# PRODUCT NEWS

PN-E-008

SERIES EXPANSION

DIJET®

High-Feed Milling Cutter with Double-Sided Inserts

# QM GII Series

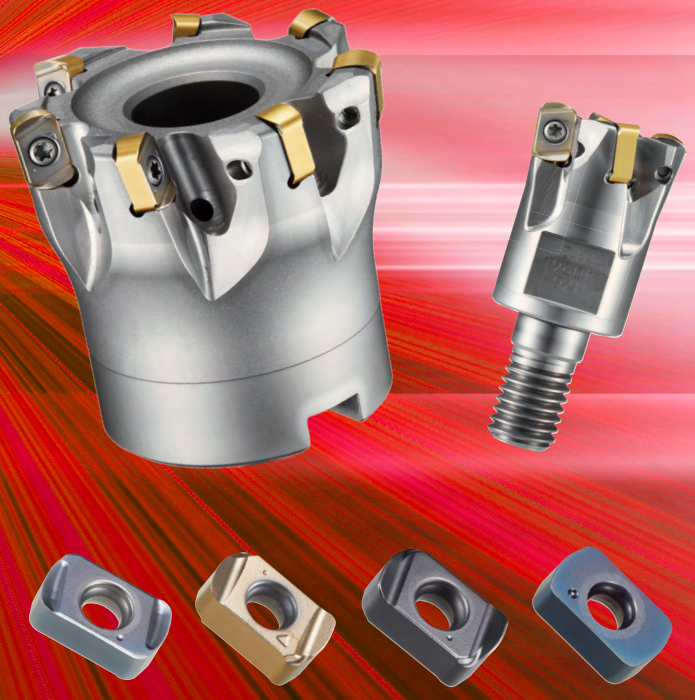



## GMX07/MXG07

**Modular type: Ø10–Ø20**

**Shank type: Ø10–Ø16**





## GMX10/MXG10

**Bore type: Ø40–Ø66**

**Modular type: Ø16–Ø42**

**Shank type: Ø16–Ø32**



DIJET GmbH

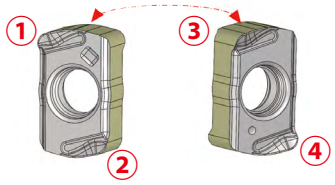
www.dijet.de

# High-Feed Milling Cutter
# Multi-Blade Design with Double-Sided Compact Inserts for High Productivity

## Feature 1

**Lineup from Ø10, featuring economical double-sided inserts with four cutting edges.**

### 1. Economical Double-Sided Inserts




### 2. Lineup from Ø10 — Insert size 07

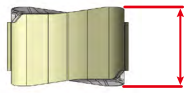


- ✓ Tool diameter **Ø10**–Ø20 mm
- ✓ Max. depth of cut: **0.5 mm**
- ✓ **Modular type**: Ø10–Ø20 mm
  **Shank type**: Ø10–Ø16 mm

## Feature 2

**High-Rigidity Design for Stable, Reliable Machining.**

### 1. Increased insert rigidity



**Insert thickness increased by 14%**

NEW **MXG07**
**ENMU07...**



MPM
**EOMT06...**



### 2. M2 Fine-Pitch Screw

**Fine-pitch**
**M2 screw**



NEW **MXG07**

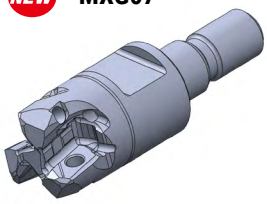
Coarse-pitch
**M1.8 screw**



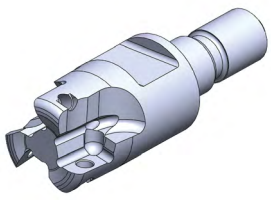
MPM
(Conventional model)

### 3. High-Rigidity Body Design

NEW **MXG07**



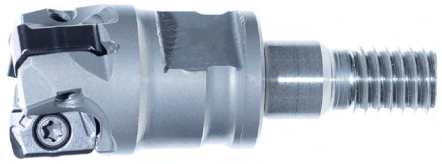
MPM

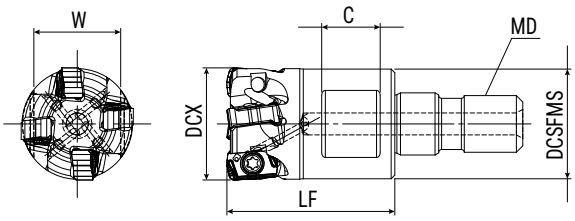


**Body rigidity improved by 44%**

# MXG07 TYPE Modular Type

Through coolant hole | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Slotting






| Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | DCX | LF | DCSFMS | MD | C | W | |
| MXG-2010-07-M6 | ● | 2 | 10 | 18 | 9.5 | M6 | 6.5 | 8 | ENMU07T207ZER-** |
| MXG-2011-07-M6 | ● | 2 | 11 | 18 | 9.6 | M6 | 6.5 | 8 | |
| MXG-3012-07-M6 | ● | 3 | 12 | 20 | 11.2 | M6 | 6.5 | 8 | |
| MXG-3013-07-M6 | ● | 3 | 13 | 20 | 11.2 | M6 | 6.5 | 8 | |
| MXG-4016-07-M8 | ● | 4 | 16 | 23 | 15 | M8 | 8 | 12 | |
| MXG-4017-07-M8 | ● | 4 | 17 | 23 | 15 | M8 | 8 | 12 | |
| MXG-5020-07-M10 | ● | 5 | 20 | 30 | 18 | M10 | 9 | 14 | |

Note: All cutter bodies are supplied without inserts, wrenches, or MOLY.

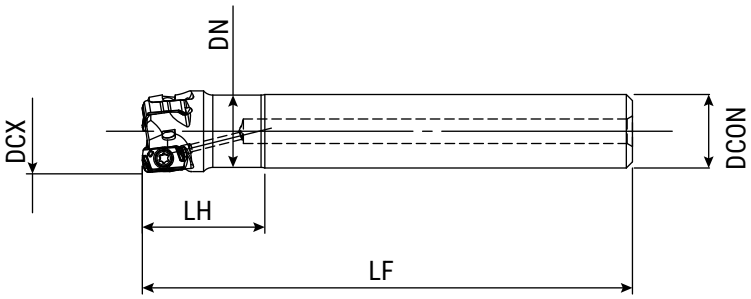
● : Stocked Items

| Screw | Torque (N·m) | Wrench |
|---|---|---|
| TSW-2044H | 0.5 | A-06 |

## GMX07 TYPE Shank Type

Through coolant hole | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Slotting






| Type | Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | | DCX | LH | LF | DN | DCON | |
| Standard | GMX2010-07-20-S10+A | ● | 2 | 10 | 20 | 80 | 9.2 | 10 | ENMU07T207ZER-** |
| | GMX3012-07-20-S12+A | ● | 3 | 12 | 20 | 80 | 11.2 | 12 | |
| | GMX3014-07-20-S12+A | ● | 3 | 14 | 20 | 80 | 11.8 | 12 | |
| | GMX4016-07-25-S16+A | ● | 4 | 16 | 25 | 90 | 14.0 | 16 | |
| Long shank | GMX2011-07-20-S10-LS+A | ● | 2 | 11 | 20 | 120 | 9.6 | 10 | |
| | GMX3013-07-20-S12-LS+A | ● | 3 | 13 | 20 | 120 | 11.6 | 12 | |
| | GMX3014-07-20-S12-LS+A | ● | 3 | 14 | 20 | 120 | 11.8 | 12 | |

Note: All cutter bodies are supplied without inserts, wrenches, or MOLY.

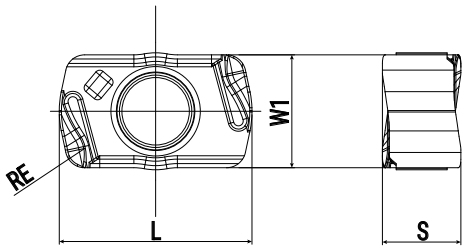
● : Stocked Items

| Screw | Torque (N·m) | Wrench |
|---|---|---|
| TSW-2044H | 0.5 | A-06 |

## GMX07/MXG07 TYPE

### Insert





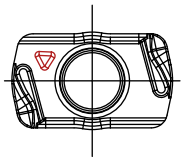

| Cat. No. | Tolerance | PVD coating | | | | Dimensions (mm) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | JC8050 | JC8118 | DS250 | DS217 | RE | L | W1 | S |
| ENMU07T207ZER-PM | M | ● | ● | | | 0.7 | 7 | 4.1 | 2.85 |
| ENMU07T207ZER-SM | M | | | ● | ● | 0.7 | 7 | 4.1 | 2.85 |

Note: 10 inserts per case.

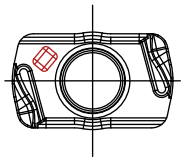
● : Stocked Items

### GRADE MARKING

ENMU07T207ZER-PM/-SM

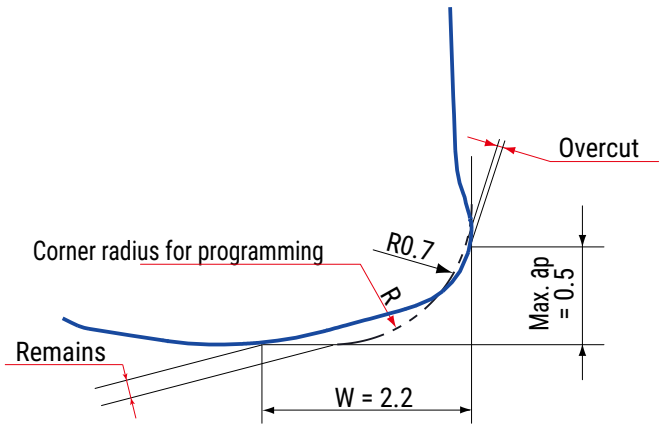


JC8118/DS217



JC8050/DS250

## ■ Definition of corner shape for programming

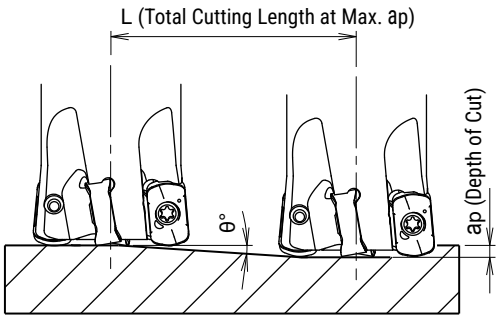



(mm)

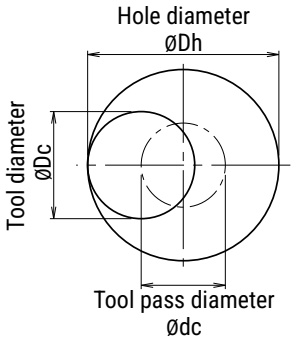
| Corner radius for programming | Remains | Overcut |
|---|---|---|
| 1.0 (Std.) | 0.21 | 0 |
| 1.5 | 0.10 | 0.15 |
| 2.0 | 0.01 | 0.85 |

## ■ Recommended Data for Profile Milling

**Ramping**




**Helical interpolation**




- Calculation of tool pass dia.

**ødc = øDh − øDc**
Tool pass dia. Hole dia. Tool Dia.

- Depth of cut per circuit should not exceed max. depth of cut (ap).
- Down cutting is recommended, tool pass rotation should be counterclockwise.

- For ramping and helical interpolation, use 70% or less of the feed rate (Vf) listed in the standard cutting conditions table.
- Drilling is not recommended.

**● ENMU07T207ZER-****

(Unit: mm)

| Tool dia. øDc | Effective Cutting Dia. | Max. ap | Ramping | | Helical Interpolation | | |
|---|---|---|---|---|---|---|---|
| | | | Max. ramping angle θ | L | Through hole Dh min | Flat Bottom Dh min | Through hole Dh max |
| 10 | 5.5 | 0.5 | 1.1 | 26.0 | 15 | 16 | 19 |
| 11 | 6.5 | 0.5 | 1.4 | 20.5 | 17 | 18 | 21 |
| 12 | 7.5 | 0.5 | 1.2 | 23.9 | 19 | 20 | 23 |
| 13 | 8.4 | 0.5 | 1.1 | 26.0 | 21 | 22 | 25 |
| 16 | 11.4 | 0.5 | 0.9 | 31.8 | 27 | 28 | 31 |
| 17 | 12.4 | 0.5 | 0.8 | 35.8 | 29 | 30 | 33 |
| 20 | 15.4 | 0.5 | 0.6 | 47.7 | 35 | 36 | 39 |

## Recommended Cutting Conditions | GMX07/MXG07 type

| Material | Insert | Grade | Vc (m/min) | fz (mm/t) | ap (mm) | ae (mm) |
|---|---|---|---|---|---|---|
| Carbon Steel<br>below 250 HB | ENMU07...-PM | JC8050<br>(JC8118) | 165 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Cast steel<br>Below 285 HB | ENMU07...-PM | JC8050<br>(JC8118) | 150 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Tool & Die steel<br>Below 255 HB | ENMU07...-PM | JC8050<br>(JC8118) | 150 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Mold steel<br>30-36 HRC | ENMU07...-PM | JC8050<br>(JC8118) | 150 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Mold steel<br>38-43 HRC | ENMU07...-PM | JC8118 | 110 | 0.9 | 0.25 | 0.5-0.6 Dc |
| Hardened die steel<br>42-52 HRC | ENMU07...-PM | JC8118 | 90 | 0.6 | 0.25 | 0.5-0.6 Dc |
| Cast iron<br>160-260 HB | ENMU07...-PM | JC8118 | 200 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Nodular cast iron<br>170-300 HB | ENMU07...-PM | JC8118 | 180 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Austenitic stainless steel<br>(AISI 304, 316, 317) | ENMU07...-SM | DS250<br>(DS217) | 125 | 0.8 | 0.30 | 0.5-0.6 Dc |
| Ferritic / martensitic<br>stainless steel<br>(AISI 403, 420J2, 430) | ENMU07...-SM | DS250<br>(DS217) | 150 | 1.0 | 0.30 | 0.5-0.6 Dc |
| Super duplex<br>stainless steel<br>(S32750) | ENMU07...-SM | DS217<br>(DS250) | 70 | 0.5 | 0.30 | 0.5-0.6 Dc |
| Precipitation hardening<br>stainless steel<br>Below 280 HB | ENMU07...-SM | DS217<br>(DS250) | 100 | 0.7 | 0.30 | 0.5-0.6 Dc |
| Titanium Alloy<br>(Ti-6Al-4V) | ENMU07...-SM | DS217<br>(DS250) | 60 | 0.55 | 0.30 | 0.5-0.6 Dc |
| Heat-Resistant Alloy<br>(INCO718) | ENMU07...-SM | DS217<br>(DS250) | 30 | 0.35 | 0.30 | 0.5-0.6 Dc |

**Notes:**

1. These parameters represent stable machining with an overhang length of 3xD.
   Please adjust the cutting conditions according to machine rigidity and workpiece rigidity.
2. In case of chatter, reduce ap or rpm while maintaining the feed per tooth.
3. Reduce ap when using a low-rigidity machine.
4. Use air blow.

# Achieve High Metal Removal Rates!
# High-Efficiency Machining for Versatile Applications





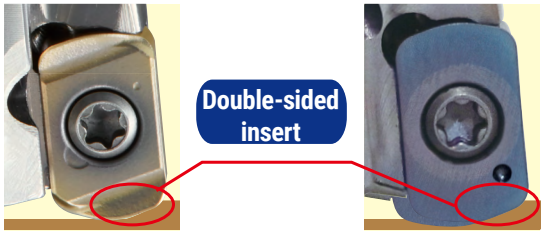



## Feature 1

### Optimized cutting edge for a wide range of applications

**ENMU type**

For high-feed machining with chip breaker




**ENMQ type**

For hard materials

## Feature 2

### Economical double-sided insert with four cutting edges for a wide range of materials: Carbon steel, hardened materials (up to 62 HRC), stainless steel, and titanium alloys

### ● Lineup

Low cutting force → Edge strength



ENMU100412ZER-SL
- Low cutting force
- Sharp cutting edge
- Grade JC7550, JC7518, DS118, DS150



ENMU100412ZER-PH
- For general applications
- Grade JC8118, JC8050, JC7560

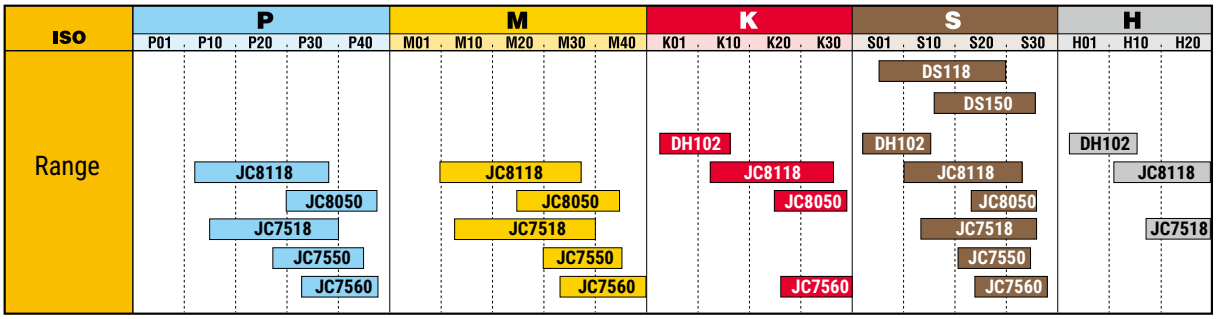


ENMU100312ZER-HL
- For hardened materials up to 60 HRC
- Enhanced cutting-edge strength while retaining sharpness
- Grade DH102



ENMQ100312ZER
- Flat-top insert
- Grade DH102
- For hardened materials over 60 HRC

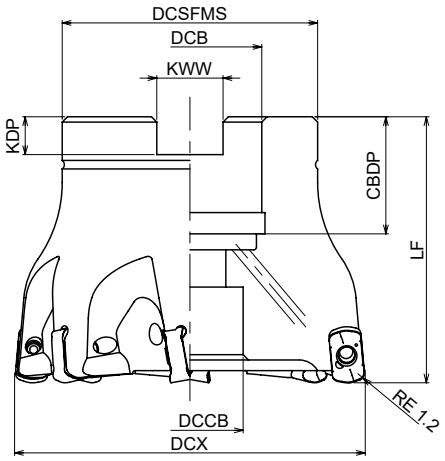
### ● Insert grades



**GMX10 TYPE** **Bore Type**

Through coolant hole | G - Body | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Slotting




| Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | | | | Weight (kg) | Inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCX | LF | DCSFMS | DCB | DCCB | KWW | KDP | CBDP | | |
| GMX-6040R-16+A | ● | 6 | 40 | 45 | 35 | 16 | 13.5 | 8.4 | 5.6 | 19 | 0.24 | ENMU100412ZER-**<br>ENMU100312ZER-HL<br>ENMQ100312ZER |
| GMX-6042R-16+A | ● | 6 | 42 | 45 | 35 | 16 | 13.5 | 8.4 | 5.6 | 19 | 0.25 | |
| GMX-7050R-22 | ● | 7 | 50 | 50 | 40 | 22 | 17 | 10.4 | 6.3 | 20 | 0.35 | |
| GMX-7052R-22 | ● | 7 | 52 | 50 | 40 | 22 | 17 | 10.4 | 6.3 | 20 | 0.40 | |
| GMX-7063R-22 | ● | 7 | 63 | 50 | 48 | 22 | 17 | 10.4 | 6.3 | 20 | 0.64 | |
| GMX-7066R-27 | ● | 7 | 66 | 50 | 48 | 27 | 20 | 12.4 | 7 | 22 | 0.66 | |

Note: All cutter bodies are supplied without inserts, wrenches, or MOLY.

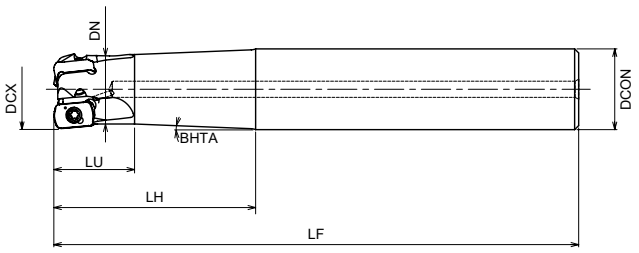
● : Stocked Items

| Screw | Torque (N·m) | Wrench |
|---|---|---|
| TSW-2567H | 1.1 | A-08 |

Through coolant hole | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Slotting

## GMX10 TYPE Shank Type






| Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCX | LU | LH | LF | DN | BHTA | DCON | |
| GMX-2016-30-S16 | ● | 2 | 16 | 16 | 30 | 100 | 14 | 3.5° | 16 | ENMU100412ZER-**<br>ENMU100312ZER-HL<br>ENMQ100312ZER |
| GMX-2016-50-S16 | ● | 2 | 16 | 16 | 50 | 150 | 14 | 1.2° | 16 | |
| GMX-3020-50-S20 | ● | 3 | 20 | 20 | 50 | 130 | 17.2 | 2.3° | 20 | |
| GMX-3020-80-S20 | ● | 3 | 20 | 20 | 80 | 160 | 17.2 | 1° | 20 | |
| GMX-4025-60-S25 | ● | 4 | 25 | 25 | 60 | 140 | 22 | 2° | 25 | |
| GMX-4025-100-S25 | ● | 4 | 25 | 25 | 100 | 180 | 22 | 0.9° | 25 | |
| GMX-5032-70-S32 | ● | 5 | 32 | 30 | 70 | 150 | 29 | 1.5° | 32 | |
| GMX-5032-120-S32 | ● | 5 | 32 | 30 | 120 | 200 | 29 | 0.6° | 32 | |

Note: All cutter bodies are supplied without inserts, wrenches, or MOLY.

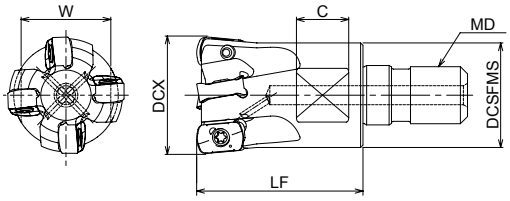
● : Stocked Items

| Screw | Torque (N·m) | Wrench |
|---|---|---|
| TSW-2567H | 1.1 | A-08 |

# MXG10 TYPE Modular Type

Through coolant hole | G - Body | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Slotting






| Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | DCX | LF | DCSFMS | MD | C | W | |
| MXG-2016-M8 | ● | 2 | 16 | 23 | 14 | M8 | 8 | 12 | ENMU100412ZER-**<br>ENMU100312ZER-HL<br>ENMQ100312ZER |
| MXG-2017-M8 | ● | 2 | 17 | 23 | 14 | M8 | 8 | 12 | |
| MXG-3020-M10 | ● | 3 | 20 | 30 | 18 | M10 | 9 | 14 | |
| MXG-3021-M10 | ● | 3 | 21 | 30 | 18 | M10 | 9 | 14 | |
| MXG-3022-M10 | ○ | 3 | 22 | 30 | 18 | M10 | 9 | 14 | |
| MXG-3025-M12 | ● | 3 | 25 | 35 | 22 | M12 | 11 | 19 | |
| MXG-4025-M12 | ● | 4 | 25 | 35 | 22 | M12 | 11 | 19 | |
| MXG-4026-M12 | ● | 4 | 26 | 35 | 22.5 | M12 | 11 | 19 | |
| MXG-4028-M12 | ○ | 4 | 28 | 35 | 23.6 | M12 | 11 | 19 | |
| MXG-5030-M16 | ● | 5 | 30 | 43 | 27 | M16 | 12 | 22 | |
| MXG-5032-M16 | ● | 5 | 32 | 43 | 29 | M16 | 12 | 22 | |
| MXG-5035-M16 | ● | 5 | 35 | 43 | 29 | M16 | 12 | 22 | |
| MXG-6040-M16 | ● | 6 | 40 | 43 | 32 | M16 | 14 | 26 | |
| MXG-6042-M16 | ● | 6 | 42 | 43 | 32 | M16 | 14 | 26 | |

Note: All cutter bodies are supplied without inserts, wrenches, or MOLY.

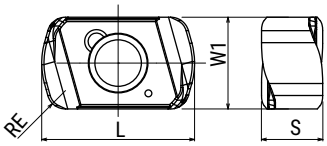
● : Stocked Items ○ : Stock in Japan

| Screw | Torque (N·m) | Wrench |
|---|---|---|
| TSW-2567H | 1.1 | A-08 |

## GMX10/MXG10 TYPE — Insert

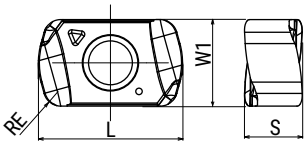
ENMU100412ZER-PH



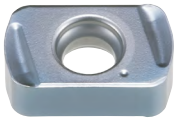


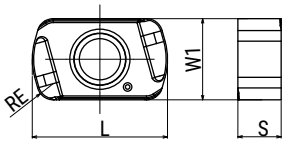

ENMU100412ZER-SL





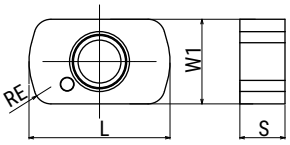

ENMU100312ZER-HL






ENMQ100312ZER





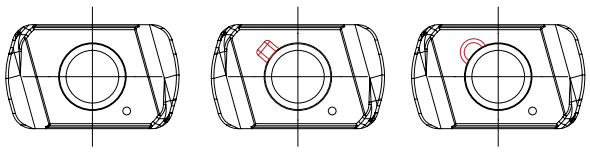

| Cat. No. | Tolerance | PVD coating | | | | | | | | Dimensions (mm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DH102 | JC7518 | JC7550 | JC7560 | JC8050 | JC8118 | DS118 | DS150 | RE | L | W1 | S |
| ENMU100412ZER-PH | M | | | | ● | ● | ● | | | 1.2 | 10 | 6 | 4 |
| ENMU100412ZER-SL | M | | ● | ● | | | | ● | ● | 1.2 | 10 | 6 | 4 |
| ENMU100312ZER-HL | M | ● | | | | | | | | 1.2 | 10 | 6 | 3.2 |
| ENMQ100312ZER | M | ● | | | | | | | | 1.2 | 10 | 6 | 3.2 |

Note: 10 inserts per case.

● : Stocked Items

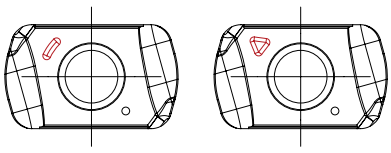
### GRADE MARKING

ENMU100412ZER-PH



JC8118 JC8050 JC7560

ENMU100412ZER-SL



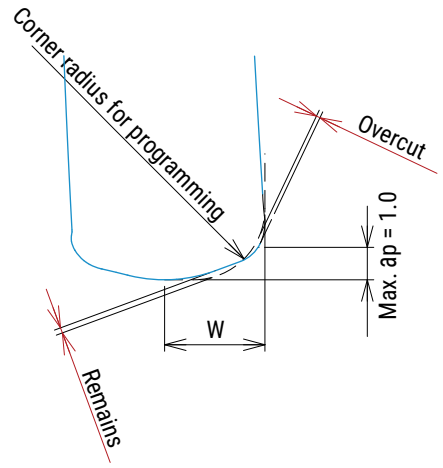
JC7518/DS118 JC7550/DS150

## ■ Insert selection guide

| Material | Grade | Cat. No. | | | |
|---|---|---|---|---|---|
| | | ENMU100412ZER-PH | ENMU100412ZER-SL | ENMU100312ZER-HL | ENMQ100312ZER |
| Chip breaker | | For general milling | Low cutting force | For hardened materials | Flat-top insert |
| Carbon Steel (S50C, S55C) below 250 HB | JC8118 | ○ | | | |
| | JC8050 | ◎ | | | |
| | JC7560 | ● | | | |
| | JC7518 | | ☆ | | |
| Tool & Die Steel (SKD61, SKD11) below 255 HB | JC8118 | ○ | | | |
| | JC8050 | ◎ | | | |
| | JC7560 | ● | | | |
| | JC7518 | | ☆ | | |
| Mold Steel (HPM7, PX5, P20) 30–36 HRC | JC8118 | ○ | | | |
| | JC8050 | ◎ | | | |
| | JC7560 | ● | | | |
| | JC7518 | | ☆ | | |
| Mold Steel (NAK80, HPM1, P21) 38–43 HRC | JC8118 | ◎ | | | |
| | JC8050 | ● | | | |
| | JC7518 | | ☆ | | |
| Hardened Die Steel (SKD61, DAC, DHA) 42–52 HRC | JC8118 | ◎ | | | |
| | JC7518 | | ☆ | | |
| | DH102 | | | ● | |
| Hardened Die Steel (SKD11, SLD, DC11) 55–62 HRC | JC8118 | × | | | |
| | JC8050 | × | | | |
| | JC7560 | × | | | |
| | JC7550 | | × | | |
| | JC7518 | | × | | |
| | DH102 | | | ○ | ◎ |
| Grey Cast Iron Nodular Cast Iron (FC, FCD) | JC8118 | ◎ | | | |
| | JC8050 | ○ | | | |
| | JC7560 | ● | | | |
| Stainless Steel (SUS304) below 250 HB | JC8118 | ○ | | | |
| | JC8050 | ● | | | |
| | JC7550 | | ◎ | | |
| | JC7518 | | ☆ | | |
| Titanium Alloy (Ti-6Al-4V) | JC8050 | ● | | | |
| | JC7550 | | ○ | | |
| | DS118 | | ☆ | | |
| | DS150 | | ◎ | | |
| Heat-Resistant Alloy (INCO718) | JC8050 | ● | | | |
| | JC7518 | | ○ | | |
| | DS118 | | ◎ | | |

◎: First choice ○: For general milling ●: For unstable milling ☆: Light cutting ×: Not recommended

## ■ Definition of corner shape for programming




| Cat. No. | W | Corner radius for programming | Remains | Overcut |
|---|---|---|---|---|
| ENMU100412ZER-PH<br>ENMU100412ZER-SL | 3.1 | 1.0 | 0.51 | 0 |
| | | 1.5 (Standard) | 0.36 | 0 |
| | | 2.0 | 0.22 | 0.05 |

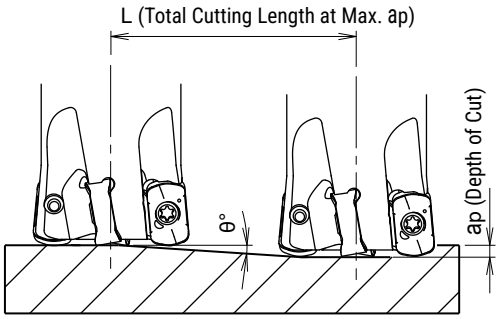
(mm)

| Cat. No. | W | Corner radius for programming | Remains | Overcut |
|---|---|---|---|---|
| ENMU100312ZER-HL<br>ENMQ100312ZER | 3.3 | 1.0 | 0.55 | 0 |
| | | 1.5 (Standard) | 0.41 | 0 |
| | | 2.0 | 0.26 | 0.04 |

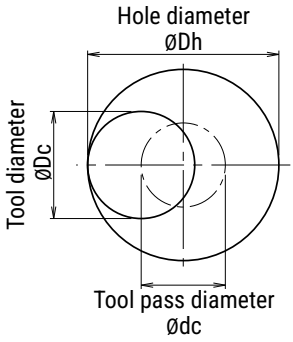
(mm)

## ■ Recommended Data for Profile Milling

### Ramping




### Helical interpolation




- Calculation of tool pass dia.

**ødc = øDh − øDc**

Tool pass dia. Hole dia. Tool Dia.

- Depth of cut per circuit should not exceed max. depth of cut (ap).
- Down cutting is recommended, and the tool pass rotation should be counterclockwise.

- For ramping and helical interpolation, use 70% or less of the feed rate (Vf) listed in the standard cutting conditions table.
- For drilling, use 20% or less of the Z-axis feed listed in the standard cutting conditions table.
- Long continuous chips may be generated during drilling. Ensure safe operation during machining.

● **ENMU100412ZER-****

(Unit: mm)

| Tool dia. ØDc | Effective Cutting Dia. | Max. ap | Ramping | | Helical Interpolation | | | Max. Drilling Depth Z |
|---|---|---|---|---|---|---|---|---|
| | | | Max. ramping angle θ | L | Through hole Dh min | Flat Bottom Dh min | Through hole Dh max | |
| 16 | 10.1 | 0.7 | 1.6 | 25.1 | 23 | 27 | 31 | 0.35 |
| 17 | 11.0 | 0.7 | 1.6 | 25.1 | 25 | 29 | 33 | 0.35 |
| 20 | 13.9 | 1.0 | 1.5 | 38.2 | 30 | 34 | 39 | 0.35 |
| 21 | 14.9 | 1.0 | 1.5 | 38.2 | 32 | 36 | 41 | 0.35 |
| 22 | 15.9 | 1.0 | 1.4 | 40.9 | 34 | 38 | 43 | 0.35 |
| 25 | 18.9 | 1.0 | 1.2 | 47.7 | 40 | 44 | 49 | 0.35 |
| 26 | 19.9 | 1.0 | 1.2 | 47.7 | 42 | 46 | 51 | 0.35 |
| 28 | 21.9 | 1.0 | 1.1 | 52.1 | 46 | 50 | 55 | 0.35 |
| 30 | 23.9 | 1.0 | 0.9 | 63.6 | 50 | 54 | 59 | 0.35 |
| 32 | 25.8 | 1.0 | 0.9 | 63.6 | 54 | 58 | 63 | 0.35 |
| 35 | 28.8 | 1.0 | 0.7 | 81.8 | 60 | 64 | 69 | 0.35 |
| 40 | 33.8 | 1.0 | 0.5 | 114.5 | 70 | 74 | 79 | 0.35 |
| 42 | 35.8 | 1.0 | 0.5 | 114.5 | 74 | 78 | 83 | 0.35 |
| 50 | 43.8 | 1.0 | 0.4 | 143.2 | 90 | 94 | 99 | 0.35 |
| 52 | 45.8 | 1.0 | 0.4 | 143.2 | 94 | 98 | 103 | 0.35 |
| 63 | 56.8 | 1.0 | 0.3 | 190.9 | 116 | 120 | 125 | 0.35 |
| 66 | 59.8 | 1.0 | 0.3 | 190.9 | 122 | 126 | 131 | 0.35 |

● **ENMU100312ZER-HL / ENMQ100312ZER**

(Unit: mm)

| Tool dia. ØDc | Effective Cutting Dia. | Max. ap | Ramping | | Helical Interpolation | | | Max. Drilling Depth Z |
|---|---|---|---|---|---|---|---|---|
| | | | Max. ramping angle θ | L | Through hole Dh min | Flat Bottom Dh min | Through hole Dh max | |
| 16 | 9.6 | 0.7 | 1.6 | 25.1 | 23 | 27 | 31 | 0.25 |
| 17 | 10.5 | 0.7 | 1.6 | 25.1 | 25 | 29 | 33 | 0.25 |
| 20 | 13.5 | 1.0 | 1.5 | 38.2 | 30 | 34 | 39 | 0.25 |
| 21 | 14.5 | 1.0 | 1.5 | 38.2 | 32 | 36 | 41 | 0.25 |
| 22 | 15.5 | 1.0 | 1.4 | 40.9 | 34 | 38 | 43 | 0.25 |
| 25 | 18.4 | 1.0 | 1.2 | 47.7 | 40 | 44 | 49 | 0.25 |
| 26 | 19.4 | 1.0 | 1.2 | 47.7 | 42 | 46 | 51 | 0.25 |
| 28 | 21.4 | 1.0 | 1.1 | 52.1 | 46 | 50 | 55 | 0.25 |
| 30 | 23.4 | 1.0 | 0.9 | 63.6 | 50 | 54 | 59 | 0.25 |
| 32 | 25.4 | 1.0 | 0.9 | 63.6 | 54 | 58 | 63 | 0.25 |
| 35 | 28.4 | 1.0 | 0.7 | 81.8 | 60 | 64 | 69 | 0.25 |
| 40 | 33.4 | 1.0 | 0.5 | 114.5 | 70 | 74 | 79 | 0.25 |
| 42 | 35.4 | 1.0 | 0.5 | 114.5 | 74 | 78 | 83 | 0.25 |
| 50 | 43.4 | 1.0 | 0.4 | 143.2 | 90 | 94 | 99 | 0.25 |
| 52 | 45.4 | 1.0 | 0.4 | 143.2 | 94 | 98 | 103 | 0.25 |
| 63 | 56.4 | 1.0 | 0.3 | 190.9 | 116 | 120 | 125 | 0.25 |
| 66 | 59.4 | 1.0 | 0.3 | 190.9 | 122 | 126 | 131 | 0.25 |

## ■ Recommended Cutting Conditions | GMX10/MXG10 type

| Material | Insert | Grade | *Vc* (m/min) | *fz* (mm/t) | *ap* (mm) | *ae* (mm) |
|---|---|---|---|---|---|---|
| Carbon Steel<br>below 250 HB | –PH | JC8050<br>(JC7560) | 180<br>(130–180) | 1.2 | 0.4–1.0 | 0.7 Dc |
| Tool & Die Steel<br>below 255 HB | –PH | JC8050<br>(JC7560) | 180<br>(130–180) | 1.2 | 0.4–1.0 | 0.7 Dc |
| Mold Steel<br>30–36 HRC | –PH | JC8050<br>(JC7560) | 160<br>(130–160) | 1.2 | 0.4–1.0 | 0.7 Dc |
| Mold Steel<br>38–43 HRC | –PH | JC8118<br>(JC8050) | 100<br>(70–100) | 1.1<br>(0.8–1.1) | 0.3–0.8 | 0.7 Dc |
| Hardened Die Steel<br>42–52 HRC | –PH<br>(–SL) | JC8118<br>(JC7518) | 90<br>(70–90) | 1.1<br>(0.8–1.1) | 0.1–0.6 | 0.6 Dc |
| Hardened Die Steel<br>55–62 HRC | ENMQ..<br>(ENMU..–HL) | DH102 | 80<br>(60–80) | 0.3<br>(0.25–0.3) | 0.1–0.2 | 0.4 Dc |
| Grey Cast Iron | –PH | JC8118<br>(JC8050) | 200<br>(150–200) | 1.5<br>(1.2–1.5) | 0.4–1.0 | 0.7 Dc |
| Nodular Cast Iron | –PH | JC8118<br>(JC8050) | 200<br>(150–200) | 1.5<br>(1.2–1.5) | 0.4–1.0 | 0.7 Dc |
| Austenitic<br>Stainless Steel | –SL | JC7550<br>(JC7518) | 120<br>(100–120) | 1.0<br>(0.8–1.0) | 0.3–0.8 | 0.6 Dc |
| Precipitation-Hardening<br>Stainless Steel | –SL<br>(–PH) | JC7550<br>(JC8050) | 100<br>(90–100) | 0.7<br>(0.6–0.7) | 0.2–0.6 | 0.6 Dc |
| Duplex<br>Stainless Steel | –SL<br>(–PH) | JC7550<br>(JC8050) | 100<br>(90–100) | 0.3<br>(0.2–0.3) | 0.3–0.8 | 0.6 Dc |
| Titanium Alloy | –SL | DS150<br>(DS118) | 60<br>(50–60) | 0.7<br>(0.6–0.7) | 0.3–0.7 | 0.6 Dc |
| Heat-Resistant Alloy | –SL | JC7518<br>(JC7550) | 30<br>(20–30) | 0.3 | 0.2–0.7 | 0.6 Dc |

Notes:
1. Please adjust the cutting conditions according to machine rigidity and workpiece rigidity.
   (The above table is a guide for machining on a BT50 machine.)
2. In case of chatter, reduce ap or rpm while maintaining the feed per tooth.
3. Reduce ap when using a low-rigidity machine.
4. Use air blow.
5. Do not exceed the maximum depth of cut (ap) specified for each tool diameter. See page 15.

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ISO9001 JQA-2089 ISO14001 JQA-EM1580

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