

## Multi Grooving Tools

Multitude of operations



# MGT

[www.itachile.com](http://www.itachile.com)

Fono: 055 787169

### Features

- Unique W shape strong damping system ensures stability of machining
- M.G.T Insert can be used at Internal operations as well as External operations
- M.G.T Insert's M chip breaker covers a wide range of application from finishing to roughing
- M.G.T has wide application range because a M.G.T Holder can adopt various inserts

MGMN-G

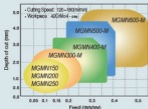
MGMN-M

MRMN-M

MRGN-A



## Application Range of MGMN Inserts



### ● Depth of cut, feed and Width of Cutting edge

- If the depth of cut and feed are too bigger than the width of cutting edge, it may bring to breakage due to increasing of cutting resistance of insert.
- If the depth of cut and feed are too smaller than the width of cutting edge, it may lead to a vibration or unstable machining due to no formation of the sub cutting edge relief angle against no direct influence of tool deflection.

### ● Grooving Depth of cut

- Up to T<sub>1</sub> (projecting part) of holder

## Recommended Grade

Workpiece		Wear resistance (Grooving, Turning)					
ISO	Material	Grade	Wear Resistance → Toughness				
			01	10	20	30	40
P	Carbon steel, Alloy steel	CVD	NC010	NC015	PC0080R	NC300	
		FVD	PC050				
M	Stainless steel	Coated	CT10	CR05			
		CVD	NC000	NC000			
K	Cast iron	CVD				NC010K	
		FVD	PC008K	PC010K			
	Aluminum	Uncoated	H01			G10	

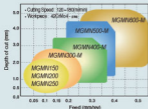
※ 1 : 18 Choice

## M.G.T for External Machining





### Application Range of MGMN Inserts



#### • Depth of cut, feed and Width of Cutting edge

- If the depth of cut and feed are too bigger than the width of cutting edge, it may bring to breakage due to increasing of cutting resistance of insert.
- If the depth of cut and feed are too smaller than the width of cutting edge, it may lead to a vibration or unstable machining due to no formation of the sub cutting edge relief angle against no direct influence of tool deflection.

#### • Grooving Depth of cut

- Up to T<sub>1</sub> (projecting part) of holder

### Recommended Grade






Workpiece		Wear resistance (Grooving, Turning)					
ISO	Material	Grade	Wear Resistance → Toughness				
			01	10	20	30	40
P	Carbon steel	CVD	NC010	NC015	PC0080R	NC020	
	Alloy steel	FVD			PC050		
M	Stainless steel	Coated	CT10			CR05	
		CVD	NC000			NC030	
K	Cast iron	FVD			PC008		
		CVD				NC018K	
K	Aluminum	FVD	PC008K			PC018K	
		Uncoated		HT1			G10

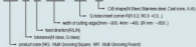
→ 18 Choice

### M.G.T for External Machining



**Tooling Guide**

Holder		Grooving, Turning		Feed, Copy	for Aluminum
		MGR000M MGR000G MGR000DM	MR000M	MR000M	MR000A
External		1.5, 2, 2.5, 3, 4, 5, 6, 8 mm	R1, MR2, 3R, 4R mm		2R, 2.5R, 3R, 4R mm
		MGRRL 300-1.5, 2, 2.5, 3, 4, 5, 6 305-1.5, 2, 2.5, 3, 4, 5, 6, 8 309-3, 4, 5, 6, 8			MGRFRL 300-6A 305-6A, 8A 309-6A, 8A
		1.5, 2, 2.5, 3, 4, 5, 6, 8 mm	1, 1.5R, 2, 3R, 4R mm		
		MGRFL 300-1.5, 2, 2.5, 3, 4, 5, 6 305-1.5, 2, 2.5, 3, 4, 5, 6, 8 309-3, 4, 5, 6, 8			
			1R, 1.5R, 2, 3R, 4R mm		2R, 2.5R, 3R, 4R mm
		MGRFL 300-3, 4, 5, 6 305-3, 4, 5, 6, 8 309-3, 4, 5, 6, 8			MGRFRL 300-6A 305-6A, 8A 309-6A, 8A
Internal		1.5, 2, 2.5, 3, 4, 5, 6, 8 mm	1, 1.5R, 2, 3R, 4R mm		2R, 2.5R, 3R, 4R mm
		MGRIL 309-1.5, 2, 2.5 300-1.5, 2, 2.5, 3, 4 305-1.5, 2, 2.5 309-3, 4, 5, 6 4040			MGRFRL 309-6A 305-6A, 8A 4040-6A, 8A
			1, 1.5R, 2, 3R, 4R mm		2R, 2.5R, 3R, 4R mm
		MGRIL 300-3, 4 405-3, 4, 5, 6, 8 309-3, 4, 5, 6, 8			MGRFRL 405-6A, 8A 309-6A, 8A

**Insert Code System**
**MG M N OOO - OO - M**


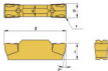
**MGT Insert**
**MGMN-M**

 $\ell = \pm 0.1$      $b = \pm 0.05$   
 $WGSN : \ell = \pm 0.025$      $b = \pm 0.02$ 


Designation	Grades						Dimensions(mm)				
	NC010	NC210	NC300	PC21K	PC300	PC230	b	r	ℓ	d	t
MGMN20-M		●			●		2.0	0.2	16.0	1.2	3.5
MGMN20-M		●			●		2.5	0.2	16.5	2.0	3.85
MGMN30-03-M				○		○	3.0	0.2	21.0	2.35	4.8
MGMN30-M	○	●	●	●	●	●	3.0	0.4	21.0	2.35	4.8
MGMN30-03-M				○		○	3.5	0.3	21.0	2.9	4.8
MGMN40-03-M				○		○	4.0	0.2	21.0	3.3	4.8
MGMN40-M		●	●	●	●	●	4.0	0.4	21.0	3.3	4.8
MGMN50-04-M		○	○	○		○	5.0	0.4	25.0	4.1	5.8
MGMN50-M		●		○	●		5.0	0.6	25.0	4.1	5.8
MGMN60-M		●		○			6.0	0.6	25.0	5.0	5.8
MGMN60-M			●				6.0	0.8	25.0	6.0	6.0
MGMN30-03-M						●	3.0	0.2	21.0	2.35	4.8
MGMN30-04-M						●	3.0	0.4	21.0	2.35	4.8
MGMN30-06-M						○	3.0	0.8	21.0	2.35	4.8
MGMN40-03-M						●	4.0	0.2	21.0	3.3	4.8
MGMN40-04-M						●	4.0	0.4	21.0	3.3	4.8
MGMN40-06-M						○	4.0	0.6	21.0	3.3	4.8
MGMN50-03-M						○	5.0	0.2	25.0	4.1	5.8
MGMN50-04-M						○	5.0	0.4	25.0	4.1	5.8
MGMN50-06-M						○	5.0	0.6	25.0	4.1	5.8
MGMN60-03-M						○	6.0	0.2	25.0	5.0	5.8
MGMN60-04-M						○	6.0	0.4	25.0	5.0	5.8
MGMN60-06-M						○	6.0	0.6	25.0	5.0	5.8

●Stock item, ○Under preparing for stock

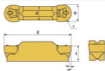
**MGMN-G**

 $\ell = \pm 0.1$   
 $b = \pm 0.05$ 


Designation	Grades				Dimensions(mm)				
	NC210	PC300	PC350	PC21K	b	r	ℓ	d	t
MGMN10-G	●		●		1.5	0.15	16.0	1.2	3.5
MGMN20-G	●	●			2.0	0.2	16.0	1.6	3.5
MGMN25-G	●	●			2.5	0.2	16.5	2.0	3.85
MGMN30-G		○			3.0	0.4	21.0	2.35	4.8
MGMN40-G		○			4.0	0.4	21.0	3.3	4.8
MGMN50-G		○			5.0	0.6	25.0	4.1	5.8
MGMN60-G					6.0	0.6	25.0	5.0	5.8

●Stock item, ○Under preparing for stock

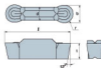
**MGT Insert**
**MRMN-M**

 $E = \pm 0.1$   
 $b = \pm 0.05$ 


Designation	Grooves				Dimensions(mm)				
	NC320	NC300	PC300	PC200	b	r	f	d	l
MF08K200-M	●		○		2.0	1.0	18.0	1.00	3.5
MF08K300-M	●		○	●	3.0	1.5	21.0	2.35	4.8
MF08K400-M	●	●	○	○	4.0	2.0	21.0	3.3	4.8
MF08K500-M	●		○	●	5.0	2.5	26.0	4.1	5.8
MF08K600-M	●	●	○		6.0	3.0	26.0	5.0	5.8
MF08K800-M	●		○		8.0	4.0	31.0	6.0	6.5

●Black Item, ○Under preparing for stock

**MRGN-A**

 $E = \pm 0.03$   
 $b = \pm 0.03$ 


Designation	Grooves		Dimensions(mm)				
	H21	G30	b	r	f	d	l
MF32K00-A	○		4.0	2.0	21.0	3.3	4.8
MF32K00-A	○		5.0	2.5	26.0	4.1	5.8
MF32K00-A	●		6.0	3.0	26.0	5.0	5.8
MF32K00-A	●		8.0	4.0	31.0	6.0	6.5

●Black Item, ○Under preparing for stock

**External Holder**
**MGEHRA**


Designation	Stock		FH	W	L	S	Taux	Insert	Screw	Wrench
	R	L								
MGEHRA.1018-1.5	●	●	10	18	100	16.25	14.5	MGMN150-G	LTX0514	TW60L
MGEHRA.2020-1.5	●	●	20	20	125	20.25	14.5			
MGEHRA.2525-1.5	●	●	25	25	150	25.25	14.5			
MGEHRA.1212-2	●		12	12	100	14.25	14.5	MGMN200-G	MVA312	HW60L
MGEHRA.1018-2	●	●	10	18	100	16.25	14.5			
MGEHRA.2020-2	●	●	20	20	125	20.25	14.5			
MGEHRA.2525-2	●	●	25	25	150	25.25	14.5	MGMN250-G	MVA312	HW60L
MGEHRA.1018-2.5	●	●	10	18	100	16.30	15.5			
MGEHRA.2020-2.5	●	●	20	20	125	20.30	15.5			
MGEHRA.2525-2.5	●	●	25	25	150	25.30	15.5	MGMN300-G	MVA312	HW60L
MGEHRA.1018-3	●	●	10	18	100	16.30	15.5			
MGEHRA.2020-3	●	●	20	20	125	20.4	18			
MGEHRA.2020-3-T18	●	●	20	20	125	20.4	10	MGMN300-M	MGMN300-□-M	MFMN300-M
MGEHRA.2525-3	●	●	25	25	150	25.4	18			
MGEHRA.2525-3-T18	●	●	25	25	150	25.4	10			
MGEHRA.3232-3	●	●	32	32	170	32.4	18	MGMN400-M	MGMN400-□-M	MFMN400-M
MGEHRA.3232-3-T18	●	●	32	32	170	32.4	10			
MGEHRA.2020-4	●	●	20	20	125	20.4	18			
MGEHRA.2020-4-T18	●	●	20	20	125	20.4	10	MGMN400-M	MGMN400-□-M	MFMN400-M
MGEHRA.2525-4	●	●	25	25	150	25.4	18			
MGEHRA.2525-4-T18	●	●	25	25	150	25.4	10			
MGEHRA.3232-4	●	●	32	32	170	32.4	18	MGMN500-M	MGMN500-□-M	MFMN500-M
MGEHRA.3232-4-T18	●	●	32	32	170	32.4	10			
MGEHRA.2020-5	●	●	20	20	150	20.5	23			
MGEHRA.2020-5-T18	●	●	20	20	150	20.5	15	MGMN500-M	MGMN500-□-M	MFMN500-M
MGEHRA.2525-5	●	●	25	25	150	25.5	23			
MGEHRA.2525-5-T18	●	●	25	25	150	25.5	15			
MGEHRA.3232-5	●	●	32	32	170	32.5	23	MGMN600-M	MGMN600-□-M	MFMN600-M
MGEHRA.3232-5-T18	●	●	32	32	170	32.5	15			
MGEHRA.2020-6	●	●	20	20	125	20.6	23			
MGEHRA.2020-6-T18	●	●	20	20	125	20.6	15	MGMN600-M	MGMN600-□-M	MFMN600-M
MGEHRA.2525-6	●	●	25	25	150	25.6	23			
MGEHRA.2525-6-T18	●	●	25	25	150	25.6	15			
MGEHRA.3232-6	●	●	32	32	170	32.6	23	MGMN700-M	MGMN700-□-M	MFMN700-M
MGEHRA.3232-6-T18	●	●	32	32	170	32.6	15			
MGEHRA.2525-8	●	●	25	25	150	26.1	28			
MGEHRA.2525-8-T18	●	●	25	25	150	26.1	15	MFMN800-M	MGMN800-M	
MGEHRA.3232-8	●	●	32	32	170	33.1	28			
MGEHRA.3232-8-T18	●	●	32	32	170	33.1	15			
MGEHRA.2525-8A	●	●	25	25	150	26.8	23	MFMN800-A		
MGEHRA.2525-8A-T18	●	●	25	25	150	26.8	15			
MGEHRA.3232-8A	●	●	32	32	170	32.8	23			
MGEHRA.3232-8A-T18	●	●	32	32	170	32.8	15	MFMN800-A		
MGEHRA.2525-8A	●	●	25	25	150	26.1	28			
MGEHRA.2525-8A-T18	●	●	25	25	150	26.1	15			
MGEHRA.3232-8A	●	●	32	32	170	33.1	28	MFMN800-A		
MGEHRA.3232-8A-T18	●	●	32	32	170	33.1	15			

● Stock item, ◻ under preparing for stock

**External Holder**


Designation	Stock		HQ	W	L	S	Tota	Insert	Score	Work
	R	L								
MGEV0201-S	○		20	20	125	20	3	MGAN100-G	LT00514	TW20L
MGEV0201-S			25	25	150	20	3			
MGEV0201-S			32	32	170	20	3	MGAN200-M	BHA0015	HW SOL
MGEV0202-2	●		20	20	125	25.5	3.5			
MGEV0202-2	○		25	25	150	26.5	3.5	MGAN200-G	BHA0015	HW SOL
MGEV0202-2			32	32	170	26.5	3.5			
MGEV0202-2.5	○		20	20	125	24	4	MGAN200-M	BHA0015	HW SOL
MGEV0202-2.5			25	25	150	29	4			
MGEV0202-2.5			32	32	170	28	4	MGAN200-G	BHA0015	HW SOL
MGEV0202-3	●		20	20	125	25.5	5			
MGEV0202-3	●	●	25	25	150	26.5	5	MGAN200-M	BHA0015	HW SOL
MGEV0202-3	○		32	32	170	27.5	5			
MGEV0202-4	●		20	20	125	25.5	5	MGAN200-M	BHA0015	HW SOL
MGEV0202-4	●		25	25	150	26.5	5			
MGEV0202-4	○		32	32	170	27.5	5	MGAN200-M	BHA0015	HW SOL
MGEV0202-5	○		20	20	125	27	7			
MGEV0202-5	○		25	25	150	32	7	MGAN200-M	BHA0015	HW SOL
MGEV0202-5	○		32	32	170	28	7			
MGEV0202-6	○		20	20	125	27	7	MGAN200-M	BHA0015	HW SOL
MGEV0202-6	○		25	25	150	32	7			
MGEV0202-6	○		32	32	170	28	7	MGAN200-M	BHA0015	HW SOL
MGEV0202-8	○		25	25	150	34	9			
MGEV0202-8	○		32	32	170	41	9	MFIN200-M	BHA0015	HW SOL
MGEV0202-8A			25	25	150	32	7			
MGEV0202-8A			32	32	170	28	7	MFIN200-A	BHA0015	HW SOL
MGEV0202-8A			25	25	150	34	9			
MGEV0202-8A			32	32	170	41	9	MFIN200-A	BHA0015	HW SOL

● Stock item, ○ Under preparing for stock

Designation	Stock		HQ	W	L	S	Tota	Insert	Score	Work
	R	L								
MGEURL2000-3	●		20	20	125	20	3	MFIN200-M	BHA0015	HW SOL
MGEURL2000-3	●		25	25	150	20	3			
MGEURL2000-3			32	32	170	20	3	MFIN200-M	BHA0015	HW SOL
MGEURL2000-4	○		20	20	125	23	3			
MGEURL2000-4	●		25	25	150	28	3	MFIN200-M	BHA0015	HW SOL
MGEURL2000-4	○		32	32	170	30	3			
MGEURL2000-5	○		20	20	125	24	4	MFIN200-M	BHA0015	HW SOL
MGEURL2000-5	○		25	25	150	29	4			
MGEURL2000-5	○		32	32	170	30	4	MFIN200-M	BHA0015	HW SOL
MGEURL2000-6	○		20	20	125	24	4			
MGEURL2000-6	○		25	25	150	29	4	MFIN200-M	BHA0015	HW SOL
MGEURL2000-6	○		32	32	170	30	4			
MGEURL2000-8			25	25	150	30	5	MFIN200-M	BHA0015	HW SOL
MGEURL2000-8			32	32	170	37	5			
MGEURL2000-8A			25	25	150	29	4	BFCN200-A	BHA0015	HW SOL
MGEURL2000-8A			32	32	170	36	4			
MGEURL2000-8A			25	25	150	30	5	BFCN200-A	BHA0015	HW SOL
MGEURL2000-8A			32	32	170	37	5			

● Stock item, ○ Under preparing for stock





## Recommended Cutting Conditions

Designation	Feed (mm/rev) 0.01	Cutting Speed (m/min) <i>0.01</i>											
		Carbon steel			Alloy steel			High Hardened Alloy steel		STB	Cast iron	Al	
		NC300 MC310	PC300	CA30 CT10	NC300 MC310	NC300 PC300	CA30 CT10	NC300 MC310	NC300	CA30 CT10	PC300 PC300	PC310	Al31
MGMH150-G	0.08	200	170	170	180	150	150	130	100	100	180	210	
MGMH200-G	0.03	600	500	500	505	405	405	430	300	330	330	600	
MGMH250-G	0.12	180	160	160	180	130	130	120	90	90	160	190	
MGMH250-G	0.05	525	465	465	530	400	430	395	305	305	495	535	
MGMH250-M	0.25	150	120	120	130	100	100	90	60	60	130	150	
MGMH250-M	0.08	435	365	365	430	300	330	305	200	200	430	465	
MGMH300-M	0.17	130	100	100	100	130	130	120	90	90	160	200	
MGMH300-G	0.03	525	530	530	530	430	430	395	305	305	530	630	
MGMH300-30-M	0.15	170	140	140	140	110	110	100	70	70	140	180	
MGMH300-30-M	0.05	500	400	400	400	305	305	330	230	230	480	505	
MGMH300-M	0.25	140	110	110	120	90	90	80	40	40	120	150	
MGMH300-M	0.10	450	385	385	395	295	295	290	170	170	395	435	
MGMH400-M	0.13	200	170	170	180	150	150	130	100	100	180	210	
MGMH400-G	0.05	600	500	500	505	405	405	430	300	330	330	600	
MGMH400-30-M	0.25	170	140	140	160	130	130	110	80	80	140	180	
MGMH400-30-M	0.10	500	400	400	530	400	430	395	295	295	480	535	
MGMH400-M	0.25	120	100	100	130	100	100	70	50	50	130	130	
MGMH400-M	0.14	365	330	330	430	330	330	230	165	165	395	430	
MGMH500-M	0.15-0.20	180	160	160	180	130	130	120	90	90	160	180	
MGMH500-G	0.05-0.08	505	405	405	530	430	430	395	305	305	495	535	
MGMH500-30-M	0.30	150	120	120	130	100	100	90	60	60	130	150	
MGMH500-30-M	0.12	435	365	365	430	330	330	295	200	200	430	465	
MGMH500-M	0.40	120	100	100	100	80	80	60	40	40	100	120	
MGMH500-M	0.15	365	330	330	330	295	295	290	170	170	330	365	
MGMH600-M	0.25	120	100	100	100	130	130	120	70	70	120	150	
MGMH600-30-M	0.10	525	530	530	530	430	430	390	290	290	530	630	
MGMH600-30-M	0.35	150	120	120	100	80	80	70	50	50	110	150	
MGMH600-30-M	0.14	435	365	365	330	295	295	290	165	165	395	435	
MGMH600-M	0.50	120	90	90	80	50	50	50	30	30	80	120	
MGMH600-M	0.20	365	295	295	295	195	195	195	130	130	295	335	
MGMH900-M	0.25	150	130	130	160	130	130	130	70	70	160	190	
MGMH900-M	0.10	625	530	530	530	430	430	390	290	290	530	635	
MGMH900-M	0.35	150	130	130	100	80	80	70	50	50	110	150	
MGMH900-M	0.14	435	365	365	330	295	295	290	165	165	395	435	
MGMH900-M	0.40	120	90	90	80	50	50	50	30	30	80	120	
MGMH900-M	0.15	365	295	295	295	195	195	195	130	130	295	335	
MFGH600-A	0.10												250-1000
MFGH600-A	0.04												625-2000
MFGH600-A	0.25												250-600
MFGH600-A	0.10												625-2000
MFGH600-A	0.40												250-750
MFGH600-A	0.15												625-2000
MFGH900-A	0.10												250-1000
MFGH900-A	0.04												625-2000
MFGH900-A	0.25												250-600
MFGH900-A	0.10												625-2000
MFGH900-A	0.40												250-750
MFGH900-A	0.15												625-2000

\* Above cutting conditions can be adjusted by each machine, workpiece and other factors.


**Recommended Grade**

Designation	Steel						Stainless steel			Cast iron		Al
	CVD		PVD		Coated		CVD	PVD	PVD	Uncoated	Uncoated	
	NC200 NC210	NC300	PC200	PC300	CN20	CT10	NC200	PC200	PC300	PC210K	Gr5	Hot
MGMV100-G	●			●				●				
MGMV200-G	●	△	△			-	△	△		△	△	
MGMV200-M	●							●				
MGMV250-G	●							●				
MGMV250-M	●											
MGMV300-G	△	△	△		-	-	△	△		△	△	-
MGMV400-G	△	△	△		-	-	△	△		△	△	-
MGMV500-G	△	△	△		-	-	△	△		△	△	-
MGMV300-M	●	●	●		-	-	●	●		●	△	-
MGMV400-M	●	●	●		-	-	●	●		●	△	-
MGMV500-M	●	●	●		-	-	●	●		●	△	-
MGMV300-M	●	△	△		-	-	△	△		△	△	-
MGMV400-M	△	△	△		-	-	△	△		△	△	-
MGMV500-M	△	△	△		-	-	△	△		△	△	-
MGGP300-80-M	-	-	-	△	△		-	-		-	-	-
MGGP400-80-M	-	-	-	△	△		-	-		-	-	-
MGGP500-80-M	-	-	-	△	△		-	-		-	-	-
MGGP600-80-M	-	-	-	△	△		-	-		-	-	-
MIRAV300-M	●	△	△		-	-	△	△		△	△	-
MIRAV400-M	●	△	△		-	-	△	△		△	△	-
MIRAV500-M	●	△	△		-	-	△	△		△	△	-
MIRAV600-M	●	△	△		-	-	△	△		△	△	-
MIRAV800-M	△	△	△		-	-	△	△		△	△	-
MIGAB00-A	-	-	-		-	-	-	△		-	-	●
MIGAB00-A	-	-	-		-	-	-	△		-	-	●

● Stock △ Order made

**Applications for M.G.T**
**External**


Grooving, Parting



Grooving &amp; Turning



Profiling



Face-Grooving



Under Cut

**Internal**


Internal Grooving



Internal Grooving &amp; Turning



Internal Profiling



Internal Under Cut

**Multi Grooving Tools**


MGEHR



MGEVR



MGEUR









MGVR



MGUR

**MGT FORMING INSERT Code System**

Classification	Designation	Configuration
NO.1	<b>MFGN4 - 0.5R - 30D</b> ① ② ③ ④ ⑤ ⑥ ⑦ ① Multi ② Forming ③ Grinding ④ Feed Direction ⑤ Clamp part : 4mm ⑥ Nose Radius : 0.5 ⑦ Degree : 30°	 ex) MFGN4-0.5R-30D
NO.2	<b>MFGN4 - 0.5R - L 50D - R 30D</b> ① ② ③ ④ ⑤ ⑥ ⑦ ① Refer to No.1 ② Nose Radius : 0.5 ③ Left ④ Degree : 30° ⑤ Right ⑥ Degree : 30°	 ex) MFGN4-0.5R-L50D-R30D
NO.3	<b>MFGN4 - 2.0 - R 020 250 - L 105 335</b> ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ① Refer to No.1 ② Width of cutting edge : 2.0mm ③ Right ④ Nose Radius : 0.20 ⑤ Degree : 25.0° ⑥ Left ⑦ Nose Radius : 1.05 ⑧ Degree : 33.5°	 ex) MFGN4-2.0-R020250-L105335
NO.4	<b>MFGN5 - 4.0R F</b> ① ② ③ ① Refer to No.1 ② Radius : 4.0 ③ Front(Concave)	 ex) MFGN5-4.0RF
	<b>MFGN5 - 4.0R B</b> ① ② ③ ① Refer to No.1 ② Radius : 4.0 ③ Back(Convex)	 ex) MFGN5-4.0RB
NO.5	<b>MFGN5 - 4.0 - R 005 - L 030</b> ① ② ③ ④ ⑤ ⑥ ① Refer to No.1 ② Width of cutting edge : 4.0mm ③ Right ④ Nose Radius : 0.05 ⑤ Left ⑥ Nose Radius : 0.30	 ex) MFGN5-4.0-R005-L030



[www.itachile.com](http://www.itachile.com)



**- HEAD OFFICE**

Holyeol B/D 953-1, Doksanbon-Dong, Gwancheon-Gu, Seoul, Korea  
TEL. +82 2 522 3181 FAX. +82 2 522 3184, +82 2 3474 4744

**- CHEONGJU FACTORY**

53-16, Songjeong-Dong, Hwanguk-Gu, Cheongju, Chungcheongbuk-Do, Korea  
TEL. +82 43 262 0141 FAX. +82 43 262 0146

**- JINCHON FACTORY**

707-1, Gwangheonan-Fil, Gwangheonan-Myeon, Jincheon-Gun, Chungcheongbuk-Do, Korea  
TEL. +82 43 535 0141 FAX. +82 43 535 0144

Web site : [www.korloy.com](http://www.korloy.com)  
E-mail : [export@korloy.com](mailto:export@korloy.com)

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