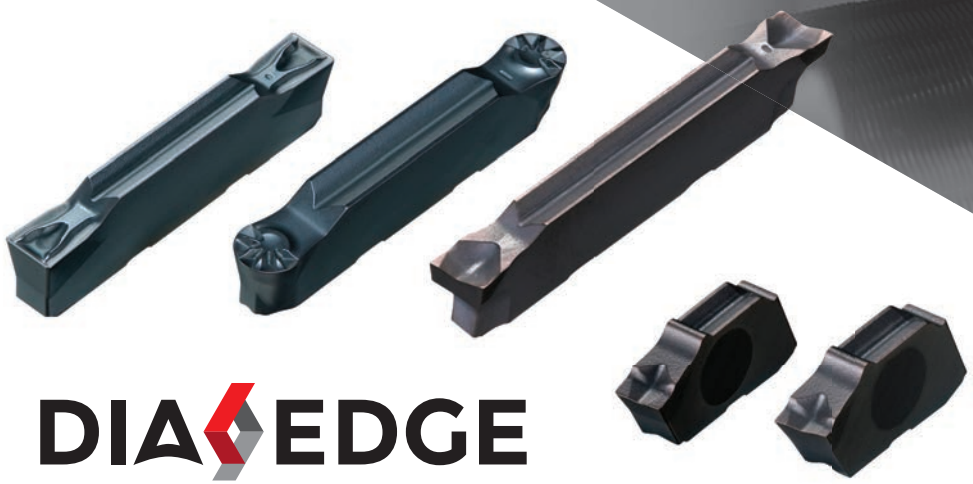


DIA EDGE

GY/GW INSERTS

DURABLE AND EASY TO USE
GROOVING AND CUT-OFF TOOLS

ABOUT OUR BRAND

Your manufacturing success is our success.

It's simple. We want to provide high-quality cutting tool products that help deliver unparalleled performance and control for you to manufacture precisely perfect products every day.

Our long heritage of building partnerships through cutting tool solutions to metal working manufacturers, like yours, has given Mitsubishi Materials USA a solid reputation as an industry leader. We understand the importance of getting it right the first time by delivering high-quality cutting tool product brands to help overcome machining challenges to improve machining processes.

Your success is our success and is the driving force behind our innovative products. Our product brands, DIAEDGE and MOLDINO, are trusted globally in the metal manufacturing and die & mold industries for delivering expertly-designed manufactured tools of the trade for highly specialized industries like yours.

With the acquisition of MOLDINO Tool Engineering, Ltd, our traditional Mitsubishi Materials USA cutting tool product line is now sold under the DIAEDGE product brand name.

Brands you can trust:

MITSUBISHI MATERIALS U.S.A.

TRUSTED PRODUCT BRANDS

DIAEDGE MOLDINO

New Line-up

NEW

Low Feed Breaker

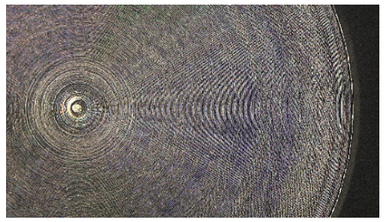
GS Breaker for Lead Angles 8° and 15°

By improving dimensional accuracy, the amount of remaining center pip is reduced and good surface finishes are achieved.

Cutting Performance

SUS304 Comparison of Cutting Off and Remaining Material

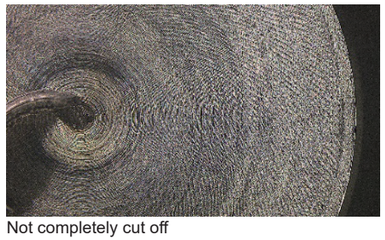
GY
GS Breaker



Completely cut off

Remaining pip in the center : ø.019 inch
RZ : .0004 inch

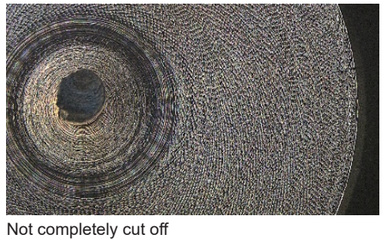
Conventional A



Not completely cut off

Remaining pip in the center : ø.023 inch
RZ : .0017 inch

Conventional B



Not completely cut off

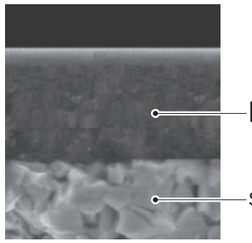
Remaining pip in the center : ø.056 inch
RZ : .0006 inch

<Cutting Conditions>
Workpiece Material : AISI 304 ø.630 inch
Tool : Cutting Width CW=.079 inch
Lead Angle 15°
Cutting Speed : vc=330 SFM
Feed per Rev. : f=.0012 IPR
Cutting Mode : Wet Cutting

Turning Inserts for Difficult-to-cut Materials

PVD Coated Grade
MP9015/MP9025

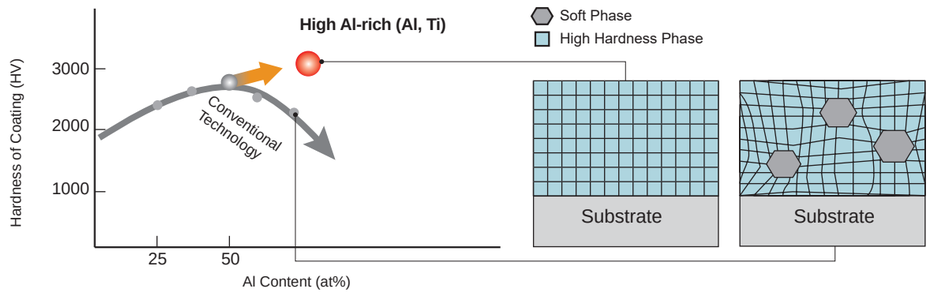
Excellent Wear Resistance when Machining Heat Resistant Super Alloys



MP9015/MP9025

High Al and Conventional Coating Comparison

The high Al-rich (Al, Ti)N single layer coating provides stabilization of the high hardness phase and succeeds in dramatically improving wear, crater and welding resistance.

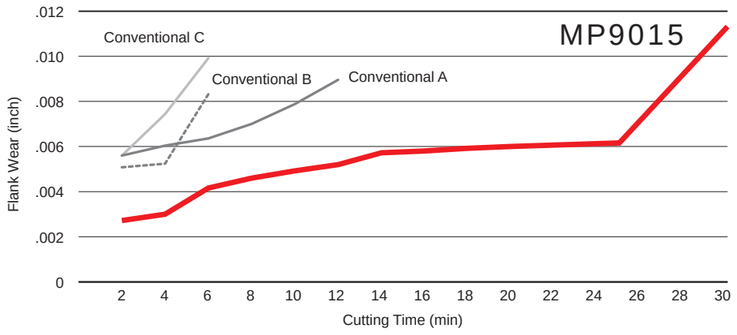


ISO Grade	Grade	Concept	Application
S10	MP9015	High hardness grade focusing on wear resistance.	Heat Resistant Alloys
S30	MP9025	First recommended grade focusing on fracture resistance.	Heat Resistant Alloys

Cutting Performance

Cross Feed Machining of Inconel 718 - Comparison of Wear Resistance

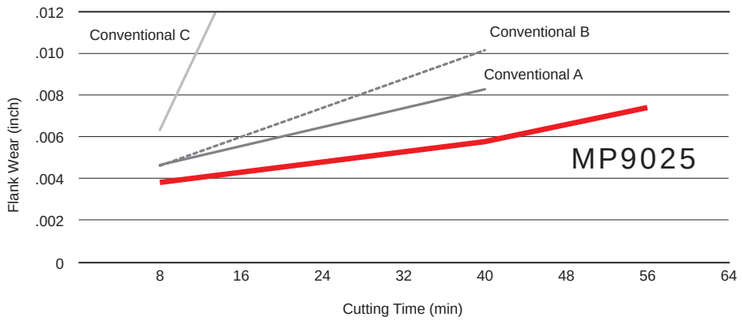
MP9015 exhibits 1.5 times more wear resistance than conventional products.



<Cutting Conditions>
Workpice Material : Inconel 718
Tool : GY2M0300F150N-BM
Cutting Speed : vc=165 SFM
Feed per Rev. : f=.002 IPR
Depth of Cut : ap=.039 inch
Cutting Mode : Wet Cutting

Groove Machining of Inconel 718 - Comparison of Wear Resistance

MP9025 has excellent wear resistance.



<Cutting Conditions>
Workpice Material : Inconel 718
Tool : GY2M0300F030N-GM
Cutting Speed : vc=165 SFM
Feed per Rev. : f=.002 IPR
Flute Depth : .039 inch
Cutting Mode : Wet Cutting

GY/GW Series Insert Grades

GY Series

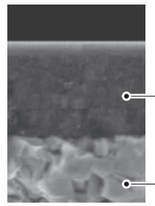
	P Steel	M Stainless Steel	K Cast Iron	N Aluminum Alloy	S Heat Resistant Alloy / Titanium Alloy	H Hardened Steel
Stable Cutting ↑ Cutting Conditions ↓ Unstable Cutting	NX2525 MY5015 VP10RT VP20RT	VP10RT VP20RT	MY5015 VP10RT VP20RT	RT9010	MP9015 / RT9010 MP9025	BC8110 / MB8025

GW Series

	P Steel	M Stainless Steel	K Cast Iron	S Heat Resistant Alloy / Titanium Alloy
Stable Cutting ↑ Cutting Conditions ↓ Unstable Cutting	MY5015 VP10RT VP20RT VP30RT	VP10RT VP20RT VP30RT	MY5015 VP10RT VP20RT	VP10RT VP20RT

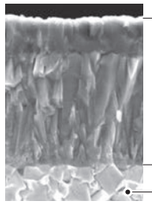
GY/GW **Series Insert Grades**

MP9000 **Series**



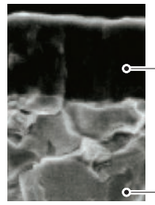
The high Al-rich (Al, Ti)N single layer coating provides stabilization of the high hardness phase and succeeds in dramatically improving wear, crater and welding resistance.

MY5015



MY5015 is a CVD coated grade with excellent wear resistance even at high temperatures. It provides longer tool life when machining cast and ductile cast irons. Also suitable for high speed continuous cutting of steels.

VP20RT



PVD coated grade suitable for a wide range of applications. The combination of a special tough cemented carbide substrate with MIRACLE coating provides an excellent balance of wear and fracture resistance.

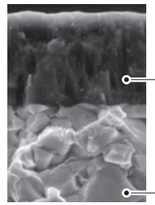
RT9010

RT9010 is a non-coated cemented carbide grade.
Suitable for processing non-ferrous metals.

NX2525

NX2525 is a cermet grade for finish machining of steel and for good surface finishes at lower cutting speeds.

VP10RT



PVD coated grade with a cemented carbide substrate harder than VP20RT. For use on difficult-to-cut materials and for extending tool life.

BC8110

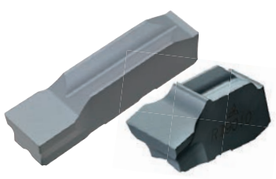
BC8110 is a coated grade for continuous cutting, which provides longer life when machining hardened steels.

MB8025

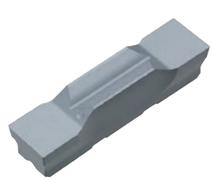
MB8025 is a sintered CBN grade for hardened steels.

Blank Inserts

Blank inserts for custom grinding.



1 Edge Type



2 Edge Type

*** Insert blank is not suitable for machining without grinding.**

RT9010/RT9020 **for insert blank**

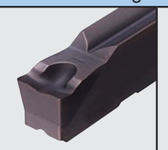
RT9020 is the first recommendation for blank inserts due to the tougher carbide substrate's suitability over a wider range of applications.
RT9010 is a harder substrate and is ideal for long tool life on stable applications.
A coating layer is recommended for machining steels, stainless and cast irons.

GY Series

Breaker System

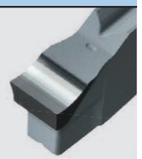
Grooving / Cutting Off

GU**Breaker**
(For Gummy Steel)



GS**Breaker**
(Low feeds)

GM**Breaker**
(Medium feeds)



GL**Breaker**
(For Aluminum Alloys)

Cutting Off

R08-GS**Breaker**
(Low feeds)

R15-GS**Breaker**
(Low feeds)

GM**Breaker**
(Medium feeds)

R/L05-GM**Breaker**
(Medium feeds)

Grooving

GFGS
(For hardened steel)

For Multifunctional Grooving

MF**Breaker**
(G class)

MS**Breaker**
(Low feeds)

MM**Breaker**
(Medium feeds)

Copying/For Recessing

BM**Breaker**

For Grooving / Cutting Off

GL Breaker (For Aluminum Alloys)

G Class Breaker

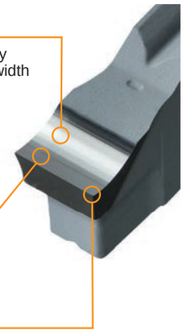
Improved chip control by narrowing the breaker width

High Rake Angle

Achieves low cutting resistance

Sharp Edge

Improved welding resistance for aluminum alloys

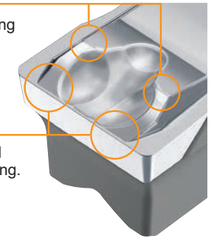


For Multifunctional Grooving

MF Breaker (For Finish Machining)

Efficient chip breaking when cross-feed machining.

Chips are controlled when finish machining.



GW Series

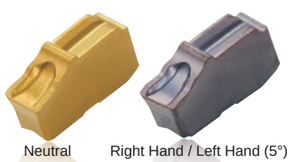
Breaker System Offering Excellent Chip Disposal Properties

Low Feeds

Neutral | Right Hand (5°) | Right Hand (8°)

GS **Breaker**

Medium Feeds

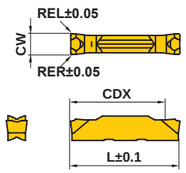
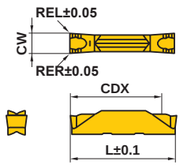
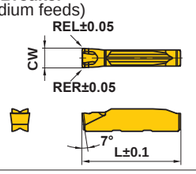
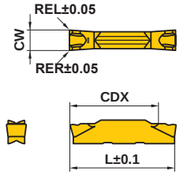
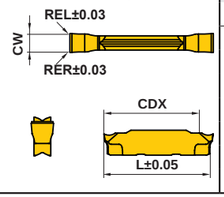


Neutral | Right Hand / Left Hand (5°)

GM **Breaker**

GY Series Inserts

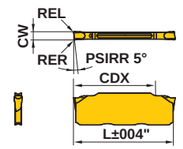
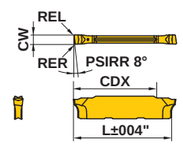
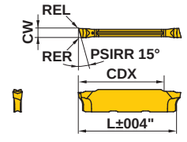
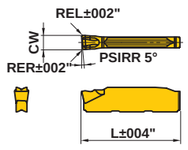
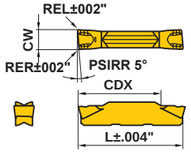
(inch)

Applications	Geometry	Order Number	Stock: Coated MP9015	Coated MP9025	Coated VP10RT	Coated VP20RT	Cermet MY5015	Carbide NX2525	Carbide RT9010	Carbide RT9020	Seat Size	CW: Cutting Width inch	CW: Cutting Width (mm)	CW: Tolerance	RER/L	CDX	✶2 L
For Grooving / Cutting Off	**GU Breaker** (For gummy steel) 	GY2M0200D020N-GU			●	●		●			D	.079	(2.00)	±.0012	.008	.776	.815
		GY2M0239E020N-GU			●	●		●			E	.094	(2.39)	±.0012	.008	.780	.815
		GY2M0250E020N-GU			●	●		●			E	.098	(2.50)	±.0012	.008	.768	.815
		GY2M0300F030N-GU			●	●		●			F	.118	(3.00)	±.0012	.012	.760	.815
		GY2M0318F030N-GU			●	●		●			F	.125	(3.18)	±.0012	.012	.760	.815
		GY2M0400G030N-GU			●	●		●			G	.157	(4.00)	±.0016	.012	.953	1.010
		GY2M0475H040N-GU			●	●		●			H	.187	(4.75)	±.0016	.016	.953	1.010
		GY2M0500H040N-GU			●	●		●			H	.197	(5.00)	±.0016	.016	.953	1.010
		GY2M0600J040N-GU			●	●		●			J	.236	(6.00)	±.0016	.016	.953	1.010
		GY2M0635J040N-GU			●	●		●			J	.250	(6.35)	±.0016	.016	.953	1.010
	GS Breaker (Low feeds) 	NEW GY2M0120B010N-GS			●	●					B	.047	(1.20)	±.0012	.004	.480	.579
		GY2M0150C010N-GS			●	●		●			C	.059	(1.50)	±.0012	.004	.528	.579
		GY2M0200D020N-GS			●	●		●			D	.079	(2.00)	±.0012	.008	.736	.815
		GY2M0239E020N-GS			●	●		●			E	.094	(2.39)	±.0012	.008	.728	.815
		GY2M0250E020N-GS			●	●		●			E	.098	(2.50)	±.0012	.008	.728	.815
		GY2M0300F020N-GS			●	●		●			F	.118	(3.00)	±.0012	.008	.728	.815
		GY2M0318F020N-GS			●	●		●			F	.125	(3.18)	±.0012	.008	.728	.815
		GY2M0400G020N-GS			●	●		●			G	.157	(4.00)	±.0016	.008	.941	1.010
		GY2M0475H030N-GS			●	●		●			H	.187	(4.75)	±.0016	.012	.941	1.010
		GY2M0500H030N-GS			●	●		●			H	.197	(5.00)	±.0016	.012	.945	1.010
		GY2M0600J030N-GS			●	●		●			J	.236	(6.00)	±.0016	.012	.949	1.010
		GY2M0635J030N-GS			●	●		●			J	.250	(6.35)	±.0016	.012	.949	1.010
		GY2M0800K030N-GS			●	●					K	.315	(8.00)	±.0016	.012	1.146	1.201
	GM Breaker (Medium feeds) 	GY1M0200D020N-GM	●	●	●	●	●				D	.079	(2.00)	±.0012	.008	—	.815
		GY1M0250E020N-GM	●	●	●	●	●				E	.098	(2.50)	±.0012	.008	—	.815
		GY1M0300F030N-GM	●	●	●	●	●				F	.118	(3.00)	±.0012	.012	—	.815
		GY1M0400G030N-GM	●	●	●	●	●				G	.157	(4.00)	±.0016	.012	—	1.010
		GY1M0500H040N-GM	●	●	●	●	●				H	.197	(5.00)	±.0016	.016	—	1.010
	GM Breaker (Medium feeds) 	GY2M0150C020N-GM	●	●	●	●		●			C	.059	(1.50)	±.0012	.008	.547	.579
		GY2M0200D020N-GM	●	●	●	●	●	●			D	.079	(2.00)	±.0012	.008	.764	.815
		GY2M0239E020N-GM	●	●	●	●	●	●			E	.094	(2.39)	±.0012	.008	.764	.815
		GY2M0250E020N-GM	●	●	●	●	●	●			E	.098	(2.50)	±.0012	.008	.764	.815
		GY2M0300F030N-GM	●	●	●	●	●	●			F	.118	(3.00)	±.0012	.012	.764	.815
		GY2M0318F030N-GM	●	●	●	●	●	●			F	.125	(3.18)	±.0012	.012	.764	.815
		GY2M0400G030N-GM	●	●	●	●	●	●			G	.157	(4.00)	±.0016	.012	.961	1.010
		GY2M0475H040N-GM	●	●	●	●	●	●			H	.187	(4.75)	±.0016	.016	.957	1.010
		GY2M0500H040N-GM	●	●	●	●	●	●			H	.197	(5.00)	±.0016	.016	.957	1.010
		GY2M0600J040N-GM	●	●	●	●	●	●			J	.236	(6.00)	±.0016	.016	.957	1.010
		GY2M0635J040N-GM	●	●	●	●	●	●			J	.250	(6.35)	±.0016	.016	.957	1.010
		GY2M0800K050N-GM	●	●	●	●	●				K	.315	(8.00)	±.0016	.020	1.154	1.201
For Grooving / Cutting Off	**GL Breaker** (For Aluminum Alloys) 	GY2G0200D005N-GL							●		D	.079	(2.00)	±.0008	.002	.768	.829
		GY2G0250E005N-GL							●		E	.098	(2.50)	±.0008	.002	.752	.829
		GY2G0300F005N-GL							●		F	.118	(3.00)	±.0008	.002	.744	.829

✶2 The dimension depends on the breaker. Refer to the page 14 “L dimension tolerance conversion table”.

● : USA Stock (10 inserts in one case) (CBN inserts are with 1 piece in one case.)

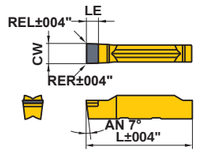
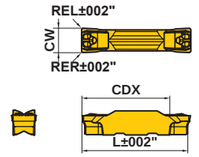
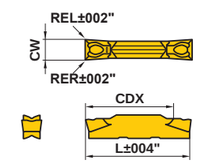
(inch)

Applications	Geometry	Order Number	Stock: Coated MP9015	Coated MP9025	Coated VP10RT	Coated VP20RT	Cermet MY5015	Seat Size	CW: Cutting Width inch	CW: Cutting Width (mm)	CW: Tolerance	Corner R: REL	Corner R: Tolerance	Corner R: RER	Corner R: Tolerance	CDX	✶2 L
For Cutting off	**R05-GS Breaker** NEW (Low feeds) 	GY2M0120B010R05-GS			●	●		B	.047	(1.20)	±.0012	.004	±.0020	.004	±.002	.481	
	R08-GS Breaker NEW (Low feeds) 	GY2G0150C010R08-GS			●	●		C	.059	(1.50)	±.0008	.004	±.0012	.004	–	.519	.598
		GY2G0200D020R08-GS			●	●		D	.079	(2.00)	±.0012	.008	±.0020	.008	–	.742	.839
		GY2G0250E020R08-GS			●	●		E	.098	(2.50)	±.0012	.008	±.0020	.008	–	.750	.846
		GY2G0300F020R08-GS			●	●		F	.118	(3.00)	±.0012	.008	±.0020	.008	–	.733	.846
	R15-GS Breaker NEW (Low feeds) 	GY2G0150C003R15-GS			●	●		C	.059	(1.50)	±.0008	.0012	+.0012, -.0008	.004	–	.519	.598
		GY2G0150C010R15-GS			●	●		C	.059	(1.50)	±.0008	.004	±.0012	.004	–	.519	.598
		GY2G0200D003R15-GS			●	●		D	.079	(2.00)	±.0012	.0012	+.0012, -.0008	.004	–	.742	.839
		GY2G0200D010R15-GS			●	●		D	.079	(2.00)	±.0012	.004	±.0012	.004	–	.742	.839
		GY2G0250E003R15-GS			●	●		E	.098	(2.50)	±.0012	.0012	+.0012, -.0008	.004	–	.750	.846
		GY2G0250E020R15-GS			●	●		E	.098	(2.50)	±.0012	.008	±.0020	.004	–	.750	.846
		GY2G0300F003R15-GS			●	●		F	.118	(3.00)	±.0012	.0012	+.0012, -.0008	.004	–	.733	.846
		GY2G0300F020R15-GS			●	●		F	.118	(3.00)	±.0012	.008	±.0020	.004	–	.733	.846
	R/L05-GM Breaker  Right hand insert shown.	GY1M0200D020R05-GM			●	●		D	.079	(2.00)	±.0012	.008	±.0020	.008	±.002	–	.819
		GY1M0200D020L05-GM			●	●		D	.079	(2.00)	±.0012	.008	±.0020	.008	±.002	–	.819
		GY1M0300F030R05-GM			●	●		F	.118	(3.00)	±.0012	.012	±.0020	.012	±.002	–	.819
		GY1M0300F030L05-GM			●	●		F	.118	(3.00)	±.0012	.012	±.0020	.012	±.002	–	.819
	R/L05-GM Breaker  Right hand insert shown.	GY2M0200D020R05-GM			●	●		D	.079	(2.00)	±.0012	.008	±.0020	.008	±.002	.768	.819
		GY2M0200D020L05-GM			●	●		D	.079	(2.00)	±.0012	.008	±.0020	.008	±.002	.768	.819
		GY2M0250E020R05-GM			●	●		E	.098	(2.50)	±.0012	.008	±.0020	.008	±.002	.768	.820
		GY2M0250E020L05-GM			●	●		E	.098	(2.50)	±.0012	.008	±.0020	.008	±.002	.768	.820
		GY2M0300F030R05-GM			●	●		F	.118	(3.00)	±.0012	.012	±.0020	.012	±.002	.768	.821
		GY2M0300F030L05-GM			●	●		F	.118	(3.00)	±.0012	.012	±.0020	.012	±.002	.768	.821
		GY2M0400G030R05-GM			●	●		G	.157	(4.00)	±.0016	.012	±.0020	.012	±.002	.965	1.018
		GY2M0400G030L05-GM			●	●		G	.157	(4.00)	±.0016	.012	±.0020	.012	±.002	.965	1.018
		GY2M0500H040R05-GM			●	●		H	.197	(5.00)	±.0016	.016	±.0020	.016	±.002	.965	1.022
		GY2M0500H040L05-GM			●	●		H	.197	(5.00)	±.0016	.016	±.0020	.016	±.002	.965	1.022

✶2 The dimension depends on the breaker. Refer to page 14 “L dimension tolerance conversion table”.

GY Series Inserts

(inch)

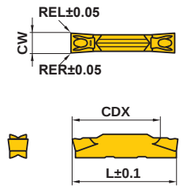
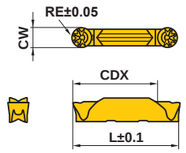
Applications	Geometry	Order Number	Stock: Coated MP9015	Coated MP9025	Coated VP10RT	Coated VP20RT	Cermet MY5015	Cermet NX2525	Carbide RT9010	Carbide RT9020	CBN BC8110	CBN MB8025	Seat Size	CW: Cutting Width inch	CW: Cutting Width (mm)	CW: Tolerance	RER/L	CDX	✶2 L	LE
For Grooving	**Flat Top** (For hardened steel) 	GY1G0200D020N-GFGS									●		D	.079	(2.00)	±.0012	.008	—	.815	.106
		GY1G0239E020N-GFGS									●		E	.094	(2.39)	±.0012	.008	—	.815	.106
		GY1G0250E020N-GFGS									●		E	.098	(2.50)	±.0012	.008	—	.815	.106
		GY1G0300F020N-GFGS									●		F	.118	(3.00)	±.0012	.008	—	.815	.106
		GY1G0318F020N-GFGS									●		F	.125	(3.18)	±.0012	.008	—	.815	.106
		GY1G0400G020N-GFGS									●	●	G	.157	(4.00)	±.0012	.008	–	1.010	.106
		GY1G0475H020N-GFGS									●	●	H	.187	(4.75)	±.0012	.008	–	1.010	.106
		GY1G0500H020N-GFGS									●	●	H	.197	(5.00)	±.0012	.008	–	1.010	.106
		GY1G0600J020N-GFGS									●		J	.236	(6.00)	±.0012	.008	–	1.010	.106
For Multifunctional Grooving	**MF Breaker** (Finishing) 	GY2G0200D020N-MF			●	●		●		●			D	.079	(2.00)	±.0008	.008	.768	.829	—
		✶1 GY2G0224D015N-MF			●	●		●		●			D	.088	(2.24)	±.0008	.006	.780	.829	—
		GY2G0239E020N-MF			●	●		●		●			E	.094	(2.39)	±.0008	.008	.756	.829	—
		GY2G0250E020N-MF			●	●		●		●			E	.098	(2.50)	±.0008	.008	.764	.829	—
		✶1 GY2G0274E020N-MF			●	●		●		●			E	.108	(2.74)	±.0008	.008	.776	.829	—
		GY2G0300F020N-MF			●	●		●		●			F	.118	(3.00)	±.0008	.008	.768	.829	—
		GY2G0300F040N-MF			●	●		●		●			F	.118	(3.00)	±.0008	.016	.760	.829	—
		GY2G0318F020N-MF			●	●		●		●			F	.125	(3.18)	±.0008	.008	.768	.829	—
		GY2G0318F040N-MF			●	●		●		●			F	.125	(3.18)	±.0008	.016	.760	.829	—
		✶1 GY2G0324F020N-MF			●	●		●		●			F	.128	(3.24)	±.0008	.008	.768	.829	—
		GY2G0400G020N-MF			●	●		●		●			G	.157	(4.00)	±.0008	.008	.980	1.022	–
		GY2G0400G040N-MF			●	●		●		●			G	.157	(4.00)	±.0008	.016	.972	1.022	–
		GY2G0400G080N-MF			●	●		●		●			G	.157	(4.00)	±.0008	.031	.957	1.022	–
		✶1 GY2G0424G020N-MF			●	●		●		●			G	.167	(4.24)	±.0008	.008	.980	1.022	–
		GY2G0475H020N-MF			●	●		●		●			H	.187	(4.75)	±.0008	.008	.961	1.022	–
		GY2G0475H040N-MF			●	●		●		●			H	.187	(4.75)	±.0008	.016	.953	1.022	–
		GY2G0475H080N-MF			●	●		●		●			H	.187	(4.75)	±.0008	.031	.937	1.022	–
		GY2G0500H020N-MF			●	●		●		●			H	.197	(5.00)	±.0008	.008	.961	1.022	–
		GY2G0500H040N-MF			●	●		●		●			H	.197	(5.00)	±.0008	.016	.953	1.022	–
		GY2G0500H080N-MF			●	●		●		●			H	.197	(5.00)	±.0008	.031	.937	1.022	–
		✶1 GY2G0524H020N-MF			●	●		●		●			H	.206	(5.24)	±.0008	.008	.961	1.022	–
		GY2G0600J020N-MF			●	●		●		●			J	.236	(6.00)	±.0008	.008	.961	1.022	–
		GY2G0600J040N-MF			●	●		●		●			J	.236	(6.00)	±.0008	.016	.953	1.022	–
		GY2G0600J080N-MF			●	●		●		●			J	.236	(6.00)	±.0008	.031	.937	1.022	–
		✶1 GY2G0631J020N-MF			●	●		●		●			J	.248	(6.31)	±.0008	.008	.961	1.022	–
		GY2G0635J020N-MF			●	●		●		●			J	.250	(6.35)	±.0008	.008	.961	1.022	–
		GY2G0635J040N-MF			●	●		●		●			J	.250	(6.35)	±.0008	.016	.953	1.022	–
		GY2G0635J080N-MF			●	●		●		●			J	.250	(6.35)	±.0008	.031	.937	1.022	–
	MS Breaker (Low feeds) 	GY2M0200D020N-MS			●	●	●	●					D	.079	(2.00)	±.0012	.008	.752	.815	—
		GY2M0250E020N-MS			●	●	●	●					E	.098	(2.50)	±.0012	.008	.752	.815	—
		GY2M0300F020N-MS			●	●	●	●					F	.118	(3.00)	±.0012	.008	.756	.815	—
		GY2M0300F040N-MS			●	●	●	●					F	.118	(3.00)	±.0012	.016	.744	.815	—
		GY2M0400G020N-MS			●	●	●	●					G	.157	(4.00)	±.0016	.008	.953	1.010	–
		GY2M0400G040N-MS			●	●	●	●					G	.157	(4.00)	±.0016	.016	.941	1.010	–
		GY2M0500H040N-MS			●	●	●	●					H	.197	(5.00)	±.0016	.016	.941	1.010	–
		GY2M0500H080N-MS			●	●	●	●					H	.197	(5.00)	±.0016	.031	.925	1.010	–
		GY2M0600J040N-MS			●	●	●	●					J	.236	(6.00)	±.0016	.116	.941	1.010	–
		GY2M0600J080N-MS			●	●	●	●					J	.236	(6.00)	±.0016	.031	.925	1.010	–
		GY2M0800K080N-MS			●	●							K	.315	(8.00)	±.0016	.031	1.122	1.201	–

✶1 Circlip corresponding width of cut

● : USA Stock ★ : Stocked in Japan

(10 inserts in one case) (CBN inserts are available in 1 piece in one case.)

(inch)

Applications	Geometry	Order Number	Stock: Coated MP9015	Coated MP9025	Coated VP10RT	Coated VP20RT	Cermet MY5015	Cermet NX2525	Carbide RT9010	Carbide RT9020	CBN MB8025	Seat Size	CW: Cutting Width inch	CW: Cutting Width (mm)	CW: Tolerance	RE RER/L	CDX	✶2 L
For Multifunctional Grooving	**MM Breaker** (Medium feeds) 	GY2M0200D020N-MM	●	●	●	●	●	●				D	.079	(2.00)	±.0012	.008	.752	.815
		GY2M0250E020N-MM	●	●	●	●	●	●				E	.098	(2.50)	±.0012	.008	.752	.815
		GY2M0300F020N-MM	●	●	●	●	●	●				F	.118	(3.00)	±.0012	.008	.752	.815
		GY2M0300F040N-MM	●	●	●	●	●	●				F	.118	(3.00)	±.0012	.016	.744	.815
		GY2M0300F080N-MM	●	●	●	●	●	●				F	.118	(3.00)	±.0012	.031	.728	.815
		GY2M0400G020N-MM	●	●	●	●	●	●				G	.157	(4.00)	±.0016	.008	.949	1.010
		GY2M0400G040N-MM	●	●	●	●	●	●				G	.157	(4.00)	±.0016	.016	.941	1.010
		GY2M0400G080N-MM	●	●	●	●	●	●				G	.157	(4.00)	±.0016	.031	.925	1.010
		GY2M0500H040N-MM	●	●	●	●	●	●				H	.197	(5.00)	±.0016	.016	.941	1.010
		GY2M0500H080N-MM	●	●	●	●	●	●				H	.197	(5.00)	±.0016	.031	.925	1.010
		GY2M0600J040N-MM	●	●	●	●	●	●				J	.236	(6.00)	±.0016	.016	.941	1.010
		GY2M0600J080N-MM	●	●	●	●	●	●				J	.236	(6.00)	±.0016	.031	.925	1.010
		GY2M0800K080N-MM	●	●	●	●	●					K	.315	(8.00)	±.0016	.031	1.122	1.201
		GY2M0800K120N-MM	●	●	●	●	●					K	.315	(8.00)	±.0016	.047	1.106	1.201
For Copying / For Recessing	**BM Breaker** 	GY2M0200D100N-BM	●	●	●	●	●	●				D	.079	(2.00)	±.0012	.039	.768	.815
		GY2M0250E125N-BM	●	●	●	●	●	●				E	.098	(2.50)	±.0012	.049	.760	.815
		GY2M0300F150N-BM	●	●	●	●	●	●				F	.118	(3.00)	±.0012	.059	.748	.823
		GY2M0318F159N-BM	●	●	●	●	●	●				F	.125	(3.18)	±.0012	.063	.744	.823
		GY2M0400G200N-BM	●	●	●	●	●	●				G	.157	(4.00)	±.0016	.079	.921	1.016
		GY2M0475H238N-BM	●	●	●	●	●	●				H	.187	(4.75)	±.0016	.094	.902	1.016
		GY2M0500H250N-BM	●	●	●	●	●	●				H	.197	(5.00)	±.0016	.098	.898	1.016
		GY2M0600J300N-BM	●	●	●	●	●	●				J	.236	(6.00)	±.0016	.118	.886	1.020
		GY2M0635J318N-BM	●	●	●	●	●	●				J	.250	(6.35)	±.0016	.125	.878	1.020
		GY2M0800K400N-BM	●	●	●	●	●					K	.315	(8.00)	±.0016	.157	1.043	1.213

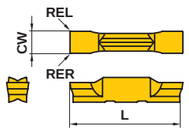
✶2 The dimension depends on the breaker. Refer to the page 14 “L dimension tolerance conversion table”.

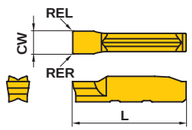
GY Series Inserts

Blank Inserts

(inch)

Applications	Geometry	Order Number	Stock: Cermet NX2525	Stock: Cermet	Stock: Carbide RT9010	Stock: Carbide RT9020	Seat Size	CW: Grooving Width inch	CW: Grooving Width (mm)	CW: Tolerance	RER/L	L
Blank *1	2 Edge Type	GY2B0220D020N	★		★	★	D	.087	(2.20)	± .0039	.008	.829
		GY2B0250D020N	★		★	★	D	.100	(2.55)	± .0039	.008	.838
		GY2B0270E020N	★		★	★	E	.106	(2.70)	± .0039	.008	.829
		GY2B0300E020N	★		★	★	E	.120	(3.05)	± .0039	.008	.838
		GY2B0340F020N	★		★	★	F	.134	(3.40)	± .0039	.008	.829
		GY2B0360F020N	★		★	★	F	.144	(3.65)	± .0039	.008	.838
		GY2B0420G020N	★		★	★	G	.165	(4.20)	± .0039	.008	1.024
		GY2B0460G020N	★		★	★	G	.183	(4.65)	± .0039	.008	1.031
		GY2B0520H020N	★		★	★	H	.205	(5.20)	± .0039	.008	1.024
		GY2B0560H020N	★		★	★	H	.222	(5.65)	± .0039	.008	1.031
		GY2B0655J020N	★		★	★	J	.258	(6.55)	± .0039	.008	1.025
		GY2B0680J020N	★		★	★	J	.270	(6.85)	± .0039	.008	1.031
		GY2B0880K020N			★	★	K	.348	(8.85)	± .0039	.008	1.216
	1 Edge Type	GY1B0220D020N	★		★	★	D	.087	(2.20)	± .0039	.008	.830
		GY1B0270E020N	★		★	★	E	.106	(2.70)	± .0039	.008	.831
		GY1B0340F020N	★		★	★	F	.134	(3.40)	± .0039	.008	.827
		GY1B0420G020N	★		★	★	G	.165	(4.20)	± .0039	.008	1.018
		GY1B0520H020N	★		★	★	H	.205	(5.20)	± .0039	.008	1.020
		GY1B0655J020N	★		★	★	J	.258	(6.55)	± .0039	.008	1.020





*1 Insert blank is not suitable for machining without grinding.

Gy Series L Dimension Tolerance Conversion Table

(inch)

Cutting Width *1 CW	Dimensions L	*2 Dimensional tolerance versus standard dimension (L) of each breaker: GU	GS/GM	MS/MM	R05-GS	R08/15-GS	R/L-GM	Flat Top	MF	BM	GL
.047", 1.20 mm	.579		0		0						
.059", 1.50 mm	.579		0			.020					
.079", 2.00 mm	.815	0	0	0		.024	.004	0	.014	.008	.014
.088", 2.24 mm	*3 (.815)								.014		
.094", 2.39 mm	.815	0	0					0	.014		
.098", 2.50 mm	.815	0	0	0		.031	.005	0	.014	.008	.014
.108", 2.74 mm	*3 (.815)								.014		
.118", 3.00 mm	.815	0	0	0		.031	.006	0	.014	.008	.014
.125", 3.18 mm	.815	0	0					0	.014	.008	
.128", 3.24 mm	*3 (.815)								.014		
.157", 4.00 mm	1.010	0	0	0			.008	0	.012	.006	
.167", 4.24 mm	*3 (1.010)								.012		
.187", 4.75 mm	1.010	0	0					0	.012	.006	
.197", 5.00 mm	1.010	0	0	0			.012	0	.012	.006	
.206", 5.24 mm	*3 (1.010)								.012		
.236", 6.00 mm	1.010	0	0	0				0	.012	.010	
.248", 6.31 mm	*3 (1.010)								.012		
.250", 6.35 mm	1.010	0	0						.012	.010	
.315", 8.00 mm	1.201		0	0						.012	

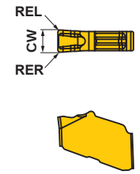
*1 This value is used at the described holder dimension.
*2 ■ when there is no applicable breaker.
*3 The standard dimensions shown here use an approximate insert width.

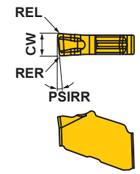
● : USA Stock ★ : Stocked in Japan
(10 inserts in one case)

GW Series Inserts

(inch)

Application	Order Number	Stock: Coating MY5015	Stock: Coating VP10RT	Stock: Coating VP20RT	Stock: Coating VP30RT	CW: Cutting Width inch	CW: Cutting Width (mm)	CW: Tolerance	RER REL	PSIRR PSIRL	Geometry
Grooving, Cutting Off	GW1M0200D020N-GS		●	●	●	.079	(2.00)	±.0012	.008	—	
Grooving, Cutting Off	GW1M0239E020N-GS		●	●	●	.094	(2.39)	±.0012	.008	—	
Grooving, Cutting Off	GW1M0300F020N-GS		●	●	●	.118	(3.00)	±.0012	.008	—	
Grooving, Cutting Off	GW1M0400G020N-GS		●	●	●	.157	(4.00)	±.0016	.008	—	
Grooving, Cutting Off	GW1M0500H030N-GS		●	●	●	.197	(5.00)	±.0016	.012	—	
Grooving, Cutting Off	GW1M0200D020N-GM	●	●	●	●	.079	(2.00)	±.0012	.008	—	
Grooving, Cutting Off	GW1M0239E020N-GM	●	●	●	●	.094	(2.39)	±.0012	.008	—	
Grooving, Cutting Off	GW1M0300F030N-GM	●	●	●	●	.118	(3.00)	±.0012	.012	—	
Grooving, Cutting Off	GW1M0400G030N-GM	●	●	●	●	.157	(4.00)	±.0016	.012	—	
Grooving, Cutting Off	GW1M0500H040N-GM	●	●	●	●	.197	(5.00)	.0016	.016	—	
Cutting off, Low Feed	GW1M0200D020R05-GS		●	●	●	.079	(2.00)	±.0012	.008	5	
Cutting off, Low Feed	GW1M0239E020R05-GS		●	●	●	.094	(2.39)	±.0012	.008	5	
Cutting off, Low Feed	GW1M0300F020R05-GS		●	●	●	.118	(3.00)	±.0012	.008	5	
Cutting off Low Feed, Lead Angle 8°	GW1M0200D003R08-GS		●	●	●	.079	(2.00)	±.0012	.0012	8	
Cutting off Low Feed, Lead Angle 8°	GW1M0239E003R08-GS		●	●	●	.094	(2.39)	±.0012	.0012	8	
Cutting off Low Feed, Lead Angle 8°	GW1M0300F003R08-GS		●	●	●	.118	(3.00)	±.0012	.0012	8	
Cutting Off	GW1M0200D020R05-GM		●	●	●	.079	(2.00)	±.0012	.008	5	
Cutting Off	GW1M0200D020L05-GM		●	●	●	.079	(2.00)	±.0012	.008	5	
Cutting Off	GW1M0239E020R05-GM		●	●	●	.094	(2.39)	±.0012	.008	5	
Cutting Off	GW1M0239E020L05-GM		●	●	●	.094	(2.39)	±.0012	.008	5	
Cutting Off	GW1M0300F030R05-GM		●	●	●	.118	(3.00)	±.0012	.012	5	
Cutting Off	GW1M0300F030L05-GM		●	●	●	.118	(3.00)	±.0012	.012	5	
Cutting Off	GW1M0400G030R05-GM		●	●	●	.157	(4.00)	±.0016	.012	5	
Cutting Off	GW1M0400G030L05-GM		●	●	●	.157	(4.00)	±.0016	.012	5	
Cutting Off	GW1M0500H040R05-GM		●	●	●	.197	(5.00)	±.0016	.016	5	
Cutting Off	GW1M0500H040L05-GM		●	●	●	.197	(5.00)	±.0016	.016	5	



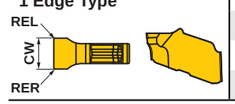


Right hand insert shown.

Blank Inserts

(inch)

Geometry	Order Number	Carbide RT9010	Carbide RT9020	Seat Size	CW: Grooving Width inch	CW: Grooving Width (mm)	CW: Tolerance	RER	REL
1 Edge Type	GW1B0320D020N	★	★	D	.128	(3.24)	±0.10	.008	.008
	GW1B0440F020N	★	★	F	.175	(4.44)	±0.10	.008	.008
	GW1B0540G020N	★	★	G	.214	(5.44)	±0.10	.008	.008
	GW1B0640H020N	★	★	H	.254	(6.44)	±0.10	.008	.008



★ Insert blank is not suitable for machining without grinding.

Cutting Conditions ➤ P30

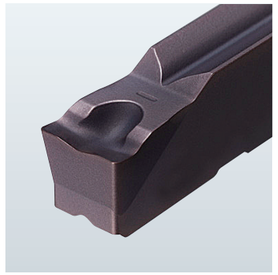
Correct Use of GY Series GS Breaker

First Recommendation

Reduction of Cutting Resistance

Lead Angle
PSIRR=0°

Improved Fracture Resistance



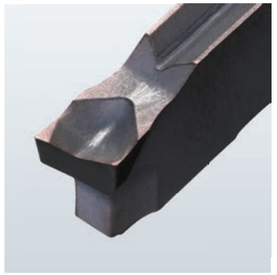
Cutting Off of Holes and Small Parts

Reduction of Burrs and Core Residue

Lead Angle
PSIRR=8°

Improved Fracture Resistance

Lead Angle
PSIRR=15°



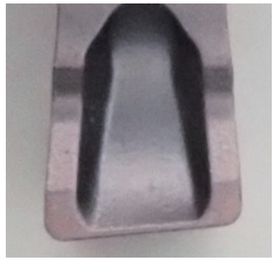
Correct Use of GW Series Inserts

First Recommendation

Improved Fracture Resistance

GM Breaker
PSIRR=5°

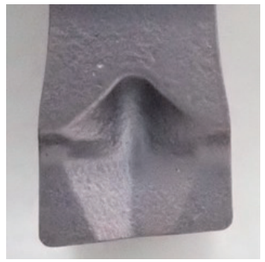
Reduction of Cutting Resistance



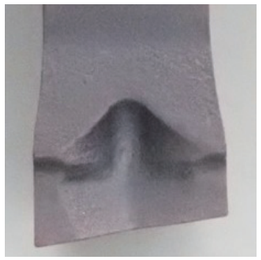
Reduction of Burrs and Core Residue

GS Breaker
PSIRR=5°

Improved Fracture Resistance



GS Breaker
PSIRR=8°



Recommended Cutting Speed [For External Grooving / Cutting Off]

	Workpiece Material	Properties	Grade	Cutting Speed **vc** (SFM) 165 330 490 655 820 985
P	Mild Steels	Hardness ≤160HB	VP20RT	330–720
			VP10RT	360–755
			NX2525	295–690
	Carbon Steels Alloy Steels	Hardness 160–280HB	VP20RT	260–590
			VP10RT	295–620
			MY5015	360–820
			NX2525	230–560
		Hardness 280HB≤	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
			NX2525	180–440
M	Stainless Steels	Hardness ≤270HB	VP20RT	195–460
			VP10RT	230–490
K	Gray Cast Irons	Tensile Strength ≤300MPa	VP20RT	260–590
			VP10RT	295–620
			MY5015	460–985
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
S	Heat Resistant Alloys Titanium Alloys	–	MP9015	130–330
			MP9025	100–295
			VP20RT	100–195
			VP10RT/ RT9010	130–230
H	Hardened Steels	50HRC≤	BC8110/MB8025	260–395

Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

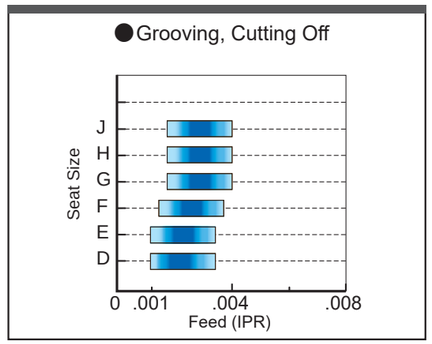
	Workpiece Material	Properties	Grade	Cutting Speed **vc** (SFM) 165 330 655 985 1310 1640
N	Aluminum Alloys	Content Si<5%	RT9010	655–1640
	Aluminum Alloys	Content 5%≤Si≤10%	RT9010	655–1640
	Aluminum Alloys	Content Si>10%	RT9010	330–655

Recommended Cutting Conditions [For External Grooving / Cutting Off]

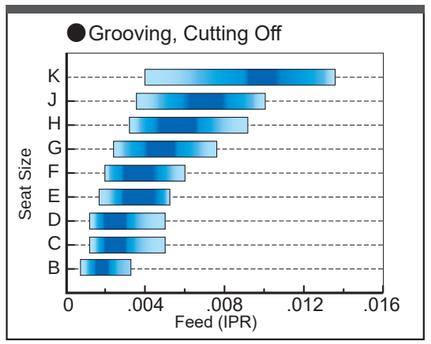
Recommended cutting conditions when combining a GYHR/L2525M00/90-M25R/L modular holder and GYM25R/LA-○○○ modular blade.

■ Recommended feed rate and depth of cut

GU Breaker

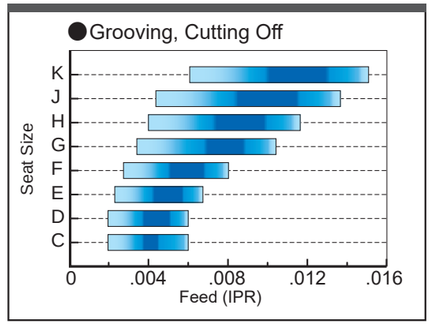


GS Breaker

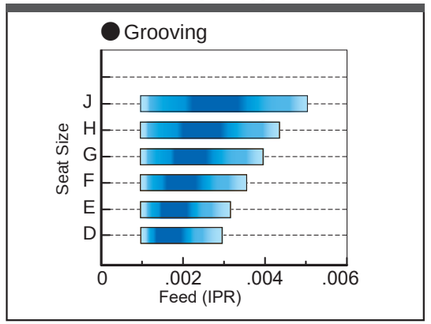


Seat Size	Insert Width
B	.047", 1.20 mm
C	.059", 1.50 mm
D	.079", 2.00 mm .088", 2.24 mm
E	.094", 2.39 mm .098", 2.50 mm .108", 2.74 mm
F	.118", 3.00 mm .125", 3.18 mm .128", 3.24 mm
G	.157", 4.00 mm .167", 4.24 mm
H	.187", 4.75 mm .197", 5.00 mm .206", 5.24 mm
J	.236", 6.00 mm .248", 6.31 mm .250", 6.35 mm
K	.315", 8.00 mm

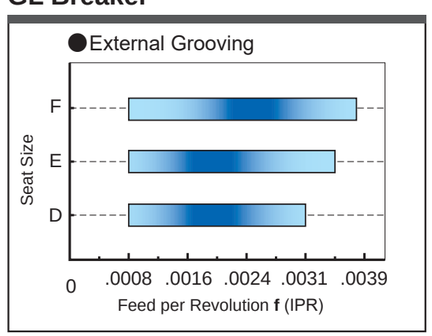
GM Breaker



Flat Top GFGS (CBN)

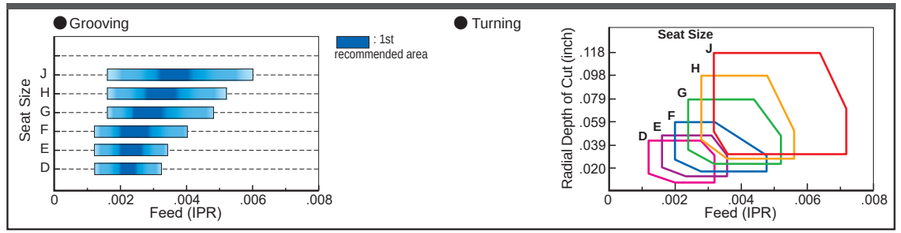


GL Breaker



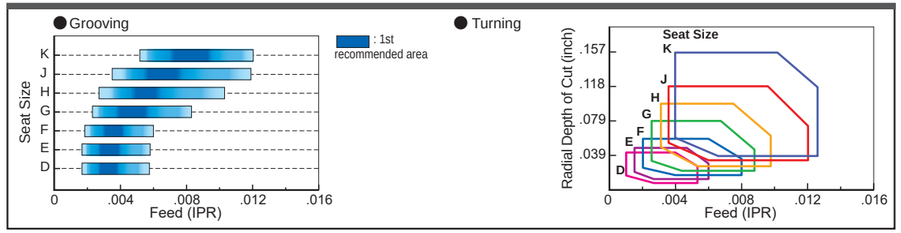
: 1st recommended area

MF Breaker

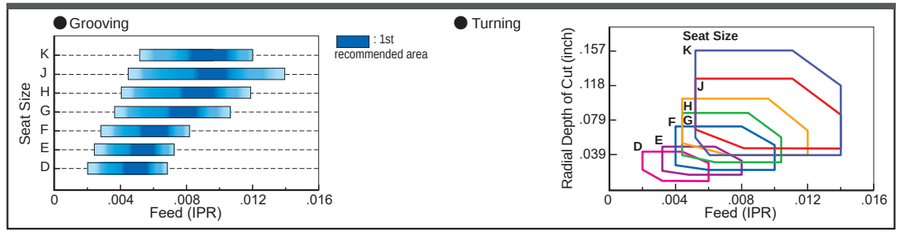


Seat Size	Insert Width
C	.059", 1.50 mm
D	.079", 2.00 mm .088", 2.24 mm
E	.094", 2.39 mm .098", 2.50 mm .108", 2.74 mm
F	.118", 3.00 mm .125", 3.18 mm .128", 3.24 mm
G	.157", 4.00 mm .167", 4.24 mm
H	.187", 4.75 mm .197", 5.00 mm .206", 5.24 mm
J	.236", 6.00 mm .248", 6.31 mm .250", 6.35 mm
K	.315", 8.00 mm

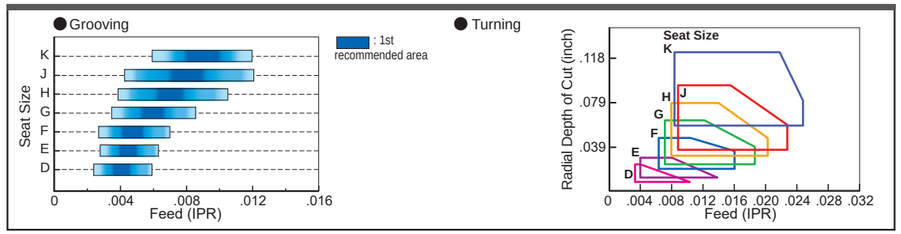
MS Breaker



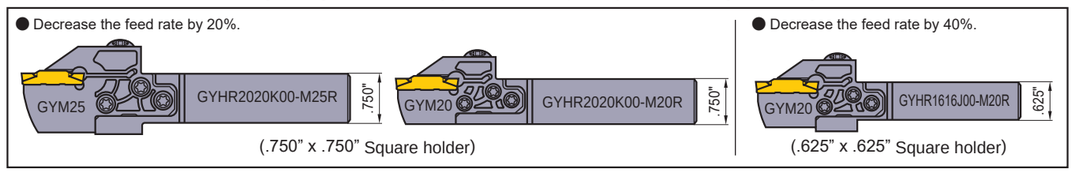
MM Breaker



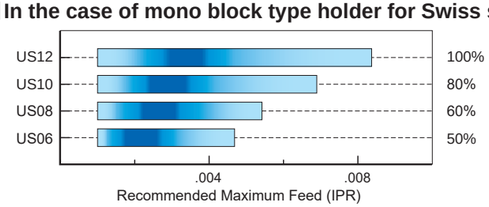
BM Breaker



Note 1) Lower the recommended cutting speed given in the table by 20% and 40% respectively when combining the following modular holders and modular blades.



■ In the case of mono block type holder for Swiss style lathes

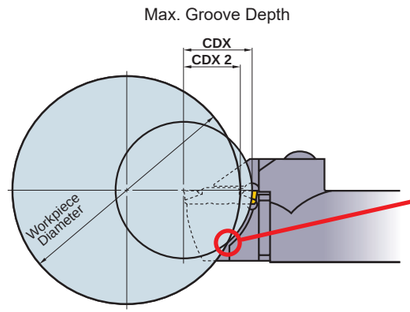


Please refer to the tables above on recommended cutting conditions for external grooving and cutting off.
Apply the percentage ratio shown on each shank size with the values in the table.

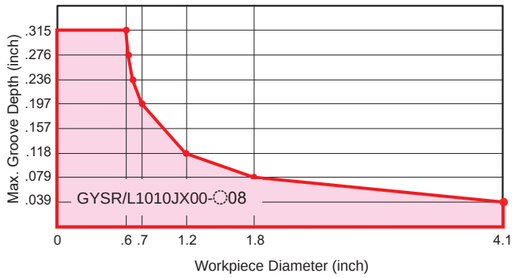
LIMITATION OF THE MAXIMUM GROOVE DEPTH [For External Grooving]

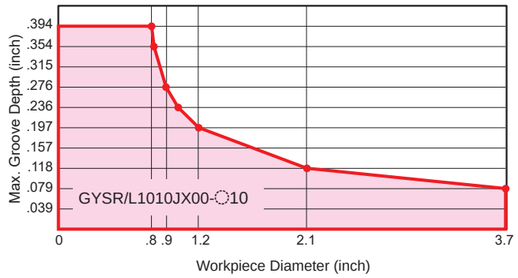
•In The Case of Mono Block Type Holder for Swiss-Type Lathes

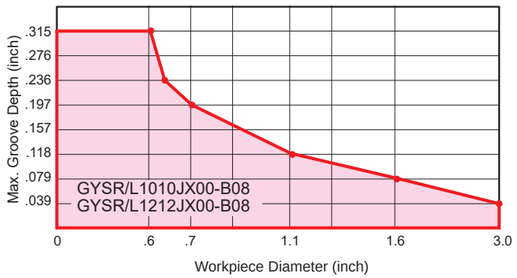
The maximum groove depth is limited by the workpiece diameter.

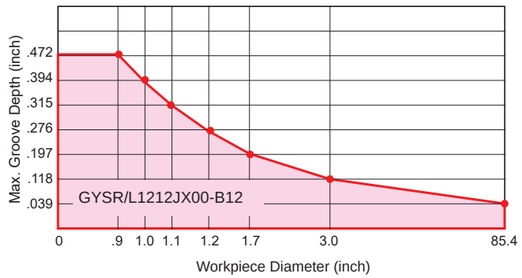


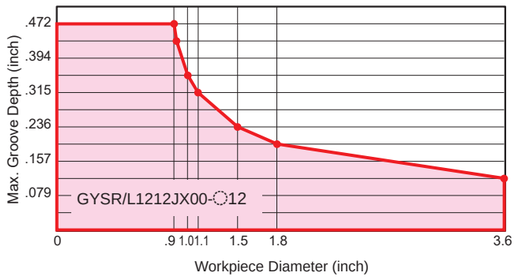
Due to interference, the maximum groove depth is limited by the workpiece diameter.

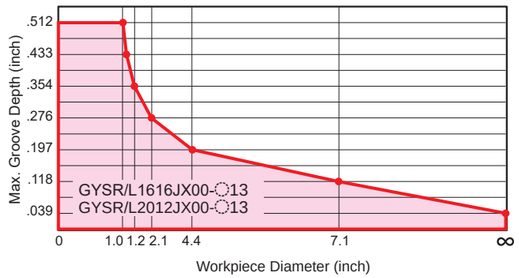


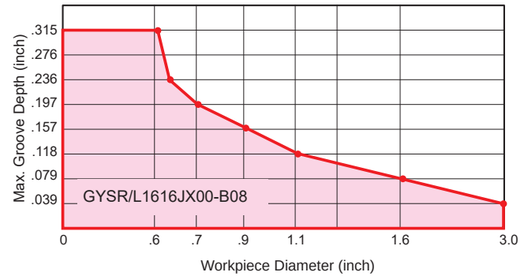


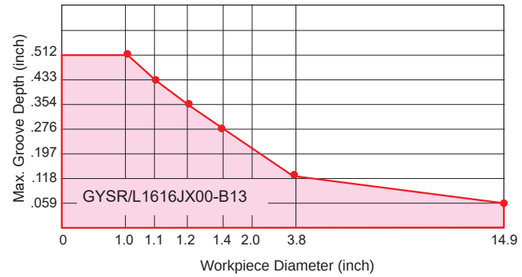


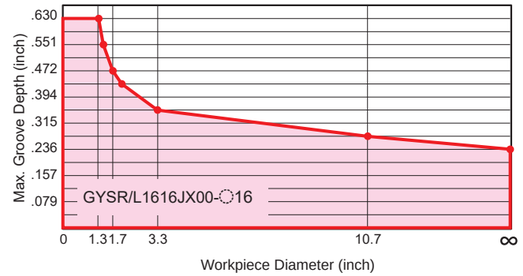


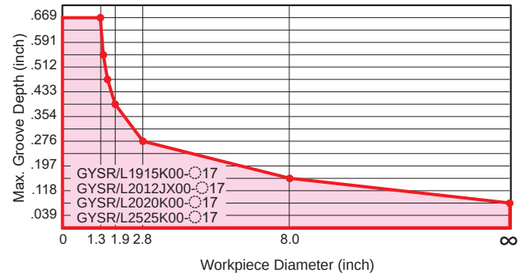








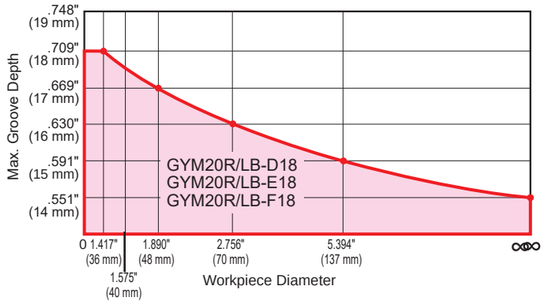


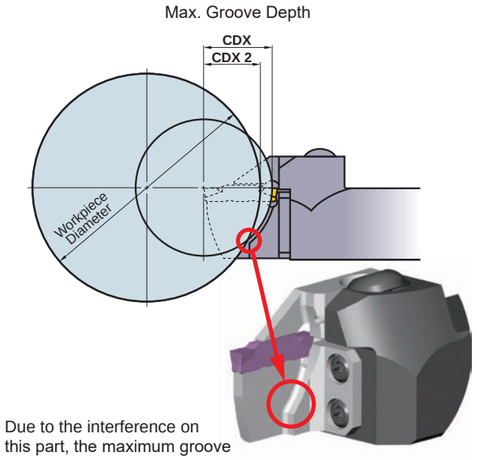


Limitation of The Maximum Groove Depth [For External Grooving]

•When using the modular blade GYM◌◌R/LA-◌◌◌
The maximum groove depth is not limited by the workpiece diameter.

•When using the modular blade GYM◌◌R/LB-◌◌◌
The maximum groove depth is limited by the workpiece diameter.

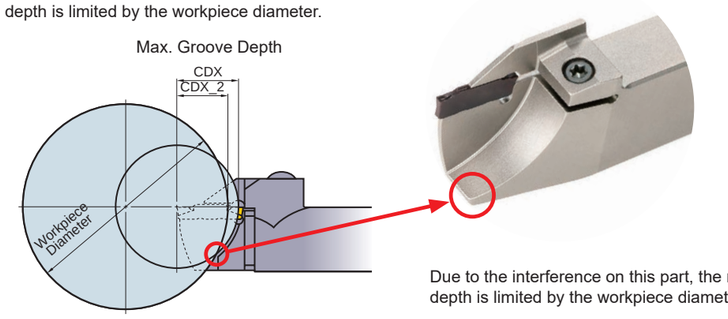




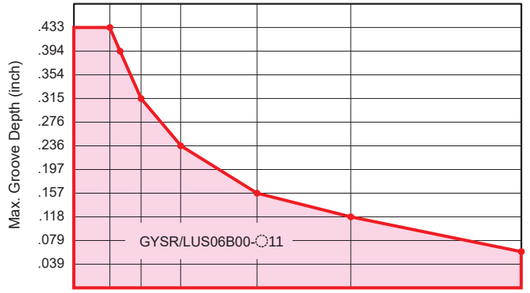
Due to the interference on this part, the maximum groove depth is limited by the workpiece diameter.

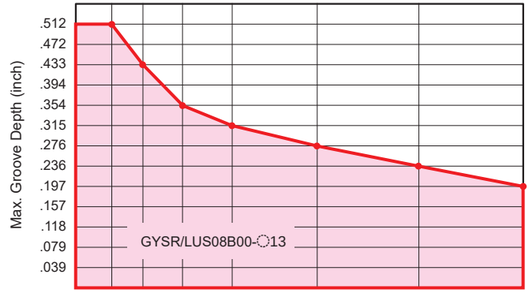
LIMITATION OF THE MAXIMUM GROOVE DEPTH [For External Grooving]

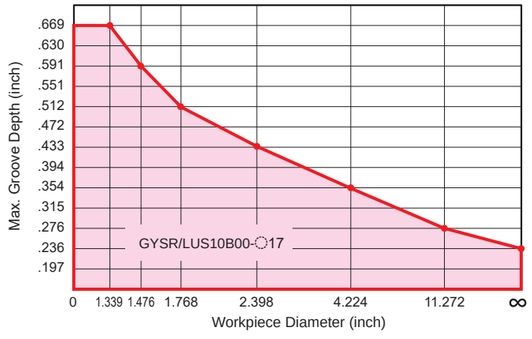
•For Swiss-Type lathes mono block holder
The maximum groove depth is limited by the workpiece diameter.

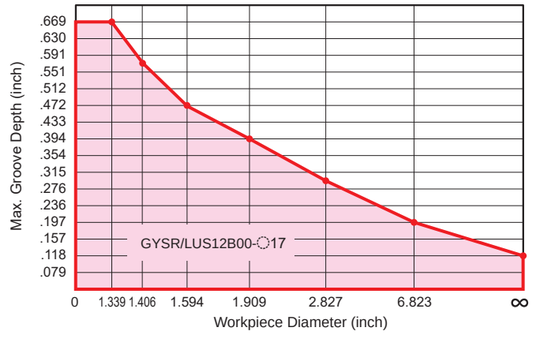


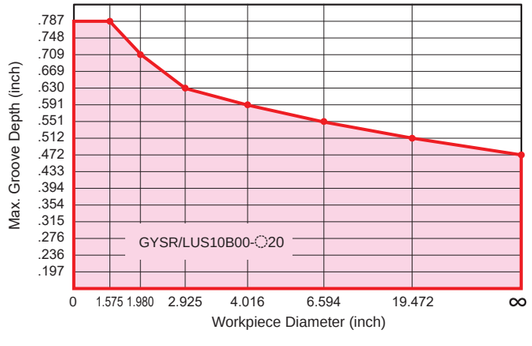
Due to the interference on this part, the maximum groove depth is limited by the workpiece diameter.

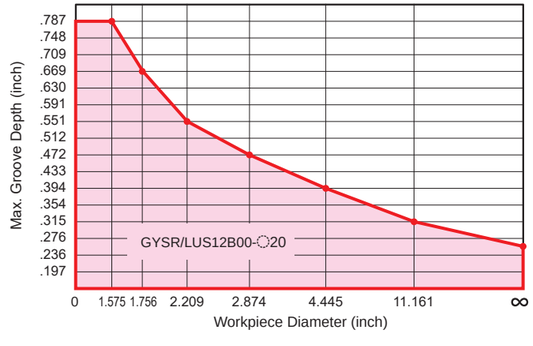










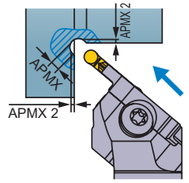


Recommended Cutting Speed [For External Recessing]

	Workpiece Material	Properties	Grade	Cutting Speed **vc** (SFM) 165 330 490 655 820
P	Mild Steels	Hardness ≤180HB	VP20RT	260–590
			VP10RT	295–620
	Carbon Steels Alloy Steels	Hardness 180—280HB	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
			NX2525	180–440
	Carbon Steels Alloy Steels	Hardness 280—350HB	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
			NX2525	150–345
M	Stainless Steels	Hardness ≤350HB	VP20RT	165–360
			VP10RT	195–395
K	Gray Cast Irons	Tensile Strength ≤350MPa	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
S	Heat Resistant Alloys Titanium Alloys	–	MP9015	130–330
			MP9025	100–295
			VP20RT	100–195
			VP10RT	130–230

Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

Distance from Work Surface Recess Depth

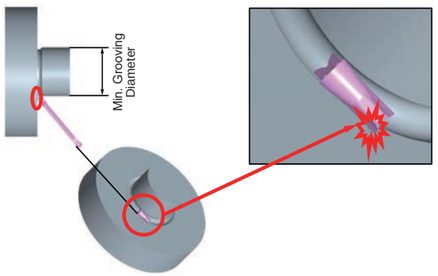


Grooving Width **CW**	Recessing Depth **APMX**	Distance workpiece to the recess depth **APMX2**
.079", 2.00 mm	.059", 1.50 mm	.025", 0.646 mm
.098", 2.50 mm	.069", 1.75 mm	.028", 0.720 mm
.118", 3.00 mm	.079", 2.00 mm	.031", 0.793 mm
.125", 3.18 mm	.082", 2.09 mm	.032", 0.819 mm
.157", 4.00 mm	.098", 2.50 mm	.037", 0.939 mm
.187", 4.75 mm	.113", 2.88 mm	.041", 1.049 mm
.197", 5.00 mm	.118", 3.00 mm	.043", 1.086 mm
.236", 6.00 mm	.138", 3.50 mm	.049", 1.232 mm
.250", 6.35 mm	.145", 3.68 mm	.051", 1.283 mm

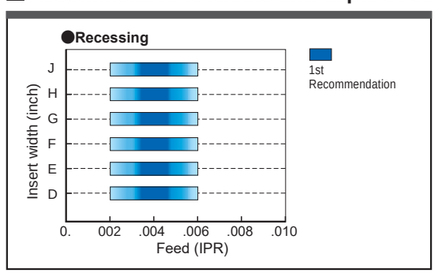
BM Breaker

Minimum grooving diameter

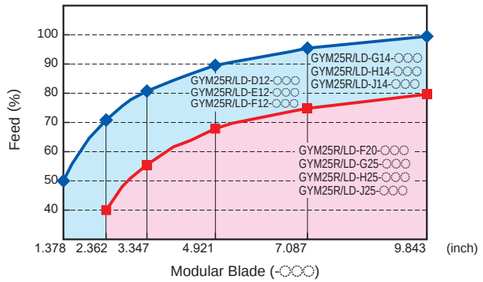
Ensure the tool is suitable for the diameter being machined. Refer to the Min. Grooving Diameter as shown in the table on the “page number” to avoid a collision with the workpiece shown below.



Recommended feed rate and depth of cut



Relationship Between The Modular Blade and Feed Per Rotation [For Face Grooving]



Note 1) Adjust the feed per rotation in the cutting conditions to the percentage shown in the table above.

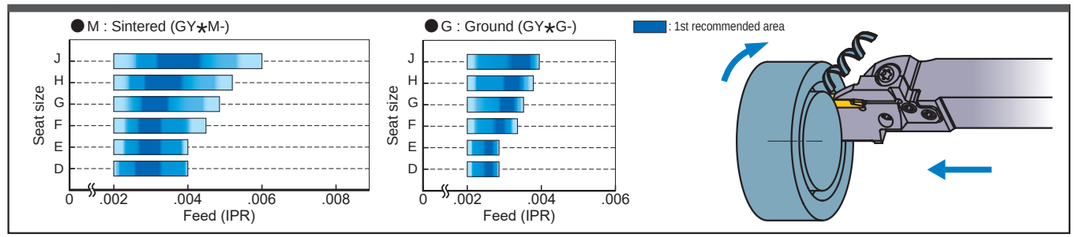
Recommended Cutting Speed [For Face Grooving]

	Workpiece Material	Properties	Grade	Cutting Speed (SFM) 165 330 490 655 820 985
P	Mild Steels	Hardness ≤160HB	VP20RT	260–590
			VP10RT	295–620
			NX2525	230–560
	Carbon Steels Alloy Steels	Hardness 160—280HB	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
			NX2525	180–440
		Hardness 280HB≤	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
			NX2525	150–345
M	Stainless Steels	Hardness ≤270HB	VP20RT	165–360
			VP10RT	195–395
K	Gray Cast Irons	Tensile Strength ≤300MPa	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
S	Heat Resistant Alloys Titanium Alloys	–	MP9015	130–330
			MP9025	100–295
			VP20RT	100–195
			VP10RT	130–230
			RT9010	130–230
H	Hardened Steels	Hardness 50HRC≤	BC8110	195–330
			MB8025	195–330

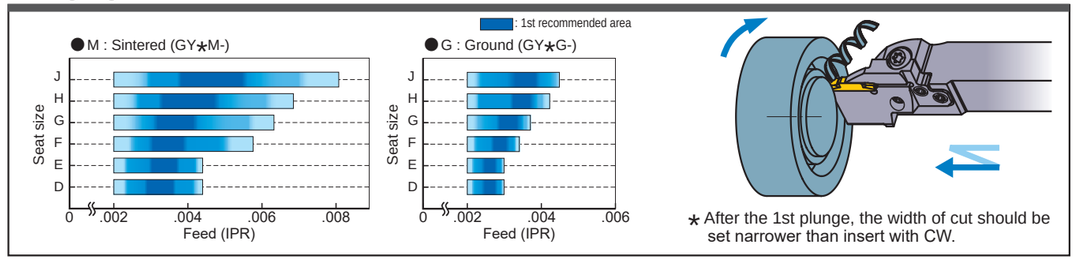
Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

Recommended Cutting Conditions [For Face Grooving]

Grooving

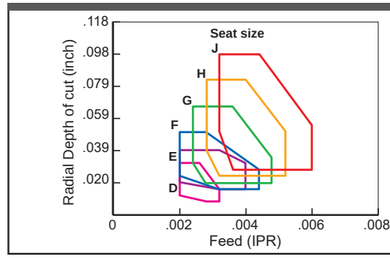


Plunging



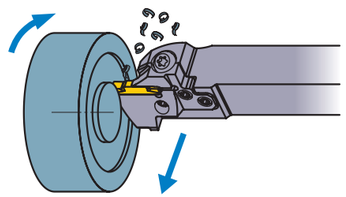
★ After the 1st plunge, the width of cut should be set narrower than insert with CW.

Traverse Machining (MF Breaker)

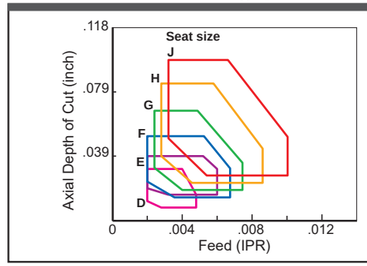


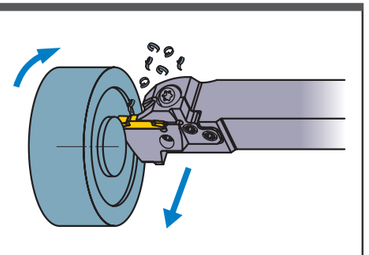
Seat Size	Insert Width
D	.079", 2.00 mm .088", 2.24 mm
E	.094", 2.39 mm .098", 2.50 mm .108", 2.74 mm
F	.118", 3.00 mm .125", 3.18 mm .128", 3.24 mm

Seat Size	Insert Width
G	.157", 4.00 mm .167", 4.24 mm
H	.187", 4.75 mm .197", 5.00 mm .206", 5.24 mm
J	.236", 6.00 mm .248", 6.31 mm .250", 6.35 mm

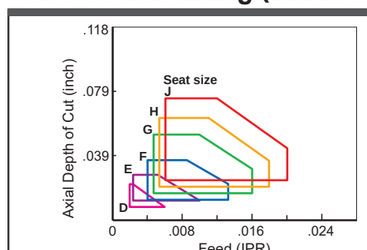


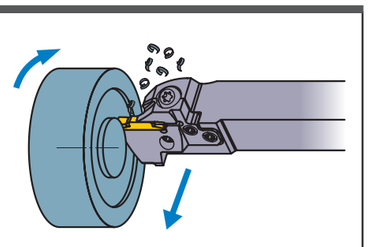
Traverse Machining (MM/MS Breaker)





Traverse Machining (BM Breaker)

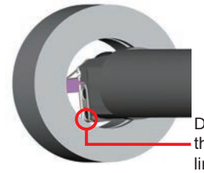




Note 1) GL chip breaker is not recommended for face grooving.

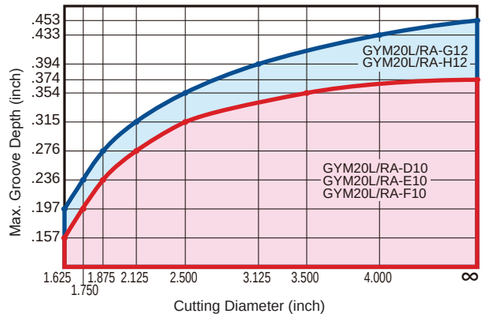
Limitation of The Maximum Groove Depth [For Internal Grooving]

- **When using the mono block type**
  The maximum groove depth is not limited by the cutting diameter.
- **When using the modular blade type**
  The maximum groove depth is limited by the cutting diameter.

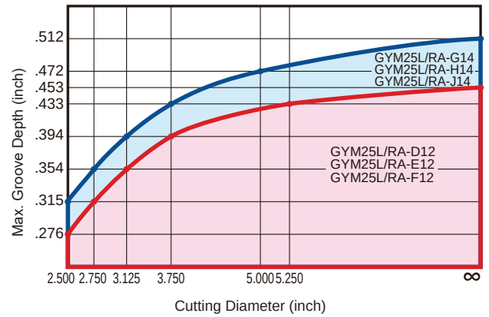


Due to interference of this part, the maximum groove depth is limited by the cutting diameter.

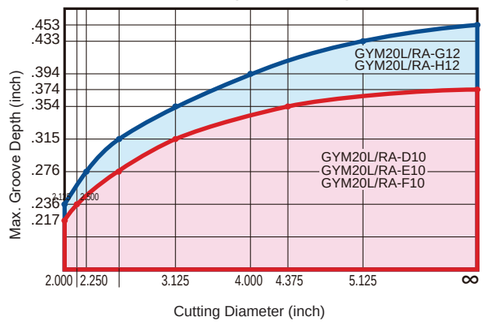
Shank Diameter=1.250 inch (GYM20 Blade)



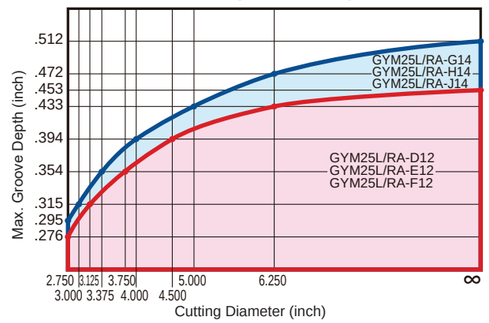
Shank Diameter=1.500 inch (GYM25 Blade)



Shank Diameter=1.500 inch (GYM20 Blade)



Shank Diameter=2.000 inch (GYM25 Blade)



Recommended Cutting Speed [For Internal Grooving]

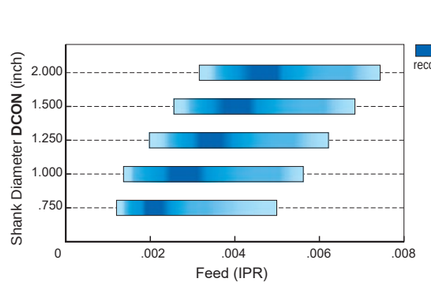
	Workpiece Material	Properties	Grade	Cutting Speed (SFM) 165 330 490 655 820
P	Mild Steels	Hardness ≤160HB	VP20RT	260–590
			VP10RT	295–620
			NX2525	230–560
	Carbon Steels Alloy Steels	Hardness 160–280HB	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
			NX2525	180–440
		Hardness 280HB≤	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
			NX2525	150–345
M	Stainless Steels	Hardness ≤270HB	VP20RT	165–360
			VP10RT	195–395
K	Gray Cast Irons	Tensile Strength ≤300MPa	VP20RT	195–460
			VP10RT	230–490
			MY5015	295–690
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP20RT	165–360
			VP10RT	195–395
			MY5015	260–525
S	Heat Resistant Alloys Titanium Alloys	–	MP9015	130–330
			MP9025	100–295
			VP20RT	100–195
			VP10RT/RT9010	130–230
H	Hardened Steels	50HRC≤	BC8110/MB8025	195–330

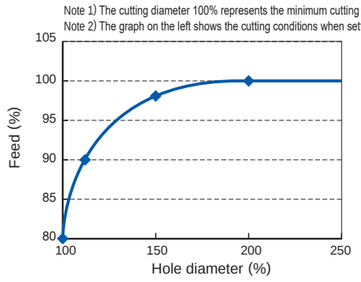
Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

	Workpiece Material	Properties	Grade	Cutting Speed **vc** (SFM) 165 330 655 985 1310 1640
N	Aluminum Alloys	Content Si<5%	RT9010	490–1310
	Aluminum Alloys	Content 5%≤Si≤10%	RT9010	490–1310
	Aluminum Alloys	Content Si>10%	RT9010	260–525

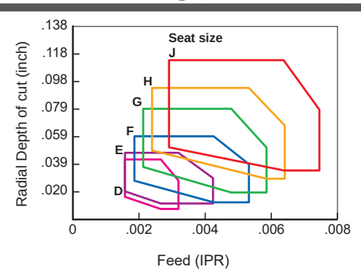
Recommended Cutting Conditions [For Internal Grooving]

Grooving

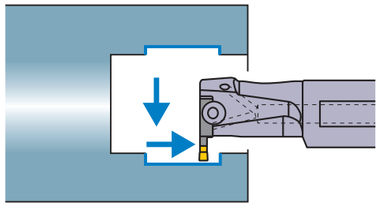




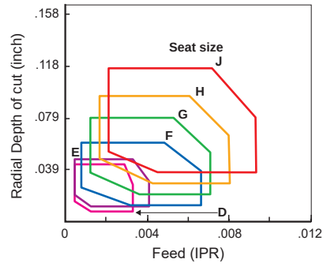
Traverse Machining (MF Breaker)



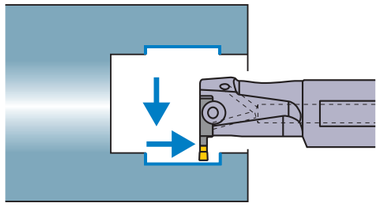
●When traverse machining a blind hole, it is recommended to carry out back turning considering chip disposal.



Traverse Machining (MM/MS Breaker)

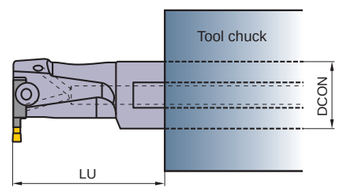


●When traverse machining a blind hole, it is recommended to carry out back turning considering chip disposal.



Note 1) The above cutting conditions are for when using the tool overhang (LU) 1.6-2.0 times larger than the shank diameter (DCON). (L/D=1.6-2.0)
When using L/D larger than 2.0, reduce the cutting conditions.

Seat Size	Insert Width
D	.079", 2.00 mm .088", 2.24 mm
E	.094", 2.39 mm .098", 2.50 mm .108", 2.74 mm
F	.118", 3.00 mm .125", 3.18 mm .128", 3.24 mm
G	.157", 4.00 mm .167", 4.24 mm
H	.187", 4.75 mm .197", 5.00 mm .206", 5.24 mm
J	.236", 6.00 mm .248", 6.31 mm .250", 6.35 mm



GW Series

Recommended Cutting Conditions

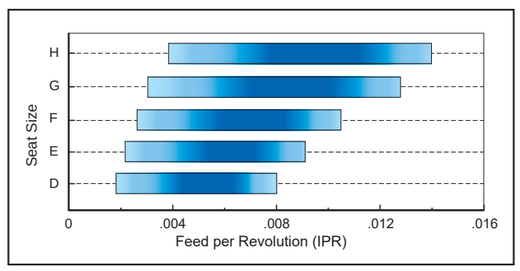
■ Cutting Speed

	Work Material	Properties	Grade	Cutting Speed **vc** (SFM) 165 330 490 655 820 985
P	Mild Steels	Hardness ≤160HB	VP20RT	330 – 785
			VP10RT	360 – 820
	Carbon Steels Alloy Steels	Hardness 160–280HB	VP20RT	260 – 655
			VP10RT	295 – 690
			VP30RT	195 – 590
			MY5015	360 – 820
		Hardness ≥280HB	VP20RT	195 – 525
			VP10RT	230 – 560
			VP30RT	130 – 460
			MY5015	295 – 690
M	Stainless Steels	Hardness ≤270HB	VP20RT	195 – 590
			VP10RT	230 – 620
			VP30RT	130 – 525
K	Gray Cast Irons	Tensile Strength ≤300MPa	VP20RT	260 – 655
			VP10RT	295 – 690
			MY5015	460 – 985
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP20RT	195 – 525
			VP10RT	230 – 560
			MY5015	295 – 690
S	Heat Resistant Alloys Titanium Alloys	–	VP20RT	100 195
			VP10RT	130 230

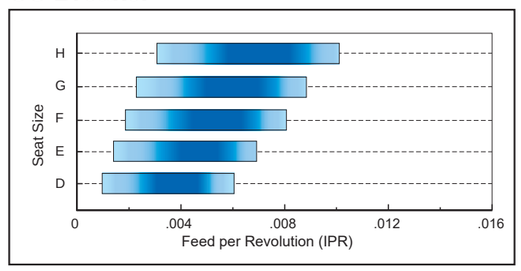
Note 1) VP20RT is the first recommended grade for materials.
Note 2) For VP10RT, VP20RT, VP30RT and MY5015, wet cutting is recommended.

■ Feed per Revolution

GM Breaker



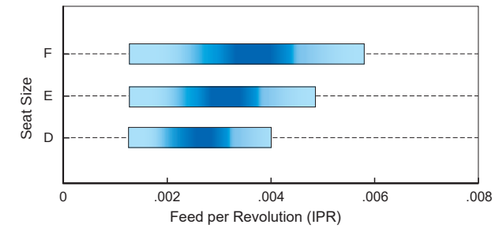
GS Breaker



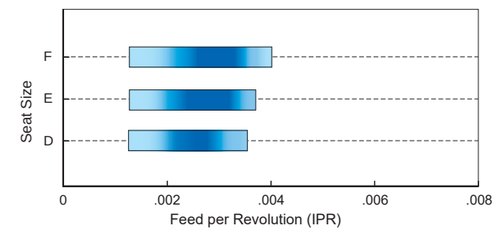
Chip Breaker	Feed per Revolution (IPR)				
	Seat Size D	Seat Size E	Seat Size F	Seat Size G	Seat Size H
GM Breaker	.0020 – .0079	.0024 – .0091	.0028 – .0102	.0031 – .0126	.0039 – .0138
GS Breaker	.0012 – .0059	.0016 – .0067	.0020 – .0079	.0024 – .0087	.0031 – .0098

Cutting Off Feed per Revolution

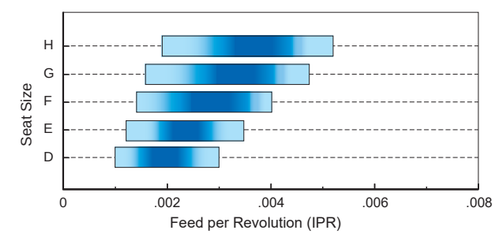
R05-GS Breaker



R08-GS Breaker



R/L05-GM Breaker



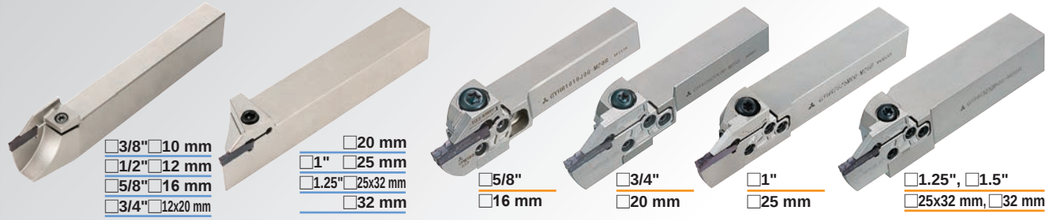
Chip Breaker	PSIPR	Hand	Feed per Revolution (IPR)				
			Seat Size D	Seat Size E	Seat Size F	Seat Size G	Seat Size H
R05-GS	5°	R	.0012 – .0039	.0012 – .0047	.0012 – .0055	–	–
R08-GS	8°	R	.0012 – .0031	.0012 – .0035	.0012 – .0055	–	–
R05-GM	5°	R/L	.0020 – .0059	.0024 – .0067	.0028 – .0079	.0031 – .0091	.0039 – .0102

GY Series

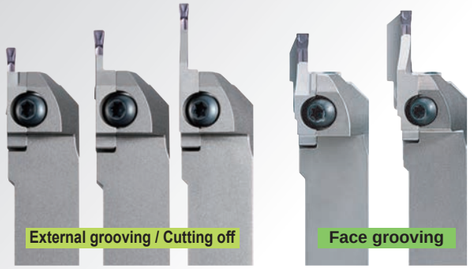
A wide selection of holders and inserts available for diverse grooving and cutting off applications

External • Face holders

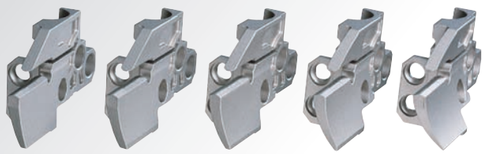
Corresponding blades to a variety of modular holders with different shank sizes



A wide selection of holders and inserts available for diverse grooving and cutting off applications

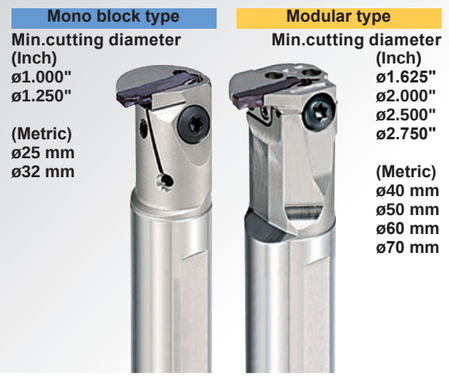


Applicable for various diameters of face grooves by the wide array of modular blades with different grooving diameters



Internal holders

A wide range of holders available from minimum diameter of ø25 mm

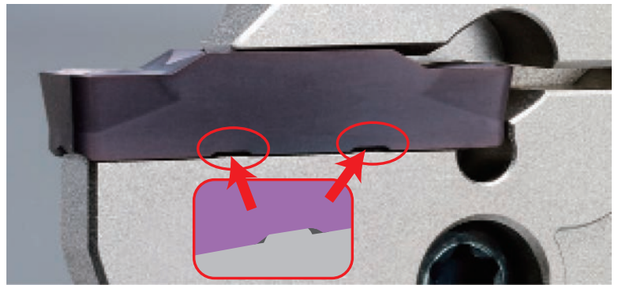


Short shank types are standard stocked

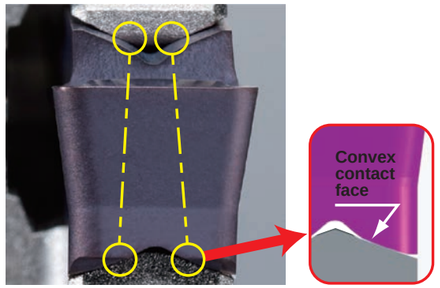
Original insert design leading the way to new grooving and cutting off applications

Highly reliable insert clamping

Safety keys prevent insert movement.



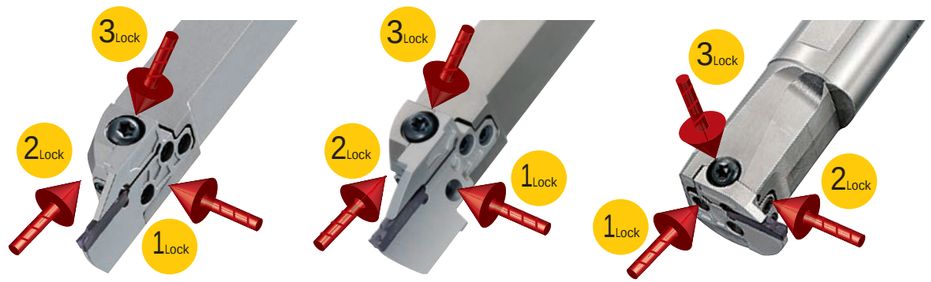
The convex geometry ensures high precision clamping.



New TRI-LOCK System for increased stability and performance!

TRI-LOCK System

The TRI-LOCK system ensures the blade is securely fixed in 3 directions (side, front and top), giving high rigidity for stable grooving and cutting off performance.



A WIDE SELECTION OF INSERTS

- Selection of groove widths

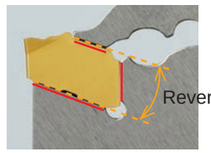
- Different corner radii available

GW Series
Easy to Utilize Configuration that Improves Tool Handling

Clamp

Simple insert clamping method offering high rigidity.

To prevent the insert from being pulled out during machining a reverse taper angle has been designed from the front of the insert. Additionally the design also includes 3 large locating faces between the insert and the blade offering increased cutting edge reliability. The blade itself is made from a special alloy steel to suit this application.
In respect to insert indexing, a unique wrench is supplied to ensure ease when changing the insert.



Reverse Taper Angle

Voice of Developer

Just how easy is it to set an insert?

With the use of a unique wrench, it is possible to locate and remove the insert with one simple action making it easier for use in the workplace.

Through Coolant Blade

Increased wear resistance due to the use of 2 through coolant ejection holes.

2 through coolant holes supply the coolant to both the rake and flank face, leading to effective cutting edge cooling and increased wear resistance.
Additionally this blade can also be used for both low pressure and high pressure coolant (1000 PSI).

Voice of Developer

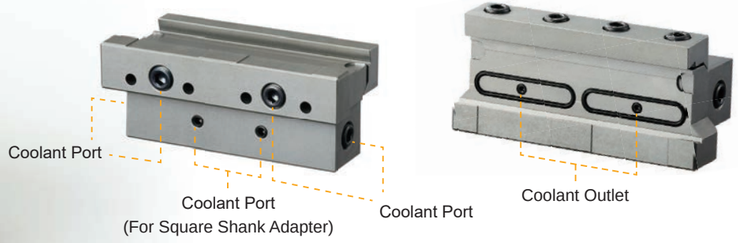
How is it possible to reduce heat generation?

The 2 coolant holes used in the blade are capable of using high coolant pressures of up (1000 PSI). This is achieved by using as large as possible through coolant hole diameter. The ejection holes are located close to the cutting edge to improve the cutting edge cooling effect and increasing wear resistance.

Coolant Ports

Flexible set up possible with the use of 6 coolant ports.

There are 6 coolant ports designed into the tool block. This makes it easier for the end user to set up the tool block and blade to a configuration that suits their needs. If necessary it is also possible to use coolant hose. The ejection type coolant also improves cutting edge cooling and chip evacuation.



Voice of Developer

Possible set up to suit the requirements of the workplace environment.

One of the objectives of this product is to respond to the customers complaints that “the product did not fit and could not be used”. Starting with the coolant outlet that prevents leaks even when oil quantity or overhangs change. Everything from the material and the shape of the O-ring, to the length of the hose has been tailored to the effective use in the workplace.

Cutting Off & Grooving System

C009A 2019-2020

General Catalog

B225A TOOL NEWS

GW Series

Memo

MTEC
MACHINING TECHNOLOGY & EDUCATION CENTER

Welcome to our new world-class Machining Technology and Education Center (MTEC) in Mooresville, NC providing year round support and services to North America.

ABOUT MTEC

TOOLING PROPOSALS & EVALUATION

We will review your current processes or outline a new process. From this review, we will improve productivity, analyze programming methods and output a solution with programming, tooling and time savings.

MACHINING SIMULATION

Using the latest CAD/CAM software and our cutting tool experience, we will outline a new process using proper machining techniques to maximize tool life and productivity.

TECHNICAL SUPPORT

Dedicated local professionals to answer any of your order, product or technical questions.

TRAINING

We are excited to offer several levels of training with goals to reach our highest level--Craftsman Machining Technology. At MTEC NC, we will train using a combination of classroom and hands-on machine time to develop skills and real-world understanding of materials, tools and applications. In addition to multi-day courses, we will have Machining Technology skills seminars, as well as seminars from our partners to complement our apprentice level courses, our journeyman courses, and up to our craftsman level courses.

PROCESS IMPROVEMENTS

Review of the complete part processing and recommend changes of speed, feed, new tooling, reduction of passes, modifying programming and other solutions to reduce cycle time, save money and be proactive.

ONLINE TRAINING

Our FREE e-learning program offers 11 courses in drilling, milling, turning, threading, tool grades and workpiece materials. Once each course is completed, you will be given the opportunity to print a certificate.

- Basic Drilling
- Basic Milling
- Basic Turning
- Advanced Drilling
- Advanced End Milling
- Advanced Turning
- Basic Threading
- Advanced Face Milling
- Basic Workpiece Materials
- Tool Grades
- Advanced Workpiece Materials

TRAINING COURSES

Programs are designed for several levels of skill development – from basic understanding to advance manufacturing with digital solutions, complementing to your valued experience in CNC machining environment. Participate in machining demonstrations with Mitsubishi Materials' skilled engineers. Discover methods to reduce setup and cycle time, optimize programs and enhance your knowledge base.

Information on course schedule, course description, and accommodations

MTECTRAINING.INFO

Follow the QR Code for a virtual facility tour

DIA EDGE

MITSUBISHI MATERIALS U.S.A. CORPORATION

California Office (Headquarters)

3535 Hyland Avenue, Suite 200
Costa Mesa, CA 92626
Customer Service: 800.523.0800
Technical Service: 800.486.2341

North Carolina-MTEC (Marketing & Technical Center)

105 Corporate Center Drive, Suite A
Mooresville, NC 28117
Main: 980.312.3100
Fax: 704.746.9292

Chicago Office (Engineering)

300 N. Martingale Road, Suite 500
Schaumburg, IL 60173
Main: 847.252.6300
Fax: 847.519.1732

Toronto Office (Canada Branch)

3535 Laird Road, Units 15 & 16
Mississauga, Ontario, Canada L5L 5Y7
Main: 905.814.0240
Fax: 905.814.0245

MMC Metal de Mexico, S.A. DE C.V.

Av. La Cañada No.16,
Parque Industrial Bernardo
Quintana, El Marques,
Queretaro C.P. 76246 MEXICO
Main: +52.442.221.61.36
Fax: +52.442.221.61.34

Detroit Office (Moldino CS)

41700 Gardenbrook Road, Suite 120
Novi, MI 48375
Main: 248.308.2620
Fax: 248.308.2627

For Your Safety

- Don't handle inserts and chips without gloves.
- Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage.
- Please use safety covers and wear safety glasses.
- When using compounded cutting oils, please take fire precautions.
- When attaching inserts or spare parts, please use only the correct wrench or driver.
- When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

MITSUBISHI MATERIALS U.S.A.

Product Brands Crafted by Mitsubishi Materials U.S.A.

DIA EDGE MOLDINO

www.diaedgetools.com
www.mmus-carbide.com

Tools specifications subject to change without notice.

B255A-G-US-2022.10