4	16	55	2.85
G8A47902	R0.5	3.0	.1181	6	4	20	55	2.85
G8A47919	R0.3	4.0	.1575	6	5	12	55	3.85
G8A47920	R0.3	4.0	.1575	6	5	16	55	3.85
G8A47921	R0.3	4.0	.1575	6	5	20	55	3.85
G8A47040	R0.5	4.0	.1575	6	5	12	55	3.85
G8A47903	R0.5	4.0	.1575	6	5	16	55	3.85
G8A47904	R0.5	4.0	.1575	6	5	20	55	3.85
G8A47922	R1.0	4.0	.1575	6	5	12	55	3.85
G8A47060	R0.5	6.0	.2362	6	7	20	60	5.85
G8A47905	R1.0	6.0	.2362	6	7	20	60	5.85
G8A47906	R1.5	6.0	.2362	6	7	20	60	5.85
G8A47910	R0.5	8.0	.3150	8	9	25	60	7.7
G8A47080	R1.0	8.0	.3150	8	9	25	60	7.7
G8A47907	R1.5	8.0	.3150	8	9	25	60	7.7
G8A47913	R2.0	8.0	.3150	8	9	25	60	7.7
G8A47911	R0.5	10.0	.3937	10	11	32	70	9.7
G8A47100	R1.0	10.0	.3937	10	11	32	70	9.7
G8A47908	R1.5	10.0	.3937	10	11	32	70	9.7
G8A47914	R2.0	10.0	.3937	10	11	32	70	9.7
G8A47912	R0.5	12.0	.4724	12	12	38	80	11.7
G8A47120	R1.0	12.0	.4724	12	12	38	80	11.7
G8A47909	R1.5	12.0	.4724	12	12	38	80	11.7
G8A47915	R2.0	12.0	.4724	12	12	38	80	11.7

Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~-0.012	h6
over Ø6	±0.015	0~-0.015	

The original bright blue color may discolor during use, however, the performance will not be negatively affected

◎ : Excellent ○ : Good

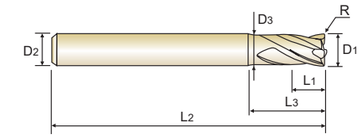
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

G8A37 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG | 4 | BLUE | 30° | R ±0.010 (Ø1~Ø6) | R ±0.015 (Ø8~Ø20) | PLAIN

P.660

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G8A37010	R0.1	1.0	.0394	3	1.5	-	40	-
G8A37901	R0.1	1.0	.0394	6	1.5	-	40	-
G8A37015	R0.1	1.5	.0591	3	2.2	-	40	-
G8A37902	R0.1	1.5	.0591	6	2.2	-	40	-
G8A37020	R0.1	2.0	.0787	3	3	6	40	1.95
G8A37903	R0.1	2.0	.0787	6	3	6	40	1.95
G8A37025	R0.1	2.5	.0984	3	4	6	40	2.4
G8A37904	R0.1	2.5	.0984	6	4	6	40	2.4
G8A37030	R0.1	3.0	.1181	6	4	7	45	2.85
G8A37035	R0.1	3.5	.1378	6	5	9	45	3.35
G8A37040	R0.1	4.0	.1575	6	5	9	45	3.85
G8A37045	R0.1	4.5	.1772	6	6	10	45	4.35
G8A37050	R0.2	5.0	.1969	6	6	11	50	4.85
G8A37060	R0.2	6.0	.2362	6	7	14	50	5.85
G8A37080	R0.2	8.0	.3150	8	9	18	60	7.7
G8A37100	R0.2	10.0	.3937	10	12	25	75	9.7
G8A37120	R0.3	12.0	.4724	12	15	30	75	11.7
G8A37160	R0.3	16.0	.6299	16	18	38	90	15.7
G8A37200	R0.3	20.0	.7874	20	24	45	100	19.7

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~-0.012	h6
over Ø6	±0.015	0~-0.015	

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

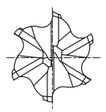
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

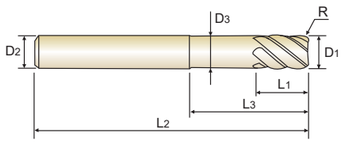
X5070 END MILLS

G8A39 SERIES PLAIN SHANK

CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS with EXTENDED NECK

- Designed to machine high hardened materials
- Suitable for dry cutting, high speed cutting due to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining
- Higher wear-resistance.





NG | 6 | BLUE | 45° | R ±0.010 (Ø6) | R ±0.015 (Ø8~Ø20) | PLAIN | P.660

◇ Call for Availability

Unit : mm

EDP No.	Corner Radius	Mill Diameter Metric	Mill Diameter Inch	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1		D2	L1	L3	L2	D3
G8A39916	R0.25	6.0	.2362	6	6	14	50	5.85
G8A39060	R0.5	6.0	.2362	6	6	14	50	5.85
G8A39901	R0.5	6.0	.2362	6	13	-	70	-
✻ G8A39910	R0.5	6.0	.2362	6	26	-	70	-
G8A39080	R0.5	8.0	.3150	8	8	24	60	7.7
G8A39902	R0.5	8.0	.3150	8	19	-	90	-
✻ G8A39911	R0.5	8.0	.3150	8	36	-	90	-
G8A39903	R0.5	10.0	.3937	10	22	-	100	-
G8A39100	R1.0	10.0	.3937	10	10	30	70	9.7
G8A39904	R1.0	10.0	.3937	10	22	-	100	-
✻ G8A39912	R1.0	10.0	.3937	10	46	-	100	-
G8A39905	R0.5	12.0	.4724	12	26	-	110	-
G8A39120	R1.0	12.0	.4724	12	12	30	75	11.7
G8A39906	R1.0	12.0	.4724	12	26	-	110	-
✻ G8A39913	R1.0	12.0	.4724	12	56	-	110	-
G8A39160	R1.0	16.0	.6299	16	32	-	130	-
G8A39907	R1.5	16.0	.6299	16	32	-	130	-
✻ G8A39914	R1.5	16.0	.6299	16	66	-	130	-
G8A39200	R1.0	20.0	.7874	20	38	-	140	-
G8A39908	R1.5	20.0	.7874	20	38	-	140	-
G8A39909	R2.0	20.0	.7874	20	38	-	140	-
✻ G8A39915	R2.0	20.0	.7874	20	76	-	140	-

The original bright blue color may discolor during use, however, the performance will not be negatively affected

Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~-0.02 (✻Extra Long Type : 0~-0.03)	h6
over Ø6	±0.015		

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

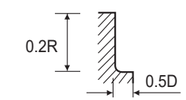
RECOMMENDED CUTTING CONDITIONS

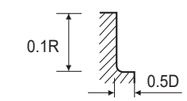
CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED

G826 SERIES

■ NORMAL SPEED

MATERIAL	P						H			
	HARDENED STEELS						HIGH HARDENED STEELS			
HARDNESS	~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/8 × R1/32	9000	245	6500	155	4300	100	2700	43	1800	23
3/16 × R1/16	7500	310	5100	200	3800	140	2350	70	1650	30
1/4 × R1/16	5500	310	3900	200	2800	140	1750	70	1250	30
5/16 × R3/32	4500	310	3100	200	2200	140	1400	70	1000	30
3/8 × R3/32	3800	310	2600	200	1850	140	1170	70	840	30
1/2 × R1/8	2800	310	1950	200	1400	140	880	70	630	30

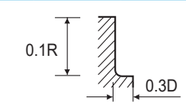


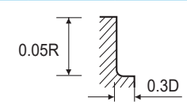


RPM = rev./min.
FEED = inch/min.

■ HIGH SPEED

MATERIAL	P						H			
	HARDENED STEELS						HIGH HARDENED STEELS			
HARDNESS	~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/8 × R1/32	21000	600	16000	380	12000	300	9000	170	6500	92
3/16 × R1/16	16500	720	13500	550	11500	420	8000	250	5700	150
1/4 × R1/16	12500	720	10000	550	8500	420	6000	250	4300	150
5/16 × R3/32	10000	720	8000	550	6800	420	4800	250	3400	150
3/8 × R3/32	8500	720	6700	550	5700	420	4000	250	2850	150
1/2 × R1/8	6500	720	5000	550	4300	420	3000	250	2150	150





RPM = rev./min.
FEED = inch/min.

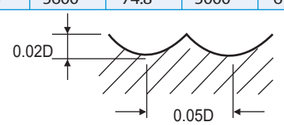
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

G8A43 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1/64 × 1/32	50000	189.0	50000	165.4	45000	149.6	40000	118.1	35000	102.4	35000	90.6
R1/32 × 1/16	49700	224.4	47800	189.0	40000	157.5	35000	124.0	32000	110.2	28500	90.6
R3/64 × 3/32	49700	224.4	47800	189.0	40000	157.5	35000	124.0	32000	110.2	28500	90.6
R1/16 × 1/8	33100	236.2	31800	208.7	26500	157.5	23500	124.0	21000	110.2	19000	90.6
R3/32 × 3/16	18600	228.4	17800	192.9	15000	147.6	13500	120.1	11500	100.4	10500	82.7
R1/8 × 1/14	13900	190.9	13400	161.4	11000	122.1	10000	98.4	8800	84.7	8000	68.9
R5/32 × 5/16	11100	165.4	10700	137.8	9000	106.3	8000	84.7	7000	72.8	6500	61.0
R3/16 × 3/8	9300	145.7	8900	122.1	7500	94.5	6600	74.8	5800	65.0	5300	54.3
R1/4 × 1/2	6950	116.1	6680	98.4	5600	74.8	5000	61.0	4400	49.2	4000	41.3



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

RPM = rev./min.
FEED = inch/min.

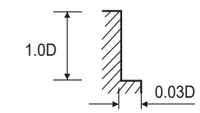
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS

G850 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/16	41950	69.4	32750	49.6	22050	33.3	18250	20.6	13850	12.7	11950	9.1
1/8	20600	52.1	16350	37.2	10850	25.0	9000	15.5	7100	9.5	6050	6.9
3/16	16500	66.2	13100	49.5	8700	33.0	6700	19.1	5350	12.2	4650	8.9
1/4	12400	58.1	9800	41.8	6500	28.2	5000	16.6	3950	10.4	3500	7.8
5/16	9950	59.6	7850	42.8	5250	28.6	4050	16.6	3250	10.6	2800	7.6
3/8	8200	57.9	6450	41.6	4300	27.8	3350	15.8	2700	10.3	2300	7.2
1/2	6300	52.2	4950	37.4	3300	24.9	2500	14.3	2000	9.0	1750	6.5
5/8	4950	47.7	3950	35.1	2600	23.0	2000	13.2	1600	8.5	1400	6.3
3/4	4100	43.0	3250	32.0	2150	21.5	1700	12.7	1350	8.2	1150	5.9

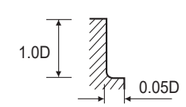


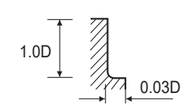
RPM = rev./min.
FEED = inch/min.

CARBIDE, 6&8 FLUTE 45° HELIX CORNER RADIUS

G851 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	23450	199.2	22200	182.2	15100	182.1	12750	122.7	9900	78.0	7550	53.9
5/16	20650	191.3	19600	174.8	13200	171.8	11150	115.3	8700	73.3	6600	51.2
3/8	17900	183.4	17000	167.3	11350	161.6	9500	108.0	7450	68.7	5700	48.5
1/2	12300	167.6	11800	152.4	7550	141.2	6250	93.2	5000	59.4	3800	43.0
5/8	10100	159.1	9800	147.2	6050	135.0	5050	91.5	4050	49.8	3000	34.3
3/4	8850	140.7	8600	133.3	5300	123.2	4400	82.7	3550	43.7	2650	30.0
1	6300	103.9	6150	105.5	3800	99.7	3150	65.1	2500	31.4	1900	21.5





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

RPM = rev./min.
FEED = inch/min.

X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

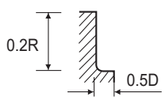
CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED

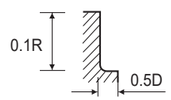
G859, G854 SERIES

■ NORMAL SPEED

MATERIAL	P						H			
	HARDENED STEELS						HIGH HARDENED STEELS			
HARDNESS	~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0 × R0.5	13500	255.9	9550	149.6	5500	86.6	3200	39.4	2200	21.7
3.0 × R0.5	9550	255.9	6900	163.4	4550	108.3	2850	45.3	1900	24.0
4.0 × R0.5	7950	275.6	5750	181.1	4000	126.0	2550	53.2	1750	27.6
5.0 × R0.5	6500	287.4	4800	189.0	3400	126.0	2200	63.0	1500	27.6
6.0 × R0.5	5800	301.2	4100	192.9	2900	137.8	1850	72.8	1350	31.3
6.0 × R1.0	5800	301.2	4100	192.9	2900	137.8	1850	72.8	1350	31.3
8.0 × R1.0	4350	301.2	3050	192.9	2200	137.8	1400	72.8	995	31.3
8.0 × R2.0	4350	301.2	3050	192.9	2200	137.8	1400	72.8	995	31.3
10.0 × R1.0	3500	301.2	2450	192.9	1750	137.8	1100	72.8	795	31.3
10.0 × R2.0	3500	301.2	2450	192.9	1750	137.8	1100	72.8	795	31.3
12.0 × R2.0	2900	301.2	2050	192.9	1450	137.8	925	72.8	665	31.3
12.0 × R3.0	2900	301.2	2050	192.9	1450	137.8	925	72.8	665	31.3
16.0 × R3.0	2200	301.2	1550	192.9	1100	137.8	700	72.8	500	31.3

RPM = rev./min.
FEED = inch/min.

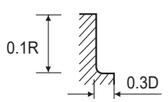


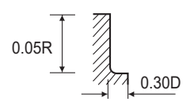


■ HIGH SPEED

MATERIAL	P						H			
	HARDENED STEELS						HIGH HARDENED STEELS			
HARDNESS	~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0 × R0.5	29000	590.6	22000	385.8	15000	309.1	11000	175.2	8700	96.5
3.0 × R0.5	22000	629.9	17000	393.7	12500	315.0	9500	181.1	6900	98.4
4.0 × R0.5	17000	689.0	13000	472.4	11000	362.2	8000	216.5	5600	114.2
5.0 × R0.5	15000	708.7	11000	192.1	10000	393.7	7000	236.2	4900	122.1
6.0 × R0.5	13500	728.4	10500	543.3	9000	433.1	6400	252.0	4500	141.7
6.0 × R1.0	13500	728.4	10500	543.3	9000	433.1	6400	252.0	4500	141.7
8.0 × R1.0	10000	728.4	8000	551.2	6800	433.1	4800	263.8	3400	161.4
8.0 × R2.0	10000	728.4	8000	551.2	6800	433.1	4800	263.8	3400	161.4
10.0 × R1.0	8000	728.4	6400	551.2	5400	433.1	3800	267.7	2700	149.6
10.0 × R2.0	8000	728.4	6400	551.2	5400	433.1	3800	267.7	2700	149.6
12.0 × R2.0	6600	728.4	5300	551.2	4500	433.1	3200	275.6	2250	141.7
12.0 × R3.0	6600	728.4	5300	551.2	4500	433.1	3200	275.6	2250	141.7
16.0 × R3.0	5000	728.4	3900	551.2	3300	433.1	2400	275.6	1650	129.9

RPM = rev./min.
FEED = inch/min.



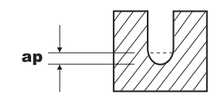


X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

G8A46, G8A54 SERIES

MATERIAL	P						H			N		
	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS			HIGH HARDENED STEELS			COPPER		
HARDNESS	HRc30 ~ HRc45			HRc45 ~ HRc55			HRc55 ~ HRc65					
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)
R0.1 × 0.2	50000	11.8~13.8	0.006~0.016	50000	10.4~12.2	0.005~0.013	50000	8.9~10.4	0.005~0.012	50000	17.9~20.9	0.010~0.022
R0.15 × 0.3	48000~50000	18.9~20.5	0.010~0.017	48000~50000	17.3~18.1	0.008~0.014	46000~50000	15.4~16.5	0.007~0.013	48000~50000	27.2~31.1	0.002~0.023
R0.2 × 0.4	48000~50000	28.4~31.1	0.013~0.032	48000~50000	17.7~21.7	0.011~0.026	46000~50000	15.8~18.1	0.010~0.024	48000~50000	39.4~45.3	0.019~0.048
R0.25 × 0.5	34100~49500	23.6~34.3	0.007~0.028	31900~35200	19.3~21.3	0.005~0.023	31900~35200	17.3~18.9	0.005~0.021	49000~50000	39.4~55.1	0.010~0.042
R0.3 × 0.6	28600~40700	23.2~33.5	0.007~0.034	26400~29700	18.9~21.3	0.006~0.028	26400~29700	15.8~18.9	0.006~0.025	42000~50000	43.3~66.9	0.011~0.050
R0.4 × 0.8	22000~30800	25.2~35.0	0.016~0.064	19800~22000	19.3~21.7	0.013~0.052	19800~22000	17.3~19.7	0.012~0.048	31000~50000	43.3~88.6	0.024~0.096
R0.5 × 1.0	17600~24200	23.6~33.5	0.008~0.080	15400~17600	18.5~21.3	0.007~0.065	15400~17600	17.3~19.7	0.006~0.060	24000~49500	43.3~86.6	0.012~0.120
R0.6 × 1.2	14300~18700	23.2~30.7	0.024~0.032	12000~14000	18.9~21.3	0.020~0.026	12000~14000	16.5~18.9	0.018~0.024	28500~38500	58.3~76.8	0.036~0.048
R0.75 × 1.5	11000~14300	22.8~29.9	0.031~0.048	10000~11500	18.9~21.3	0.025~0.039	10000~11500	16.5~18.9	0.023~0.036	17000~28500	43.3~76.8	0.046~0.072
R1.0 × 2.0	8500~11000	23.2~31.5	0.024~0.160	7900~8800	18.5~20.9	0.020~0.130	7900~8800	17.3~18.9	0.018~0.120	12600~24000	43.3~84.7	0.036~0.240
R1.5 × 3.0	5700~8200	28.7~39.4	0.064~0.240	5300~5800	23.2~25.6	0.052~0.195	5300~5800	21.7~24.4	0.048~0.120	11900~17000	72.8~106.3	0.096~0.360
R2.0 × 4.0	4300~6200	26.8~39.0	0.080~0.320	3950~4400	21.7~24.4	0.065~0.026	3850~4400	20.9~22.4	0.060~0.240	6600~12500	49.6~98.4	0.120~0.480

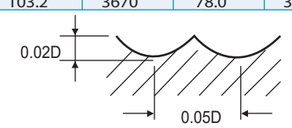


RPM = rev./min.
FEED = inch/min.

CARBIDE, 3 FLUTE BALL NOSE

G8A59 SERIES

MATERIAL	P				H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS		HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc45		HRc45 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.5 × 3.0	32000	338.6	26840	228.4	19840	168.5	18680	159.1	12780	108.7
R2.0 × 4.0	24080	303.2	20130	213.8	14880	152.8	14220	143.7	9580	98.4
R2.5 × 5.0	20000	285.4	16780	213.8	12400	145.3	11670	136.6	8000	93.3
R3.0 × 6.0	18000	337.4	15200	244.9	12200	177.2	11100	150.8	7590	96.9
R4.0 × 8.0	13500	289.4	11300	206.7	9200	156.7	8320	131.9	5690	83.9
R5.0 × 10.0	10800	257.1	9100	180.7	7350	135.8	6660	113.0	4550	77.2
R6.0 × 12.0	9050	240.2	7590	167.7	6130	125.6	5530	94.5	3800	64.6
R8.0 × 16.0	6700	181.1	5690	128.0	4600	97.6	4160	70.9	2850	48.4
R10.0 ×20.0	5400	141.7	4550	103.2	3670	78.0	3300	56.7	2280	38.6



RPM = rev./min.
FEED = inch/min.

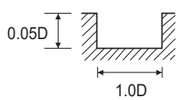
X5070 END MILLS

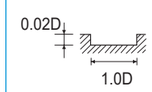
RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE - SLOTTING

G8A36 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.2	50000	5.1	45000	4.5	40000	3.7	33000	2.4	33000	1.8	26400	1.2
0.3	50000	7.5	45000	5.5	40000	4.5	33000	2.8	25000	2.0	20000	1.4
0.4	50000	9.3	45000	7.1	40000	5.5	33000	3.5	25000	2.2	20000	1.6
0.5	50000	14.6	45000	11.0	40000	8.7	33000	5.5	25000	3.4	20000	2.4
0.6	50000	18.5	45000	14.2	40000	11.2	30000	6.3	25000	4.1	20000	3.0
0.8	50000	23.6	40000	17.3	30000	11.6	25000	7.3	19000	4.3	15200	3.2
0.9	49000	25.8	39000	20.5	27800	13.0	22700	8.1	17500	4.9	14000	3.5
1.0	48000	29.5	38000	22.4	25500	14.2	20500	8.5	16000	5.3	12500	3.4
2.0	33300	33.5	26000	26.8	17500	16.5	14500	10.2	11000	6.3	9500	4.5
3.0	21800	33.5	17300	26.8	11500	16.5	9500	10.2	7500	6.3	6400	4.5
4.0	16700	34.7	13200	27.6	8800	17.3	7200	10.6	5600	6.7	4750	4.7
5.0	15700	39.4	12500	31.7	8300	19.7	6400	11.2	5100	7.1	4450	5.2
6.0	13100	37.4	10350	30.3	6900	18.9	5300	11.0	4200	7.1	3700	5.1
8.0	9880	36.6	7800	28.4	5200	17.5	4000	10.0	3200	6.5	2800	4.7
10.0	7800	33.5	6150	26.8	4100	16.3	3200	9.5	2550	6.1	2200	4.4
12.0	6650	33.5	5250	26.8	3500	16.3	2650	9.5	2100	6.1	1860	4.4
16.0	4900	28.7	3900	22.8	2600	14.4	2000	8.3	1600	5.3	1400	3.7
20.0	3900	26.0	3100	20.7	2050	14.4	1600	7.7	1300	4.9	1100	3.4





RPM = rev./min.
FEED = inch/min.

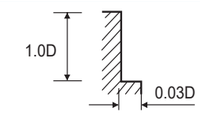
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE - SIDE CUTTING

G8A36 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1.0	48000	41.3	38000	32.3	25500	20.1	20500	12.2	16000	7.5	12500	4.9
2.0	33300	47.2	26000	38.2	17500	23.6	14500	14.6	11000	9.1	9500	6.5
3.0	21800	47.2	17300	38.2	11500	23.6	9500	14.6	7500	9.1	6400	6.5
4.0	16700	49.2	13200	39.4	8800	24.6	7200	15.2	5600	9.5	4750	6.7
5.0	15700	57.1	12500	45.3	8300	28.0	6400	16.1	5100	10.2	4450	7.5
6.0	13100	53.2	10350	43.3	6900	27.2	5300	15.8	4200	10.0	3700	7.3
8.0	9880	52.0	7800	40.6	5200	25.0	4000	14.4	3200	9.3	2800	6.7
10.0	7800	47.2	6150	38.2	4100	23.2	3200	13.4	2550	8.7	2200	6.3
12.0	6650	47.2	5250	38.2	3500	23.2	2650	13.4	2100	8.7	1860	6.3
16.0	4900	41.3	3900	33.1	2600	20.5	2000	11.8	1600	7.5	1400	5.5
20.0	3900	37.4	3100	29.5	2050	18.7	1600	10.8	1300	6.9	1100	4.2



RPM = rev./min.
FEED = inch/min.

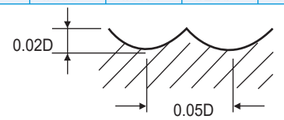
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR TYPE END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER END MILLS
JET-POWER END MILLS
TitaNox -POWER END MILLS
V7 PLUS A END MILLS
V7 MILL INOX END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS CFRP
STANDARD CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
SINE -POWER END MILLS
TANK-POWER END MILLS
STANDARD COBALT & HSS END MILLS
TECHNICAL DATA

X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE BALL NOSE

G8A38, G8A28, G8A53 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEEI					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R0.1 ×0.2	50000	47.2	50000	41.3	45000	37.8	40000	30.3	35000	26.54	31500	22.4
R0.15 ×0.3	50000	59.1	50000	53.6	45000	47.2	40000	37.9	35000	33.1	31500	27.6
R0.2 ×0.4	50000	74.8	50000	66.9	45000	59.1	40000	47.2	35000	41.3	31500	35.0
R0.25 ×0.5	50000	94.5	50000	82.7	45000	74.8	40000	59.1	35000	51.2	31500	43.3
R0.3 ×0.6	50000	114.2	50000	98.4	45000	86.6	40000	70.9	35000	63.0	31500	55.1
R0.4 ×0.8	50000	153.5	50000	129.9	45000	118.1	40000	94.5	35000	82.7	31500	70.9
R0.5 ×1.0	50000	189.0	50000	165.4	45000	149.6	40000	118.1	35000	102.4	35000	90.6
R0.6 ×1.2	50000	200.8	48000	169.3	43000	151.6	38000	118.1	34000	106.3	30600	90.6
R0.75 ×1.5	50000	212.6	48000	177.2	43000	157.5	37000	122.1	33000	106.3	29700	90.6
R1.0 ×2.0	49700	224.4	47800	189.0	40000	157.5	35000	124.0	32000	110.2	28500	90.6
R1.5 ×3.0	33100	236.2	31800	208.7	26500	157.5	23500	124.0	21000	110.2	19000	90.6
R2.0 ×4.0	24900	236.2	23900	208.7	20000	157.5	17500	124.0	16000	110.2	14500	90.6
R2.5 ×5.0	18600	228.4	17800	192.9	15000	147.6	13500	120.1	11500	100.4	10500	82.7
R3.0 ×6.0	13900	190.9	13400	161.4	11000	122.1	10000	98.4	8800	84.7	8000	68.9
R4.0 ×8.0	11100	165.4	10700	137.8	9000	106.3	8000	84.7	7000	72.8	6500	61.0
R5.0 ×10.0	9300	145.7	8900	122.1	7500	94.5	6600	74.8	5800	65.0	5300	54.3
R6.0 ×12.0	6950	116.1	6680	98.4	5600	74.8	5000	61.0	4400	49.2	4000	41.3
R8.0 ×16.0	5570	104.3	5350	86.6	4500	66.9	4000	53.2	3500	39.4	3200	33.5
R10.0 ×20.0	4450	92.5	4300	76.8	3600	59.1	3200	47.2	2800	31.5	2550	26.0



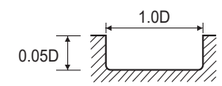
RPM = rev./min.
FEED = inch/min.

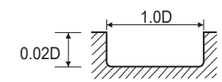
X5070 END MILLS — RECOMMENDED CUTTING CONDITIONS

CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS - SLOTTING

G8A50 SERIES

MATERIAL	P						H			
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS			
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.3	50000	7.5	45000	5.5	40000	4.5	33000	2.8	25000	1.6
0.4	50000	9.3	45000	7.1	40000	5.5	33000	3.5	25000	2.2
0.5	50000	14.6	45000	11.0	40000	8.7	33000	5.5	25000	3.4
0.6	50000	18.5	45000	14.2	40000	11.2	30000	6.3	25000	4.1
0.8	50000	23.6	40000	17.3	30000	11.6	25000	7.3	19000	4.3
1.0	48000	29.5	38000	22.4	25500	14.2	20500	8.5	16000	5.3
1.2	42000	31.1	34000	25.2	22500	15.0	20000	9.8	14500	5.7
1.5	37000	31.0	30500	26.4	21000	16.1	17000	9.8	13000	6.2
2.0	33300	33.5	26000	26.8	17500	16.5	14500	10.2	11000	6.3



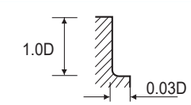


RPM = rev./min.
FEED = inch/min.

CARBIDE, 4 FLUTE CORNER RADIUS

G8A47 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1.0	48000	46.6	38000	33.1	25500	22.4	20500	13.5	16000	8.5	12500	5.5
2.0	33300	55.1	26000	39.4	17500	26.5	14500	16.4	11000	10.1	9500	7.2
3.0	21800	55.1	17300	39.4	11500	26.5	9500	16.4	7500	10.1	6400	7.2
4.0	16700	56.7	13200	40.9	8800	27.7	7200	17.0	5600	10.6	4750	7.6
5.0	15700	63.0	12500	47.2	8300	31.5	6400	18.3	5100	11.7	4450	8.5
6.0	13100	61.4	10350	44.1	6900	29.9	5300	17.6	4200	11.0	3700	8.2
8.0	9880	59.2	7800	42.5	5200	28.4	4000	16.4	3200	10.4	2800	7.6
10.0	7800	55.1	6150	39.7	4100	26.5	3200	15.1	2550	9.8	2200	6.9
12.0	6650	55.1	5250	39.7	3500	26.5	2650	15.1	2100	9.5	1860	6.9
16.0	4900	47.2	3900	34.7	2600	23.0	2000	13.2	1600	8.5	1400	6.3
20.0	3900	40.9	3100	30.6	2050	20.5	1600	12.0	1300	7.9	1100	5.7



RPM = rev./min. FEED = inch/min.

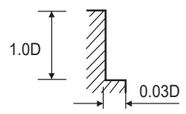
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK

G8A37 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1.0	48000	58.3	38000	41.3	25500	28.0	20500	16.9	16000	10.6	12500	6.9
2.0	33300	68.9	26000	49.2	17500	33.1	14500	20.5	11000	12.6	9500	9.1
3.0	21800	68.9	17300	49.2	11500	33.1	9500	20.5	7500	12.6	6400	9.1
4.0	16700	70.9	13200	51.2	8800	34.7	7200	21.3	5600	13.2	4750	9.5
5.0	15700	78.7	12500	59.1	8300	39.4	6400	22.8	5100	14.6	4450	10.6
6.0	13100	76.8	10350	55.1	6900	37.4	5300	22.1	4200	13.8	3700	10.2
8.0	9880	74.0	7800	53.2	5200	35.4	4000	20.5	3200	13.0	2800	9.5
10.0	7800	68.9	6150	49.6	4100	33.1	3200	18.9	2550	12.2	2200	8.7
12.0	6650	68.9	5250	49.6	3500	33.1	2650	18.9	2100	11.8	1860	8.7
16.0	4900	59.1	3900	43.3	2600	28.7	2000	16.5	1600	10.6	1400	7.9
20.0	3900	51.2	3100	38.2	2050	25.6	1600	15.0	1300	9.8	1100	7.1

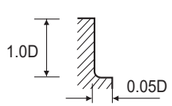


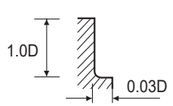
RPM = rev./min.
FEED = inch/min.

CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS

G8A39 SERIES

MATERIAL	P						H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS				HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc40		HRc40 ~ HRc50		HRc50 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	24800	210.6	23500	192.9	16000	192.9	13500	129.9	10500	82.7	8000	57.1
8.0	20000	216.5	19000	196.9	12000	181.1	10000	122.1	8000	78.7	6000	55.1
10.0	16000	192.9	15500	177.2	9500	161.4	8000	114.2	6400	70.9	4800	51.2
12.0	13000	177.2	12500	161.4	8000	149.6	6600	98.4	5300	63.0	4000	45.3
16.0	10000	157.5	9700	145.7	6000	133.9	5000	90.6	4000	49.2	3000	34.3
20.0	8000	131.9	7800	133.9	4800	126.0	4000	82.7	3200	40.2	2400	27.2





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

RPM = rev./min.
FEED = inch/min.

CARBIDE

Being the best through innovation

4G MILLS

- High Speed Cutting for Pre-Hardened Steels up to HRc55