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# GY/GW Inserts

**CUTTING OFF &  
GROOVING SYSTEM**

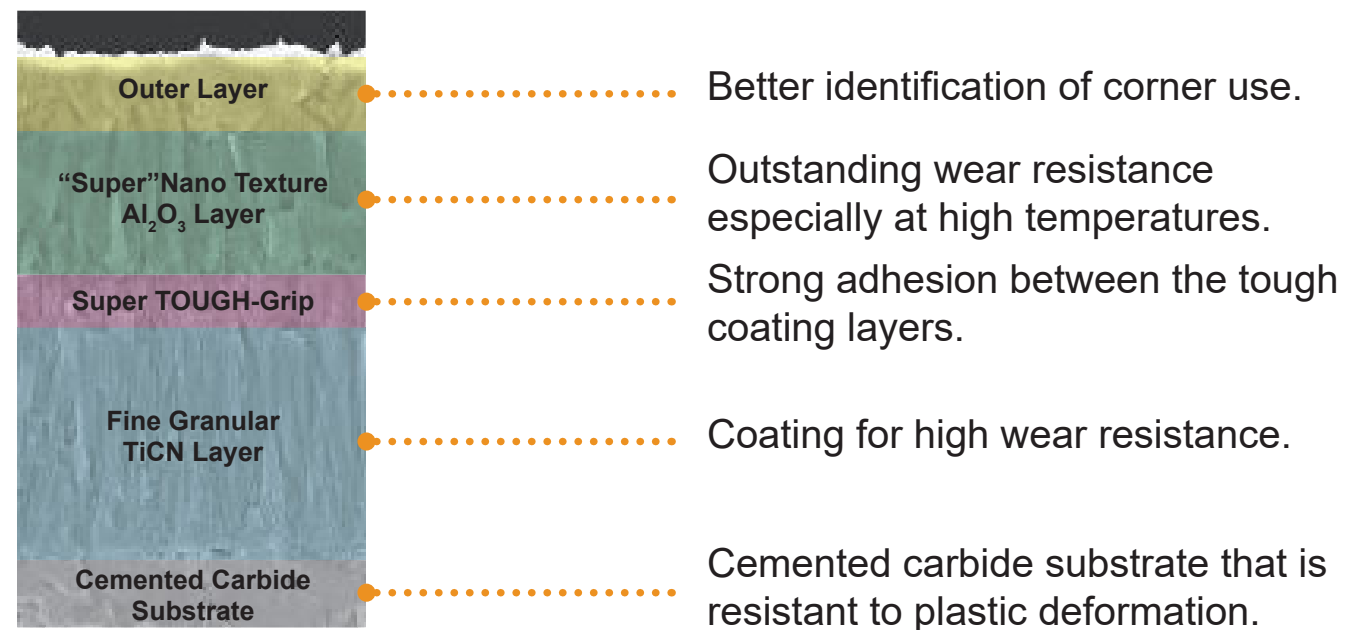


**TOOL NEWS B255A-G**

## CVD Coated Grades

# MY6125 NEW

CVD coating for stable, high-speed steel machining.  
Suitable for grooving, turning and cutting off operations.



### Wear resistance comparison when continuous, deep groove machining of 1045

Shows double the wear resistance properties compared to conventional product B.

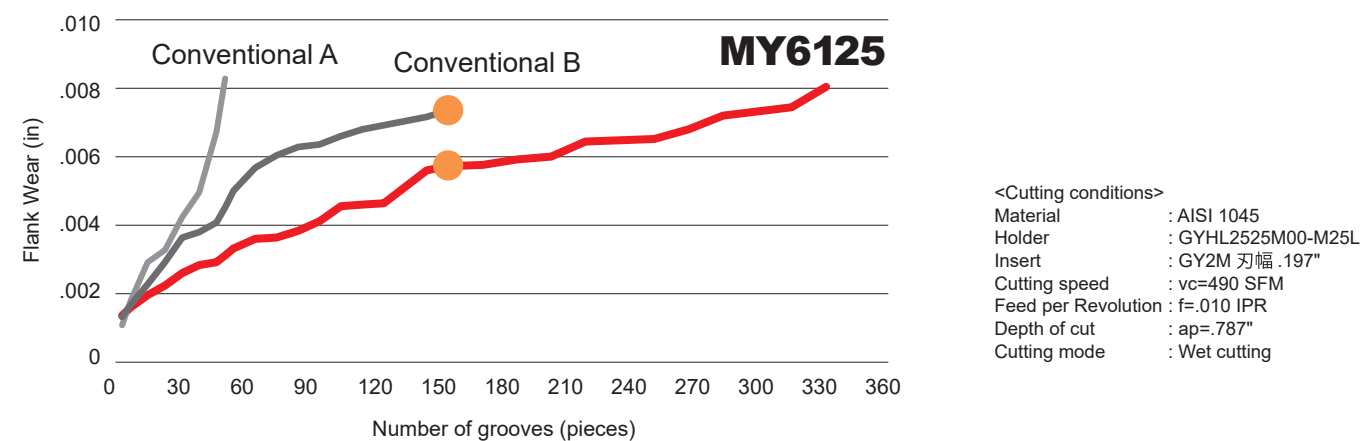


Photo taken after machining 155 pieces



**MY6125 GM** Flank wear = .006"

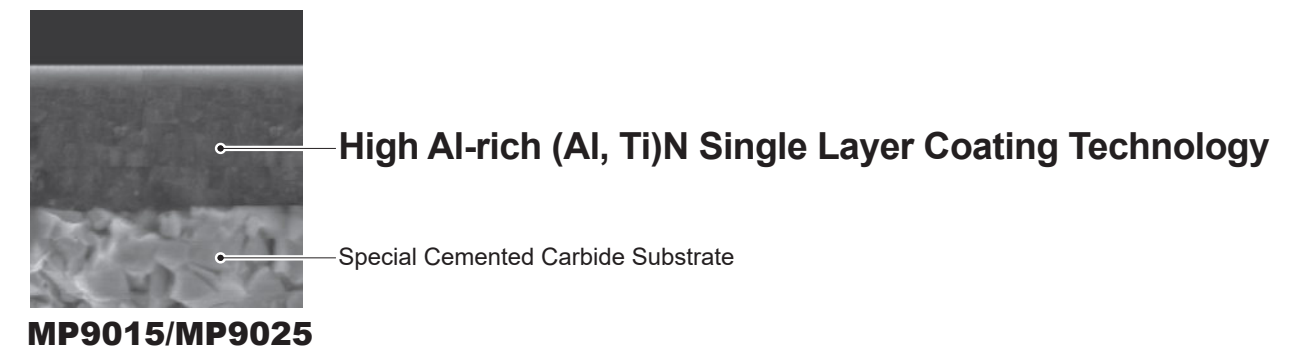


Conventional B Flank wear = .007"

## PVD Coated Grade

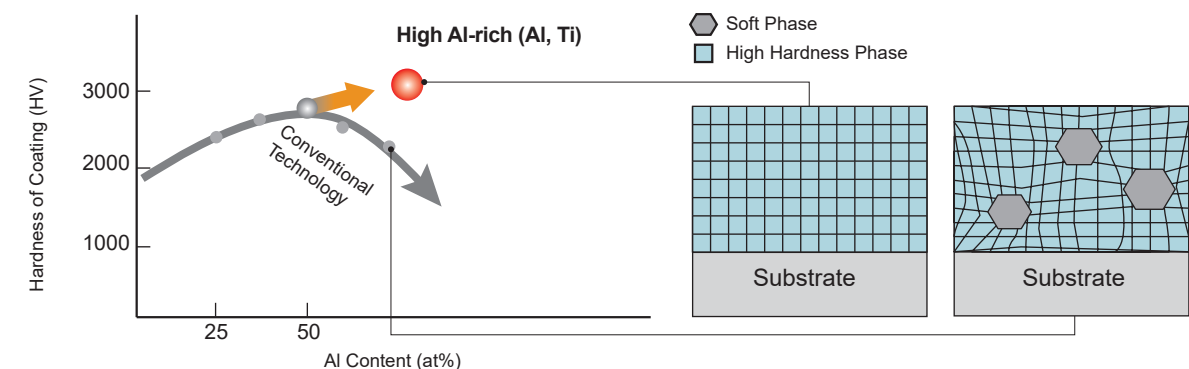
# MP9015/MP9025

Excellent Wear Resistance when Machining Heat Resistant Super Alloys



### Comparison of High Al and Conventional Coating

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           |
|------------|---------------|----------------------------------------------------------|-----------------------|
| <b>S10</b> | <b>MP9015</b> | High hardness grade focusing on wear resistance.         | Heat Resistant Alloys |
| <b>S30</b> | <b>MP9025</b> | First recommended grade focusing on fracture resistance. | Heat Resistant Alloys |

# Insert Grades for GY/GW Series

## GY Series

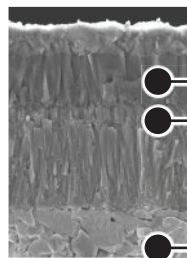
|         |                                                            |         |                                                            |         |                                                            |
|---------|------------------------------------------------------------|---------|------------------------------------------------------------|---------|------------------------------------------------------------|
| P       | Steel                                                      | M       | Stainless Steel                                            | K       | Cast Iron                                                  |
|         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |
| Coating | MY6125                                                     | Coating | VP10RT                                                     | Coating | MY5015                                                     |
|         | MY5015                                                     |         | VP20RT                                                     |         | MY6125                                                     |
|         | VP10RT                                                     |         | VP10RT                                                     |         | VP10RT                                                     |
|         | VP20RT                                                     |         | VP20RT                                                     |         | VP20RT                                                     |
| Cermet  | NX2525                                                     |         |                                                            |         |                                                            |
|         |                                                            |         |                                                            |         |                                                            |
| N       | Non-Ferrous Metal                                          | S       | Heat Resistant Alloys / Titanium Alloys                    | H       | Hardened Steel                                             |
|         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |
| Carbide | RT9010                                                     | Coating | MP9015                                                     | Coating | BC8110                                                     |
|         |                                                            |         | MP9025                                                     |         |                                                            |
| Carbide |                                                            | Carbide | RT9010                                                     |         |                                                            |
|         |                                                            |         |                                                            |         |                                                            |

## GW Series

|         |                                                            |         |                                                            |         |                                                            |
|---------|------------------------------------------------------------|---------|------------------------------------------------------------|---------|------------------------------------------------------------|
| P       | Steel                                                      | M       | Stainless Steel                                            | K       | Cast Iron                                                  |
|         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |
| Coating | MY5015                                                     | Coating | VP10RT                                                     | Coating | MY5015                                                     |
|         | VP10RT                                                     |         | VP20RT                                                     |         | VP10RT                                                     |
|         | VP20RT                                                     |         | VP30RT                                                     |         | VP20RT                                                     |
|         | VP30RT                                                     |         |                                                            |         |                                                            |
| S       | Heat Resistant Alloys / Titanium Alloys                    |         |                                                            |         |                                                            |
|         | Stable Cutting Without Scale ↔ Unstable Cutting With Scale |         |                                                            |         |                                                            |
| Coating | VP10RT                                                     |         |                                                            |         |                                                            |
|         | VP20RT                                                     |         |                                                            |         |                                                            |

## GY/GW Series Insert Grade

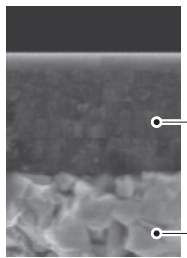
**MY6125** GY only



Increasing the coating thickness significantly improves wear resistance, while the latest coating technology, "Super TOUGH-Grip," ensures cutting edge stability.

- "Super" Nano Texture Super TOUGH-Grip
- Cemented Carbide Substrate

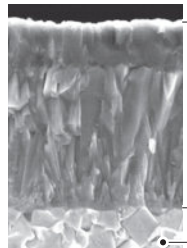
**MP9000 Series**



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.

- High Al-rich (Al, Ti)N Single Layer Coating
- Special Cemented Carbide Substrate

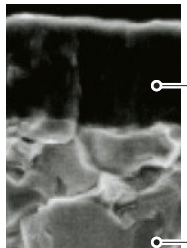
**MY5015**



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 steel.

- CVD Coated Carbide
- Tough Cemented Carbide Substrate

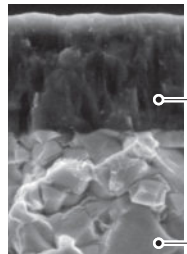
**VP20RT**



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.

- MIRACLE Coating
- Tough Cemented Carbide Substrate (90.5HRA)

**VP10RT**



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

- MIRACLE Coating
- Tough Cemented Carbide Substrate (92.0HRA)

**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.

**RT9010/RT9020 for blank inserts**

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 steel, stainless steel and cast irons.

**BC8110**

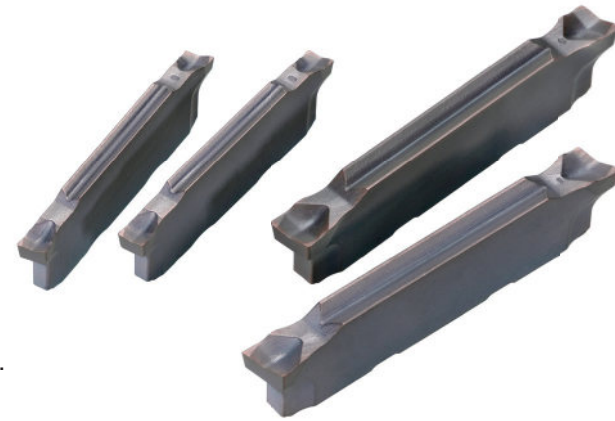
BC8110 is a coated CBN grade for continuous cutting, which provides longer life when machining hardened steel.

\* Blank insert is not suitable for machining without grinding.

Low Feed Chipbreaker

# GS Chipbreaker for Lead Angles 8° and 15°

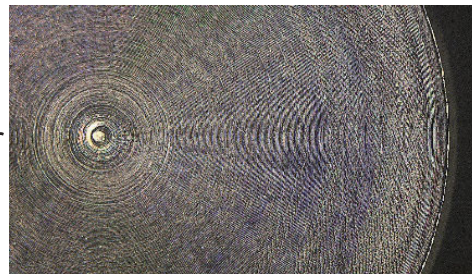
By improving dimensional accuracy, the amount of remaining center pip is reduced and good surface finishes are achieved.



## Cutting Performance

### 304 Comparison of Cutting Off and Remaining Material

**GY GS** Chipbreaker

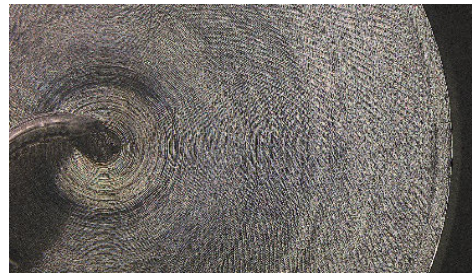


Completely cut off



Remaining pip in the center :  $\phi$ .019"  
RZ : .0004"

Conventional A

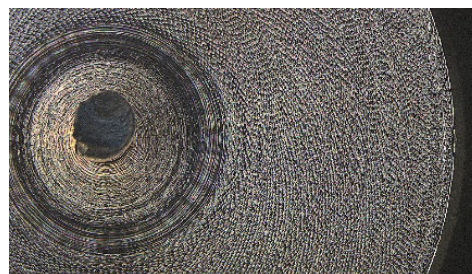


Not completely cut off



Remaining pip in the center :  $\phi$ .023"  
RZ : .0017"

Conventional B



Not completely cut off

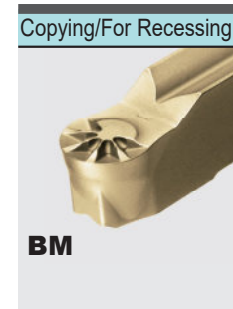
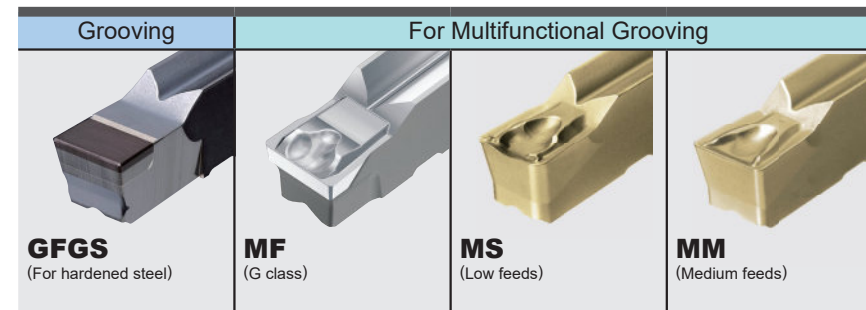
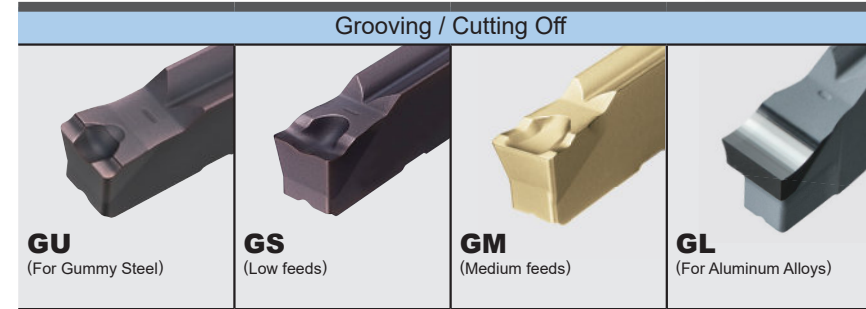


Remaining pip in the center :  $\phi$ .056"  
RZ : .0006"

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

# GY Series

## Chipbreaker System



For Grooving / Cutting Off  
**GL** (For Aluminum Alloys)

### G Class Chipbreaker

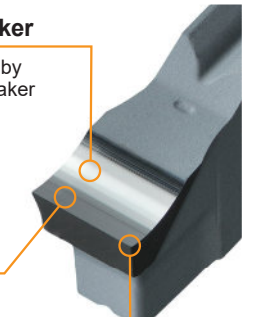
Improved chip control by narrowing the chipbreaker width

### High Rake Angle

Achieves low cutting resistance

### Sharp Edge

Improved welding resistance for aluminum alloys



For Multifunctional Grooving  
**MF** (For Finishing)

Efficient chipbreaking when cross-feed machining.

Chips are controlled when finishing.



# GW Series

## Chipbreaker System Offering Excellent Chip Disposal Properties

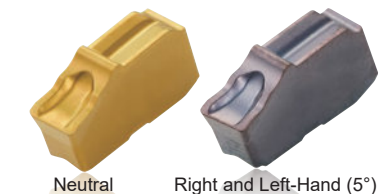
### For Low Feed Cutting



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

### GS

### For Medium Feed Cutting



Neutral Right and Left-Hand (5°)

### GM

# GY Series Inserts

(in)

| Applications                                       | Geometry                                       | Order Number     | Stock  |        |        |        |        |        |         |        | Seat Size | CW            |           | RER/L  | CDX  | *2 LIG |        |
|----------------------------------------------------|------------------------------------------------|------------------|--------|--------|--------|--------|--------|--------|---------|--------|-----------|---------------|-----------|--------|------|--------|--------|
|                                                    |                                                |                  | Coated |        |        |        | Cermet |        | Carbide |        |           | Cutting Width | Tolerance |        |      |        |        |
|                                                    |                                                |                  | NEW    | MP9015 | MP9025 | VP10RT | VP20RT | MY5015 | NX2525  | RT9010 |           |               |           |        |      |        | RT9020 |
|                                                    |                                                |                  | MP9015 | MP9025 | VP10RT | VP20RT | MY5015 | NX2525 | RT9010  | RT9020 |           | in            | (mm)      |        |      |        |        |
| For Grooving / Cutting Off                         | <b>GU Chipbreaker</b><br>(For gummy steel)<br> | 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  |
|                                                    | <b>GS Chipbreaker</b><br>(Low feeds)<br>       | 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  |
| <b>GM Chipbreaker</b><br>(Medium feeds)<br>        | 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  |        |
|                                                    | <b>GM Chipbreaker</b><br>(Medium feeds)<br>    | 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  |        |
| <b>GL Chipbreaker</b><br>(For Aluminum Alloys)<br> | 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 LIG dimension depends on the chipbreaker. Refer to page 12 "LIG dimension tolerance conversion table".

● : USA Stock  
10 inserts in one case.

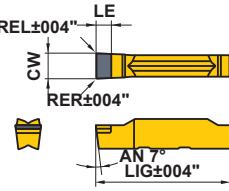
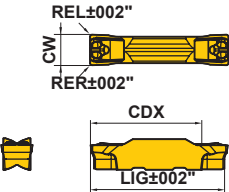
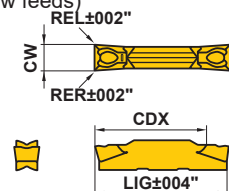
● = NEW

| Applications       | Geometry                                     | Order Number                                 | Stock              |        |        |        |           | Seat Size | CW     |           | Corner R  |                  |           |        | CDX   | *2 LIG |           |
|--------------------|----------------------------------------------|----------------------------------------------|--------------------|--------|--------|--------|-----------|-----------|--------|-----------|-----------|------------------|-----------|--------|-------|--------|-----------|
|                    |                                              |                                              | Coated             |        |        | REL    | Tolerance |           | REL    | Tolerance | RER       | Tolerance        |           |        |       |        |           |
|                    |                                              |                                              | MP9015             | MP9025 | VP10RT |        |           |           |        |           |           |                  | VP20RT    | MY5015 |       |        |           |
|                    |                                              |                                              | MP9015             | MP9025 | VP10RT | VP20RT | MY5015    |           | in     | (mm)      | Tolerance | REL              | Tolerance | RER    |       |        | Tolerance |
| For Cutting off    | <b>R05-GS Chipbreaker</b><br>(Low feeds)<br> | GY2M0120B010R05-GS                           |                    |        |        |        | B         | .047      | (1.20) | ±.0012    | .004      | ±.0020           | .004      | ±.002  | .481  | .579   |           |
|                    |                                              | <b>R08-GS Chipbreaker</b><br>(Low feeds)<br> | GY2G0150C010R08-GS |        |        |        |           | C         | .059   | (1.50)    | ±.0008    | .004             | ±.0012    | .004   | —     | .519   | .600      |
|                    |                                              |                                              | GY2G0200D020R08-GS |        |        |        |           | D         | .079   | (2.00)    | ±.0012    | .008             | ±.0020    | .008   | —     | .742   | .840      |
|                    |                                              |                                              | GY2G0250E020R08-GS |        |        |        |           | E         | .098   | (2.50)    | ±.0012    | .008             | ±.0020    | .008   | —     | .750   | .845      |
|                    |                                              |                                              | GY2G0300F020R08-GS |        |        |        |           | F         | .118   | (3.00)    | ±.0012    | .008             | ±.0020    | .008   | —     | .733   | .848      |
|                    | <b>R15-GS Chipbreaker</b><br>(Low feeds)<br> | GY2G0150C003R15-GS                           |                    |        |        |        | C         | .059      | (1.50) | ±.0008    | .0012     | +0.0012, -0.0008 | .004      | —      | .519  | .600   |           |
|                    |                                              | GY2G0150C010R15-GS                           |                    |        |        |        | C         | .059      | (1.50) | ±.0008    | .004      | ±.0012           | .004      | —      | .519  | .600   |           |
|                    |                                              | GY2G0200D003R15-GS                           |                    |        |        |        | D         | .079      | (2.00) | ±.0012    | .0012     | +0.0012, -0.0008 | .004      | —      | .742  | .839   |           |
|                    |                                              | GY2G0200D010R15-GS                           |                    |        |        |        | D         | .079      | (2.00) | ±.0012    | .004      | ±.0012           | .004      | —      | .742  | .839   |           |
|                    |                                              | GY2G0250E003R15-GS                           |                    |        |        |        | E         | .098      | (2.50) | ±.0012    | .008      | +0.0012, -0.0008 | .004      | —      | .750  | .845   |           |
|                    |                                              | GY2G0250E020R15-GS                           |                    |        |        |        | E         | .098      | (2.50) | ±.0012    | .008      | ±.0020           | .004      | —      | .750  | .845   |           |
|                    |                                              | GY2G0300F003R15-GS                           |                    |        |        |        | F         | .118      | (3.00) | ±.0012    | .0012     | +0.0012, -0.0008 | .004      | —      | .733  | .850   |           |
|                    | <b>R/L05-GM Chipbreaker</b><br>              | 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  | —     | .821   |           |
|                    |                                              | GY1M0300F030L05-GM                           |                    |        |        |        | F         | .118      | (3.00) | ±.0012    | .012      | ±.0020           | .012      | ±.002  | —     | .821   |           |
|                    | <b>R/L05-GM Chipbreaker</b><br>              | 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 LIG dimension depends on the chipbreaker. Refer to page 12 "LIG dimension tolerance conversion table".

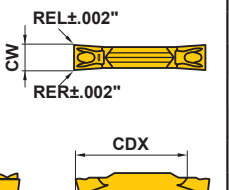
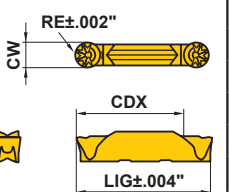
# GY Series Inserts

(in)

| Applications                 | Geometry                                                                                                           | Order Number                 | Stock                                                                                                            |                  |        |        |         |        | Seat Size | CW            |           |        | RER/L  | CDX   | LIG  | *2   |   |
|------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------|------------------|--------|--------|---------|--------|-----------|---------------|-----------|--------|--------|-------|------|------|---|
|                              |                                                                                                                    |                              | NEW                                                                                                              | Coated           |        | Cermet | Carbide | CBN    |           | Cutting Width | Tolerance |        |        |       |      |      |   |
|                              |                                                                                                                    |                              |                                                                                                                  | VP10RT           | VP20RT |        |         |        |           |               |           |        |        |       |      |      |   |
|                              |                                                                                                                    |                              |                                                                                                                  | MY6125           | MY5015 |        |         |        |           |               |           |        |        |       |      |      |   |
| For Grooving                 | Flat Top (For hardened steel)<br> | 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 Chipbreaker (Finishing)<br> | 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 | —    |      |   |
| For Multifunctional Grooving | MS Chipbreaker (Low feeds)<br>  |                              |                                                                                                                  | 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  
 \*2 The LIG dimension depends on the chipbreaker. Refer to page 12 "LIG dimension tolerance conversion table".  
 ● : USA Stock \* : Stocked in Japan ● = NEW

(in)

| Applications                   | Geometry                                                                                                             | Order Number     | Stock |        |        |        |               |           | Seat Size | CW     |        |      | RE RER/L | CDX   | LIG |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------|-------|--------|--------|--------|---------------|-----------|-----------|--------|--------|------|----------|-------|-----|
|                                |                                                                                                                      |                  | NEW   | Coated |        | Cermet | Cutting Width | Tolerance |           |        |        |      |          |       |     |
|                                |                                                                                                                      |                  |       | MP9015 | MP9025 |        |               |           |           |        |        |      |          |       |     |
|                                |                                                                                                                      |                  |       | VP10RT | VP20RT |        |               |           |           |        |        |      |          |       |     |
| For Multifunctional Grooving   | MM Chipbreaker (Medium feeds)<br> | 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 |     |
| For Copying / For Reprocessing | BM Chipbreaker<br>               | 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 LIG dimension depends on the chipbreaker. Refer to page 12 "LIG dimension tolerance conversion table". ● = NEW

# GY Series Inserts

## Blank Inserts

| Applications  | Geometry           | Order Number  | Stock              |               |         | Seat Size | CW             |        |           | RER/L  | LIG    |      |       |
|---------------|--------------------|---------------|--------------------|---------------|---------|-----------|----------------|--------|-----------|--------|--------|------|-------|
|               |                    |               | Cermet             |               | Carbide |           | Grooving Width |        | Tolerance |        |        |      |       |
|               |                    |               | NX2525             | RT9010        | RT9020  |           | in             | (mm)   |           |        |        |      |       |
| *1<br>Blank   | <p>2 Edge Type</p> | 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<br>Blank   | <p>1 Edge Type</p> | 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 Blank insert is not suitable for machining without grinding.

## GY Series LIG Dimension Tolerance Conversion Table

| Cutting Width*1<br>CW | Dimensions<br>LIG | *2 Dimensional tolerance versus standard dimension (LIG) of each chipbreaker |       |       |        |           |        |          |      |      |      |
|-----------------------|-------------------|------------------------------------------------------------------------------|-------|-------|--------|-----------|--------|----------|------|------|------|
|                       |                   | 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     | .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     | .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 chipbreaker.

\*3 The standard dimensions shown here use an approximate insert width.

● : USA Stock ★ : Stocked in Japan

10 inserts in one case.

# GW Series Inserts

(in)

| Application                         | Order Number       | Stock   |        |        |        | CW            |        |           | RER REL | PSIRR PSIRL | Geometry |
|-------------------------------------|--------------------|---------|--------|--------|--------|---------------|--------|-----------|---------|-------------|----------|
|                                     |                    | Coating |        |        |        | Cutting Width |        | Tolerance |         |             |          |
|                                     |                    | MY5015  | VP10RT | VP20RT | VP30RT | in            | (mm)   |           |         |             |          |
| 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

(in)

| Geometry           | Order Number  | Carbide |        | Seat Size | CW             |        |           | RER  | REL  |
|--------------------|---------------|---------|--------|-----------|----------------|--------|-----------|------|------|
|                    |               | RT9010  | RT9020 |           | Grooving Width |        | Tolerance |      |      |
|                    |               | in      | (mm)   |           |                |        |           |      |      |
| <p>1 Edge Type</p> | 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 |

\* Blank insert is not suitable for machining without grinding.

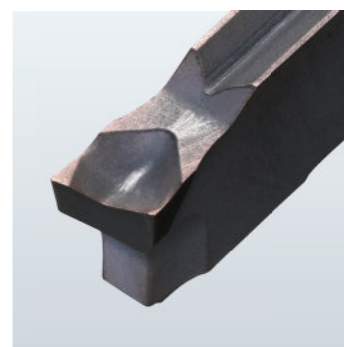
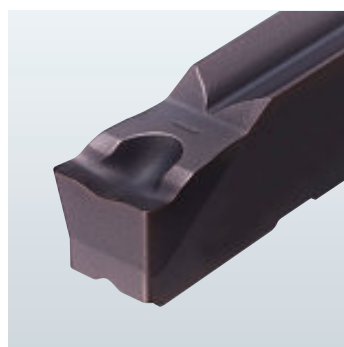
## Correct Use of GY Series GS Chipbreakers

First Recommendation

Cutting Off of Workpieces with Holes and Small Parts

Reduction of Cutting Resistance

Reduction of Burrs and Core Residue

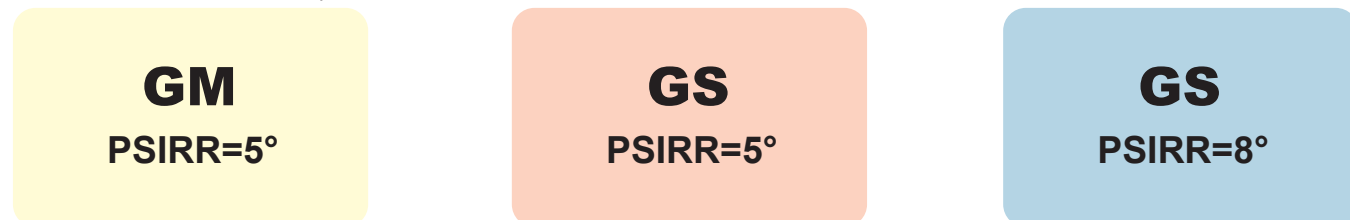


## Correct Use of GW Series Inserts

First Recommendation

Improved Fracture Resistance

Reduction of Burrs and Core Residue



Reduction of Cutting Resistance

Improved Fracture Resistance



## Recommended Cutting Speed [For External Grooving / Cutting Off]

| Material                                      | Properties               | Grade                    | Cutting Speed vc (SFM) |     |     |     |      |     |     |  |  |
|-----------------------------------------------|--------------------------|--------------------------|------------------------|-----|-----|-----|------|-----|-----|--|--|
|                                               |                          |                          | 165                    | 330 | 490 | 655 | 820  | 985 |     |  |  |
| P<br>Mild Steel                               | Hardness ≤160HB          | VP20RT                   |                        | 330 |     | 720 |      |     |     |  |  |
|                                               |                          | VP10RT                   |                        | 360 |     | 755 |      |     |     |  |  |
|                                               |                          | NX2525                   |                        | 295 |     | 690 |      |     |     |  |  |
|                                               | Carbon Steel Alloy Steel | Hardness 160-280HB       | VP20RT                 |     | 260 |     | 590  |     |     |  |  |
|                                               |                          |                          | VP10RT                 |     | 295 |     | 620  |     |     |  |  |
|                                               |                          |                          | MY6125                 |     |     |     | 525  |     | 985 |  |  |
|                                               |                          | MY5015                   |                        |     |     | 360 |      | 820 |     |  |  |
|                                               |                          | NX2525                   |                        | 230 |     | 560 |      |     |     |  |  |
|                                               |                          | Hardness 280HB≤          | VP20RT                 |     | 195 |     | 460  |     |     |  |  |
|                                               |                          |                          | VP10RT                 |     | 230 |     | 490  |     |     |  |  |
|                                               |                          |                          | MY6125                 |     |     |     | 360  |     | 850 |  |  |
|                                               |                          |                          | MY5015                 |     |     |     | 295  |     | 690 |  |  |
| NX2525                                        |                          |                          | 180                    |     | 440 |     |      |     |     |  |  |
| M<br>Stainless Steel                          | Hardness ≤270HB          |                          | VP20RT                 |     | 195 |     | 460  |     |     |  |  |
| VP10RT                                        |                          |                          | 230                    |     | 490 |     |      |     |     |  |  |
| K<br>Gray Cast Iron                           | Tensile Strength ≤300MPa | VP20RT                   |                        | 260 |     | 590 |      |     |     |  |  |
|                                               |                          | VP10RT                   |                        | 295 |     | 620 |      |     |     |  |  |
|                                               |                          | MY5015                   |                        |     |     | 460 |      | 985 |     |  |  |
|                                               | MY6125                   |                          |                        |     | 560 |     | 1150 |     |     |  |  |
|                                               | Ductile Cast Iron        | Tensile Strength ≤800MPa | VP20RT                 |     | 195 |     | 460  |     |     |  |  |
|                                               |                          |                          | VP10RT                 |     | 230 |     | 490  |     |     |  |  |
| MY5015                                        |                          |                          |                        |     |     | 295 |      | 690 |     |  |  |
| MY6125                                        |                          |                          |                        |     |     | 360 |      | 850 |     |  |  |
| S<br>Heat Resistant Alloys<br>Titanium Alloys | -                        | MP9025                   |                        | 100 |     | 295 |      |     |     |  |  |
|                                               |                          | MP9015                   |                        | 130 |     | 330 |      |     |     |  |  |
|                                               |                          | VP20RT                   |                        | 100 |     | 195 |      |     |     |  |  |
|                                               |                          | VP10RT/ RT9010           |                        | 130 |     | 230 |      |     |     |  |  |
| H<br>Hardened Steel                           | 50HRC≤                   | BC8110                   |                        | 260 |     | 395 |      |     |     |  |  |

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

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

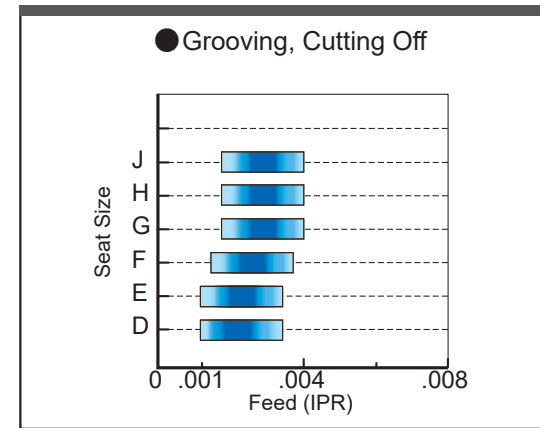
# Cutting Off & Grooving System GY Series

## Recommended Cutting Conditions [For External Grooving / Cutting Off]

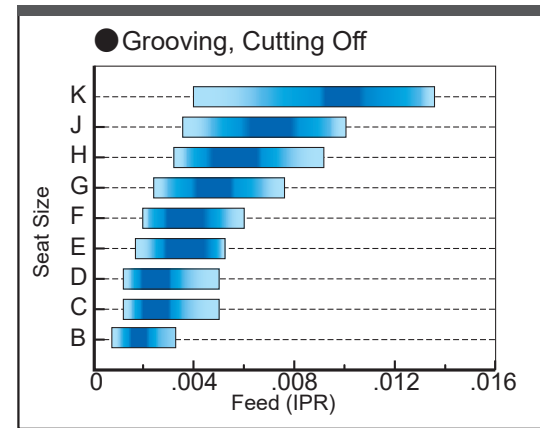
Recommended cutting conditions when combining a GYHR/L2525M00/90-M25R/L modular holder and GYM25R/LA-○○○ modular blade.

### Recommended feed rate and depth of cut

#### GU Chipbreaker

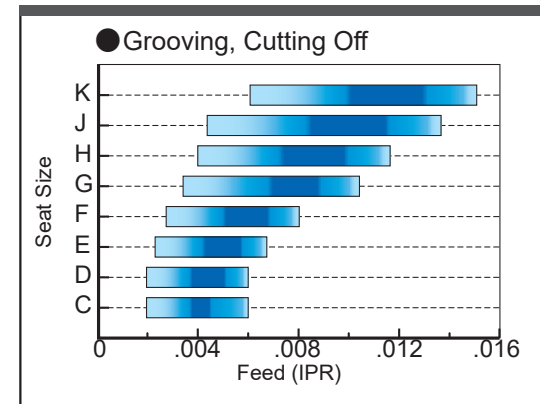


#### GS Chipbreaker

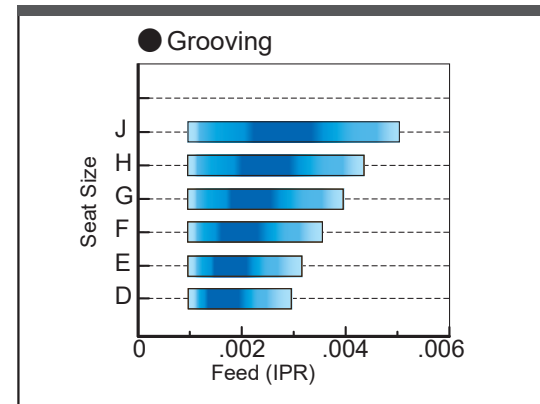


| Seat Size | Insert Width                                       |
|-----------|----------------------------------------------------|
| B         | .047", 1.20 mm                                     |
| C         | .059", 1.50 mm                                     |
| D         | .079", 2.00 mm<br>.088",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

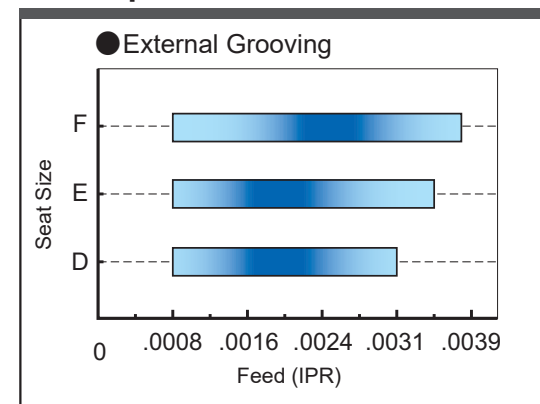
#### GM Chipbreaker



#### Flat Top GFGS (CBN)

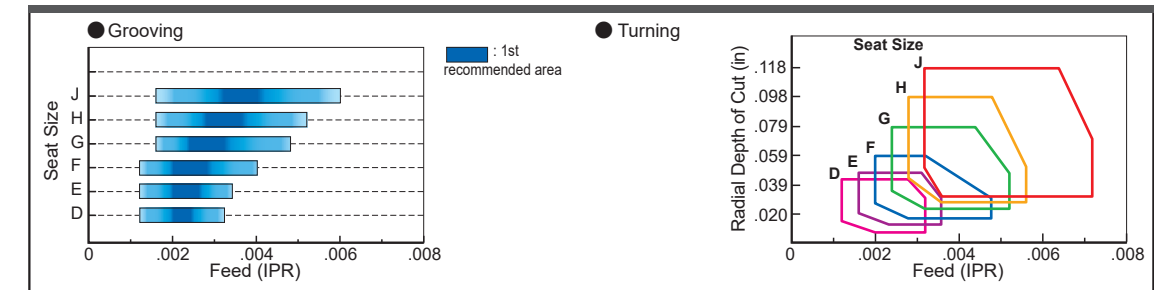


#### GL Chipbreaker



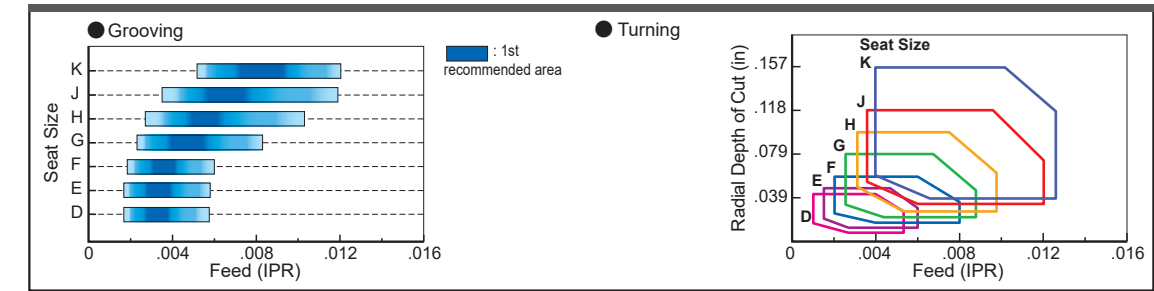
Legend: 1st recommended area

#### MF Chipbreaker

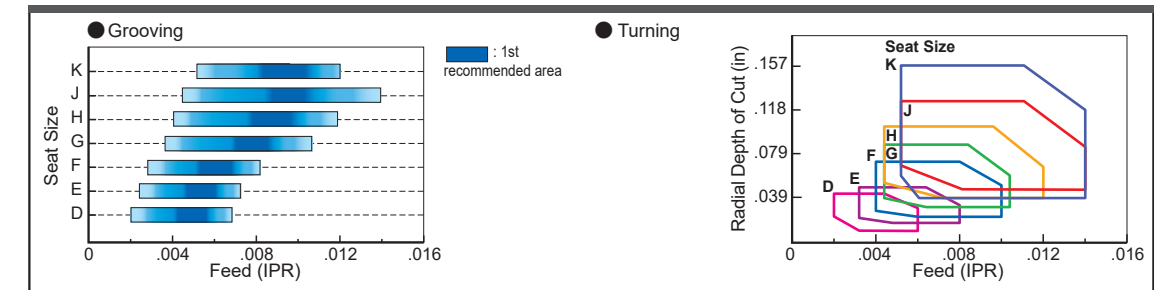


| Seat Size | Insert Width                                       |
|-----------|----------------------------------------------------|
| C         | .059", 1.50 mm                                     |
| D         | .079", 2.00 mm<br>.088", 2.24 mm                   |
| E         | .094", 2.39 mm<br>.098",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

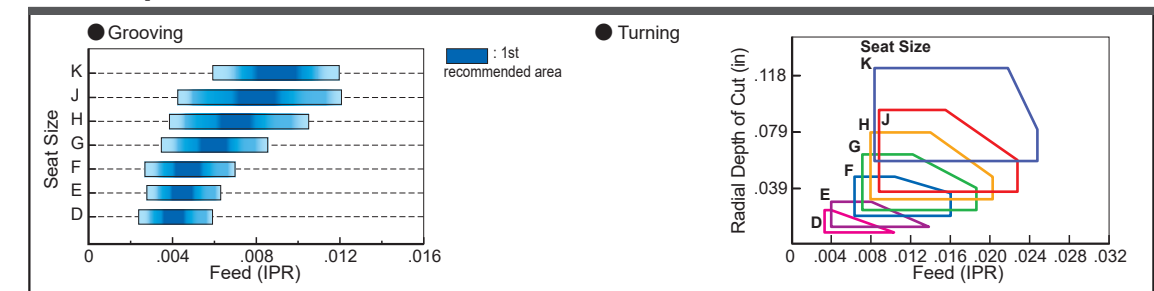
#### MS Chipbreaker



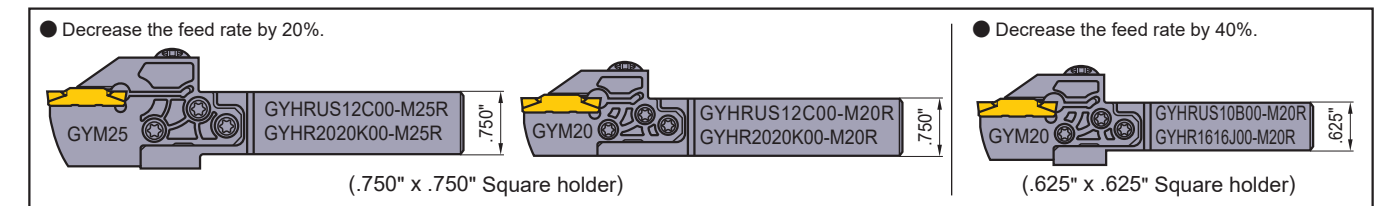
#### MM Chipbreaker



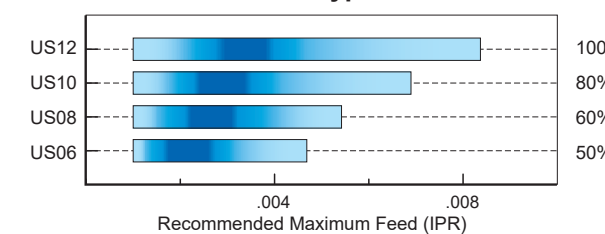
#### BM Chipbreaker



Note 1) Lower the recommended feed per revolution 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-type lathes

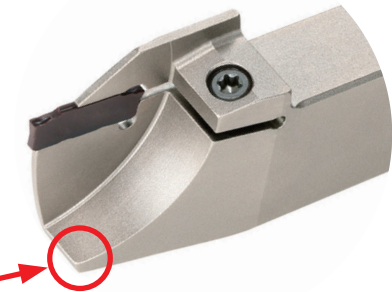
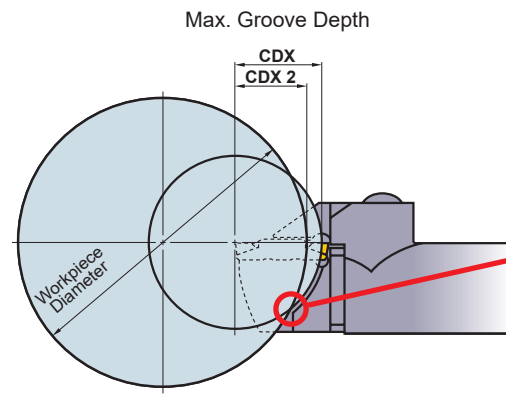


Please refer to the tables above on recommended cutting conditions for external grooving and cutting off. Apply the percentage ratio shown on each shank size with the values in the table.

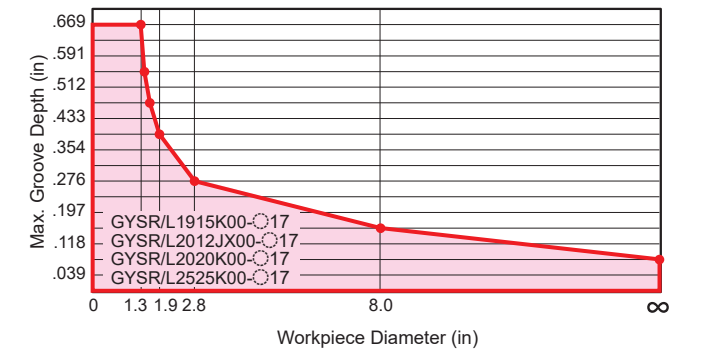
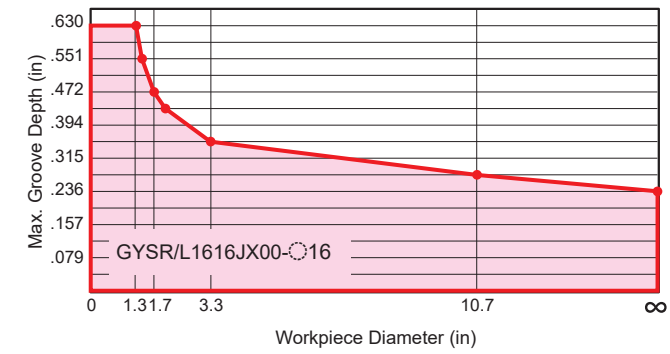
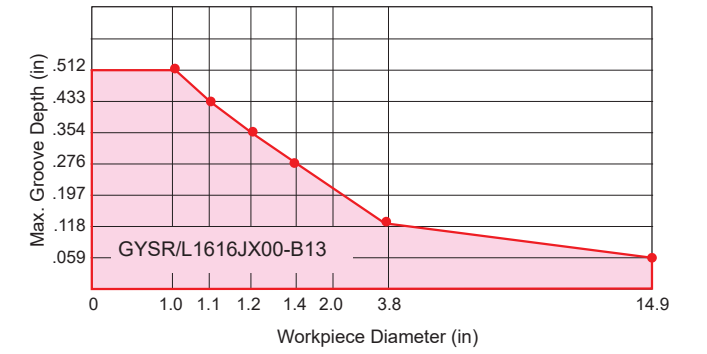
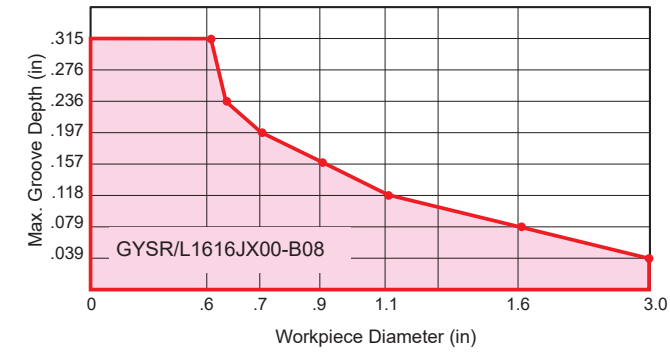
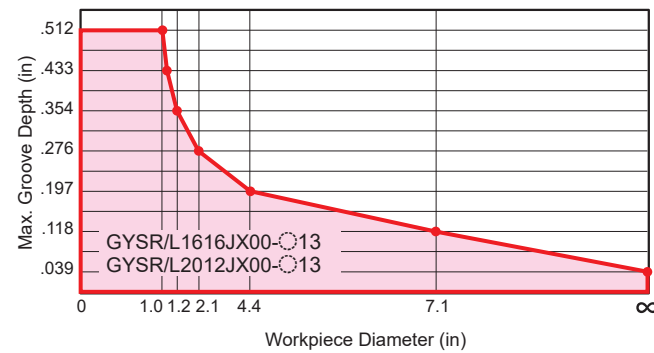
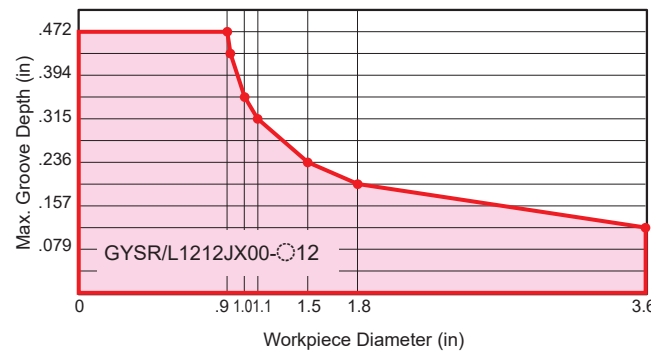
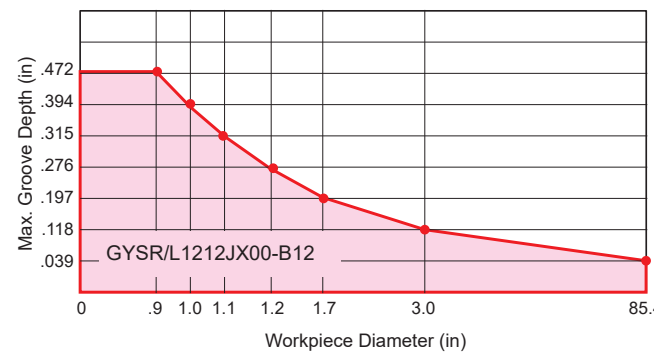
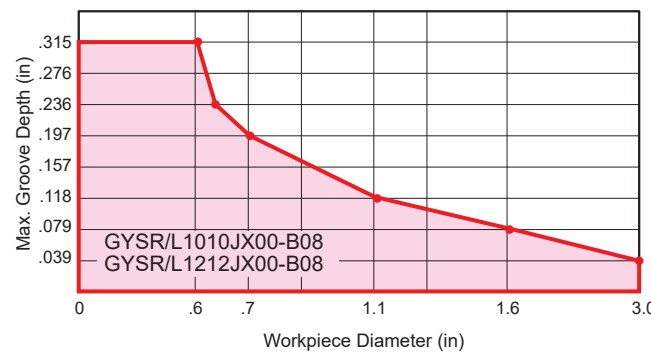
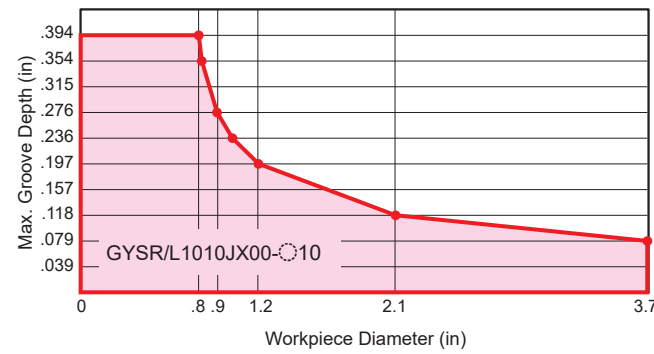
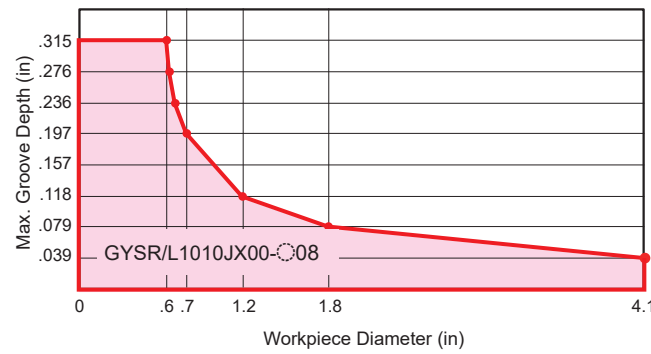
## LIMITATION OF THE MAXIMUM GROOVE DEPTH [For External Grooving]

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

The maximum groove depth is limited by the workpiece diameter.

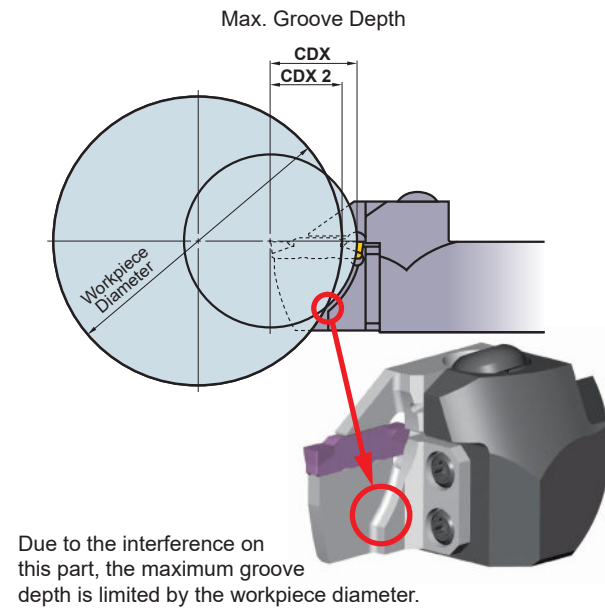
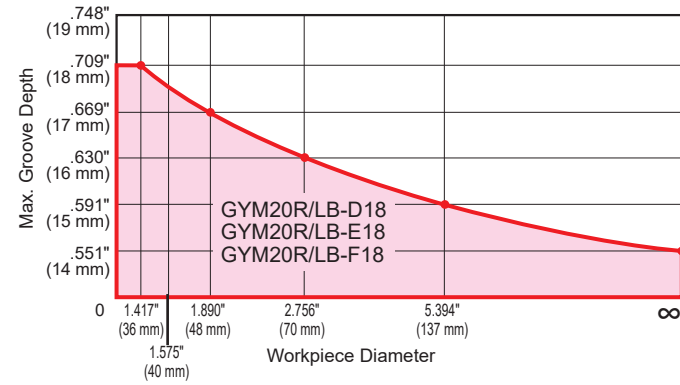


Due to interference, the maximum groove depth is limited by the workpiece diameter.



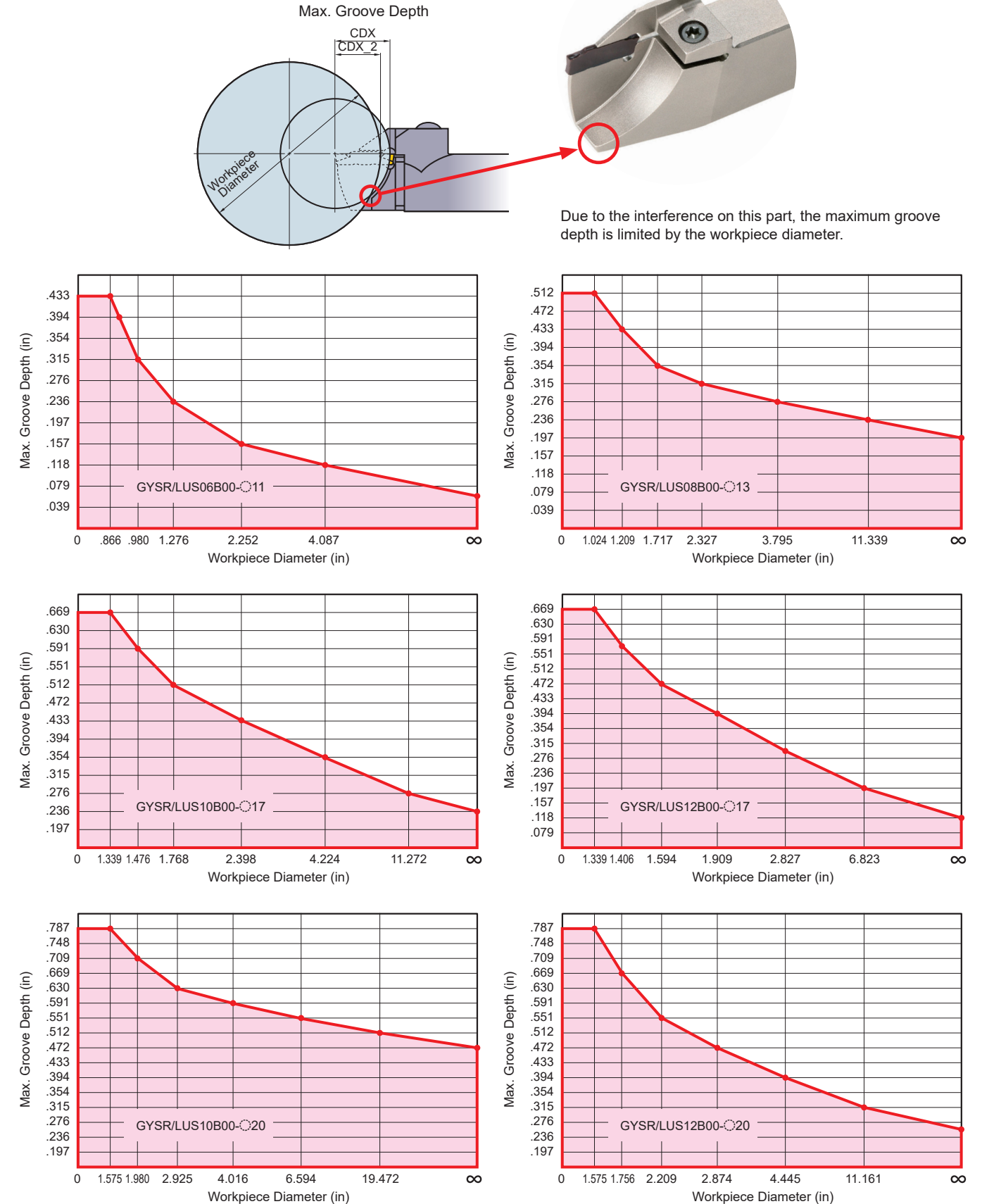
## Limitation of The Maximum Groove Depth [For External Grooving]

- 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.



## 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.



# Cutting Off & Grooving System GY Series

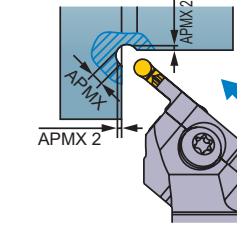
## Recommended Cutting Speed [For External Recessing]

| Material | Properties                               | Grade  | Cutting Speed vc (SFM) |     |     |     |     |  |
|----------|------------------------------------------|--------|------------------------|-----|-----|-----|-----|--|
|          |                                          |        | 165                    | 330 | 490 | 655 | 820 |  |
| P        | Mild Steel                               | VP20RT |                        | 260 |     | 590 |     |  |
|          |                                          | VP10RT |                        | 295 |     | 620 |     |  |
|          | Carbon Steel Alloy Steel                 | VP20RT | 195                    |     | 460 |     |     |  |
|          |                                          | VP10RT |                        | 230 |     | 490 |     |  |
|          |                                          | MY6125 |                        |     | 360 |     | 820 |  |
|          |                                          | MY5015 |                        | 295 |     | 690 |     |  |
|          |                                          | NX2525 | 180                    |     | 440 |     |     |  |
|          |                                          | VP20RT | 165                    |     | 360 |     |     |  |
|          | Carbon Steel Alloy Steel                 | VP10RT | 195                    |     | 395 |     |     |  |
|          |                                          | MY6125 |                        |     | 330 |     | 620 |  |
|          |                                          | MY5015 |                        | 260 |     | 525 |     |  |
|          |                                          | NX2525 | 150                    |     | 345 |     |     |  |
| VP20RT   |                                          | 165    |                        | 360 |     |     |     |  |
| M        | Stainless Steel                          | VP20RT | 165                    |     | 360 |     |     |  |
|          |                                          | VP10RT | 195                    |     | 395 |     |     |  |
| K        | Gray Cast Iron                           | VP20RT | 195                    |     | 460 |     |     |  |
|          |                                          | VP10RT |                        | 230 |     | 490 |     |  |
|          |                                          | MY5015 |                        | 295 |     | 690 |     |  |
|          |                                          | MY6125 |                        |     | 360 |     | 820 |  |
|          | Ductile Cast Iron                        | VP20RT | 165                    |     | 360 |     |     |  |
|          |                                          | VP10RT | 195                    |     | 395 |     |     |  |
|          |                                          | MY5015 |                        | 260 |     | 525 |     |  |
|          |                                          | MY6125 |                        |     | 330 |     | 620 |  |
| S        | Heat Resistant Alloys<br>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.

## Machining of Recess Depth

Since the recess depth is measured at a 45° angle, please perform the actual recess machining according to the depth of cut (APMX2).

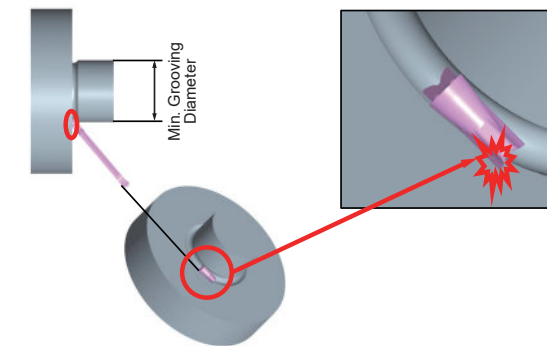


| Cutting Width CW | Recess Depth APMX | Actual Depth of Cut APMX2 |
|------------------|-------------------|---------------------------|
| .079", 2.00 mm   | .059", 1.50 mm    | .025", 0.646 mm           |
| .098", 2.50 mm   | .069", 1.75 mm    | .028", 0.720 mm           |
| .118", 3.00 mm   | .079", 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           |

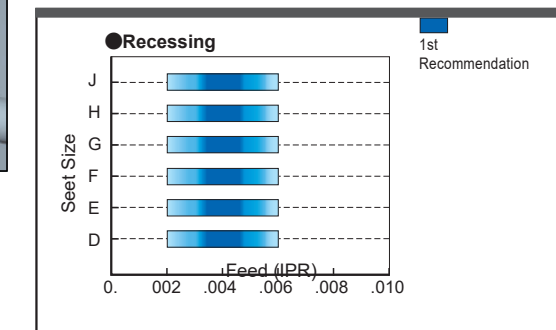
## BM Chipbreaker

### 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.

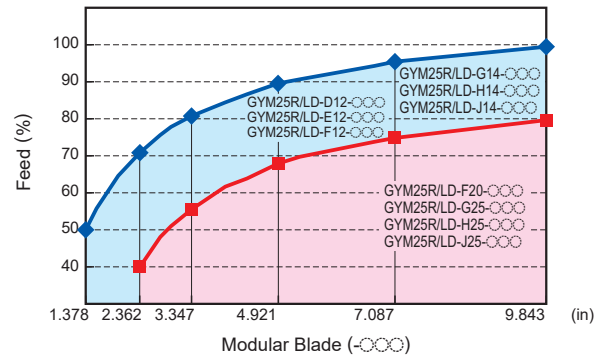


## Recommended feed rate and depth of cut



# Cutting Off & Grooving System GY Series

## Relationship Between the Modular Blade and Feed Per Revolution [For Face Grooving]



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

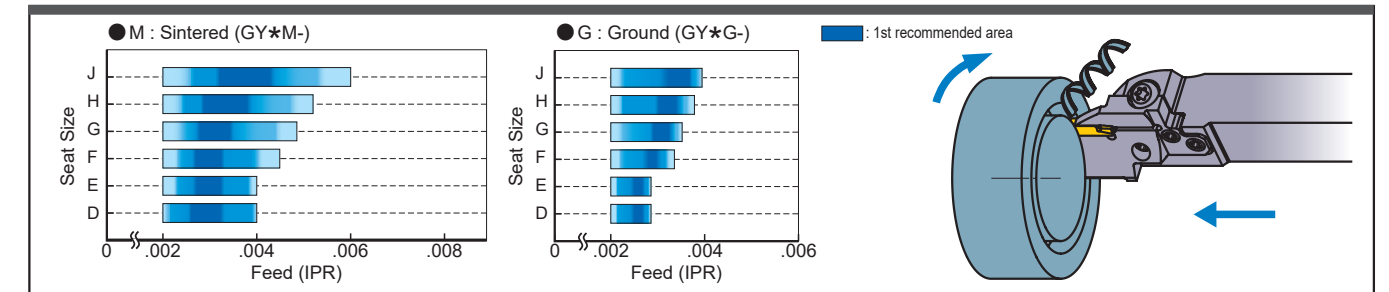
## Recommended Cutting Speed [For Face Grooving]

| Material                                      | Properties               | Grade  | Cutting Speed (SFM) |     |     |     |     |     |
|-----------------------------------------------|--------------------------|--------|---------------------|-----|-----|-----|-----|-----|
|                                               |                          |        | 165                 | 330 | 490 | 655 | 820 | 985 |
| P<br>Mild Steel                               | Hardness ≤160HB          | VP20RT |                     | 260 |     | 590 |     |     |
|                                               |                          | VP10RT |                     | 295 |     | 620 |     |     |
|                                               |                          | NX2525 |                     | 230 |     | 560 |     |     |
| Carbon Steel Alloy Steel                      | Hardness 160–280HB       | VP20RT |                     | 195 |     | 460 |     |     |
|                                               |                          | VP10RT |                     | 230 |     | 490 |     |     |
|                                               |                          | MY6125 |                     |     | 360 |     | 820 |     |
|                                               | Hardness 280HB≤          | NX2525 |                     | 180 |     | 440 |     |     |
|                                               |                          | VP20RT |                     | 165 |     | 360 |     |     |
|                                               |                          | VP10RT |                     | 195 |     | 395 |     |     |
|                                               |                          | MY6125 |                     |     | 330 |     | 620 |     |
|                                               |                          | MY5015 |                     |     | 260 |     | 525 |     |
|                                               |                          | NX2525 |                     | 150 |     | 345 |     |     |
| M<br>Stainless Steel                          | Hardness ≤270HB          | VP20RT |                     | 165 |     | 360 |     |     |
| VP10RT                                        |                          |        | 195                 |     | 395 |     |     |     |
| K<br>Gray Cast Iron                           | Tensile Strength ≤300MPa | VP20RT |                     | 195 |     | 460 |     |     |
|                                               |                          | VP10RT |                     | 230 |     | 490 |     |     |
|                                               |                          | MY5015 |                     |     | 295 |     | 690 |     |
|                                               |                          | MY6125 |                     |     | 360 |     | 820 |     |
| Ductile Cast Iron                             | Tensile Strength ≤800MPa | VP20RT |                     | 165 |     | 360 |     |     |
|                                               |                          | VP10RT |                     | 195 |     | 395 |     |     |
|                                               |                          | MY5015 |                     |     | 260 |     | 525 |     |
|                                               |                          | MY6125 |                     |     | 330 |     | 620 |     |
| S<br>Heat Resistant Alloys<br>Titanium Alloys | —                        | MP9015 |                     | 130 |     | 330 |     |     |
|                                               |                          | MP9025 |                     | 100 |     | 295 |     |     |
|                                               |                          | VP20RT |                     | 100 |     | 195 |     |     |
|                                               |                          | VP10RT |                     | 130 |     | 230 |     |     |
|                                               |                          | RT9010 |                     | 130 |     | 230 |     |     |
| H<br>Hardened Steel                           | 50HRC≤                   | BC8110 |                     | 195 |     | 395 |     |     |

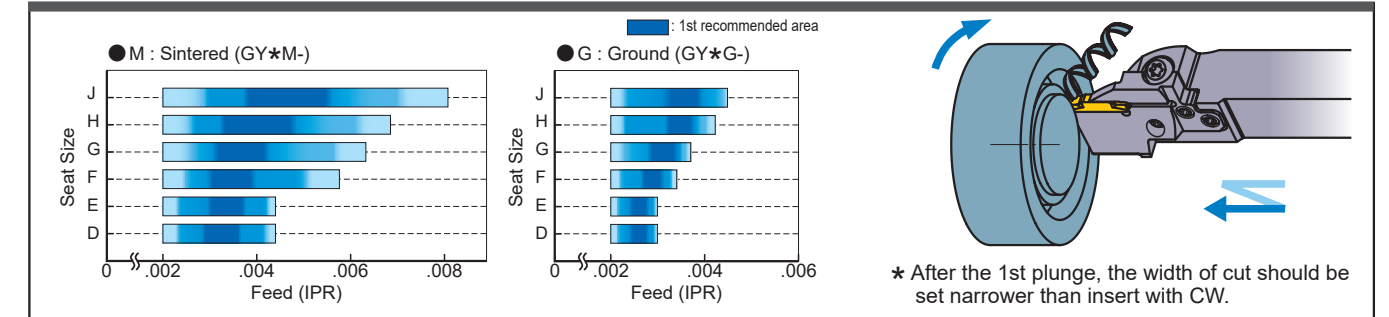
Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

## Recommended Cutting Conditions [For Face Grooving]

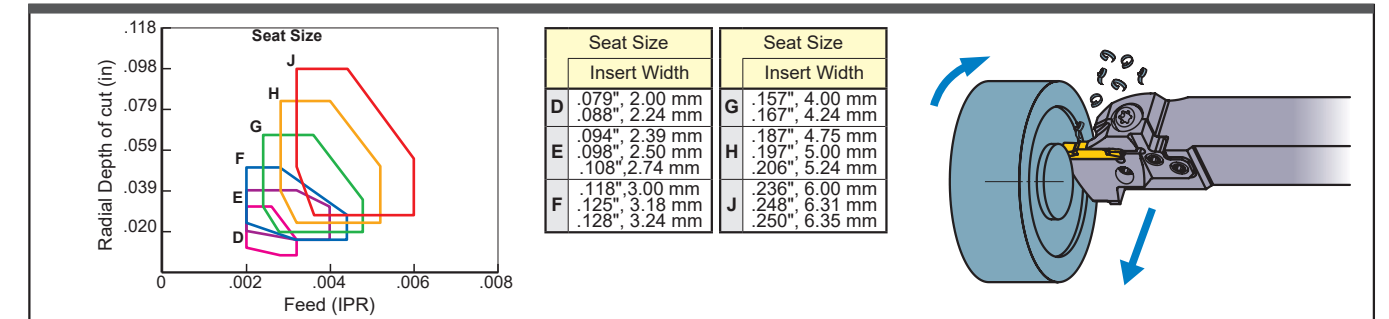
### Grooving



### Plunging



### Traverse Machining (MF Chipbreaker)



### Traverse Machining (MM/MS Chipbreaker)



### Traverse Machining (BM Chipbreaker)



Note 1) GL chipbreaker is not recommended for face grooving.

# Cutting Off & Grooving System GY Series

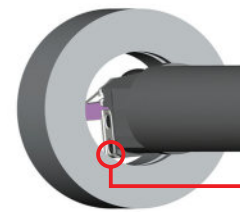
## Limitation of The Maximum Groove Depth [For Internal Grooving]

### •When using the mono block type

The maximum groove depth is not limited by the cutting diameter.

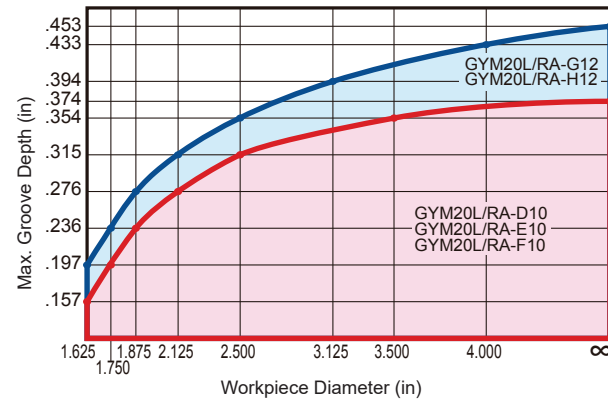
### •When using the modular blade type

The maximum groove depth is limited by the cutting diameter.

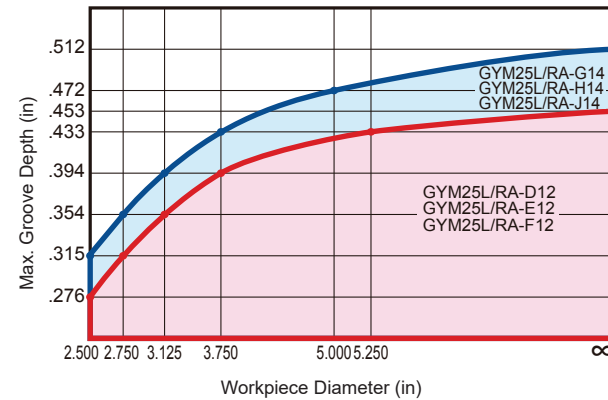


Due to interference of this part, the maximum groove depth is limited by the cutting diameter.

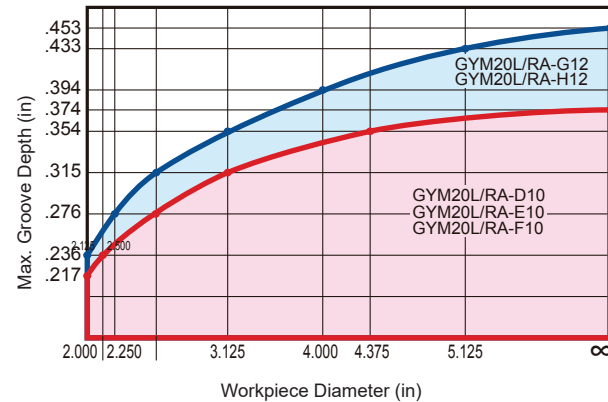
Shank Diameter=1.250" (GYM20 Blade)



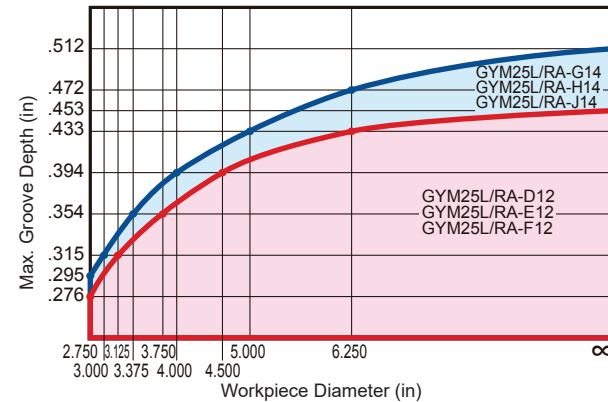
Shank Diameter=1.500" (GYM25 Blade)



Shank Diameter=1.500" (GYM20 Blade)



Shank Diameter=2.000" (GYM25 Blade)



## Recommended Cutting Speed [For Internal Grooving]

| Material | Properties                               | Grade                    | Cutting Speed (SFM) |     |     |     |     |  |
|----------|------------------------------------------|--------------------------|---------------------|-----|-----|-----|-----|--|
|          |                                          |                          | 165                 | 330 | 490 | 655 | 820 |  |
| P        | Mild Steel                               | Hardness ≤160HB          | VP20RT              | 260 | 590 |     |     |  |
|          |                                          |                          | VP10RT              | 295 | 620 |     |     |  |
|          |                                          |                          | NX2525              | 230 | 560 |     |     |  |
|          | Carbon Steel Alloy Steel                 | Hardness 160–280HB       | VP20RT              | 195 | 460 |     |     |  |
|          |                                          |                          | VP10RT              | 230 | 490 |     |     |  |
|          |                                          |                          | MY6125              |     | 360 | 820 |     |  |
|          |                                          |                          | MY5015              | 295 | 690 |     |     |  |
|          |                                          | Hardness 280HB≤          | NX2525              | 180 | 440 |     |     |  |
|          |                                          |                          | VP20RT              | 165 | 360 |     |     |  |
|          |                                          |                          | VP10RT              | 195 | 395 |     |     |  |
| MY6125   |                                          | 330                      | 620                 |     |     |     |     |  |
| MY5015   | 260                                      | 525                      |                     |     |     |     |     |  |
| NX2525   | 150                                      | 345                      |                     |     |     |     |     |  |
| M        | Stainless Steel                          | Hardness ≤270HB          | VP20RT              | 165 | 360 |     |     |  |
| VP10RT   | 195                                      | 395                      |                     |     |     |     |     |  |
| K        | Gray Cast Iron                           | Tensile Strength ≤300MPa | VP20RT              | 195 | 460 |     |     |  |
|          |                                          |                          | VP10RT              | 230 | 490 |     |     |  |
|          |                                          |                          | MY5015              | 295 | 690 |     |     |  |
|          | Ductile Cast Iron                        | Tensile Strength ≤800MPa | MY6125              |     | 360 | 820 |     |  |
|          |                                          |                          | VP20RT              | 165 | 360 |     |     |  |
|          |                                          |                          | VP10RT              | 195 | 395 |     |     |  |
| MY5015   | 260                                      | 525                      |                     |     |     |     |     |  |
| MY6125   |                                          | 330                      | 620                 |     |     |     |     |  |
| S        | Heat Resistant Alloys<br>Titanium Alloys | -                        | MP9015              | 130 | 330 |     |     |  |
|          |                                          |                          | MP9025              | 100 | 295 |     |     |  |
|          |                                          |                          | VP20RT              | 100 | 195 |     |     |  |
|          |                                          |                          | VP10RT/RT9010       | 130 | 230 |     |     |  |
| H        | Hardened Steel                           | 50HRC≤                   | BC8110/MB8025       | 195 | 330 |     |     |  |

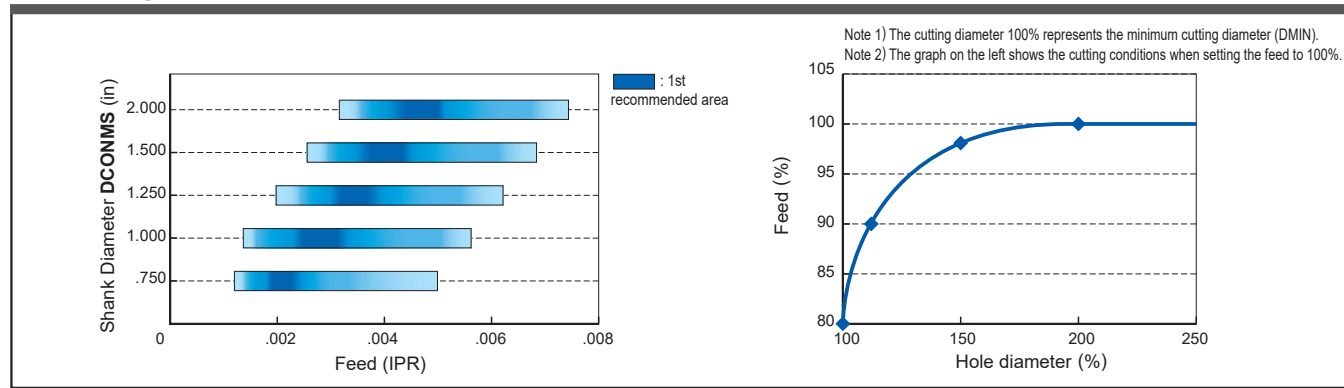
Note 1) For MP9015, MP9025, VP10RT, VP20RT and MY5015, wet cutting is recommended.

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

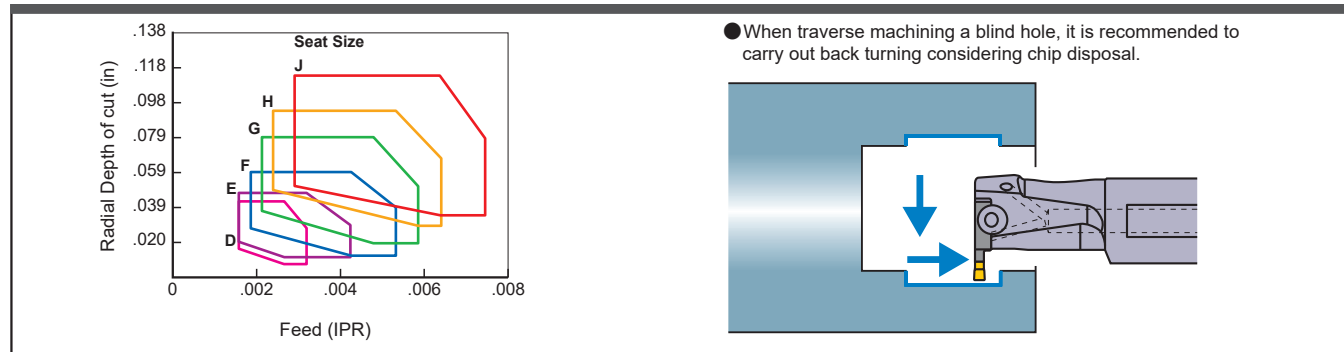
# Cutting Off & Grooving System GY Series

## Recommended Cutting Conditions [For Internal Grooving]

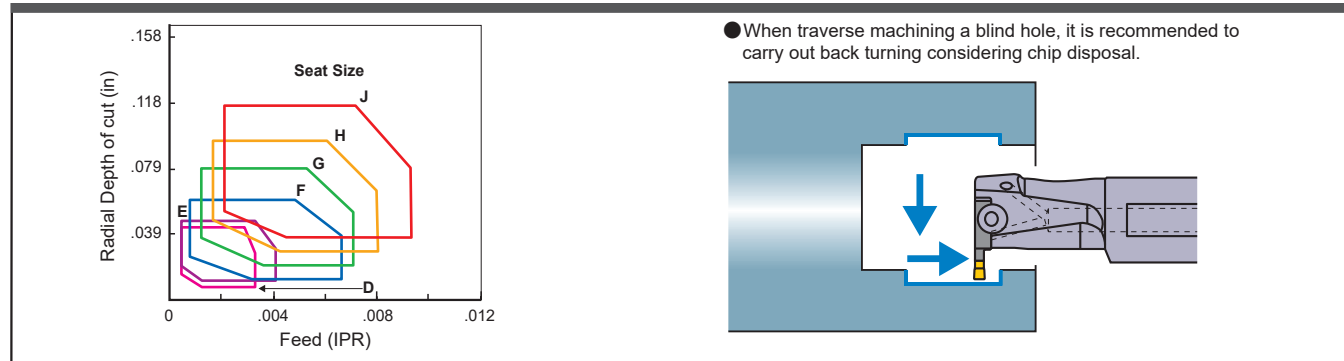
### Grooving



### Traverse Machining (MF Chipbreaker)

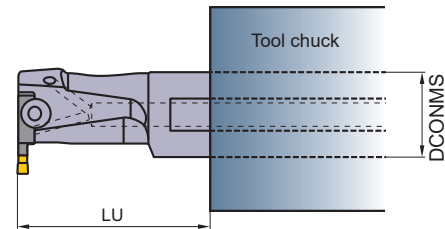


### Traverse Machining (MM/MS Chipbreaker)



Note 1) The above cutting conditions are for when using the tool overhang (LU) 1.6-2.0 times larger than the shank diameter (DCONMS). (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 |
| F         | .118", 3.00 mm |
|           | .125", 3.18 mm |
| G         | .128", 3.24 mm |
|           | .157", 4.00 mm |
| H         | .167", 4.24 mm |
|           | .187", 4.75 mm |
| I         | .197", 5.00 mm |
|           | .206", 5.24 mm |
| J         | .236", 6.00 mm |
|           | .248", 6.31 mm |
|           | .250", 6.35 mm |



# Cutting Off & Grooving System GW Series

## GW Series

## Recommended Cutting Conditions

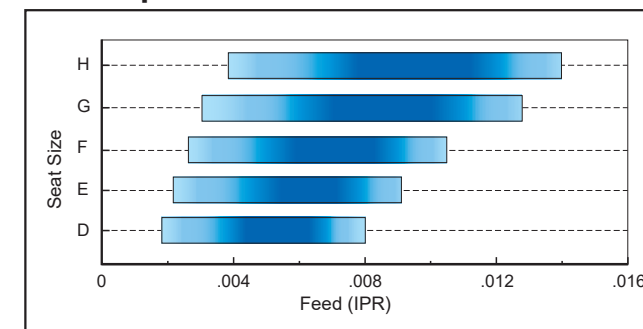
### Cutting Speed

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

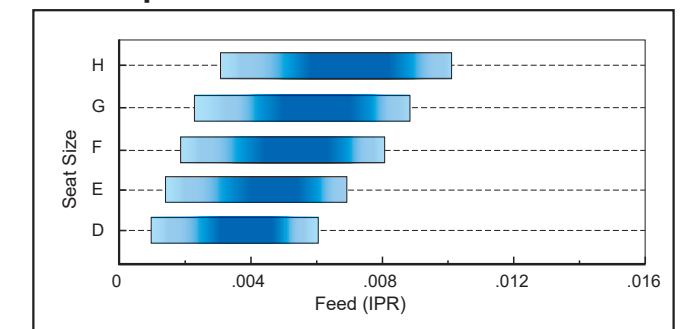
Note 1) VP20RT is the first recommended grade for materials.  
 Note 2) For VP10RT, VP20RT, VP30RT and MY5015, wet cutting is recommended.

### Feed per Revolution

#### GM Chipbreaker



#### GS Chipbreaker



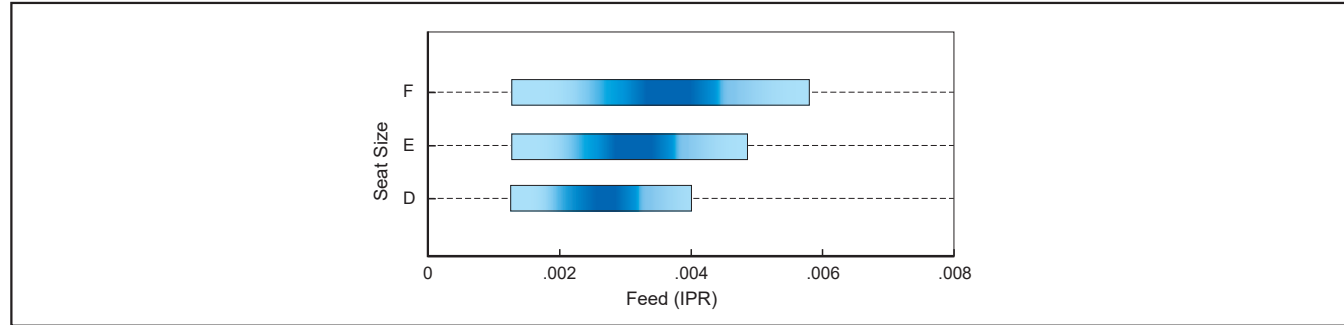
| Chipbreaker | Feed per Revolution (IPR) |               |               |               |               |
|-------------|---------------------------|---------------|---------------|---------------|---------------|
|             | Seat Size D               | Seat Size E   | Seat Size F   | Seat Size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

# GW Series

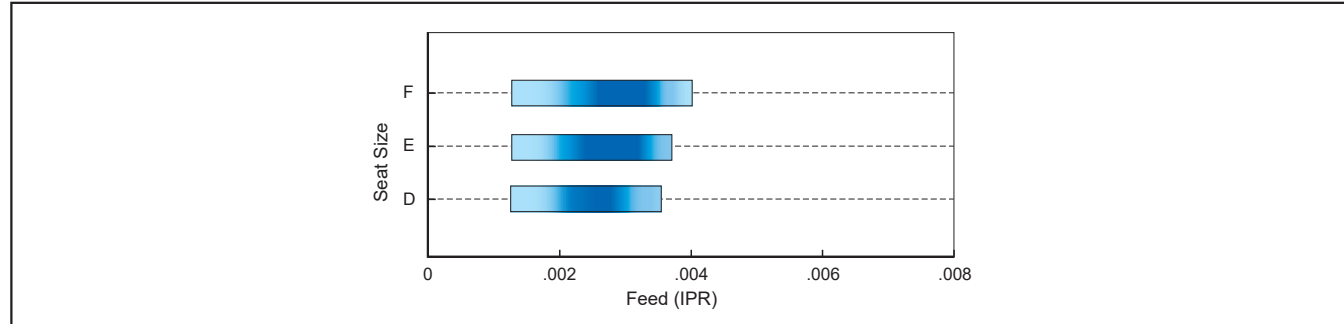
## Recommended Cutting Conditions

Cutting Off Feed per Revolution

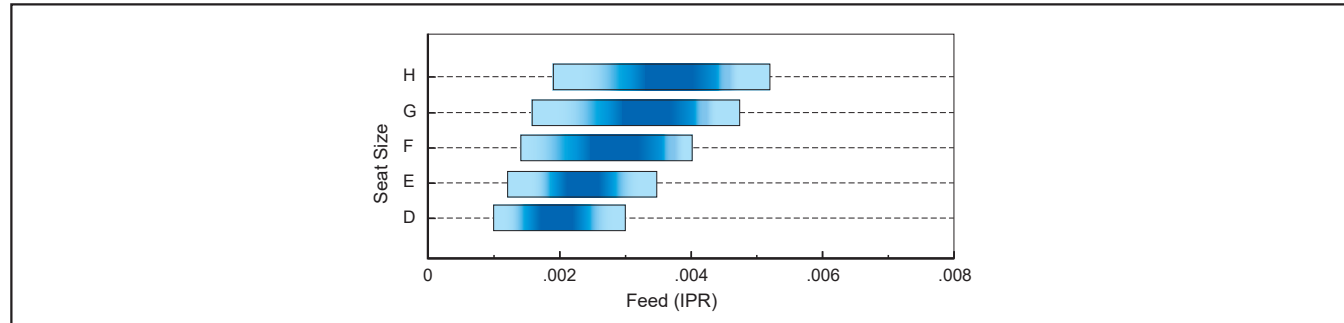
### R05-GS Chipbreaker



### R08-GS Chipbreaker



### R/L05-GM Chipbreaker

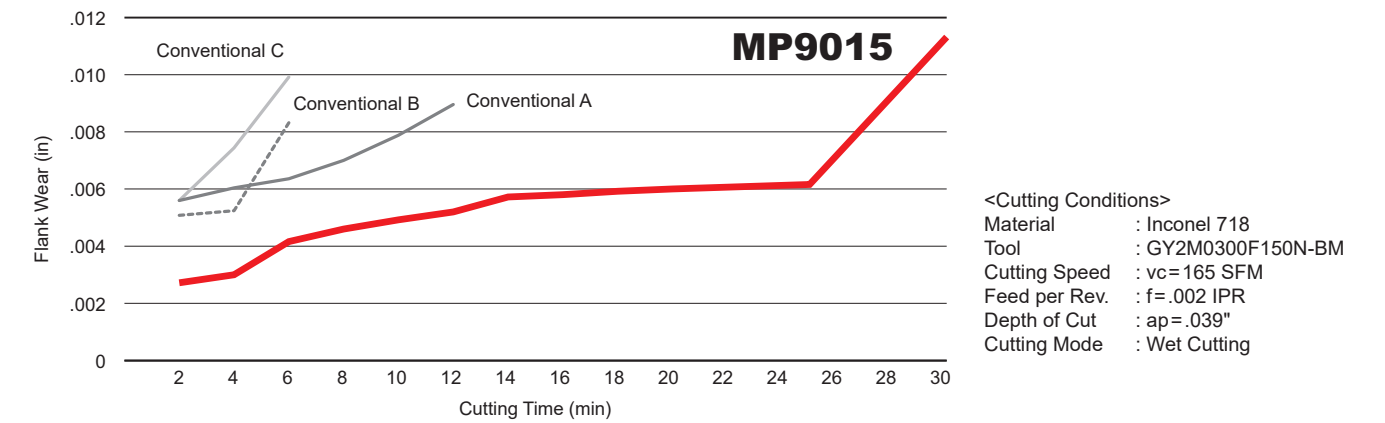


| Chipbreaker | PSIPR | Hand | Feed per Revolution (IPR) |               |               |               |               |
|-------------|-------|------|---------------------------|---------------|---------------|---------------|---------------|
|             |       |      | Seat Size D               | 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 |

## Cutting Performance

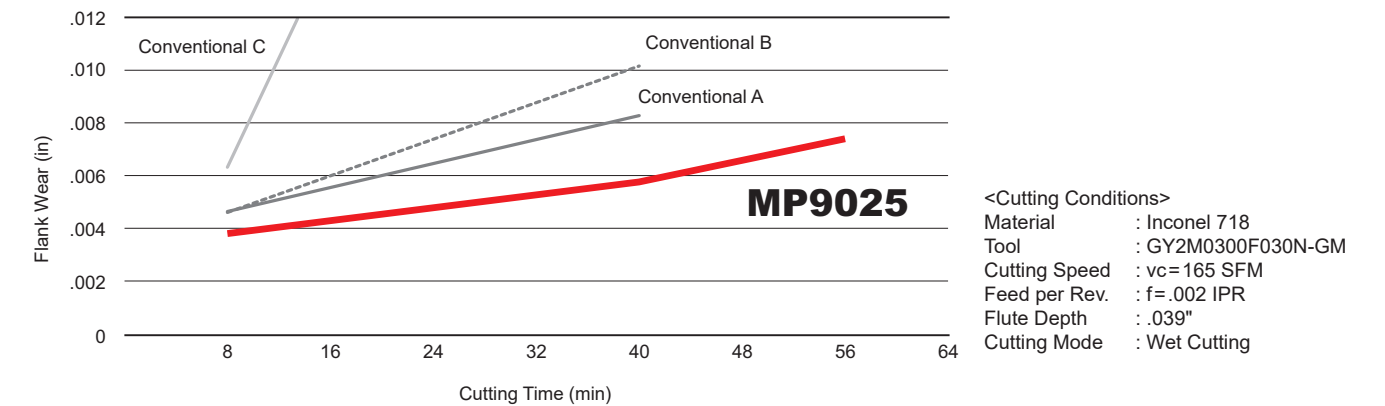
### Cross Feed Machining of Inconel 718 - Comparison of Wear Resistance

MP9015 exhibits 1.5 times more wear resistance than conventional products.



### Groove Machining of Inconel 718 - Comparison of Wear Resistance

MP9025 has excellent wear resistance.

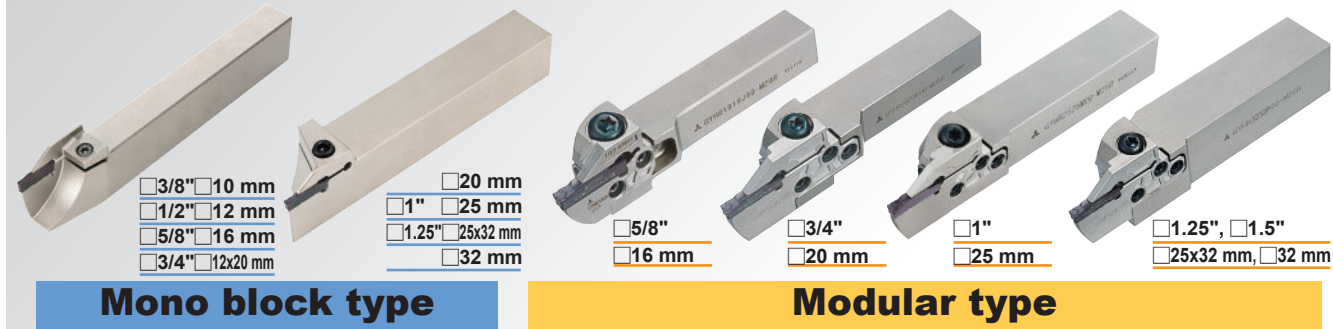


# GY Series

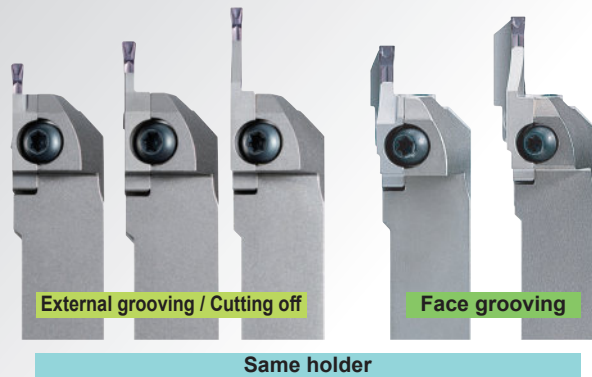
A wide selection of holders and inserts available for diverse grooving and cutting off applications

External • Face holders

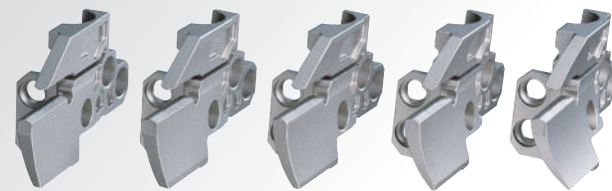
Corresponding blades for a variety of modular holders with different shank sizes



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

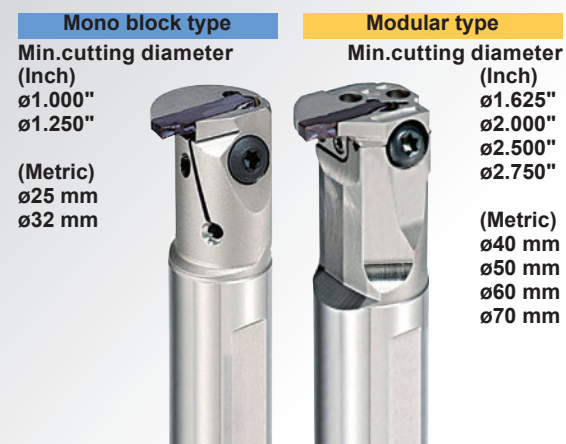


Applicable for various diameters of face grooves by the wide array of modular blades with different grooving diameters

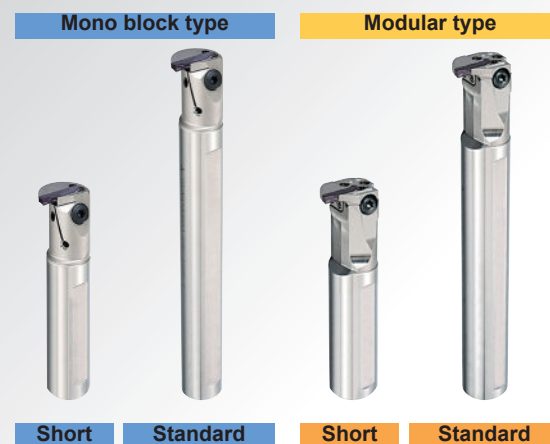


Internal holders

A wide range of holders available from minimum diameter of  $\varnothing 25$  mm



Short shank types are standard stock items

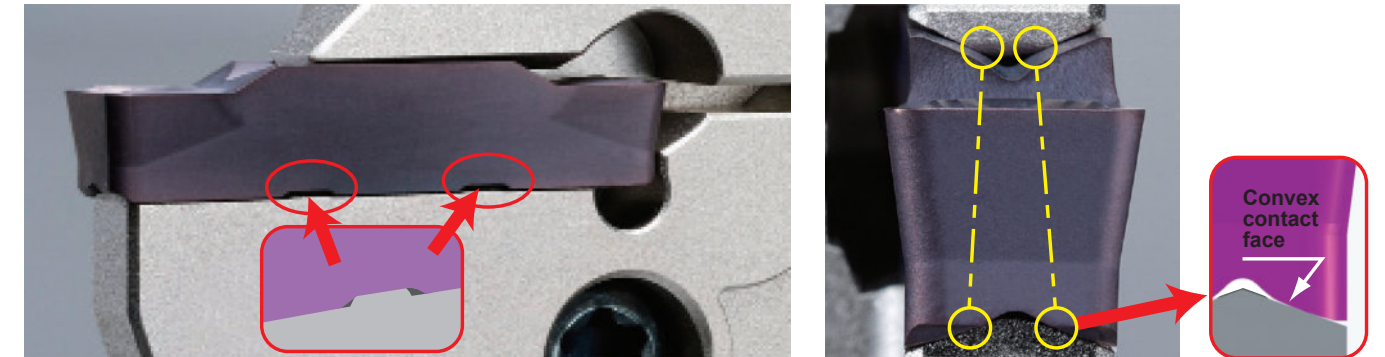


# Original insert design leading the way to new grooving and cutting off applications

Highly reliable insert clamping

Safety keys prevent insert movement.

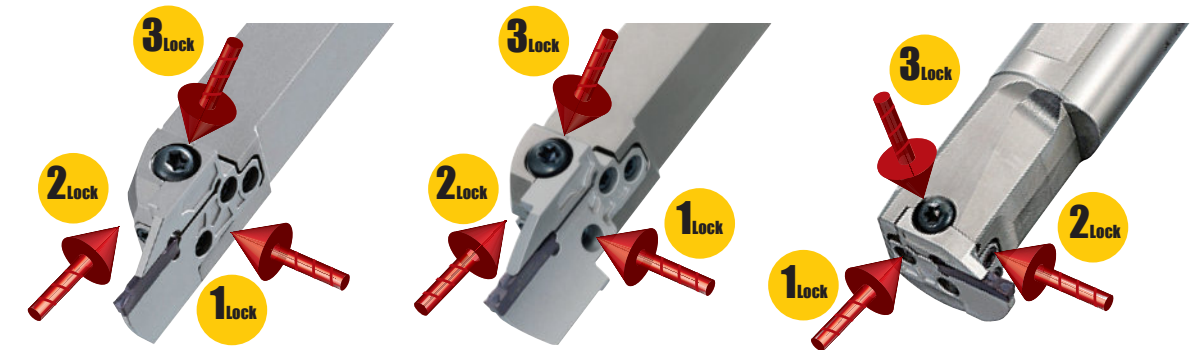
The convex geometry ensures high precision clamping.



# 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



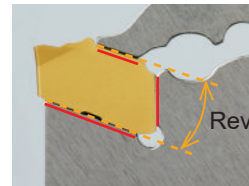
# GW Series

## 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.



Reverse Taper Angle

In respect to insert indexing, a unique wrench is supplied to ensure ease when changing the insert.

### 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 workshop.

### 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).



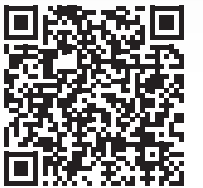
### Voice of Developer

#### 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 to (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 increase wear resistance.



YouTube

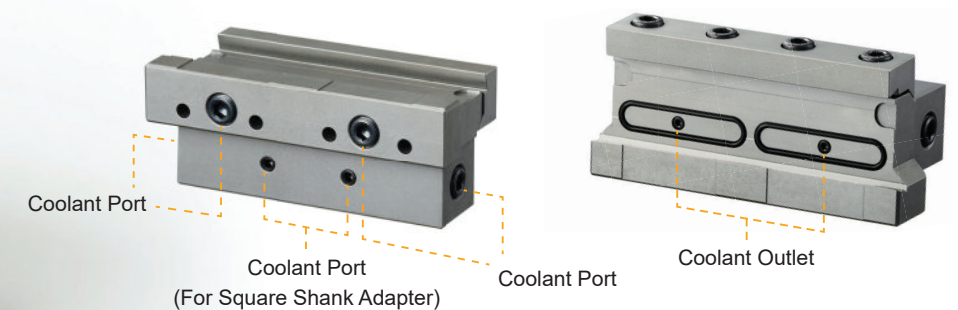


GW Series

### 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 a coolant hose. The direct type coolant also improves cutting edge cooling and chip evacuation.



### Voice of Developer

#### Further adaptability to workshop conditions.

In response to end user feedback, the coolant outlet has been improved to prevent leaks. The O-ring material and shape have been modified and the length of hose adjusted for more effective everyday use.





**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

**Chicago Office  
(Engineering)**

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

**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

**North Carolina-MTEC  
(Marketing & Technical Center)**

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

**Toronto Office  
(Canada Branch)**

600 Matheson Blvd. Unit 5 (Office)  
Mississauga, ON L5R 4C1  
Main: 905.814.0240  
Fax: 905.814.0245

**Detroit Office  
(Moldino CS)**

2001 Orndorf Drive  
Brighton, MI 48116  
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.

[www.mmc-carbide.com/us](http://www.mmc-carbide.com/us)

Tools specifications subject to change without notice.

B255A-G-US-2026.4



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