YE-E211

Registered
ISO 9001:2008 / ISO 14001:2004

Seal of Excellence
kotra

The X5070 Blue

YG-1 CO., LTD.

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YG1E2090324002

YG-1 CO., LTD.

X5070 Blue

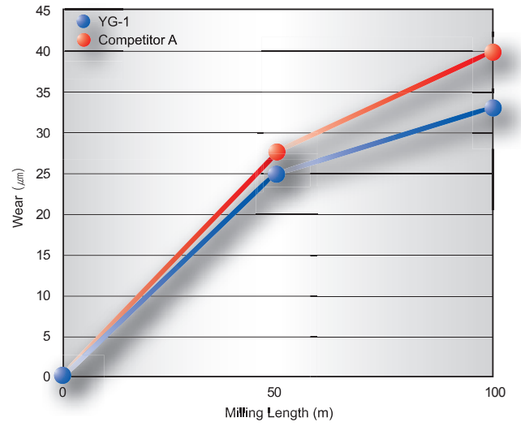
for Machining High Hardened Steel

for High Speed Cutting & Dry Cutting

for Mold & Die

YG X5070 Test Report

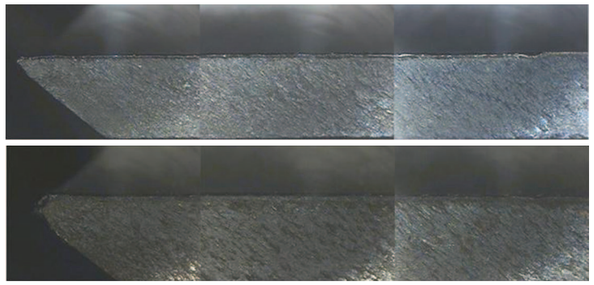
Carbide 6FL. 45° Helix End Mill for Hardened Steel



CUTTING CONDITION

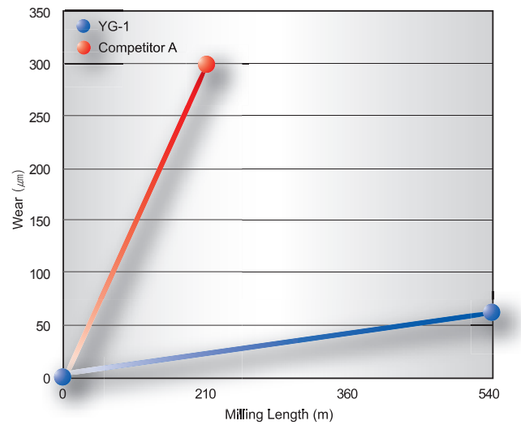
Tools : 6Flute, X5070 45° Helix
Size : ∅16×∅16×40×110
Work Material : • JIS:SKD61(HRc50)
• DIN:X40CrMoV5-1(1.2344)
• AISI:H13
Cutting Speed : 96.5 m/min.
R.P.M : 1,920 rev./min.
Feed : 912 mm/min.
Milling Method : Down & Side Cutting
Milling Depth : Axial : 24 mm
Radial : 0.96 mm
Coolant : Dry Cut
Overhang : 52 mm
Machine : Machining Center

YG-1
(Total Milling Length 100m)



Competitor A
(Total Milling Length 100m)

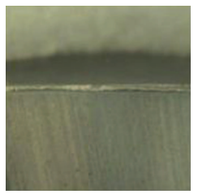
Carbide 4FL. Center Match Ball End Mill for Hardened Steel



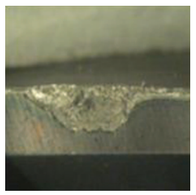
CUTTING CONDITION

Tools : 4Flute, X5070 Ball Nose
Size : ∅10×∅10×18×100
Work Material : • JIS:SKD11(HRc60)
• DIN:X155CrVMo12-1(1.2379)
• AISI:D2
Cutting Speed : 210.486 m/min.
R.P.M : 6,700 rev./min.
Feed : 2,800 mm/min.
Milling Method : Side Cutting
Milling Depth : Axial : 0.2 mm
Radial : 0.5 mm
Coolant : Oil Mist
Overhang : 32 mm
Machine : Machining Center

YG-1
(Total Milling Length 540m)



Competitor A
(Total Milling Length 210m)



X5070 SELECTION GUIDE

ITEM	MODEL	DESCRIPTION	SIZE MIN	SIZE MAX	PAGE
BALL					
	G8A46		CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING	R0.05	R2.0	4
	G8A54		CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING	R0.25	R1.0	7
	G8A28		CARBIDE, 2 FLUTE BALL NOSE	R0.05	R6.0	8
	G8A38		CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK	R0.5	R12.5	9
	G8A53		CARBIDE, 2 FLUTE MINIATURE BALL NOSE	R0.2	R1.0	10
	G8A59		CARBIDE, 3 FLUTE BALL NOSE	R1.5	R10.0	11
NEW	G8D62		CARBIDE, 4 FLUTE BALL NOSE - Center Match	R1.5	R10.0	12
CORNER RADIUS					
	G8A60		CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING	D0.5	D12.0	13
	G8A36		CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK	D0.3	D20.0	16
	G8A52		CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING	D0.5	D2.0	17
	G8A50		CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS	D0.3	D2.0	18
	G8A47		CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK	D3.0	D12.0	19
	G8A37		CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK	D1.0	D20.0	20
	G8B08		CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK	D6.0	D12.0	21
	G8A39		CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS with EXTENDED NECK	D6.0	D20.0	22
SQUARE					
	G8A45		CARBIDE, 2 FLUTE for RIB PROCESSING	D0.1	D4.0	23
	G8A01		CARBIDE, 2 FLUTE with EXTENDED NECK	D0.1	D20.0	26
	G8A02		CARBIDE, 4 FLUTE with EXTENDED NECK	D1.0	D20.0	27
NEW	G8D63		CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH	D6.0	D25.0	28
NEW	G8D64		CARBIDE, 6&8 FLUTE 45° HELIX EXTRA LONG LENGTH	D6.0	D25.0	29
			RECOMMENDED CUTTING CONDITIONS			30

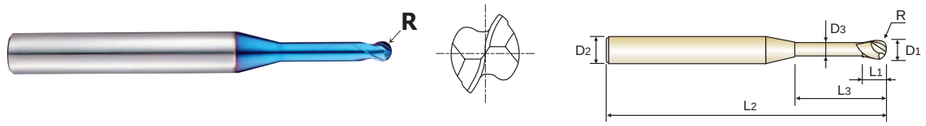
SELECTION GUIDE

◎ : Excellent, ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
BALL												
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
CORNER RADIUS												
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
SQUARE												
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							
		○	○	◎	◎							

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 HM | 2 | BLUE | 30° | R ±0.005 | PLAIN P.30

Unit : mm

EDP No.	Radius of Ball Nose R (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A46805	R0.05	0.1	4	0.1	0.3	45	0.085
G8A46806	R0.05	0.1	4	0.1	0.5	45	0.085
G8A46002	R0.1	0.2	4	0.2	0.5	45	0.17
G8A46977	R0.1	0.2	4	0.2	1	45	0.17
G8A46958	R0.1	0.2	4	0.2	1.5	45	0.17
G8A46003	R0.15	0.3	4	0.3	1	45	0.27
G8A46959	R0.15	0.3	4	0.3	2	45	0.27
G8A46986	R0.15	0.3	4	0.3	3	45	0.27
G8A46004	R0.2	0.4	4	0.4	1	45	0.37
G8A46960	R0.2	0.4	4	0.4	2	45	0.37
G8A46961	R0.2	0.4	4	0.4	3	45	0.37
G8A46981	R0.2	0.4	4	0.4	4	45	0.37
G8A46987	R0.2	0.4	4	0.4	5	45	0.37
G8A46005	R0.25	0.5	4	0.4	2	45	0.45
G8A46804	R0.25	0.5	4	0.4	2.5	45	0.45
G8A46962	R0.25	0.5	4	0.4	4	45	0.45
G8A46963	R0.25	0.5	4	0.4	6	45	0.45
G8A46964	R0.25	0.5	4	0.4	8	45	0.45
G8A46957	R0.3	0.6	4	0.5	2	45	0.55
G8A46988	R0.3	0.6	4	0.5	3	45	0.55
G8A46915	R0.3	0.6	4	0.5	4	45	0.55
G8A46989	R0.3	0.6	4	0.5	5	45	0.55
G8A46916	R0.3	0.6	4	0.5	6	45	0.55
G8A46917	R0.3	0.6	4	0.5	8	45	0.55
G8A46990	R0.3	0.6	4	0.5	10	45	0.55
G8A46918	R0.4	0.8	4	0.6	2	45	0.75
G8A46919	R0.4	0.8	4	0.6	4	45	0.75
G8A46008	R0.4	0.8	4	0.6	6	45	0.75
G8A46901	R0.4	0.8	4	0.6	8	45	0.75

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

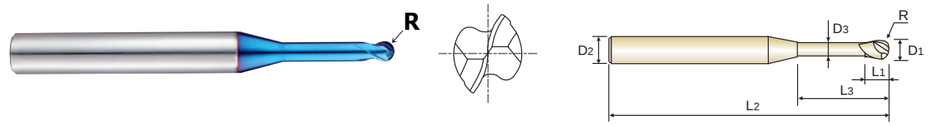
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE BALL 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 HM | 2 | BLUE | 30° | R ±0.005 | PLAIN P.30

Unit : mm

EDP No.	Radius of Ball Nose R (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A46965	R0.4	0.8	4	0.6	10	45	0.75
G8A46920	R0.5	1.0	4	0.8	3	45	0.95
G8A46921	R0.5	1.0	4	0.8	4	45	0.95
G8A46923	R0.5	1.0	4	0.8	5	45	0.95
G8A46010	R0.5	1.0	4	0.8	6	45	0.95
G8A46924	R0.5	1.0	4	0.8	7	45	0.95
G8A46902	R0.5	1.0	4	0.8	8	45	0.95
G8A46925	R0.5	1.0	4	0.8	9	45	0.95
G8A46903	R0.5	1.0	4	0.8	10	45	0.95
G8A46904	R0.5	1.0	4	0.8	12	45	0.95
G8A46926	R0.5	1.0	4	0.8	14	50	0.95
G8A46927	R0.5	1.0	4	0.8	16	50	0.95
G8A46966	R0.5	1.0	4	0.8	20	55	0.95
G8A46982	R0.6	1.2	4	1.0	6	45	1.15
G8A46012	R0.6	1.2	4	1.0	8	45	1.15
G8A46983	R0.6	1.2	4	1.0	10	45	1.15
G8A46905	R0.6	1.2	4	1.0	12	45	1.15
G8A46930	R0.75	1.5	4	1.2	6	45	1.45
G8A46015	R0.75	1.5	4	1.2	8	45	1.45
G8A46931	R0.75	1.5	4	1.2	10	45	1.45
G8A46906	R0.75	1.5	4	1.2	12	45	1.45
G8A46992	R0.75	1.5	4	1.2	14	50	1.45
G8A46907	R0.75	1.5	4	1.2	16	50	1.45
G8A46932	R0.75	1.5	4	1.2	20	55	1.45
G8A46939	R1.0	2.0	4	1.6	4	45	1.95
G8A46940	R1.0	2.0	4	1.6	6	45	1.95
G8A46020	R1.0	2.0	4	1.6	8	45	1.95
G8A46941	R1.0	2.0	4	1.6	10	45	1.95
G8A46942	R1.0	2.0	4	1.6	12	50	1.95

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

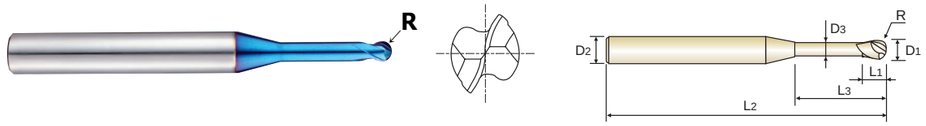
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE BALL — 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 HM | 2 | BLUE | 30° | R ±0.005 | PLAIN P.30

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.005)	D1	D2	L1	L3	L2	D3
G8A46943	R1.0	**2.0**	4	1.6	14	50	1.95
G8A46909	R1.0	**2.0**	4	1.6	16	50	1.95
G8A46993	R1.0	**2.0**	4	1.6	18	55	1.95
G8A46910	R1.0	**2.0**	4	1.6	20	55	1.95
G8A46944	R1.0	**2.0**	4	1.6	22	60	1.95
G8A46945	R1.0	**2.0**	4	1.6	25	60	1.95
G8A46967	R1.0	**2.0**	4	1.6	30	70	1.95
G8A46948	R1.5	**3.0**	6	2.4	12	50	2.85
G8A46984	R1.5	**3.0**	6	2.4	14	55	2.85
G8A46030	R1.5	**3.0**	6	2.4	16	55	2.85
G8A46985	R1.5	**3.0**	6	2.4	18	60	2.85
G8A46911	R1.5	**3.0**	6	2.4	20	60	2.85
G8A46968	R1.5	**3.0**	6	2.4	25	65	2.85
G8A46969	R1.5	**3.0**	6	2.4	30	70	2.85
G8A46970	R1.5	**3.0**	6	2.4	35	80	2.85
G8A46950	R2.0	**4.0**	6	3.2	12	60	3.85
G8A46040	R2.0	**4.0**	6	3.2	16	60	3.85
G8A46912	R2.0	**4.0**	6	3.2	20	65	3.85
G8A46913	R2.0	**4.0**	6	3.2	25	70	3.85
G8A46971	R2.0	**4.0**	6	3.2	30	70	3.85
G8A46972	R2.0	**4.0**	6	3.2	35	80	3.85
G8A46973	R2.0	**4.0**	6	3.2	40	90	3.85
G8A46974	R2.0	**4.0**	6	3.2	45	90	3.85
G8A46975	R2.0	**4.0**	6	3.2	50	100	3.85

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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

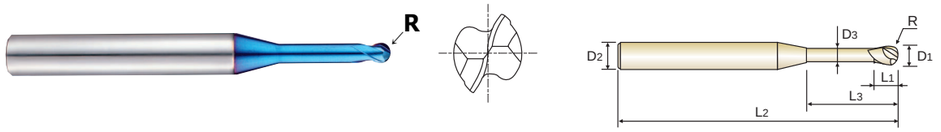
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE BALL — 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 HM | 2 | BLUE | 30° | R ±0.005 | PLAIN P.30

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	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**	6	0.5	1.5	50	0.45
G8A54901	R0.25	**0.5**	6	0.5	3.3	50	0.45
G8A54006	R0.3	**0.6**	6	0.6	2	50	0.55
G8A54902	R0.3	**0.6**	6	0.6	4	50	0.55
G8A54008	R0.4	**0.8**	6	0.8	2.5	50	0.75
G8A54903	R0.4	**0.8**	6	0.8	5.5	50	0.75
G8A54010	R0.5	**1.0**	6	1	3.3	50	0.95
G8A54904	R0.5	**1.0**	6	1	6.7	50	0.95
G8A54905	R0.5	**1.0**	6	1	12	50	0.95
G8A54012	R0.6	**1.2**	6	1.2	4.4	50	1.15
G8A54906	R0.6	**1.2**	6	1.2	8	50	1.15
G8A54015	R0.75	**1.5**	6	1.5	5	50	1.45
G8A54907	R0.75	**1.5**	6	1.5	9.7	50	1.45
G8A54908	R0.75	**1.5**	6	1.5	15	50	1.45
G8A54020	R1.0	**2.0**	6	2	6	50	1.95
G8A54909	R1.0	**2.0**	6	2	13	50	1.95
G8A54910	R1.0	**2.0**	6	2	20	60	1.95

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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

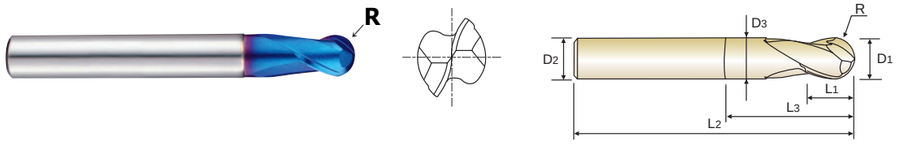
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

YG X5070 CARBIDE BALL **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 HM | 2 | BLUE | 30° | R ±0.005 R0.05~R3 | R ±0.010 R4~R6 | PLAIN | P.31

Unit : mm

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
G8A28001	R0.05	0.1	4	0.2	-	40	-
G8A28002	R0.1	0.2	4	0.3	-	40	-
G8A28003	R0.15	0.3	4	0.5	-	40	-
G8A28004	R0.2	0.4	4	0.6	-	40	-
G8A28005	R0.25	0.5	4	0.7	-	40	-
G8A28006	R0.3	0.6	4	0.9	-	40	-
G8A28007	R0.35	0.7	4	1.1	-	40	-
G8A28008	R0.4	0.8	4	1.2	-	40	-
G8A28009	R0.45	0.9	4	1.4	-	40	-
G8A28010	R0.5	1.0	6	1.5	3	50	0.95
G8A28015	R0.75	1.5	6	2	4	50	1.45
G8A28020	R1.0	2.0	6	2.5	5	50	1.95
G8A28025	R1.25	2.5	6	3	7	50	2.4
G8A28030	R1.5	3.0	6	4	10	60	2.85
G8A28035	R1.75	3.5	6	4.5	10	60	3.35
G8A28040	R2.0	4.0	6	5	10	60	3.85
G8A28045	R2.25	4.5	6	5.5	10	60	4.35
G8A28050	R2.5	5.0	6	6	12	60	4.85
G8A28055	R2.75	5.5	6	6.5	12	60	5.35
G8A28060	R3.0	6.0	6	7	15	60	5.85
G8A28903	R3.0	6.0	6	9	30	90	5.85
G8A28901	R4.0	8.0	8	9	15	60	7.7
G8A28080	R4.0	8.0	8	9	15	80	7.7
G8A28904	R4.0	8.0	8	12	30	100	7.7
G8A28902	R5.0	10.0	10	11	25	60	9.7
G8A28100	R5.0	10.0	10	11	25	80	9.7
G8A28905	R5.0	10.0	10	15	30	100	9.7
G8A28120	R6.0	12.0	12	14	25	80	11.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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	

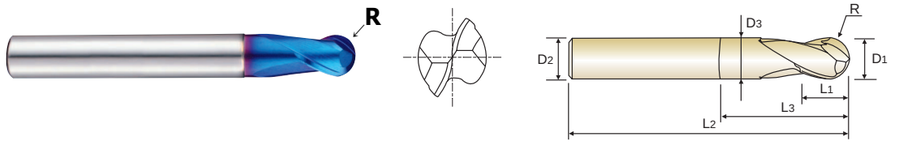
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

YG X5070 CARBIDE BALL **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 thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG HM | 2 | BLUE | 30° | R ±0.005 R0.5~R3 | R ±0.010 R3.5~R12.5 | PLAIN | P.31

Unit : mm

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
G8A38010	R0.5	1.0	4	1	2.2	50	0.95
G8A38012	R0.6	1.2	4	1.2	2.6	50	1.15
G8A38015	R0.75	1.5	4	1.5	3	50	1.45
G8A38020	R1.0	2.0	6	2	4	50	1.95
G8A38030	R1.5	3.0	6	3	6	60	2.85
G8A38040	R2.0	4.0	6	4	8	70	3.85
G8A38050	R2.5	5.0	6	5	10	80	4.85
G8A38060	R3.0	6.0	6	6	12	90	5.85
G8A38070	R3.5	7.0	8	7	14	90	6.7
G8A38080	R4.0	8.0	8	8	16	100	7.7
G8A38090	R4.5	9.0	10	9	18	100	8.7
G8A38100	R5.0	10.0	10	10	20	100	9.7
G8A38120	R6.0	12.0	12	12	24	110	11.7
G8A38140	R7.0	14.0	14	14	28	110	13.7
G8A38160	R8.0	16.0	16	16	32	140	15.7
G8A38180	R9.0	18.0	18	18	36	140	17.7
G8A38200	R10.0	20.0	20	20	40	160	19.7
G8A38250	R12.5	25.0	25	25	50	180	24.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

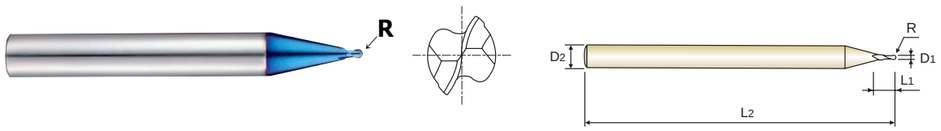
Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~−0.012	h6
over R3	±0.010	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

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 HM | 2 | BLUE | 30° | R ±0.005 | PLAIN P.31

Unit : mm

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

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover.
However, it doesn' t effect on performance of tool.

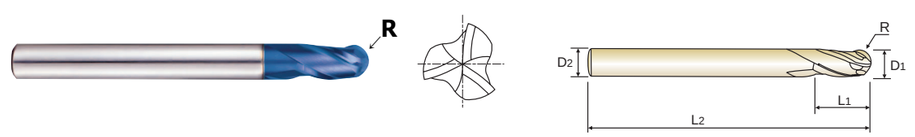
Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.012	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

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

Unit : mm

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

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover.
However, it doesn' t effect on performance of tool.

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	

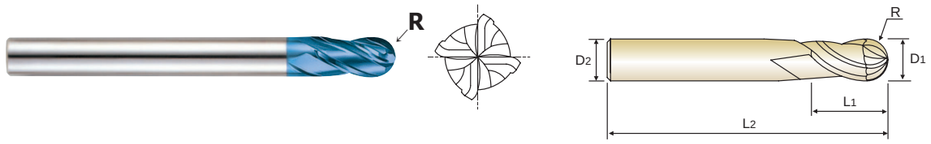
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE BALL — G8D62 SERIES PLAIN SHANK

CARBIDE, 4 FLUTE BALL NOSE - Center Match

- ▶ Applied center match type & special new design on ball center shape.
- ▶ Excellent high wear resistance and high performance.
- ▶ Applied for high speed and feed.
- ▶ Increased the surface roughness.



NG HM | 4 | BLUE | 30° | R ±0.005 (R1.5~R3) | R ±0.010 (R4~R10) | PLAIN | P.31

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
G8D62030	R1.5	3.0	6	8	60
G8D62040	R2.0	4.0	6	8	70
G8D62050	R2.5	5.0	6	10	80
G8D62060	R3.0	6.0	6	12	90
G8D62080	R4.0	8.0	8	14	100
G8D62100	R5.0	10.0	10	18	100
G8D62120	R6.0	12.0	12	22	110
G8D62160	R8.0	16.0	16	30	140
G8D62200	R10.0	20.0	20	38	160

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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	

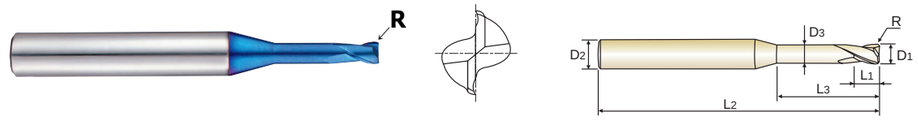
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE CORNER RADIUS — G8A60 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE CORNER RADIUS 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.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.



NG HM | 2 | BLUE | 30° | R ±0.010 (Ø0.5~Ø6) | R ±0.015 (Ø8~Ø12) | PLAIN | P.32

Unit : mm

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
G8A60936	R0.05	0.5	4	0.7	1.5	45	0.45
G8A60932	R0.05	0.5	4	0.7	2.5	45	0.45
G8A60935	R0.05	0.5	4	0.7	4	45	0.45
G8A60931	R0.05	0.6	4	0.9	2	45	0.55
G8A60933	R0.05	0.6	4	0.9	3	45	0.55
G8A60934	R0.05	0.6	4	0.9	4	45	0.55
G8A600060102	R0.1	0.6	4	0.9	2	45	0.55
G8A600070104	R0.1	0.7	4	1	4	45	0.65
G8A600080102	R0.1	0.8	4	1.2	2	45	0.75
G8A60008	R0.1	0.8	4	1.2	4	45	0.75
G8A60924	R0.1	0.8	4	1.2	6	45	0.75
G8A60925	R0.1	1.0	6	1.5	4	50	0.95
G8A60926	R0.1	1.0	6	1.5	6	50	0.95
G8A60010	R0.2	1.0	6	1.5	4	50	0.95
G8A60910	R0.2	1.0	6	1.5	6	50	0.95
G8A60911	R0.2	1.0	6	1.5	8	50	0.95
G8A60912	R0.3	1.0	6	1.5	4	50	0.95
G8A60930	R0.3	1.0	6	1.5	6	50	0.95
G8A600100308	R0.3	1.0	6	1.5	8	50	0.95
G8A60015	R0.2	1.5	6	2.5	4	50	1.45
G8A600150206	R0.2	1.5	6	2.5	6	50	1.45
G8A600150208	R0.2	1.5	6	2.5	8	50	1.45
G8A60913	R0.2	1.5	6	2.5	10	50	1.45
G8A60914	R0.2	1.5	6	2.5	12	50	1.45
G8A60915	R0.3	1.5	6	2.5	4	50	1.45
G8A600150306	R0.3	1.5	6	2.5	6	50	1.45
G8A600150308	R0.3	1.5	6	2.5	8	50	1.45
G8A60927	R0.2	2.0	6	3	6	50	1.95
G8A600200208	R0.2	2.0	6	3	8	50	1.95

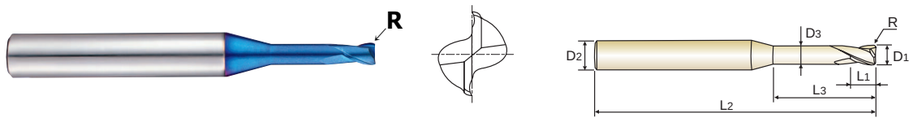
Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE CORNER RADIUS 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.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG HM | 2 | BLUE | 30° | R ±0.010 Ø0.5~Ø6 | R ±0.015 Ø8~Ø12 | PLAIN | P.32

Unit : mm

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
G8A600200210	R0.2	2.0	6	3	10	55	1.95
G8A600200212	R0.2	2.0	6	3	12	55	1.95
G8A60916	R0.3	2.0	6	3	6	50	1.95
G8A600200308	R0.3	2.0	6	3	8	50	1.95
G8A600200310	R0.3	2.0	6	3	10	55	1.95
G8A600200312	R0.3	2.0	6	3	12	55	1.95
G8A600200316	R0.3	2.0	6	3	16	55	1.95
G8A60917	R0.5	2.0	6	3	6	50	1.95
G8A60020	R0.5	2.0	6	3	10	55	1.95
G8A60918	R0.5	2.0	6	3	12	55	1.95
G8A600300208	R0.2	3.0	6	4	8	55	2.85
G8A600300210	R0.2	3.0	6	4	10	55	2.85
G8A600300212	R0.2	3.0	6	4	12	55	2.85
G8A600300216	R0.2	3.0	6	4	16	55	2.85
G8A600300308	R0.3	3.0	6	4	8	55	2.85
G8A60919	R0.3	3.0	6	4	10	55	2.85
G8A600300312	R0.3	3.0	6	4	12	55	2.85
G8A600300316	R0.3	3.0	6	4	16	55	2.85
G8A60030	R0.5	3.0	6	4	10	55	2.85
G8A600300512	R0.5	3.0	6	4	12	55	2.85
G8A60901	R0.5	3.0	6	4	16	55	2.85
G8A60902	R0.5	3.0	6	4	20	55	2.85
G8A600400212	R0.2	4.0	6	5	12	55	3.85
G8A600400216	R0.2	4.0	6	5	16	55	3.85
G8A600400220	R0.2	4.0	6	5	20	55	3.85
G8A600400310	R0.3	4.0	6	5	10	55	3.85
G8A60920	R0.3	4.0	6	5	12	55	3.85
G8A600400316	R0.3	4.0	6	5	16	55	3.85
G8A600400320	R0.3	4.0	6	5	20	55	3.85

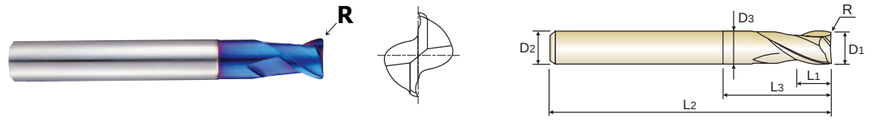
Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE CORNER RADIUS 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.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



NG HM | 2 | BLUE | 30° | R ±0.010 Ø0.5~Ø6 | R ±0.015 Ø8~Ø12 | PLAIN | P.32

Unit : mm

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
G8A60040	R0.5	4.0	6	5	12	55	3.85
G8A60903	R0.5	4.0	6	5	16	55	3.85
G8A60904	R0.5	4.0	6	5	20	55	3.85
G8A600401012	R1.0	4.0	6	5	12	55	3.85
G8A600401016	R1.0	4.0	6	5	16	55	3.85
G8A60921	R0.3	6.0	6	7	20	60	5.85
G8A60060	R0.5	6.0	6	7	20	60	5.85
G8A60905	R1.0	6.0	6	7	20	60	5.85
G8A60906	R1.5	6.0	6	7	20	60	5.85
G8A600602020	R2.0	6.0	6	7	20	60	5.85
G8A60922	R0.3	8.0	8	9	25	60	7.7
G8A60929	R0.5	8.0	8	9	25	60	7.7
G8A60080	R1.0	8.0	8	9	25	60	7.7
G8A60907	R1.5	8.0	8	9	25	60	7.7
G8A600802025	R2.0	8.0	8	9	25	60	7.7
G8A60923	R0.3	10.0	10	11	32	70	9.7
G8A601000532	R0.5	10.0	10	11	32	70	9.7
G8A60100	R1.0	10.0	10	11	32	70	9.7
G8A60908	R1.5	10.0	10	11	32	70	9.7
G8A601002032	R2.0	10.0	10	11	32	70	9.7
G8A601200538	R0.5	12.0	12	12	38	80	11.7
G8A60120	R1.0	12.0	12	12	38	80	11.7
G8A60909	R1.5	12.0	12	12	38	80	11.7
G8A601202038	R2.0	12.0	12	12	38	80	11.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

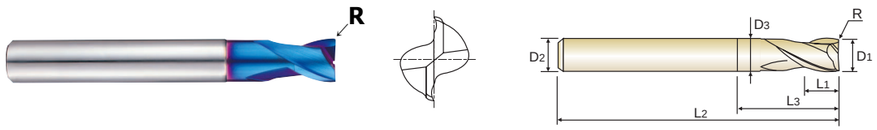
Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~−0.012	h6
over Ø6	±0.015	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE STUB LENGTH 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 HM | 2 | BLUE | 30° | R ±0.010 Ø0.3~Ø6 | R ±0.015 Ø8~Ø20 | PLAIN

P.35

Unit : mm

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
G8A36003	-	0.3	3	0.45	-	40	-
G8A36004	-	0.4	3	0.6	-	40	-
G8A36005	R0.05	0.5	3	0.7	-	40	-
G8A36907	R0.05	0.5	4	1	-	40	-
G8A36006	R0.05	0.6	3	0.9	-	40	-
G8A36908	R0.05	0.6	4	1.2	-	40	-
G8A36909	R0.05	0.7	4	1.4	-	40	-
G8A36008	R0.05	0.8	3	1.2	-	40	-
G8A36910	R0.05	0.8	4	1.6	-	40	-
G8A36911	R0.05	0.9	4	2	-	40	-
G8A36010	R0.1	1.0	3	1.5	-	40	-
G8A36901	R0.1	1.0	4	1.5	-	40	-
G8A36903	R0.1	1.0	6	1.5	-	40	-
G8A36015	R0.1	1.5	3	2.2	-	40	-
G8A36904	R0.1	1.5	6	2.2	-	40	-
G8A36020	R0.1	2.0	3	3	6	40	1.95
G8A36902	R0.1	2.0	4	3	6	40	1.95
G8A36905	R0.1	2.0	6	3	6	40	1.95
G8A36025	R0.1	2.5	3	4	6	40	2.4
G8A36906	R0.1	2.5	6	4	6	40	2.4
G8A36030	R0.1	3.0	6	4	7	45	2.85
G8A36035	R0.1	3.5	6	5	9	45	3.35
G8A36040	R0.1	4.0	6	5	9	45	3.85
G8A36045	R0.1	4.5	6	6	10	45	4.35
G8A36050	R0.2	5.0	6	6	11	50	4.85
G8A36060	R0.2	6.0	6	7	14	50	5.85
G8A36080	R0.2	8.0	8	9	18	60	7.7
G8A36100	R0.2	10.0	10	12	25	75	9.7
G8A36120	R0.3	12.0	12	15	30	75	11.7
G8A36160	R0.3	16.0	16	18	38	90	15.7
G8A36200	R0.3	20.0	20	24	45	100	19.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

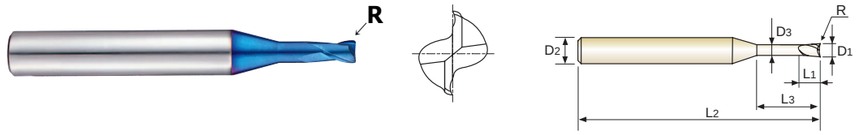
Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~−0.012	h6
over Ø6	±0.015	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE CORNER RADIUS 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.
- Deep slotting is possible by reduced neck.
- Corner radius for preventing the chipping in high speed machining.
- Higher wear-resistance.



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

P.33

Unit : mm

EDP No.	Corner Radius R (±0.010)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A52005	R0.05	0.5	6	0.7	1.5	50	0.45
G8A52901	R0.05	0.5	6	0.7	3.3	50	0.45
G8A52006	R0.05	0.6	6	0.9	2	50	0.55
G8A52902	R0.05	0.6	6	0.9	4	50	0.55
G8A52008	R0.05	0.8	6	1.2	2.5	50	0.75
G8A52903	R0.05	0.8	6	1.2	5.5	50	0.75
G8A52010	R0.1	1.0	6	1.5	3.3	50	0.95
G8A52904	R0.1	1.0	6	1.5	6.7	50	0.95
G8A52012	R0.1	1.2	6	1.8	4.4	50	1.15
G8A52905	R0.1	1.2	6	1.8	8	50	1.15
G8A52015	R0.15	1.5	6	2.2	5	50	1.45
G8A52906	R0.15	1.5	6	2.2	9.7	50	1.45
G8A52020	R0.15	2.0	6	2.2	6	50	1.95
G8A52907	R0.15	2.0	6	2.2	13	50	1.95

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

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 HM | 2 | BLUE | 30° | R ±0.010 | PLAIN P.33

Unit : mm

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

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn't effect on performance of tool.

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

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

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 HM | 4 | BLUE | 30° | R ±0.010 Ø3~Ø6 | R ±0.015 Ø8~Ø12 | PLAIN P.34

Unit : mm

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
G8A47916	R0.3	3.0	6	4	12	55	2.85
G8A47917	R0.3	3.0	6	4	16	55	2.85
G8A47918	R0.3	3.0	6	4	20	55	2.85
G8A47030	R0.5	3.0	6	4	10	55	2.85
G8A47901	R0.5	3.0	6	4	16	55	2.85
G8A47902	R0.5	3.0	6	4	20	55	2.85
G8A47919	R0.3	4.0	6	5	12	55	3.85
G8A47920	R0.3	4.0	6	5	16	55	3.85
G8A47921	R0.3	4.0	6	5	20	55	3.85
G8A47040	R0.5	4.0	6	5	12	55	3.85
G8A47903	R0.5	4.0	6	5	16	55	3.85
G8A47904	R0.5	4.0	6	5	20	55	3.85
G8A47922	R1.0	4.0	6	5	12	55	3.85
G8A47060	R0.5	6.0	6	7	20	60	5.85
G8A47905	R1.0	6.0	6	7	20	60	5.85
G8A47906	R1.5	6.0	6	7	20	60	5.85
G8A47910	R0.5	8.0	8	9	25	60	7.7
G8A47080	R1.0	8.0	8	9	25	60	7.7
G8A47907	R1.5	8.0	8	9	25	60	7.7
G8A47913	R2.0	8.0	8	9	25	60	7.7
G8A47911	R0.5	10.0	10	11	32	70	9.7
G8A47100	R1.0	10.0	10	11	32	70	9.7
G8A47908	R1.5	10.0	10	11	32	70	9.7
G8A47914	R2.0	10.0	10	11	32	70	9.7
G8A47912	R0.5	12.0	12	12	38	80	11.7
G8A47120	R1.0	12.0	12	12	38	80	11.7
G8A47909	R1.5	12.0	12	12	38	80	11.7
G8A47915	R2.0	12.0	12	12	38	80	11.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn't effect on performance of tool.

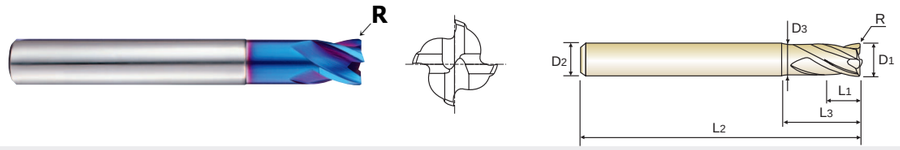
Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~−0.012	h6
over Ø6	±0.015	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 4 FLUTE STUB LENGTH 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 HM | 4 | BLUE | 30° | R ±0.010 Ø1~Ø6 | R ±0.015 Ø8~Ø20 | PLAIN | P.36

Unit : mm

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
G8A37010	R0.1	1.0	3	1.5	-	40	-
G8A37901	R0.1	1.0	6	1.5	-	40	-
G8A37015	R0.1	1.5	3	2.2	-	40	-
G8A37902	R0.1	1.5	6	2.2	-	40	-
G8A37020	R0.1	2.0	3	3	6	40	1.95
G8A37903	R0.1	2.0	6	3	6	40	1.95
G8A37025	R0.1	2.5	3	4	6	40	2.4
G8A37904	R0.1	2.5	6	4	6	40	2.4
G8A37030	R0.1	3.0	6	4	7	45	2.85
G8A37035	R0.1	3.5	6	5	9	45	3.35
G8A37040	R0.1	4.0	6	5	9	45	3.85
G8A37045	R0.1	4.5	6	6	10	45	4.35
G8A37050	R0.2	5.0	6	6	11	50	4.85
G8A37060	R0.2	6.0	6	7	14	50	5.85
G8A37080	R0.2	8.0	8	9	18	60	7.7
G8A37100	R0.2	10.0	10	12	25	75	9.7
G8A37120	R0.3	12.0	12	15	30	75	11.7
G8A37160	R0.3	16.0	16	18	38	90	15.7
G8A37200	R0.3	20.0	20	24	45	100	19.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

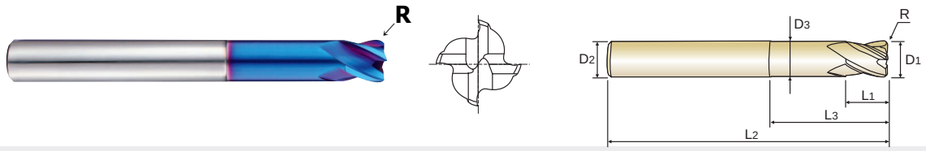
Size	Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	±0.010	0~−0.012	h6
over Ø6	±0.015	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

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 HM | 4 | BLUE | 30° | R ±0.010 Ø6 | R ±0.015 Ø8~Ø12 | PLAIN | P.34

Unit : mm

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
G8B0806005090	R0.5	6.0	6	9	20	90	5.85
G8B0806010090	R1.0	6.0	6	9	20	90	5.85
G8B0808005100	R0.5	8.0	8	12	25	100	7.7
G8B0808010100	R1.0	8.0	8	12	25	100	7.7
G8B0810005100	R0.5	10.0	10	15	32	100	9.7
G8B0810010100	R1.0	10.0	10	15	32	100	9.7
G8B0810020100	R2.0	10.0	10	15	32	100	9.7
G8B0812005110	R0.5	12.0	12	18	38	110	11.7
G8B0812010110	R1.0	12.0	12	18	38	110	11.7
G8B0812020110	R2.0	12.0	12	18	38	110	11.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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

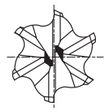
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

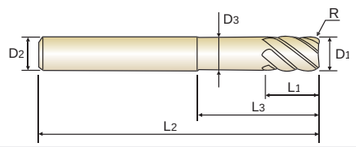
X5070 CARBIDE CORNER RADIUS — G8A39 SERIES

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 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 HM | 6 | BLUE | 45° | R ±0.010 Ø6 | R ±0.015 Ø8~Ø20 | PLAIN

P.36

Unit : mm

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
G8A39916	R0.25	**6.0**	6	6	14	50	5.85
G8A39060	R0.5	**6.0**	6	6	14	50	5.85
G8A39901	R0.5	**6.0**	6	13	-	70	-
G8A39910	R0.5	**6.0**	* 6	26	-	70	-
G8A39080	R0.5	**8.0**	8	8	24	60	7.7
G8A39902	R0.5	**8.0**	8	19	-	90	-
G8A39911	R0.5	**8.0**	* 8	36	-	90	-
G8A39903	R0.5	**10.0**	10	22	-	100	-
G8A39100	R1.0	**10.0**	10	10	30	70	9.7
G8A39904	R1.0	**10.0**	10	22	-	100	-
G8A39912	R1.0	**10.0**	* 10	46	-	100	-
G8A39905	R0.5	**12.0**	12	26	-	110	-
G8A39120	R1.0	**12.0**	12	12	30	75	11.7
G8A39906	R1.0	**12.0**	12	26	-	110	-
G8A39913	R1.0	**12.0**	* 12	56	-	110	-
G8A39160	R1.0	**16.0**	16	32	-	130	-
G8A39907	R1.5	**16.0**	16	32	-	130	-
G8A39914	R1.5	**16.0**	* 16	66	-	130	-
G8A39200	R1.0	**20.0**	20	38	-	140	-
G8A39908	R1.5	**20.0**	20	38	-	140	-
G8A39909	R2.0	**20.0**	20	38	-	140	-
G8A39915	R2.0	**20.0**	* 20	76	-	140	-

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

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

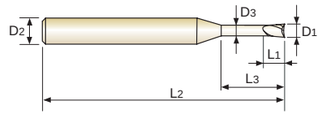
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE SQUARE — G8A45 SERIES

PLAIN SHANK

CARBIDE, 2 FLUTE 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 HM | 2 | BLUE | 30° | PLAIN

P.34

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45863	**0.1**	4	0.15	0.3	45	0.085
G8A45864	**0.1**	4	0.15	0.5	45	0.085
G8A45002	**0.2**	4	0.3	0.5	45	0.17
G8A45815	**0.2**	4	0.3	1	45	0.17
G8A45816	**0.2**	4	0.3	1.5	45	0.17
G8A45003	**0.3**	4	0.45	1	45	0.27
G8A45844	**0.3**	4	0.45	1.5	45	0.27
G8A45817	**0.3**	4	0.45	2	45	0.27
G8A45818	**0.3**	4	0.45	3	45	0.27
G8A45842	**0.3**	4	0.45	4	45	0.27
G8A45843	**0.4**	4	0.6	1	45	0.37
G8A45004	**0.4**	4	0.6	2	45	0.37
G8A45984	**0.4**	4	0.6	3	45	0.37
G8A45985	**0.4**	4	0.6	4	45	0.37
G8A45986	**0.4**	4	0.6	5	45	0.37
G8A45005	**0.5**	4	0.7	2	45	0.45
G8A45861	**0.5**	4	0.7	2.5	45	0.45
G8A45988	**0.5**	4	0.7	4	45	0.45
G8A45989	**0.5**	4	0.7	6	45	0.45
G8A45990	**0.5**	4	0.7	8	45	0.45
G8A45006	**0.6**	4	0.9	2	45	0.55
G8A45860	**0.6**	4	0.9	3	45	0.55
G8A45991	**0.6**	4	0.9	4	45	0.55
G8A45992	**0.6**	4	0.9	6	45	0.55
G8A45993	**0.6**	4	0.9	8	45	0.55
G8A45819	**0.6**	4	0.9	10	45	0.55
G8A45862	**0.8**	4	1.2	2	45	0.75
G8A45008	**0.8**	4	1.2	4	45	0.75
G8A45908	**0.8**	4	1.2	6	45	0.75

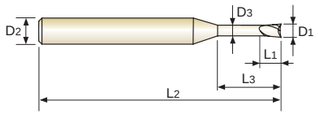
Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE 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 HM | 2 | BLUE | 30° | PLAIN

P.34

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45909	0.8	4	1.2	8	45	0.75
G8A45994	0.8	4	1.2	10	45	0.75
G8A45995	0.8	4	1.2	12	45	0.75
G8A45996	1.0	4	1.5	4	45	0.95
G8A45010	1.0	4	1.5	6	45	0.95
G8A45912	1.0	4	1.5	8	45	0.95
G8A45913	1.0	4	1.5	10	45	0.95
G8A45914	1.0	4	1.5	12	45	0.95
G8A45997	1.0	4	1.5	16	50	0.95
G8A45998	1.0	4	1.5	20	55	0.95
G8A45012	1.2	4	1.8	6	45	1.15
G8A45915	1.2	4	1.8	8	45	1.15
G8A45916	1.2	4	1.8	10	45	1.15
G8A45917	1.2	4	1.8	12	45	1.15
G8A45999	1.2	4	1.8	16	50	1.15
G8A45015	1.5	4	2.3	6	45	1.45
G8A45923	1.5	4	2.3	8	45	1.45
G8A45924	1.5	4	2.3	10	45	1.45
G8A45925	1.5	4	2.3	12	45	1.45
G8A45926	1.5	4	2.3	14	50	1.45
G8A45927	1.5	4	2.3	16	50	1.45
G8A45928	1.5	4	2.3	18	55	1.45
G8A45810	1.5	4	2.3	20	55	1.45
G8A45958	2.0	4	3.0	6	45	1.95
G8A45020	2.0	4	3.0	8	45	1.95
G8A45959	2.0	4	3.0	10	45	1.95
G8A45960	2.0	4	3.0	12	45	1.95
G8A45961	2.0	4	3.0	14	50	1.95
G8A45962	2.0	4	3.0	16	50	1.95

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

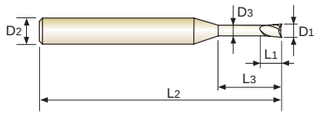
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

X5070 CARBIDE SQUARE
G8A45 SERIES
PLAIN SHANK

CARBIDE, 2 FLUTE 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 HM | 2 | BLUE | 30° | PLAIN

P.34

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45963	2.0	4	3.0	18	55	1.95
G8A45964	2.0	4	3.0	20	55	1.95
G8A45966	2.0	4	3.0	25	60	1.95
G8A45814	2.0	4	3.0	30	70	1.95
G8A45975	3.0	6	4.5	10	45	2.85
G8A45976	3.0	6	4.5	12	45	2.85
G8A45977	3.0	6	4.5	14	50	2.85
G8A45978	3.0	6	4.5	16	55	2.85
G8A45979	3.0	6	4.5	18	55	2.85
G8A45980	3.0	6	4.5	20	60	2.85
G8A45981	3.0	6	4.5	25	65	2.85
G8A45832	3.0	6	4.5	30	70	2.85
G8A45833	3.0	6	4.5	35	80	2.85
G8A45983	3.0	6	4.5	40	90	2.85
G8A45040	4.0	6	6	12	50	3.85
G8A45801	4.0	6	6	16	60	3.85
G8A45802	4.0	6	6	20	60	3.85
G8A45803	4.0	6	6	25	70	3.85
G8A45834	4.0	6	6	30	70	3.85
G8A45835	4.0	6	6	35	80	3.85
G8A45836	4.0	6	6	40	90	3.85
G8A45837	4.0	6	6	45	90	3.85
G8A45838	4.0	6	6	50	100	3.85

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

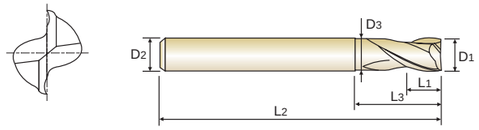
Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE 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.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG HM | 2 | BLUE | 30° | PLAIN P.35

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A01001	0.1	4	0.2	-	40	-
G8A01002	0.2	4	0.4	-	40	-
G8A01003	0.3	4	0.6	-	40	-
G8A01004	0.4	4	0.8	-	40	-
G8A01005	0.5	4	1	-	40	-
G8A01006	0.6	4	1.2	-	40	-
G8A01007	0.7	4	1.4	-	40	-
G8A01008	0.8	4	1.6	-	40	-
G8A01009	0.9	4	2	-	40	-
G8A01010	1.0	6	1.5	3	50	0.95
G8A01015	1.5	6	1.7	4	50	1.45
G8A01020	2.0	6	2	5	50	1.95
G8A01025	2.5	6	2.5	6	55	2.4
G8A01030	3.0	6	3	8	55	2.85
G8A01035	3.5	6	3.5	9	55	3.35
G8A01040	4.0	6	4	10	55	3.85
G8A01050	5.0	6	5	13	55	4.85
G8A01060	6.0	6	6	15	55	5.85
G8A01080	8.0	8	8	20	65	7.7
G8A01100	10.0	10	10	25	75	9.7
G8A01120	12.0	12	12	28	85	11.7
G8A01160	16.0	16	16	32	90	15.7
G8A01200	20.0	20	20	40	105	19.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

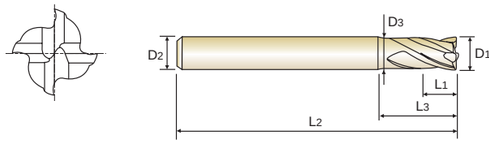
Size	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	0~−0.012	h6
over Ø6	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 4 FLUTE 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.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG HM | 4 | BLUE | 30° | PLAIN P.36

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A02010	1.0	6	1.5	3	50	0.95
G8A02020	2.0	6	2	5	50	1.95
G8A02030	3.0	6	3	8	55	2.85
G8A02040	4.0	6	4	10	55	3.85
G8A02050	5.0	6	5	13	55	4.85
G8A02060	6.0	6	6	15	55	5.85
G8A02080	8.0	8	8	20	65	7.7
G8A02100	10.0	10	10	25	75	9.7
G8A02120	12.0	12	12	28	85	11.7
G8A02160	16.0	16	16	32	90	15.7
G8A02200	20.0	20	20	40	105	19.7

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

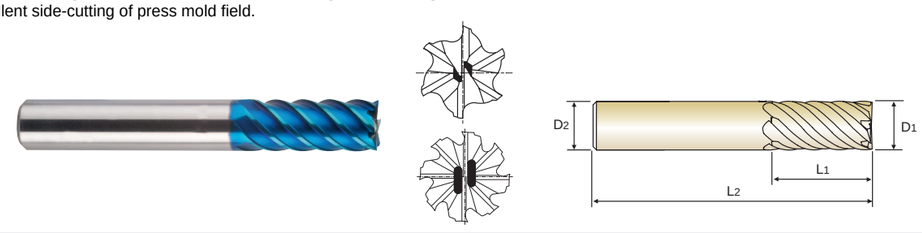
Size	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to Ø6	0~−0.012	h6
over Ø6	0~−0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.



NG HM | 6&8 | BLUE | 45° | PLAIN

P.37

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2	No. of Flute
G8D63060	6.0	6	13	57	6
G8D63080	8.0	8	19	63	6
G8D63100	10.0	10	22	72	6
G8D63120	12.0	12	26	83	6
G8D63140	14.0	14	26	83	6
G8D63160	16.0	16	32	92	6
G8D63180	18.0	18	32	92	8
G8D63200	20.0	20	38	104	8
G8D63250	25.0	25	44	104	8

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

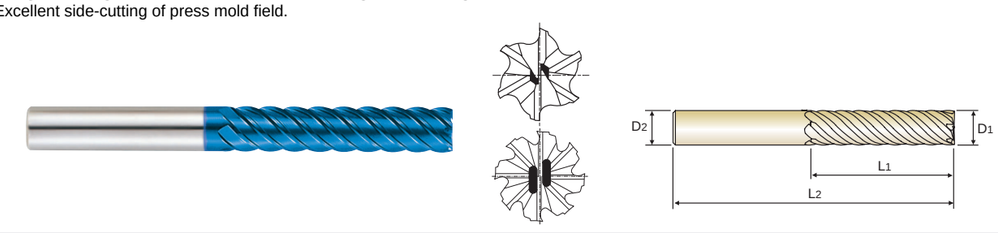
Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.02	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 6&8 FLUTE 45° HELIX EXTRA LONG LENGTH

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.



NG HM | 6&8 | BLUE | 45° | PLAIN

P.37

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2	No. of Flute
G8D64060	6.0	6	26	70	6
G8D64080	8.0	8	36	90	6
G8D64100	10.0	10	46	100	6
G8D64120	12.0	12	56	110	6
G8D64160	16.0	16	66	130	6
G8D64200	20.0	20	76	140	8
G8D64250	25.0	25	92	180	8

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover. However, it doesn' t effect on performance of tool.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.03	h6

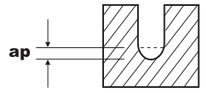
◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
		○	○	◎	◎							

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

G8A46, G8A54 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS						COPPER		
HARDNESS	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 65					
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)
R0.1 x 0.2	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 x 0.3	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 x 0.4	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 x 0.5	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 x 0.6	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 x 0.8	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 x 1.0	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 x 1.2	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 x 1.5	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
R1.0 x 2.0	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 x 3.0	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
R2.0 x 4.0	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

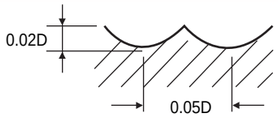


RPM = rev./min.
FEED = mm/min.

CARBIDE, 3 FLUTE BALL NOSE

G8A59 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
HARDNESS	HRc 30 ~ HRc 45		HRc 45 ~ 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
R1.5 x 3.0	32000	8600	26840	5800	19840	4280	18680	4040	12780	2760
R2.0 x 4.0	24080	7700	20130	5430	14880	3880	14220	3650	9580	2500
R2.5 x 5.0	20000	7250	16780	5430	12400	3690	11670	3470	8000	2370
R3.0 x 6.0	18000	8570	15200	6220	12200	4500	11100	3830	7590	2460
R4.0 x 8.0	13500	7350	11300	5250	9200	3980	8320	3350	5690	2130
R5.0 x 10.0	10800	6530	9100	4590	7350	3450	6660	2870	4550	1960
R6.0 x 12.0	9050	6100	7590	4260	6130	3190	5530	2400	3800	1640
R8.0 x 16.0	6700	4600	5690	3250	4600	2480	4160	1800	2850	1230
R10.0 x 20.0	5400	3600	4550	2620	3670	1980	3300	1440	2280	980



RPM = rev./min.
FEED = mm/min.

CARBIDE, 3 FLUTE BALL NOSE

G8A28, G8A38, G8A53 SERIES

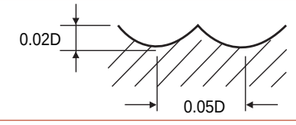
MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R0.1 x 0.2	50000	1200	50000	1050	45000	960	40000	770	35000	674	31500	570
R0.15 x 0.3	50000	1500	50000	1350	45000	1200	40000	965	35000	840	31500	700
R0.2 x 0.4	50000	1900	50000	1700	45000	1500	40000	1200	35000	1050	31500	890
R0.25 x 0.5	50000	2400	50000	2100	45000	1900	40000	1500	35000	1300	31500	1100
R0.3 x 0.6	50000	2900	50000	2500	45000	2200	40000	1800	35000	1600	31500	1400
R0.4 x 0.8	50000	3900	50000	3300	45000	3000	40000	2400	35000	2100	31500	1800
R0.5 x 1.0	50000	4800	50000	4200	45000	3800	40000	3000	35000	2600	35000	2300
R0.6 x 1.2	50000	5100	48000	4300	43000	3850	38000	3000	34000	2700	30600	2300
R0.75 x 1.5	50000	5400	48000	4500	43000	4000	37000	3100	33000	2700	29700	2300
R1.0 x 2.0	49700	5700	47800	4800	40000	4000	35000	3150	32000	2800	28500	2300
R1.5 x 3.0	33100	6000	31800	5300	26500	4000	23500	3150	21000	2800	19000	2300
R2.0 x 4.0	24900	6000	23900	5300	20000	4000	17500	3150	16000	2800	14500	2300
R2.5 x 5.0	18600	5800	17800	4900	15000	3750	13500	3050	11500	2550	10500	2100
R3.0 x 6.0	13900	4850	13400	4100	11000	3100	10000	2500	8800	2150	8000	1750
R4.0 x 8.0	11100	4200	10700	3500	9000	2700	8000	2150	7000	1850	6500	1550
R5.0 x 10.0	9300	3700	8900	3100	7500	2400	6600	1900	5800	1650	5300	1380
R6.0 x 12.0	6950	2950	6680	2500	5600	1900	5000	1550	4400	1250	4000	1050
R8.0 x 16.0	5570	2650	5350	2200	4500	1700	4000	1350	3500	1000	3200	850
R10.0 x 20.0	4450	2350	4300	1950	3600	1500	3200	1200	2800	800	2550	660

RPM = rev./min.
FEED = mm/min.

CARBIDE, 4 FLUTE BALL NOSE

G8D62 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
HARDNESS	HRc 30 ~ HRc 45		HRc 45 ~ 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
R1.5 x 3.0	36100	10200	30250	7300	24440	4880	22280	4010	15170	2430
R2.0 x 4.0	27050	8700	22650	6350	18300	4400	16710	3680	11380	2280
R2.5 x 5.0	21600	7800	17820	5750	14650	4150	13370	3590	9100	2260
R3.0 x 6.0	18040	7320	15180	5560	12210	4020	11110	3410	7590	2200
R4.0 x 8.0	13530	6270	11330	4680	9190	3520	8310	2970	5670	1870
R5.0 x 10.0	10840	5560	9130	4070	7370	3080	6660	2530	4570	1760
R6.0 x 12.0	9020	5230	7590	3800	6110	2810	5560	2150	3800	1430
R8.0 x 16.0	6770	3910	5670	2920	4620	2200	4180	1600	2860	1100
R10.0 x 20.0	5450	3140	4570	2310	3690	1760	3300	1270	2260	880

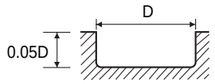


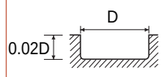
RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING - SLOTTING

G8A60 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
0.5	50000	295	45000	225	40000	175	33000	110	25000	65	20000	40
0.6	50000	375	45000	285	40000	225	30000	125	25000	85	20000	50
0.8	50000	480	45000	350	30000	235	25000	145	19000	90	16000	55
1.0	48000	600	38000	456	25500	288	20500	172	16000	108	12500	70
2.0	33300	680	26000	544	17500	336	14500	208	11000	128	9500	92
3.0	21800	680	17300	544	11500	336	9500	208	7500	128	6400	92
4.0	16700	704	13200	560	8800	352	7200	216	5600	136	4750	94
5.0	15700	800	12500	644	8300	400	6400	228	5100	144	4450	106
6.0	13100	760	10350	616	6900	384	5300	224	4200	144	3700	104
8.0	9880	744	7800	576	5200	356	4000	204	3200	132	2800	96
10.0	7800	680	6150	544	4100	332	3200	192	2550	124	2200	90
12.0	6650	680	5250	544	3500	332	2650	192	2100	124	1860	90



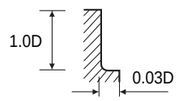


RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING - SIDE CUTTING

G8A60 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
0.5	50000	205	45000	160	40000	125	33000	80	25000	45	20000	30
0.6	50000	265	45000	200	40000	160	30000	90	25000	60	20000	35
0.8	50000	335	40000	245	30000	165	25000	100	19000	65	16000	40
1.0	48000	840	38000	656	25500	408	20500	248	16000	152	12500	100
2.0	33300	960	26000	776	17500	480	14500	296	11000	184	9500	132
3.0	21800	960	17300	776	11500	480	9500	296	7500	184	6400	132
4.0	16700	1000	13200	800	8800	500	7200	308	5600	192	4750	136
5.0	15700	1160	12500	920	8300	568	6400	328	5100	208	4450	152
6.0	13100	1080	10350	880	6900	552	5300	320	4200	204	3700	148
8.0	9880	1056	7800	824	5200	508	4000	292	3200	188	2800	136
10.0	7800	960	6150	776	4100	472	3200	272	2550	176	2200	128
12.0	6650	960	5250	776	3500	472	2650	272	2100	176	1860	128

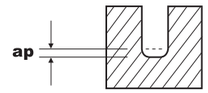


RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING

G8A52 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS					
HARDNESS	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 60		
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (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

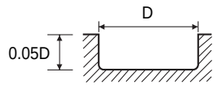


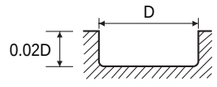
RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS - SLOTTING

G8A50 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
DIAMETER	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



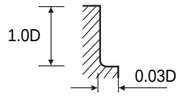


RPM = rev./min.
FEED = mm/min.

CARBIDE, 4 FLUTE CORNER RADIUS

G8A47, G8B08 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
1.0	48000	1184	38000	840	25500	568	20500	344	16000	216	12500	140
2.0	33300	1400	26000	1000	17500	672	14500	416	11000	256	9500	184
3.0	21800	1400	17300	1000	11500	672	9500	416	7500	256	6400	184
4.0	16700	1440	13200	1040	8800	704	7200	432	5600	268	4750	192
5.0	15700	1600	12500	1200	8300	800	6400	464	5100	296	4450	216
6.0	13100	1560	10350	1120	6900	760	5300	448	4200	280	3700	208
8.0	9880	1504	7800	1080	5200	720	4000	416	3200	264	2800	192
10.0	7800	1400	6150	1008	4100	672	3200	384	2550	248	2200	176
12.0	6650	1400	5250	1008	3500	672	2650	384	2100	240	1860	176
16.0	4900	1200	3900	880	2600	584	2000	336	1600	216	1400	160
20.0	3900	1040	3100	776	2050	520	1600	304	1300	200	1100	144

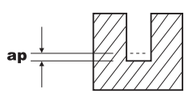


RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE for RIB PROCESSING

G8A45 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS						COPPER		
HARDNESS	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 65					
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)
0.2	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
0.3	43000~50000	330~420	0.006~0.015	39900~46200	265~310	0.004~0.011	23900~32300	105~185	0.003~0.007	48000~50000	550~640	0.010~0.025
0.4	31400~50000	350~590	0.005~0.028	30500~35200	295~340	0.003~0.020	18300~24600	120~200	0.002~0.012	48000~50000	790~920	0.008~0.048
0.5	25650~33000	370~470	0.006~0.035	23750~26000	285~315	0.004~0.025	14200~18000	115~130	0.003~0.015	44000~50000	800~1150	0.010~0.060
0.6	20900~35200	330~560	0.007~0.030	19900~22000	260~290	0.005~0.021	11900~15500	100~120	0.003~0.013	37500~50000	770~1250	0.011~0.051
0.8	16150~26400	360~590	0.009~0.040	15200~16700	280~310	0.006~0.028	9000~11700	110~125	0.004~0.017	28500~47000	770~1300	0.015~0.068
1.0	12300~18700	350~540	0.011~0.028	10500~11500	250~280	0.008~0.020	6300~8050	100~115	0.005~0.012	22500~34000	810~1300	0.018~0.048
1.2	10450~17600	350~590	0.025~0.070	9100~10000	250~280	0.015~0.042	5400~7000	100~115	0.009~0.026	22500~31500	950~1350	0.036~0.101
1.5	9100~17600	430~830	0.017~0.077	7000~8000	250~280	0.012~0.055	4300~5500	100~115	0.007~0.033	14500~25000	770~1320	0.028~0.132
2.0	6350~10550	340~570	0.021~0.140	6100~6700	270~300	0.015~0100	3600~4700	100~120	0.009~0.060	11500~18500	770~1250	0.036~0.240
3.0	4300~7050	550~900	0.056~0.210	3990~4600	445~515	0.040~0.150	2400~3200	105~310	0.024~0.090	9000~13000	1400~2110	0.096~0.360
4.0	3200~5300	400~675	0.074~0.280	3000~3400	335~380	0.053~0.200	1800~2400	75~230	0.032~0.120	6750~9750	1050~1575	0.128~0.480

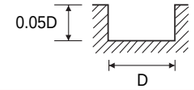


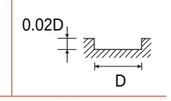
RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE - SLOTTING

G8A01, G8A36 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
1.0	48000	750	38000	570	25500	360	20500	215	16000	135	12500	85
2.0	33300	850	26000	680	17500	420	14500	260	11000	160	9500	115
3.0	21800	850	17300	680	11500	420	9500	260	7500	160	6400	115
4.0	16700	880	13200	700	8800	440	7200	270	5600	170	4750	118
5.0	15700	1000	12500	805	8300	500	6400	285	5100	180	4450	132
6.0	13100	950	10350	770	6900	480	5300	280	4200	180	3700	130
8.0	9880	930	7800	720	5200	445	4000	255	3200	165	2800	120
10.0	7800	850	6150	680	4100	415	3200	240	2550	155	2200	112
12.0	6650	850	5250	680	3500	415	2650	240	2100	155	1860	112
16.0	4900	730	3900	580	2600	365	2000	210	1600	135	1400	95
20.0	3900	660	3100	525	2050	335	1600	195	1300	125	1100	85



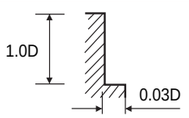


RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE - SIDE CUTTING

G8A01, G8A36 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
1.0	48000	1050	38000	820	25500	510	20500	310	16000	190	12500	125
2.0	33300	1200	26000	970	17500	600	14500	370	11000	230	9500	165
3.0	21800	1200	17300	970	11500	600	9500	370	7500	230	6400	165
4.0	16700	1250	13200	1000	8800	625	7200	385	5600	240	4750	170
5.0	15700	1450	12500	1150	8300	710	6400	410	5100	260	4450	190
6.0	13100	1350	10350	1100	6900	690	5300	400	4200	255	3700	185
8.0	9880	1320	7800	1030	5200	635	4000	365	3200	235	2800	170
10.0	7800	1200	6150	970	4100	590	3200	340	2550	220	2200	160
12.0	6650	1200	5250	970	3500	590	2650	340	2100	220	1860	160
16.0	4900	1050	3900	840	2600	520	2000	300	1600	190	1400	140
20.0	3900	950	3100	750	2050	475	1600	275	1300	175	1100	125

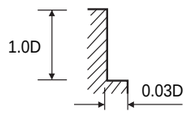


RPM = rev./min.
FEED = mm/min.

CARBIDE, 4 FLUTE - SIDE CUTTING

G8A02, G8A37 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
1.0	48000	1480	38000	1050	25500	710	20500	430	16000	270	12500	175
2.0	33300	1750	26000	1250	17500	840	14500	520	11000	320	9500	230
3.0	21800	1750	17300	1250	11500	840	9500	520	7500	320	6400	230
4.0	16700	1800	13200	1300	8800	880	7200	540	5600	335	4750	240
5.0	15700	2000	12500	1500	8300	1000	6400	580	5100	370	4450	270
6.0	13100	1950	10350	1400	6900	950	5300	560	4200	350	3700	260
8.0	9880	1880	7800	1350	5200	900	4000	520	3200	330	2800	240
10.0	7800	1750	6150	1260	4100	840	3200	480	2550	310	2200	220
12.0	6650	1750	5250	1260	3500	840	2650	480	2100	300	1860	220
16.0	4900	1500	3900	1100	2600	730	2000	420	1600	270	1400	200
20.0	3900	1300	3100	970	2050	650	1600	380	1300	250	1100	180

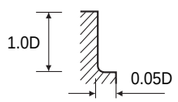


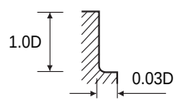
RPM = rev./min.
FEED = mm/min.

CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS

G8A39 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
HARDNESS	HRc 30 ~ HRc 40		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
6.0	24800	5350	23500	4900	16000	4900	13500	3300	10500	2100	8000	1450
8.0	20000	5500	19000	5000	12000	4600	10000	3100	8000	2000	6000	1400
10.0	16000	4900	15500	4500	9500	4100	8000	2900	6400	1800	4800	1300
12.0	13000	4500	12500	4100	8000	3800	6600	2500	5300	1600	4000	1150
16.0	10000	4000	9700	3700	6000	3400	5000	2300	4000	1250	3000	870
20.0	8000	3350	7800	3400	4800	3200	4000	2100	3200	1020	2400	690





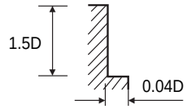
※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = mm/min.

CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH

G8D63 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS					
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 55		HRc 55 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	6360	1500	5040	1045	3840	720	2520	430
8.0	4800	1510	3840	1070	2880	720	1920	430
10.0	3840	1450	3000	995	2280	685	1560	420
12.0	3240	1355	2520	935	1920	650	1320	395
14.0	2730	1320	2180	920	1600	630	1070	325
16.0	2400	1300	1920	910	1440	625	960	370
18.0	2120	1610	1700	1090	1280	750	850	450
20.0	1920	1210	1560	1130	1200	660	720	410
25.0	1560	1370	1200	925	960	670	610	385

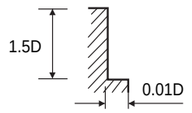


RPM = rev./min.
FEED = mm/min.

CARBIDE, 6&8 FLUTE 45° HELIX EXTRA LONG LENGTH

G8D64 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS			
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 55		HRc 55 ~ HRc 65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED
6.0	3180	770	3180	575	2540	455
8.0	2390	720	2390	575	1910	455
10.0	1910	685	1910	575	1520	455
12.0	1580	660	1580	575	1270	455
14.0	1370	620	1370	540	1090	430
16.0	1190	575	1190	505	960	410
18.0	1070	730	1070	685	850	550
20.0	960	660	960	695	770	560
25.0	770	550	770	490	610	395



RPM = rev./min.
FEED = mm/min.