



# MEC Series

High Efficiency End Mills and Face Mills



Low Cutting Force, Reduced Chattering, and High Efficiency Machining

Large Tooling Lineup for Various Milling Applications

Featuring Grades PR1535 and CA6535 for Heat-resistant Alloy  
and PDL025 for Machining Aluminum

Fine Pitch End Mills & Face Mills Available



PR18 Series Inserts with MEGACOAT  
NANO EX Coating Technology



# MEC

High Efficiency Endmills and Face Mills

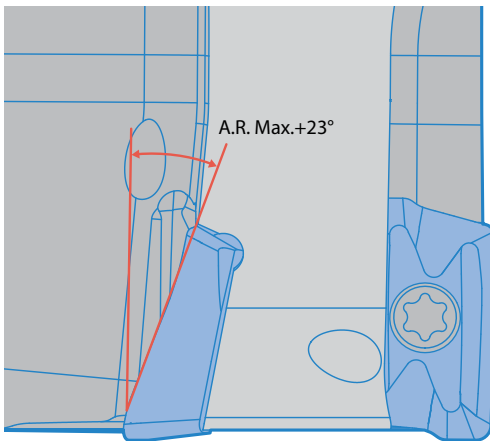
Excellent Surface Finish with Low Cutting Force Design

Insert Grades and Cutters for Various Applications

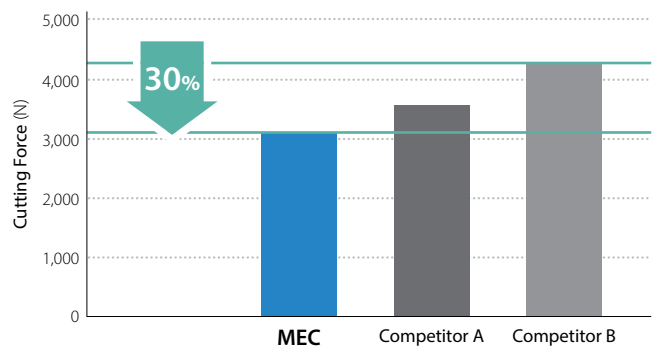
PDL025 DLC Coated Carbides for Aluminum Machining

## 1 Low Cutting Force and Sharp Cutting Performance

Low Cutting Forces with Helical Cutting Edge Design



Cutting Force Comparison (Internal Evaluation)

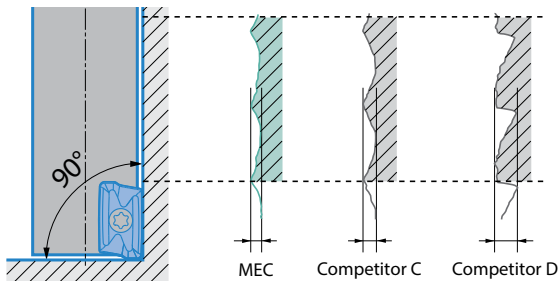


Cutting Conditions :  $V_c = 328$  sfm  $f_z = 0.008$  ipt, D.O.C.  $\times$  ae =  $0.354'' \times 0.393''$ , Dry, Cutter Dia. Dc =  $\phi 0.787''$  Workpiece : 1049

## 2 Smooth surface of shoulder wall

Smoother shoulder wall finish with multiple passes

Shoulder Wall Surface Comparison (Internal Evaluation)



Cutting Conditions :  $V_c = 394$  SFM,  $f_z = 0.004$  ipt, D.O.C.  $\times$  ae =  $0.118'' \times 0.197''$  Dry, Cutter Dia. Dc =  $\phi 0.787''$  Workpiece : 1049

## 3 Large Tooling Lineup

Introducing Fine Pitch End Mills & Face Mills  
High Efficiency Shouldering



Next-generation PVD coating for milling **NEW**

# PR18 Series

Kyocera's Nano Layer Coating Technology  
Longer Tool Life with Next-generation Coating for Milling



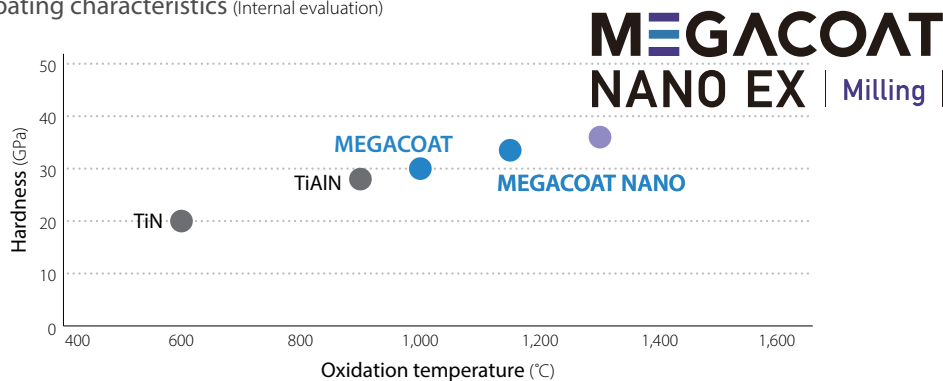
For steel, stainless steel and cast iron

## PR1825/PR1835/PR1810 New development MEGACOAT NANO EX

|                                      |          |                                                                          |          |               |          |
|--------------------------------------|----------|--------------------------------------------------------------------------|----------|---------------|----------|
| <b>PR1825</b>                        | <b>P</b> | <b>PR1835</b>                                                            | <b>M</b> | <b>PR1810</b> | <b>K</b> |
| For Steel (Wear resistance oriented) |          | For Steel (Stability oriented)<br>1st Recommendation for stainless steel |          | For Cast iron |          |

| Workpiece | P Steel                                                                          |    |    |    |    | M Stainless steel                   |    |    |    |    | K Cast iron                         |    |    |    |    |
|-----------|----------------------------------------------------------------------------------|----|----|----|----|-------------------------------------|----|----|----|----|-------------------------------------|----|----|----|----|
| ISO       | 01                                                                               | 10 | 20 | 30 | 40 | 01                                  | 10 | 20 | 30 | 40 | 01                                  | 10 | 20 | 30 | 40 |
| Grade     | Wear resistance oriented<br><b>PR1825</b><br>Stability oriented<br><b>PR1835</b> |    |    |    |    | 1st Recommendation<br><b>PR1835</b> |    |    |    |    | 1st Recommendation<br><b>PR1810</b> |    |    |    |    |

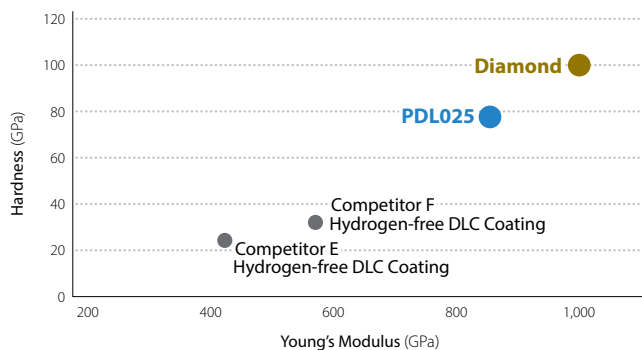
Coating characteristics (Internal evaluation)



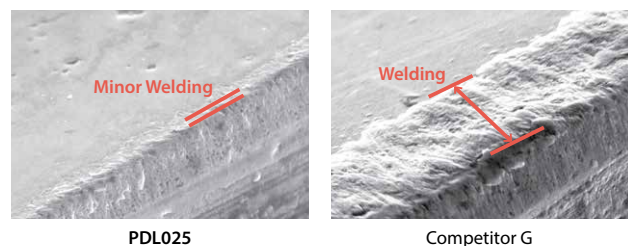
## PDL025 DLC Coating

High Quality and Long Tool Life for Machining Aluminum  
High Hardness with Kyocera's Proprietary Hydrogen-free DLC Coating

Coating Properties



Welding Resistance Comparison (Internal Evaluation)



Cutting Conditions : Vc = 2,630 SFM, fz = 0.004 ipt, D.O.C. x ae = 0.118" x 0.197", Dry  
Cutter Dia. Dc = ø1.000" Workpiece : 5052 Cutting Length : 187 ft

# Applicable Inserts

| Usage Classification                                                                                                                                    |             | P Carbon Steel / Alloy Steel           |       |                |       |       |             |     |       |       | ★      |                    | ☆                    |        | ☆      |                                    | Ref. Page for Applicable Toolholders |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------|-------|----------------|-------|-------|-------------|-----|-------|-------|--------|--------------------|----------------------|--------|--------|------------------------------------|--------------------------------------|
|                                                                                                                                                         |             | Mold Steel                             |       |                |       |       |             |     |       |       | ★      |                    | ☆                    |        | ☆      |                                    |                                      |
| ★ : Roughing / 1st Choice<br>☆ : Roughing / 2nd Choice<br>■ : Finishing / 1st Choice<br>□ : Finishing / 2nd Choice<br>(In case hardness is under 45HRC) |             | Austenitic Stainless Steel             |       |                |       |       |             |     |       |       | ★      |                    | ☆                    |        | ★      |                                    |                                      |
|                                                                                                                                                         |             | M Martensitic Stainless Steel          |       |                |       |       | ★           |     |       |       |        |                    |                      |        | ☆      |                                    |                                      |
|                                                                                                                                                         |             | Precipitation Hardened Stainless Steel |       |                |       |       |             |     |       |       |        |                    | ★                    |        | ★      |                                    |                                      |
|                                                                                                                                                         |             | K Gray Cast Iron                       |       |                |       |       |             |     | ★     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         |             | Nodular Cast Iron                      |       |                |       |       |             |     | ★     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         |             | N Non Ferrous Metals                   |       |                |       |       |             |     |       |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         |             | S Heat Resistant Alloy (Ni-base)       |       |                |       |       | ★           |     |       |       |        |                    |                      |        | ☆      |                                    |                                      |
|                                                                                                                                                         |             | Titanium Alloy                         |       |                |       |       |             |     |       |       |        |                    |                      |        | ★      |                                    |                                      |
| H Hard Materials                                                                                                                                        |             |                                        |       |                |       |       |             |     |       |       |        |                    |                      |        |        |                                    |                                      |
| Insert<br>(Right-hand Shown)                                                                                                                            |             | Part Number                            |       | Dimension (in) |       |       |             |     | Angle |       | Cermet | CVD Coated Carbide | NEW MEGACOAT NANO EX |        |        | MEGA COAT NANO                     |                                      |
|                                                                                                                                                         |             |                                        |       | W1             | S     | D1    | L           | RE  | AS    | AN    | TN100M | CA635              | PR1810               | PR1825 | PR1835 | PR1535                             |                                      |
|                                                                       | BDMT        | 110302ER-JT                            | 0.248 | 0.118          | 0.110 | 0.433 | 0.008       | 18° | 15°   |       | ●      | ●                  | ●                    | ●      | ●      | P6<br>P7                           |                                      |
|                                                                                                                                                         |             | 110304ER-JT                            |       |                |       |       | 0.016       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 110308ER-JT                            |       |                |       |       | 0.031       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         | BDMT        | 11T302ER-JT                            | 0.264 | 0.150          | 0.110 | 0.433 | 0.008       | 18° | 13°   |       |        | ●                  | ●                    | ●      | ●      | ●                                  | P6<br>P7<br>P8<br>P9<br>P10<br>P11   |
|                                                                                                                                                         |             | 11T304ER-JT                            |       |                |       |       | 0.016       |     |       | ●     | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T308ER-JT                            |       |                |       |       | 0.031       |     |       | ●     | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T312ER-JT                            |       |                |       |       | 0.047       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T316ER-JT                            |       |                |       |       | 0.063       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T320ER-JT                            |       |                |       |       | 0.079       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T324ER-JT                            |       |                |       |       | 0.094       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T331ER-JT                            |       |                |       |       | 0.122       |     |       |       | ●      | ●                  | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | BDMT                                   |       |                |       |       | 170404ER-JT |     |       | 0.378 | 0.193  | 0.173              | 0.669                | 0.016  | 18°    | 13°                                |                                      |
|                                                                                                                                                         | 170408ER-JT |                                        | 0.031 | ●              | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170412ER-JT |                                        | 0.047 |                | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170416ER-JT |                                        | 0.063 |                | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170420ER-JT |                                        | 0.079 |                | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170424ER-JT |                                        | 0.094 |                | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170431ER-JT |                                        | 0.122 |                | ●     | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
|                                                                                                                                                         | 170440ER-JT |                                        | 0.157 |                |       | ●     | ●           | ●   | ●     |       |        |                    |                      |        |        |                                    |                                      |
| <br>Stainless Steel / Low Cutting Force                              | BDMT        | 110302ER-JS                            | 0.248 | 0.118          | 0.110 | 0.433 | 0.008       | 18° | 15°   |       | ●      |                    | ●                    | ●      | ●      | P6<br>P7                           |                                      |
|                                                                                                                                                         |             | 110304ER-JS                            |       |                |       |       | 0.016       |     |       |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 110308ER-JS                            |       |                |       |       | 0.031       |     |       |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         | BDMT        | 11T302ER-JS                            | 0.264 | 0.150          | 0.110 | 0.433 | 0.008       | 18° | 13°   |       | ●      |                    | ●                    | ●      | ●      | P6<br>P7<br>P8<br>P9<br>P10<br>P11 |                                      |
|                                                                                                                                                         |             | 11T304ER-JS                            |       |                |       |       | 0.016       |     |       |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 11T308ER-JS                            |       |                |       |       | 0.031       |     |       |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         | BDMT        | 170404ER-JS                            | 0.378 | 0.193          | 0.173 | 0.669 | 0.016       | 18° | 13°   |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |
|                                                                                                                                                         |             | 170408ER-JS                            |       |                |       |       | 0.031       |     |       |       | ●      |                    | ●                    | ●      | ●      |                                    |                                      |

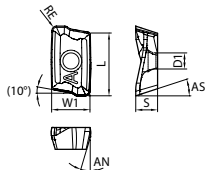
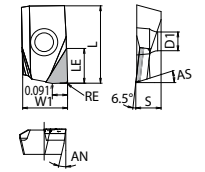
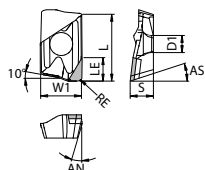
Recommended Cutting Conditions → **P12, P13**

● : Standard Item △ : Phaseout Item (will be removed from next brochure)

Inserts are sold in 10 piece boxes

## Applicable Inserts

| Usage Classification                                                                                                                                                                               |  | P              | Carbon Steel / Alloy Steel             |  |   |   |   |   |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------|----------------------------------------|--|---|---|---|---|--|--|
|                                                                                                                                                                                                    |  |                | Mold Steel                             |  |   |   |   |   |  |  |
| <div>★ : Roughing / 1st Choice</div> <div>☆ : Roughing / 2nd Choice</div> <div>■ : Finishing / 1st Choice</div> <div>□ : Finishing / 2nd Choice</div> <div>(In case hardness is under 45HRC)</div> |  | M              | Austenitic Stainless Steel             |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  |                | Martensitic Stainless Steel            |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  |                | Precipitation Hardened Stainless Steel |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  | K              | Gray Cast Iron                         |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  |                | Nodular Cast Iron                      |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  | N              | Non Ferrous Metals                     |  | ★ | ☆ | □ | ■ |  |  |
|                                                                                                                                                                                                    |  | S              | Heat Resistant Alloy (Ni-base)         |  |   |   |   |   |  |  |
|                                                                                                                                                                                                    |  |                | Titanium Alloy                         |  |   | ☆ | □ | ■ |  |  |
| H                                                                                                                                                                                                  |  | Hard Materials |                                        |  |   |   |   |   |  |  |

| Insert<br><br>(Right-hand Shown)                                                    |                                                                                     | Part Number      | Dimension (mm) |       |       |       |       |       | Angle |     | DLC    | Carbide | PCD    |        |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------|----------------|-------|-------|-------|-------|-------|-------|-----|--------|---------|--------|--------|--|
|                                                                                     |                                                                                     |                  | W1             | S     | D1    | L     | RE    | LE    | AS    | AN  | PD1025 | GW25    | KPD001 | KPD230 |  |
|    |    | BDGT 11T302FR-JA |                |       |       |       | 0.008 |       |       |     | ●      | ●       |        |        |  |
|                                                                                     |                                                                                     | 11T304FR-JA      | 0.264          | 0.150 | 0.110 | 0.433 | 1/64  | -     | 18°   | 13° |        | ●       | ●      |        |  |
|                                                                                     |                                                                                     | 11T308FR-JA      |                |       |       |       | 1/32  |       |       |     |        | ●       | ●      |        |  |
|                                                                                     |                                                                                     | BDGT 170404FR-JA |                |       |       |       | 1/64  |       |       |     |        | ●       | ●      |        |  |
|                                                                                     |                                                                                     | 170408FR-JA      |                |       |       |       | 1/32  |       |       |     |        | ●       | ●      |        |  |
|                                                                                     |                                                                                     | 170420FR-JA      | 0.378          | 0.193 | 0.173 | 0.669 | 0.079 | -     | 18°   | 13° |        | ●       | ●      |        |  |
|                                                                                     |                                                                                     | 170431FR-JA      |                |       |       |       | 0.122 |       |       |     |        | ●       | ●      |        |  |
|   |   | BDGT 11T302FR    |                |       |       |       | 0.008 |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 11T304FR         |                |       |       |       | 1/64  | 0.150 | 18°   | 13° |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 11T308FR         |                |       |       |       | 1/32  |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | BDGT 11T302FR-LE | 0.264          | 0.150 | 0.110 | 0.453 | 0.008 |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 11T304FR-LE      |                |       |       |       | 1/64  | 0.205 | 18°   | 13° |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 11T308FR-LE      |                |       |       |       | 1/32  |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     |                  |                |       |       |       |       |       |       |     |        |         | ●      | ●      |  |
|  |  | BDMT 11T302FR    | 0.264          | 0.150 | 0.110 | 0.433 | 0.008 | 0.142 | 18°   | 13° |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 11T304FR         |                |       |       |       | 1/64  |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | BDMT 170402FR    | 0.378          | 0.193 | 0.173 | 0.669 | 0.008 | 0.173 | 18°   | 13° |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     | 170404FR         |                |       |       |       | 1/64  |       |       |     |        |         | ●      | ●      |  |
|                                                                                     |                                                                                     |                  |                |       |       |       |       |       |       |     |        |         | ●      | ●      |  |

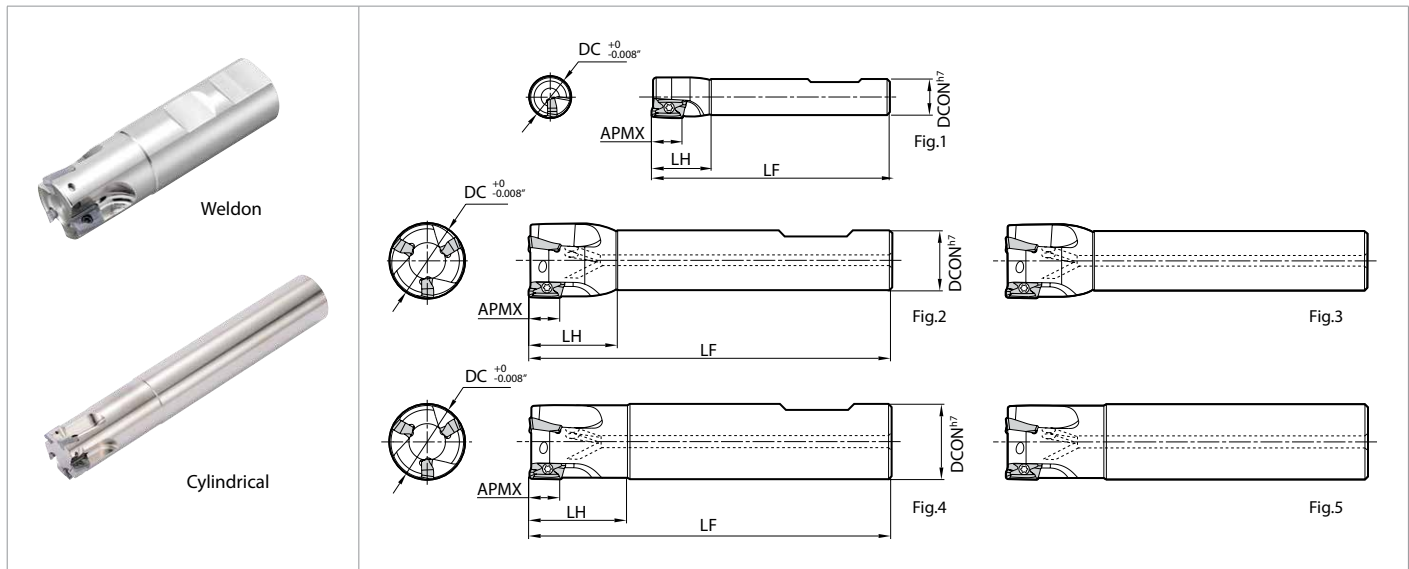
Recommended Cutting Conditions ➔ **P12, P13**

Carbide Inserts are sold in 10 piece boxes  
PCD Inserts are sold in 1 piece boxes  
● : Standard Item

Ref. Page for Applicable Toolholders  
P6  
P7  
P8  
P9  
P10  
P11

## Toolholders and Applicable Insert

| Toolholder               | Applicable Insert |                  |                  |                    |               |                                    | Notes                                                  |
|--------------------------|-------------------|------------------|------------------|--------------------|---------------|------------------------------------|--------------------------------------------------------|
| MEC...-11                | BDMT 1103○○ER-JT  | BDMT 1103○○ER-JS | -                | -                  | -             | -                                  | Using notched insert (-N2/-N3/-N4) is not recommended. |
| MEC...-11T<br>MEC...R-11 | BDMT 11T3○○ER-JT  | BDMT 11T3○○ER-JS | BDGT 11T3○○FR-JA | BDGT 11T3○○FR(-LE) | BDMT 11T3○○FR | -                                  |                                                        |
| MEC...-17<br>MEC...R-17  | BDMT 1704○○ER-JT  | BDMT 1704○○ER-JS | BDGT 1704○○FR-JA | -                  | BDMT 1704○○FR | -                                  |                                                        |
| MECH...11                | BDMT 11T3○○ER-JT  | BDMT 11T3○○ER-JS | BDGT 11T3○○ER-JA | -                  | -             | BDMT11T308ER-N2<br>BDMT11T308ER-N3 | Notched insert (-N2/-N3/-N4) is 1st recommendation.    |
| MECH...17                | BDMT 1704○○ER-JT  | BDMT 1704○○ER-JS | BDGT 1704○○FR-JA | -                  | -             | BDMT170408ER-N3<br>BDMT170408ER-N4 |                                                        |



Toolholder Dimensions (Inch)

| Shank                |                | Part Number       | Stock      | No. of Inserts        | Dimensions (in) |       |       |       |       | Rake Angle (°) |        | Coolant Hole | Drawing    | Spare Parts                                                                       |                                                                                   | Max RPM |        |            |       |        |
|----------------------|----------------|-------------------|------------|-----------------------|-----------------|-------|-------|-------|-------|----------------|--------|--------------|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|--------|------------|-------|--------|
|                      |                |                   |            |                       | DC              | DCON  | LF    | LH    | APMX  | A.R. (Max)     | R.R.   |              |            | Insert Screw                                                                      | Wrench                                                                            |         |        |            |       |        |
|                      |                |                   |            |                       |                 |       |       |       |       |                |        |              |            |  |  |         |        |            |       |        |
| Weldon               | Standard Shank | MEC 0500-S500-11  | ●          | 1                     | 0.500           | 0.500 | 2.650 | 0.787 | 0.400 | 12°            | -21°   | No           | Fig.1      | SB-2545TR                                                                         | DTM-8                                                                             | 50,800  |        |            |       |        |
|                      |                | MEC 0625-S500-11T | ●          | 2                     | 0.625           | 0.500 | 2.750 | 0.906 | 0.400 | 18°            | -14°   |              | Yes        | Fig.4                                                                             | SB-2555TRG                                                                        | DTM-8   | 43,750 |            |       |        |
|                      |                | 0625-S625-11T     | ●          |                       |                 |       |       |       |       |                |        |              |            |                                                                                   |                                                                                   |         | 43,750 |            |       |        |
|                      |                | 0750-S625-11T     | ●          | 3                     | 0.750           | 0.625 | 3.050 | 1.024 |       | 20°            | -10°   |              |            |                                                                                   |                                                                                   |         | Fig.2  | 41,000     |       |        |
|                      |                | 0750-S750-11T     | ●          |                       |                 |       |       |       |       |                |        |              |            |                                                                                   |                                                                                   |         | Fig.4  | 41,000     |       |        |
|                      |                | 1000-S750-11T     | ●          |                       |                 |       |       |       |       |                |        |              |            |                                                                                   |                                                                                   |         | Fig.2  | 37,500     |       |        |
|                      |                | 1000-S100-11T     | ●          | 1.000                 | 1.000           | 3.750 | 1.260 | 21°   |       | -10°           | Fig.4  |              |            |                                                                                   |                                                                                   |         | 37,500 |            |       |        |
|                      |                | 1250-S100-11T     | ●          |                       |                 |       |       |       |       |                | Fig.2  |              |            |                                                                                   |                                                                                   |         | 33,900 |            |       |        |
|                      |                | 1250-S125-11T     | ●          |                       |                 |       |       |       |       |                | Fig.4  |              |            |                                                                                   |                                                                                   |         | 33,900 |            |       |        |
|                      |                | 1500-S125-11T     | ●          | 4                     | 1.250           | 1.250 | 4.000 | 1.575 |       | 23°            | -9°    |              |            |                                                                                   |                                                                                   |         | Fig.4  | 30,000     |       |        |
|                      |                | 1000-S750-17      | ●          | 2                     | 1.000           | 0.750 | 3.500 | 1.417 |       |                |        |              |            |                                                                                   |                                                                                   |         | 16°    | -11°       | Fig.2 | 35,000 |
|                      |                | 1000-S100-17      | ●          |                       |                 |       |       |       |       | 1.000          | 1.000  |              |            |                                                                                   |                                                                                   |         |        |            | 3.750 | Fig.4  |
|                      |                | 1250-S100-17      | ●          | 3                     | 1.250           | 1.000 | 4.000 | 1.575 | 17°   | -7°            | Fig.2  |              |            | 30,000                                                                            |                                                                                   |         |        |            |       |        |
|                      |                | 1250-S125-17      | ●          |                       |                 |       |       |       |       |                | 1.250  |              |            | Fig.4                                                                             | 30,000                                                                            |         |        |            |       |        |
|                      |                | 1500-S125-17      | ●          | 4                     | 1.500           | 1.250 | 4.350 | 1.969 | 19°   | Fig.2          | 25,000 |              |            |                                                                                   |                                                                                   |         |        |            |       |        |
|                      |                | Cylindrical       | Long Shank | MEC 0750-S750-5.2-11T | ●               | 2     | 0.750 | 0.750 | 5.200 | 2.362          | 0.400  |              |            | 20°                                                                               | -10°                                                                              | Yes     | Fig.5  | SB-2555TRG | DTM-8 | 41,000 |
|                      |                |                   |            | 1000-S100-6.3-11T     | ●               |       | 1.000 | 1.000 | 6.300 |                |        |              |            | 21°                                                                               |                                                                                   |         |        |            |       | 37,500 |
| 1250-S125-7.9-11T    | ●              |                   |            | 1.250                 | 1.250           |       | 7.870 | 2.559 | 0.400 | 23°            | -9°    | 33,900       |            |                                                                                   |                                                                                   |         |        |            |       |        |
| 1500-S125-9.5-11T    | ●              |                   |            | 1.500                 | 1.250           |       | 9.450 |       |       | -8°            | Fig.3  | 30,000       |            |                                                                                   |                                                                                   |         |        |            |       |        |
| MEC 1000-S100-6.3-17 | ●              |                   |            | 2                     | 1.000           | 1.000 | 6.300 | 2.362 | 0.618 | 16°            | -11°   | Fig.5        | SB-4070TRN | DTM-15                                                                            | 35,000                                                                            |         |        |            |       |        |
| 1250-S125-7.9-17     | ●              |                   |            |                       | 1.250           | 1.250 | 7.870 | 2.559 | 0.618 | 17°            | -7°    | Fig.5        |            |                                                                                   | 30,000                                                                            |         |        |            |       |        |
| 1500-S125-9.5-17     | ●              |                   |            |                       | 1.500           | 1.250 | 9.450 |       |       |                |        | Fig.3        |            |                                                                                   | 25,000                                                                            |         |        |            |       |        |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions → **P12, P13**

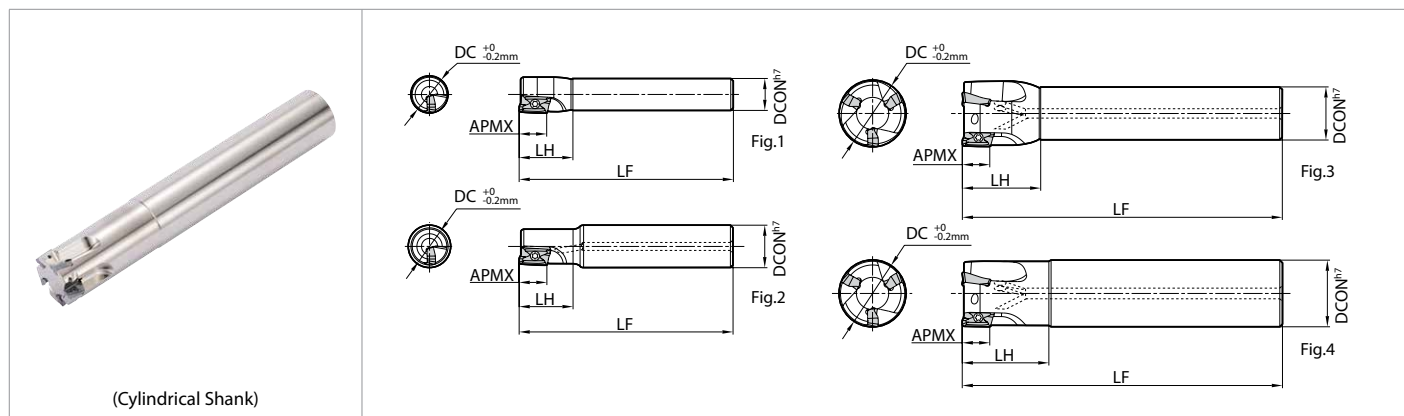
●: Standard item

Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

Applicable Inserts

| Part Number | Applicable Inserts → P4, P5                                                         |                                                                                     |                                                                                     | Applicable PCD Inserts → P5                                                           |                                                                                       |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  |  |  |  |  |
| MEC...-11   | BDMT 1103 ○○ ER-JT                                                                  | BDMT 1103 ○○ ER-JS                                                                  | -                                                                                   | -                                                                                     | -                                                                                     |
| MEC...-11T  | BDMT 11T3 ○○ ER-JT                                                                  | BDMT 11T3 ○○ ER-JS                                                                  | BDGT 11T3 ○○ FR-JA                                                                  | BDGT 11T3 ○○ FR(-LE)                                                                  | BDMT 11T3 ○○ FR                                                                       |
| MEC...-17   | BDMT 1704 ○○ ER-JT                                                                  | BDMT 1704 ○○ ER-JS                                                                  | BDGT 1704 ○○ FR-JA                                                                  | -                                                                                     | BDMT 1704 ○○ FR                                                                       |



(Cylindrical Shank)

### Toolholder Dimensions for 11mm Inserts (Metric)

| Shank       |                | Part Number                                                                                                                                                                                                                                                                                                                  | Stock      | No. of Inserts                                                                                                                                                                                                                                                                                                                                                       | Dimensions (mm) |       |        |        |       | Rake Angle (°) |       | Coolant Hole | Drawing    | Spare Parts  |        | Max RPM    |                                                                                   |                                                                                   |        |       |        |        |        |            |
|-------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------|--------|--------|-------|----------------|-------|--------------|------------|--------------|--------|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|--------|--------|--------|------------|
|             |                |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | DC              | DCON  | LF     | LH     | APMX  | A.R. (Max)     | R.R.  |              |            | Insert Screw | Wrench |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      |                 |       |        |        |       |                |       |              |            |              |        |            |  |  |        |       |        |        |        |            |
| Cylindrical | Standard Shank | MEC 10-S10-11<br>10-S16-11<br>12-S10-11<br>12-S12-11<br>12-S16-11<br>13-S12-11<br>14-S12-11<br>14-S16-11                                                                                                                                                                                                                     | ●          | 1                                                                                                                                                                                                                                                                                                                                                                    | 10              | 10    | 80     | 17     | 10    | +10°           | -24°  | No           | Fig.1      | SB-2545TR    | DTM-8  | 54,800     |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 16    |        |        |       |                |       | 20           | -21°       |              |        |            | Yes                                                                               | Fig.2                                                                             |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      | 12              | 10    | +12°   | No     |       | Fig.1          |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 12    |        | 16     |       | Yes            | Fig.1 |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      | 13              | 12    | -19°   | No     |       | Fig.1          |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 16    |        | Yes    |       | Fig.2          |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      | 14              | 12    | +18°   | -14°   |       | No             | Fig.1 |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 16    |        |        |       | Yes            | Fig.2 |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                | MEC 16-S12-11T<br>16-S16-11T<br>17-S16-11T<br>18-S16-11T<br>19-S16-11T<br>20-S16-11T<br>20-S20-11T<br>21-S20-11T<br>22-S20-11T<br>24-S20-11T<br>25-S20-11T<br>25-S20-11T-4<br>25-S25-11T<br>25-S25-11T-4<br>28-S25-11T<br>30-S25-11T<br>32-S25-11T<br>32-S25-11T-5<br>32-S32-11T<br>32-S32-11T-5<br>40-S32-11T<br>50-S32-11T | ●          | 2                                                                                                                                                                                                                                                                                                                                                                    | 16              | 12    | 100    | 23     | 10    | +18°           | -14°  | No           | Fig.1      | SB-2555TRG   | DTM-8  | 43,750     |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 16    |        |        |       |                |       | 30           | Yes        |              |        | Fig.4      | 43,750                                                                            |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      | 17              | 16    |        | 23     |       | +19°           | -13°  | Yes          | Fig.3      |              |        | 43,500     |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 | 18    |        | Yes    |       |                |       | Fig.3        | 43,000     |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 19                                                                                                                                                                                                                                                                                                                                                                   | 16              | 26    | 10     | +20°   | -10°  | Yes            | Fig.3 | SB-2555TRG   | DTM-8      | 42,000       |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 |       |        |        |       |                |       |              |            | 20           | Yes    | Fig.3      | 41,000                                                                            |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 3                                                                                                                                                                                                                                                                                                                                                                    | 20              | 110   | 30     | 10     | +20°  | -10°           | Yes   | Fig.4        | SB-2555TRG | DTM-8        | 41,000 |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 |       |        |        |       |                |       |              |            |              | 21     | -9°        | Fig.3                                                                             | 40,300                                                                            |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 22                                                                                                                                                                                                                                                                                                                                                                   | -10°            | Fig.3 | 39,600 |        |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 24                                                                                                                                                                                                                                                                                                                                                                   |                 |       | 20     | 29     | 10    | +21°           | -10°  | Yes          | Fig.3      | SB-2555TRG   | DTM-8  | 38,200     |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 25                                                                                                                                                                                                                                                                                                                                                                   | 25              | 32    |        |        |       |                |       |              |            |              |        | +22°       | -9°                                                                               | Fig.3                                                                             | 37,500 |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 4                                                                                                                                                                                                                                                                                                                                                                    |                 |       |        |        |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   |        | 30    | 32     | -9°    | Fig.3  | 35,800     |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 3                                                                                                                                                                                                                                                                                                                                                                    |                 |       |        |        |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 4                                                                                                                                                                                                                                                                                                                                                                    | 32              | 130   | 10     | +23°   | -9°   | Yes            | Fig.3 | SB-2555TRG   | DTM-8      | 33,900       |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          |                                                                                                                                                                                                                                                                                                                                                                      |                 |       |        |        |       |                |       |              |            | 5            | 40     | 32         | 150                                                                               | 50                                                                                | 10     | +23°  | -8°    | Yes    | Fig.3  | SB-2555TRG |
|             |                |                                                                                                                                                                                                                                                                                                                              | ●          | 4                                                                                                                                                                                                                                                                                                                                                                    | 32              | 50    | Fig.3  | 22,500 |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              | Long Shank | MEC 20-S18-170-11T<br>20-S20-140-11T<br>20-S20-170-11T<br>22-S20-170-11T<br>25-S23-210-11T<br>25-S25-160-11T<br>25-S25-210-11T<br>28-S25-210-11T<br>32-S32-200-11T<br>32-S32-250-11T<br>35-S32-250-11T<br>40-S32-240-11T<br>20-S20-150-11T-3<br>25-S25-170-11T-3<br>25-S25-170-11T-4<br>30-S25-180-11T-3<br>32-S32-200-11T-3<br>32-S32-200-11T-4<br>32-S32-200-11T-5 | ●               | 2     | 20     | 18     | 170   | 30             | 10    | +20°         | -10°       | Yes          | Fig.3  | SB-2555TRG | DTM-8                                                                             | 41,000                                                                            |        |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | ●               |       |        | 20     |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   | 140    | 60    | +21°   | -9°    | Fig.4  | 39,600     |
|             |                |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | ●               |       | 22     | 170    | 30    | +22°           |       | -8°          | Fig.3      |              |        |            |                                                                                   |                                                                                   | 37,500 |       |        |        |        |            |
|             |                |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | ●               |       |        | 23     | 210   |                |       |              |            |              |        |            |                                                                                   |                                                                                   |        | 32    | +23°   | -7°    | Fig.3  | 35,800     |
|             | ●              | 25                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                      | 160             |       | 60     |        | +24°  | -6°            |       | Fig.4        | 33,900     |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
|             | ●              |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 25              |       | 210    | 32     |       |                |       |              |            |              |        |            |                                                                                   |                                                                                   | +25°   | -5°   | Fig.4  | 32,600 |        |            |
| ●           | 28             | 200                                                                                                                                                                                                                                                                                                                          |            |                                                                                                                                                                                                                                                                                                                                                                      |                 |       | 65     | +26°   | -4°   | Fig.4          |       | 30,000       |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 32                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                      | 250             |       | 40     |        |       |                |       |              | +27°       |              |        |            |                                                                                   |                                                                                   | -3°    | Fig.4 | 28,000 |        |        |            |
| ●           | 35             |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 240             |       | 65     | +28°   | -2°   | Fig.4          |       | 26,000       |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 40                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                                                                                                                                                                                                                                                      | 150             |       | 50     |        |       |                |       |              | +29°       |              |        |            |                                                                                   |                                                                                   | -1°    | Fig.4 | 24,000 |        |        |            |
| ●           | 3              |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 20              |       | 20     | 150    | 60    | +30°           |       | 0°           |            |              |        |            |                                                                                   |                                                                                   |        |       |        | Fig.4  | 22,000 |            |
| ●           |                | 4                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                      | 25              |       | 25     | 170    | 65    |                |       |              | +31°       |              |        |            |                                                                                   |                                                                                   | 1°     | Fig.4 | 20,000 |        |        |            |
| ●           | 3              |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 30              | 25    | 180    | 32     | +32°  | 2°             | Fig.4 | 18,000       |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 4                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                      | 32              | 32    | 200    | 65     |       |                |       |              | +33°       | 3°           | Fig.4  | 16,000     |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 5              |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 37              | 37    | 225    | 70     | +34°  | 4°             | Fig.4 | 14,000       |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 6                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                      | 42              | 42    | 250    | 75     |       |                |       |              | +35°       | 5°           | Fig.4  | 12,000     |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 7              |                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                                                                                                                      | 47              | 47    | 275    | 80     | +36°  | 6°             | Fig.4 | 10,000       |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 8                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                      | 52              | 52    | 300    | 85     |       |                |       |              | +37°       | 7°           | Fig.4  | 8,000      |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 9              |                                                                                                                                                                                                                                                                                                                              | 57         | 57                                                                                                                                                                                                                                                                                                                                                                   | 325             | 90    | +38°   | 8°     | Fig.4 | 6,000          |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 10                                                                                                                                                                                                                                                                                                                           | 62         | 62                                                                                                                                                                                                                                                                                                                                                                   | 350             | 95    |        |        |       |                | +39°  | 9°           | Fig.4      | 4,000        |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 11             |                                                                                                                                                                                                                                                                                                                              | 67         | 67                                                                                                                                                                                                                                                                                                                                                                   | 375             | 100   | +40°   | 10°    | Fig.4 | 2,000          |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 12                                                                                                                                                                                                                                                                                                                           | 72         | 72                                                                                                                                                                                                                                                                                                                                                                   | 400             | 105   |        |        |       |                | +41°  | 11°          | Fig.4      | 1,000        |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 13             |                                                                                                                                                                                                                                                                                                                              | 77         | 77                                                                                                                                                                                                                                                                                                                                                                   | 425             | 110   | +42°   | 12°    | Fig.4 | 500            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 14                                                                                                                                                                                                                                                                                                                           | 82         | 82                                                                                                                                                                                                                                                                                                                                                                   | 450             | 115   |        |        |       |                | +43°  | 13°          | Fig.4      | 250          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 15             |                                                                                                                                                                                                                                                                                                                              | 87         | 87                                                                                                                                                                                                                                                                                                                                                                   | 475             | 120   | +44°   | 14°    | Fig.4 | 125            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 16                                                                                                                                                                                                                                                                                                                           | 92         | 92                                                                                                                                                                                                                                                                                                                                                                   | 500             | 125   |        |        |       |                | +45°  | 15°          | Fig.4      | 60           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 17             |                                                                                                                                                                                                                                                                                                                              | 97         | 97                                                                                                                                                                                                                                                                                                                                                                   | 525             | 130   | +46°   | 16°    | Fig.4 | 30             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 18                                                                                                                                                                                                                                                                                                                           | 102        | 102                                                                                                                                                                                                                                                                                                                                                                  | 550             | 135   |        |        |       |                | +47°  | 17°          | Fig.4      | 15           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 19             |                                                                                                                                                                                                                                                                                                                              | 107        | 107                                                                                                                                                                                                                                                                                                                                                                  | 575             | 140   | +48°   | 18°    | Fig.4 | 7              |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 20                                                                                                                                                                                                                                                                                                                           | 112        | 112                                                                                                                                                                                                                                                                                                                                                                  | 600             | 145   |        |        |       |                | +49°  | 19°          | Fig.4      | 3            |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 21             |                                                                                                                                                                                                                                                                                                                              | 117        | 117                                                                                                                                                                                                                                                                                                                                                                  | 625             | 150   | +50°   | 20°    | Fig.4 | 1              |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 22                                                                                                                                                                                                                                                                                                                           | 122        | 122                                                                                                                                                                                                                                                                                                                                                                  | 650             | 155   |        |        |       |                | +51°  | 21°          | Fig.4      | 0            |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 23             |                                                                                                                                                                                                                                                                                                                              | 127        | 127                                                                                                                                                                                                                                                                                                                                                                  | 675             | 160   | +52°   | 22°    | Fig.4 | -1             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 24                                                                                                                                                                                                                                                                                                                           | 132        | 132                                                                                                                                                                                                                                                                                                                                                                  | 700             | 165   |        |        |       |                | +53°  | 23°          | Fig.4      | -2           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 25             |                                                                                                                                                                                                                                                                                                                              | 137        | 137                                                                                                                                                                                                                                                                                                                                                                  | 725             | 170   | +54°   | 24°    | Fig.4 | -3             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 26                                                                                                                                                                                                                                                                                                                           | 142        | 142                                                                                                                                                                                                                                                                                                                                                                  | 750             | 175   |        |        |       |                | +55°  | 25°          | Fig.4      | -4           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 27             |                                                                                                                                                                                                                                                                                                                              | 147        | 147                                                                                                                                                                                                                                                                                                                                                                  | 775             | 180   | +56°   | 26°    | Fig.4 | -5             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 28                                                                                                                                                                                                                                                                                                                           | 152        | 152                                                                                                                                                                                                                                                                                                                                                                  | 800             | 185   |        |        |       |                | +57°  | 27°          | Fig.4      | -6           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 29             |                                                                                                                                                                                                                                                                                                                              | 157        | 157                                                                                                                                                                                                                                                                                                                                                                  | 825             | 190   | +58°   | 28°    | Fig.4 | -7             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 30                                                                                                                                                                                                                                                                                                                           | 162        | 162                                                                                                                                                                                                                                                                                                                                                                  | 850             | 195   |        |        |       |                | +59°  | 29°          | Fig.4      | -8           |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 31             |                                                                                                                                                                                                                                                                                                                              | 167        | 167                                                                                                                                                                                                                                                                                                                                                                  | 875             | 200   | +60°   | 30°    | Fig.4 | -9             |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 32                                                                                                                                                                                                                                                                                                                           | 172        | 172                                                                                                                                                                                                                                                                                                                                                                  | 900             | 205   |        |        |       |                | +61°  | 31°          | Fig.4      | -10          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 33             |                                                                                                                                                                                                                                                                                                                              | 177        | 177                                                                                                                                                                                                                                                                                                                                                                  | 925             | 210   | +62°   | 32°    | Fig.4 | -11            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 34                                                                                                                                                                                                                                                                                                                           | 182        | 182                                                                                                                                                                                                                                                                                                                                                                  | 950             | 215   |        |        |       |                | +63°  | 33°          | Fig.4      | -12          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 35             |                                                                                                                                                                                                                                                                                                                              | 187        | 187                                                                                                                                                                                                                                                                                                                                                                  | 975             | 220   | +64°   | 34°    | Fig.4 | -13            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 36                                                                                                                                                                                                                                                                                                                           | 192        | 192                                                                                                                                                                                                                                                                                                                                                                  | 1000            | 225   |        |        |       |                | +65°  | 35°          | Fig.4      | -14          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 37             |                                                                                                                                                                                                                                                                                                                              | 197        | 197                                                                                                                                                                                                                                                                                                                                                                  | 1025            | 230   | +66°   | 36°    | Fig.4 | -15            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 38                                                                                                                                                                                                                                                                                                                           | 202        | 202                                                                                                                                                                                                                                                                                                                                                                  | 1050            | 235   |        |        |       |                | +67°  | 37°          | Fig.4      | -16          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 39             |                                                                                                                                                                                                                                                                                                                              | 207        | 207                                                                                                                                                                                                                                                                                                                                                                  | 1075            | 240   | +68°   | 38°    | Fig.4 | -17            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 40                                                                                                                                                                                                                                                                                                                           | 212        | 212                                                                                                                                                                                                                                                                                                                                                                  | 1100            | 245   |        |        |       |                | +69°  | 39°          | Fig.4      | -18          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 41             |                                                                                                                                                                                                                                                                                                                              | 217        | 217                                                                                                                                                                                                                                                                                                                                                                  | 1125            | 250   | +70°   | 40°    | Fig.4 | -19            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 42                                                                                                                                                                                                                                                                                                                           | 222        | 222                                                                                                                                                                                                                                                                                                                                                                  | 1150            | 255   |        |        |       |                | +71°  | 41°          | Fig.4      | -20          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 43             |                                                                                                                                                                                                                                                                                                                              | 227        | 227                                                                                                                                                                                                                                                                                                                                                                  | 1175            | 260   | +72°   | 42°    | Fig.4 | -21            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 44                                                                                                                                                                                                                                                                                                                           | 232        | 232                                                                                                                                                                                                                                                                                                                                                                  | 1200            | 265   |        |        |       |                | +73°  | 43°          | Fig.4      | -22          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 45             |                                                                                                                                                                                                                                                                                                                              | 237        | 237                                                                                                                                                                                                                                                                                                                                                                  | 1225            | 270   | +74°   | 44°    | Fig.4 | -23            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 46                                                                                                                                                                                                                                                                                                                           | 242        | 242                                                                                                                                                                                                                                                                                                                                                                  | 1250            | 275   |        |        |       |                | +75°  | 45°          | Fig.4      | -24          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 47             |                                                                                                                                                                                                                                                                                                                              | 247        | 247                                                                                                                                                                                                                                                                                                                                                                  | 1275            | 280   | +76°   | 46°    | Fig.4 | -25            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 48                                                                                                                                                                                                                                                                                                                           | 252        | 252                                                                                                                                                                                                                                                                                                                                                                  | 1300            | 285   |        |        |       |                | +77°  | 47°          | Fig.4      | -26          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 49             |                                                                                                                                                                                                                                                                                                                              | 257        | 257                                                                                                                                                                                                                                                                                                                                                                  | 1325            | 290   | +78°   | 48°    | Fig.4 | -27            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 50                                                                                                                                                                                                                                                                                                                           | 262        | 262                                                                                                                                                                                                                                                                                                                                                                  | 1350            | 295   |        |        |       |                | +79°  | 49°          | Fig.4      | -28          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 51             |                                                                                                                                                                                                                                                                                                                              | 267        | 267                                                                                                                                                                                                                                                                                                                                                                  | 1375            | 300   | +80°   | 50°    | Fig.4 | -29            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 52                                                                                                                                                                                                                                                                                                                           | 272        | 272                                                                                                                                                                                                                                                                                                                                                                  | 1400            | 305   |        |        |       |                | +81°  | 51°          | Fig.4      | -30          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 53             |                                                                                                                                                                                                                                                                                                                              | 277        | 277                                                                                                                                                                                                                                                                                                                                                                  | 1425            | 310   | +82°   | 52°    | Fig.4 | -31            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 54                                                                                                                                                                                                                                                                                                                           | 282        | 282                                                                                                                                                                                                                                                                                                                                                                  | 1450            | 315   |        |        |       |                | +83°  | 53°          | Fig.4      | -32          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 55             |                                                                                                                                                                                                                                                                                                                              | 287        | 287                                                                                                                                                                                                                                                                                                                                                                  | 1475            | 320   | +84°   | 54°    | Fig.4 | -33            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 56                                                                                                                                                                                                                                                                                                                           | 292        | 292                                                                                                                                                                                                                                                                                                                                                                  | 1500            | 325   |        |        |       |                | +85°  | 55°          | Fig.4      | -34          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 57             |                                                                                                                                                                                                                                                                                                                              | 297        | 297                                                                                                                                                                                                                                                                                                                                                                  | 1525            | 330   | +86°   | 56°    | Fig.4 | -35            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 58                                                                                                                                                                                                                                                                                                                           | 302        | 302                                                                                                                                                                                                                                                                                                                                                                  | 1550            | 335   |        |        |       |                | +87°  | 57°          | Fig.4      | -36          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 59             |                                                                                                                                                                                                                                                                                                                              | 307        | 307                                                                                                                                                                                                                                                                                                                                                                  | 1575            | 340   | +88°   | 58°    | Fig.4 | -37            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 60                                                                                                                                                                                                                                                                                                                           | 312        | 312                                                                                                                                                                                                                                                                                                                                                                  | 1600            | 345   |        |        |       |                | +89°  | 59°          | Fig.4      | -38          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 61             |                                                                                                                                                                                                                                                                                                                              | 317        | 317                                                                                                                                                                                                                                                                                                                                                                  | 1625            | 350   | +90°   | 60°    | Fig.4 | -39            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 62                                                                                                                                                                                                                                                                                                                           | 322        | 322                                                                                                                                                                                                                                                                                                                                                                  | 1650            | 355   |        |        |       |                | +91°  | 61°          | Fig.4      | -40          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 63             |                                                                                                                                                                                                                                                                                                                              | 327        | 327                                                                                                                                                                                                                                                                                                                                                                  | 1675            | 360   | +92°   | 62°    | Fig.4 | -41            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 64                                                                                                                                                                                                                                                                                                                           | 332        | 332                                                                                                                                                                                                                                                                                                                                                                  | 1700            | 365   |        |        |       |                | +93°  | 63°          | Fig.4      | -42          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 65             |                                                                                                                                                                                                                                                                                                                              | 337        | 337                                                                                                                                                                                                                                                                                                                                                                  | 1725            | 370   | +94°   | 64°    | Fig.4 | -43            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 66                                                                                                                                                                                                                                                                                                                           | 342        | 342                                                                                                                                                                                                                                                                                                                                                                  | 1750            | 375   |        |        |       |                | +95°  | 65°          | Fig.4      | -44          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 67             |                                                                                                                                                                                                                                                                                                                              | 347        | 347                                                                                                                                                                                                                                                                                                                                                                  | 1775            | 380   | +96°   | 66°    | Fig.4 | -45            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 68                                                                                                                                                                                                                                                                                                                           | 352        | 352                                                                                                                                                                                                                                                                                                                                                                  | 1800            | 385   |        |        |       |                | +97°  | 67°          | Fig.4      | -46          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 69             |                                                                                                                                                                                                                                                                                                                              | 357        | 357                                                                                                                                                                                                                                                                                                                                                                  | 1825            | 390   | +98°   | 68°    | Fig.4 | -47            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 70                                                                                                                                                                                                                                                                                                                           | 362        | 362                                                                                                                                                                                                                                                                                                                                                                  | 1850            | 395   |        |        |       |                | +99°  | 69°          | Fig.4      | -48          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 71             |                                                                                                                                                                                                                                                                                                                              | 367        | 367                                                                                                                                                                                                                                                                                                                                                                  | 1875            | 400   | +100°  | 70°    | Fig.4 | -49            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 72                                                                                                                                                                                                                                                                                                                           | 372        | 372                                                                                                                                                                                                                                                                                                                                                                  | 1900            | 405   |        |        |       |                | +101° | 71°          | Fig.4      | -50          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 73             |                                                                                                                                                                                                                                                                                                                              | 377        | 377                                                                                                                                                                                                                                                                                                                                                                  | 1925            | 410   | +102°  | 72°    | Fig.4 | -51            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 74                                                                                                                                                                                                                                                                                                                           | 382        | 382                                                                                                                                                                                                                                                                                                                                                                  | 1950            | 415   |        |        |       |                | +103° | 73°          | Fig.4      | -52          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 75             |                                                                                                                                                                                                                                                                                                                              | 387        | 387                                                                                                                                                                                                                                                                                                                                                                  | 1975            | 420   | +104°  | 74°    | Fig.4 | -53            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 76                                                                                                                                                                                                                                                                                                                           | 392        | 392                                                                                                                                                                                                                                                                                                                                                                  | 2000            | 425   |        |        |       |                | +105° | 75°          | Fig.4      | -54          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 77             |                                                                                                                                                                                                                                                                                                                              | 397        | 397                                                                                                                                                                                                                                                                                                                                                                  | 2025            | 430   | +106°  | 76°    | Fig.4 | -55            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 78                                                                                                                                                                                                                                                                                                                           | 402        | 402                                                                                                                                                                                                                                                                                                                                                                  | 2050            | 435   |        |        |       |                | +107° | 77°          | Fig.4      | -56          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 79             |                                                                                                                                                                                                                                                                                                                              | 407        | 407                                                                                                                                                                                                                                                                                                                                                                  | 2075            | 440   | +108°  | 78°    | Fig.4 | -57            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 80                                                                                                                                                                                                                                                                                                                           | 412        | 412                                                                                                                                                                                                                                                                                                                                                                  | 2100            | 445   |        |        |       |                | +109° | 79°          | Fig.4      | -58          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 81             |                                                                                                                                                                                                                                                                                                                              | 417        | 417                                                                                                                                                                                                                                                                                                                                                                  | 2125            | 450   | +110°  | 80°    | Fig.4 | -59            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 82                                                                                                                                                                                                                                                                                                                           | 422        | 422                                                                                                                                                                                                                                                                                                                                                                  | 2150            | 455   |        |        |       |                | +111° | 81°          | Fig.4      | -60          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 83             |                                                                                                                                                                                                                                                                                                                              | 427        | 427                                                                                                                                                                                                                                                                                                                                                                  | 2175            | 460   | +112°  | 82°    | Fig.4 | -61            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 84                                                                                                                                                                                                                                                                                                                           | 432        | 432                                                                                                                                                                                                                                                                                                                                                                  | 2200            | 465   |        |        |       |                | +113° | 83°          | Fig.4      | -62          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 85             |                                                                                                                                                                                                                                                                                                                              | 437        | 437                                                                                                                                                                                                                                                                                                                                                                  | 2225            | 470   | +114°  | 84°    | Fig.4 | -63            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 86                                                                                                                                                                                                                                                                                                                           | 442        | 442                                                                                                                                                                                                                                                                                                                                                                  | 2250            | 475   |        |        |       |                | +115° | 85°          | Fig.4      | -64          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 87             |                                                                                                                                                                                                                                                                                                                              | 447        | 447                                                                                                                                                                                                                                                                                                                                                                  | 2275            | 480   | +116°  | 86°    | Fig.4 | -65            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           |                | 88                                                                                                                                                                                                                                                                                                                           | 452        | 452                                                                                                                                                                                                                                                                                                                                                                  | 2300            | 485   |        |        |       |                | +117° | 87°          | Fig.4      | -66          |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |
| ●           | 89             |                                                                                                                                                                                                                                                                                                                              | 457        | 457                                                                                                                                                                                                                                                                                                                                                                  | 2325            | 490   | +118°  | 88°    | Fig.4 | -67            |       |              |            |              |        |            |                                                                                   |                                                                                   |        |       |        |        |        |            |

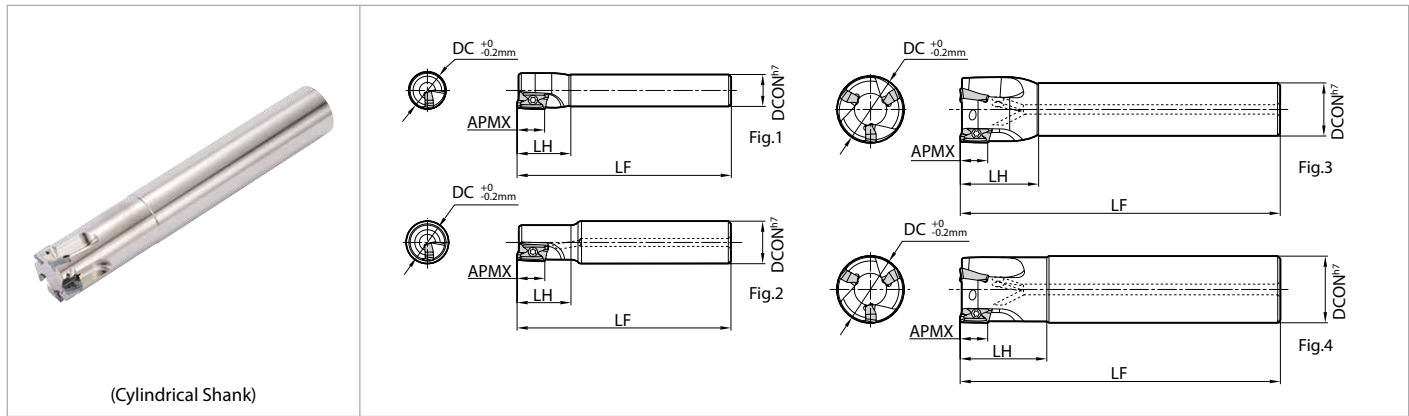
Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions ➔ **P12, P13**

●: Standard item

Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.



(Cylindrical Shank)

### Toolholder Dimensions for 17mm Inserts (Metric)

| Shank       |                | Part Number         | Stock | No. of Inserts | Dimensions (mm) |       |     |      |      | Rake Angle (°) |       | Coolant Hole | Drawing | Spare Parts                                                                         |                                                                                     | Max RPM |        |
|-------------|----------------|---------------------|-------|----------------|-----------------|-------|-----|------|------|----------------|-------|--------------|---------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|--------|
|             |                |                     |       |                | DC              | DCON  | LF  | LH   | APMX | A.R. (Max)     | R.R.  |              |         | Insert Screw                                                                        | Wrench                                                                              |         |        |
|             |                |                     |       |                |                 |       |     |      |      |                |       |              |         |  |  |         |        |
| Cylindrical | Standard Shank | MEC 25-S20-17       | ●     | 2              | 25              | 20    | 120 | 36   | 15.7 | +16°           | -11°  | Yes          | Fig.3   | SB-4070TRN                                                                          | DTM-15                                                                              | 35,000  |        |
|             |                | 25-S25-17           | ●     |                |                 | 25    |     |      |      |                |       |              | Fig.4   |                                                                                     |                                                                                     | 35,000  |        |
|             |                | 32-S25-17           | ●     | 3              | 32              | 25    | 130 | 40   |      | +17°           | -7°   |              | Fig.3   |                                                                                     |                                                                                     | 30,000  |        |
|             |                | 32-S32-17           | ●     |                |                 | Fig.4 |     |      |      |                |       |              | 30,000  |                                                                                     |                                                                                     |         |        |
|             |                | 40-S32-17           | ●     | 4              | 40              | 32    | 150 | 50   |      | +19°           | Fig.3 |              | 25,000  |                                                                                     |                                                                                     |         |        |
|             |                | 50-S32-17           | ●     |                | 50              |       |     |      |      |                |       |              | 17,000  |                                                                                     |                                                                                     |         |        |
|             | Long Shank     | MEC 25-S25-160-17   | ●     | 2              | 25              | 25    | 160 | 60   | 15.7 | +16°           | -11°  | Yes          | Fig.4   | SB-4070TRN                                                                          | DTM-15                                                                              | 35,000  |        |
|             |                | 25-S25-210-17       | ●     |                |                 |       | 210 |      |      |                |       |              | 36      |                                                                                     |                                                                                     | Fig.3   | 32,500 |
|             |                | 28-S25-210-17       | ●     |                |                 |       | 32  |      |      |                |       |              | 200     |                                                                                     |                                                                                     | 65      | Fig.4  |
|             |                | 32-S32-200-17       | ●     |                | 32              | 250   | 40  | 240  |      | 65             | +17°  |              | -7°     |                                                                                     |                                                                                     | Fig.3   | 27,700 |
|             |                | 32-S32-250-17       | ●     |                |                 |       |     |      |      |                |       |              |         |                                                                                     |                                                                                     |         | 25,000 |
|             |                | 35-S32-250-17       | ●     |                |                 |       |     |      |      |                |       |              |         |                                                                                     |                                                                                     |         | 30,000 |
|             |                | 40-S32-240-17       | ●     |                | 40              | 240   | 65  | +19° |      | -7°            | Fig.3 |              | 25,000  |                                                                                     |                                                                                     |         |        |
|             |                | MEC 32-S32-250-17-3 | ●     | 3              | 32              | 32    | 250 | 65   | 15.7 | +17°           | -7°   | Yes          | Fig.4   | SB-4070TRN                                                                          | DTM-15                                                                              | 30,000  |        |
|             |                | 40-S32-250-17-3     | ●     |                | 40              |       |     |      |      |                |       |              | Fig.3   |                                                                                     |                                                                                     | 25,000  |        |
|             |                | 40-S32-250-17-4     | ●     | 4              | 50              | 42    | 64  | +19° |      | -6°            | Fig.3 |              | 17,000  |                                                                                     |                                                                                     |         |        |
|             |                | 50-S42-250-17-4     | ●     |                |                 |       |     |      |      |                |       |              |         |                                                                                     |                                                                                     |         |        |

 Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions → **P12, P13**

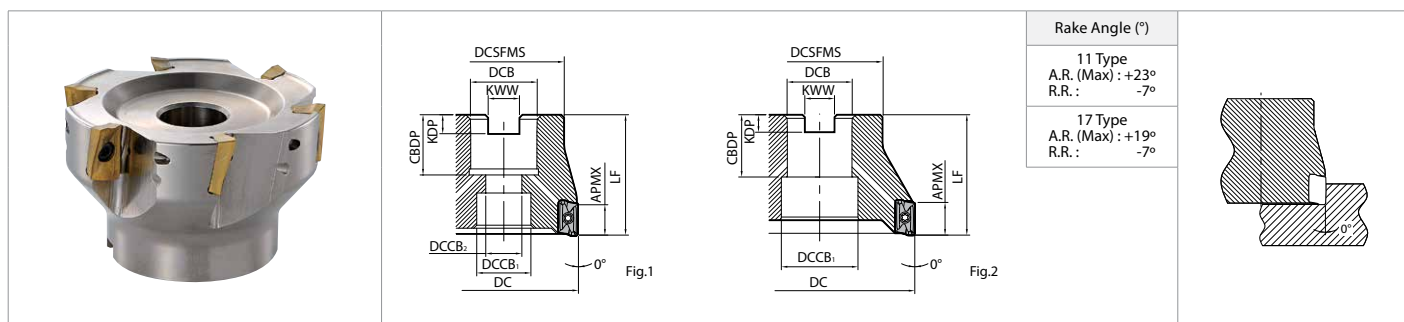
●: Standard item

#### Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

### Applicable Inserts

| Part Number | Applicable Inserts → P4, P5                                                         |                                                                                     |                                                                                     | Applicable PCD Inserts → P5                                                           |                                                                                       |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  |  |  |  |  |
| MEC...-11   | BDMT 1103 ○○ ER-JT                                                                  | BDMT 1103 ○○ ER-JS                                                                  | -                                                                                   | -                                                                                     | -                                                                                     |
| MEC...-11T  | BDMT 11T3 ○○ ER-JT                                                                  | BDMT 11T3 ○○ ER-JS                                                                  | BDGT 11T3 ○○ FR-JA                                                                  | BDGT 11T3 ○○ FR(-LE)                                                                  | BDMT 11T3 ○○ FR                                                                       |
| MEC...-17   | BDMT 1704 ○○ ER-JT                                                                  | BDMT 1704 ○○ ER-JS                                                                  | BDGT 1704 ○○ FR-JA                                                                  | -                                                                                     | BDMT 1704 ○○ FR                                                                       |



### Toolholder Dimensions (Inch)

| Part Number      | Stock | No. of Inserts | Dimensions (in) |        |       |                   |                   |       |       |       |       |       | Coolant Hole | Drawing | Weight (kg) | Spare Parts                                                                       |                                                                                   | Max RPM |
|------------------|-------|----------------|-----------------|--------|-------|-------------------|-------------------|-------|-------|-------|-------|-------|--------------|---------|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|
|                  |       |                | DC              | DCSFMS | DCB   | DCCB <sub>1</sub> | DCCB <sub>2</sub> | LF    | CBDP  | KDP   | KWW   | APMX  |              |         |             | Insert Screw                                                                      | Wrench                                                                            |         |
|                  |       |                |                 |        |       |                   |                   |       |       |       |       |       |              |         |             |  |  |         |
| MEC 1500R-11T-5T | ●     | 5              | 1.500           | 1.263  | 0.750 | 0.63              | 0.417             | 1.575 | 0.807 | 0.188 | 0.312 | 0.400 | Yes          | Fig.1   | 0.2         | SB-2555TRG                                                                        | DTM-8                                                                             | 30,700  |
|                  | ●     | 5              | 2.000           | 1.606  |       | 0.646             |                   |       | 0.819 |       |       |       |              |         | 0.3         |                                                                                   |                                                                                   | 22,300  |
|                  | ●     | 6              | 2.500           | 1.594  |       | 0.63              |                   |       | 0.819 |       |       |       |              |         | 0.7         |                                                                                   |                                                                                   | 20,400  |
|                  | ●     | 7              | 3.000           | 1.917  | 1.000 | 0.827             | 0.555             | 1.969 | 0.878 | 0.223 | 0.375 |       |              |         | 1.0         |                                                                                   |                                                                                   | 18,500  |
| MEC 2000R-17-4T  | ●     | 4              | 2.000           | 1.606  | 0.750 | 0.646             | 0.417             | 1.575 | 0.819 | 0.188 | 0.312 | 0.618 | Yes          | Fig.1   | 0.4         | SB-4070TRN                                                                        | DTM-15                                                                            | 16,800  |
|                  | ●     | 5              | 2.000           |        |       | 0.646             |                   |       | 0.819 |       |       |       |              |         | 0.4         |                                                                                   |                                                                                   | 16,800  |
|                  | ●     | 5              | 2.500           |        |       | 1.634             |                   |       | 0.646 |       |       |       |              |         | 0.819       |                                                                                   |                                                                                   | 0.8     |
|                  | ●     | 6              | 3.000           | 1.969  | 1.000 | 0.827             | 0.555             | 1.969 | 0.878 | 0.223 | 0.375 |       |              |         | 1.0         |                                                                                   |                                                                                   | 12,250  |
|                  | ●     | 7              | 4.000           | 2.622  | 1.500 | 1.969             | -                 | 2.48  | 1.654 | 0.375 | 0.625 |       |              | Fig.2   | 1.8         |                                                                                   |                                                                                   | 10,400  |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions ➔ **P12, P13**

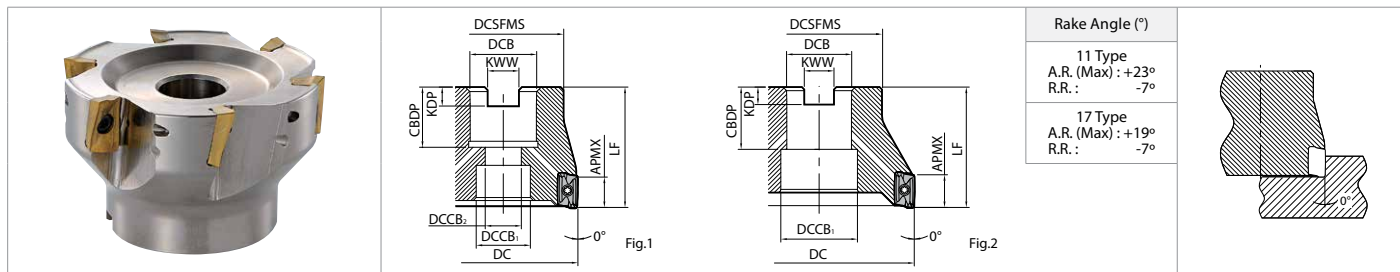
● : Standard item

#### Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

### Applicable Inserts

| Part Number | Applicable Inserts ➔ <b>P4, P5</b> |                    |                    | Applicable PCD Inserts ➔ <b>P5</b> |                 |
|-------------|------------------------------------|--------------------|--------------------|------------------------------------|-----------------|
|             |                                    |                    |                    |                                    |                 |
| MEC...-11   | BDMT 1103 ○○ ER-JT                 | BDMT 1103 ○○ ER-JS | -                  | -                                  | -               |
| MEC...-11T  | BDMT 11T3 ○○ ER-JT                 | BDMT 11T3 ○○ ER-JS | BDGT 11T3 ○○ FR-JA | BDGT 11T3 ○○ FR-(LE)               | BDMT 11T3 ○○ FR |
| MEC...-17   | BDMT 1704 ○○ ER-JT                 | BDMT 1704 ○○ ER-JS | BDGT 1704 ○○ FR-JA | -                                  | BDMT 1704 ○○ FR |



## Toolholder Dimensions (Metric)

| Part Number      |                  |                  | Stock | No. of Inserts | Dimensions (mm) |        |        |                   |                   |        |        |        |        |       | Coolant Hole | Drawing | Weight (kg) | Spare Parts  |        | Max RPM |        |
|------------------|------------------|------------------|-------|----------------|-----------------|--------|--------|-------------------|-------------------|--------|--------|--------|--------|-------|--------------|---------|-------------|--------------|--------|---------|--------|
|                  |                  |                  |       |                | DC              | DCSFMS | DCB    | DCCB <sub>1</sub> | DCCB <sub>2</sub> | LF     | CBDP   | KDP    | KWW    | APMX  |              |         |             | Insert Screw | Wrench |         |        |
|                  |                  |                  |       |                |                 |        |        |                   |                   |        |        |        |        |       |              |         |             |              |        |         |        |
| Inch Bore Dia.   | Coarse Pitch     | MEC 063R-11-6T   | ●     | 6              | 63              | 40     | 1.000" | 20                | 14                | 50     | 1.024" | 0.236" | 0.375" | 10    | Yes          | Fig.1   | 0.8         | SB-2555TRG   | DTM-8  | 20,500  |        |
|                  |                  | 080R-11-7T       | ●     | 7              | 80              | 52.5   |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.8     | 18,500 |
|                  |                  | 100R-11-9TN      | ●     | 9              | 100             | 65     |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.250"  | 26     |
|                  | Fine Pitch       | MEC 063R-11-8T   | ●     | 8              | 63              | 40     | 1.000" | 20                | 14                | 50     | 1.024" | 0.236" | 0.375" | 10    | Yes          | Fig.1   | 0.8         | SB-2555TRG   | DTM-8  | 20,500  |        |
|                  |                  | 080R-11-10T      | ●     | 10             | 80              | 52.5   |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.0     | 18,500 |
|                  |                  | MEC 063R-17-5T   | ●     | 5              | 63              | 40     |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.000"  | 20     |
|                  | 080R-17-6T       | ●                | 6     | 80             | 52.5            | 1.0    | 12,000 |                   |                   |        |        |        |        |       |              |         |             |              |        |         |        |
|                  | 100R-17-7TN      | ●                | 7     | 100            | 65              | 1.250" | 26     | 17.6              | 63                | 1.260" | 0.315" | 0.500" | 15.7   | Yes   | Fig.1        | 1.8     | 10,500      |              |        |         |        |
|                  | 125R-17-9T       | ●                | 9     | 125            | 80              | 1.500" | 45     | 32                |                   | 1.496" | 0.394" | 0.625" |        |       |              |         |             | 3.4          | 8,900  |         |        |
|                  | Fine Pitch       | MEC 063R-17-6T   | ●     | 6              | 63              | 40     | 1.000" | 20                | 14                | 50     | 1.024" | 0.236" | 0.375" | 15.7  | Yes          | Fig.1   | 0.8         | SB-4070TRN   | DTM-15 | 14,500  |        |
|                  |                  | 080R-17-8T       | ●     | 8              | 80              | 52.5   |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.0     | 12,000 |
|                  |                  | 100R-17-9TN      | ●     | 9              | 100             | 65     |        |                   |                   |        |        |        |        |       |              |         |             |              |        | 1.250"  | 26     |
| Metric Bore Dia. | Standard Pitch   | MEC 040R-11-5T-M | ●     | 5              | 40              | 34     | 16     | 14                | 8.5               | 40     | 20     | 5.5    | 8.5    | 10    | Yes          | Fig.1   | 0.2         | SB-2555TRG   | DTM-8  | 30,000  |        |
|                  |                  | 050R-11-5T-M     | ●     |                | 50              | 40     | 22     | 18                | 12                |        | 22     | 6.3    | 10.4   |       |              |         |             |              |        | 0.3     | 22,500 |
|                  |                  | 063R-11-6T-M     | ●     |                | 6               | 63     | 40     | 22                | 18                |        | 12     | 22     | 6.3    |       |              |         |             |              |        | 10.4    | 0.7    |
|                  |                  | 080R-11-7T-M     | ●     | 7              | 80              | 52.5   | 27     | 20                | 14                | 50     | 26     | 7      | 12.4   | 10    | Yes          | Fig.1   | 1.0         |              |        | 18,500  |        |
|                  |                  | 100R-11-9T-MN    | ●     | 9              | 100             | 65     | 32     | 26                | 17.6              | 55     | 8      | 14.4   | 10     | Yes   | Fig.1        | 1.6     | 17,000      |              |        |         |        |
|                  |                  | 125R-11-11T-M    | ●     | 11             | 125             | 80     | 40     | 45                | 32                | 63     | 33     | 9.5    | 16.4   | 10    | Yes          | Fig.1   | 3.1         |              |        | 15,000  |        |
|                  | Fine Pitch       | MEC 032R-11-5T-M | ●     | 5              | 32              | 30     | 16     | 11.5              | 8.5               | 35     | 20     | 5.6    | 8.4    | 10    | Yes          | Fig.1   | 0.1         | SB-2555TRG   | DTM-8  | 33,900  |        |
|                  |                  | 040R-11-6T-M     | ●     | 6              | 40              | 34     |        | 14                |                   | 40     |        |        |        |       |              |         |             |              |        | 20      | 5.6    |
|                  |                  | 050R-11-7T-M     | ●     | 7              | 50              | 40     | 22     | 18                | 12                | 40     | 22     | 6.3    | 10.4   | 10    | Yes          | Fig.1   | 0.4         |              |        | 22,500  |        |
|                  |                  | 063R-11-8T-M     | ●     | 8              | 63              | 40     | 22     | 18                | 12                | 40     | 22     | 6.3    | 10.4   | 10    | Yes          | Fig.1   | 0.6         |              |        | 20,500  |        |
|                  |                  | 080R-11-10T-M    | ●     | 10             | 80              | 52.5   | 27     | 20                | 14                | 50     | 26.5   | 7      | 12.4   | 10    | Yes          | Fig.1   | 0.9         |              |        | 18,500  |        |
|                  |                  | 100R-11-11T-M    | ●     | 11             | 100             | 65     | 32     | 26                | 17.6              | 55     | 34     | 8      | 14.4   | 10    | Yes          | Fig.1   | 1.7         |              |        | 17,000  |        |
|                  | Standard Pitch   | MEC 040R-17-4T-M | ●     | 4              | 40              | 34     | 16     | 14                | 8.5               | 40     | 20     | 5.5    | 8.5    | 15.7  | Yes          | Fig.1   | 0.3         | SB-4070TRN   | DTM-15 | 25,000  |        |
|                  |                  | 050R-17-4T-M     | ●     |                | 50              | 40     | 22     | 18                | 12                |        | 22     | 6.3    | 10.4   |       |              |         |             |              |        | 0.4     | 17,000 |
|                  |                  | 063R-17-5T-M     | ●     |                | 5               | 63     | 40     | 22                | 18                |        | 12     | 22     | 6.3    |       |              |         |             |              |        | 10.4    | 0.6    |
|                  |                  | 080R-17-6T-M     | ●     | 6              | 80              | 52.5   | 27     | 20                | 14                | 50     | 26     | 7      | 12.4   | 15.7  | Yes          | Fig.1   | 1.0         |              |        | 12,000  |        |
|                  |                  | 100R-17-7T-MN    | ●     | 7              | 100             | 65     | 32     | 26                | 17.6              | 55     | 26     | 8      | 14.4   | 15.7  | Yes          | Fig.1   | 1.8         |              |        | 10,500  |        |
|                  |                  | 125R-17-9T-M     | ●     | 9              | 125             | 80     | 40     | 45                | 32                | 63     | 33     | 9.5    | 16.4   |       |              |         |             |              |        |         | 3.1    |
| 160R-17-12T-M    | △                | 12               | 160   | 100            | 68              | -      |        |                   | No                |        |        |        |        | Fig.2 | 4.5          | 7,400   |             |              |        |         |        |
| Fine Pitch       | MEC 050R-17-5T-M | ●                | 5     | 50             | 40              | 22     | 18     | 12                | 40                | 22     | 6.3    | 10.4   | 15.7   | Yes   | Fig.1        | 0.4     | SB-4070TRN  | DTM-15       | 17,000 |         |        |
|                  | 063R-17-6T-M     | ●                | 6     | 63             |                 |        |        |                   |                   |        |        |        |        |       |              |         |             |              | 0.6    | 14,500  |        |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

● : Standard Item

Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

Recommended Cutting Conditions → P12, P13

## When using Center-through Air / Coolant / Mist

If Center Through air (Coolant, Mist) is used, please use appropriate arbor and clamp with arbor bolt. (Table 1)

## MEC's surface finish when shouldering with multiple passes

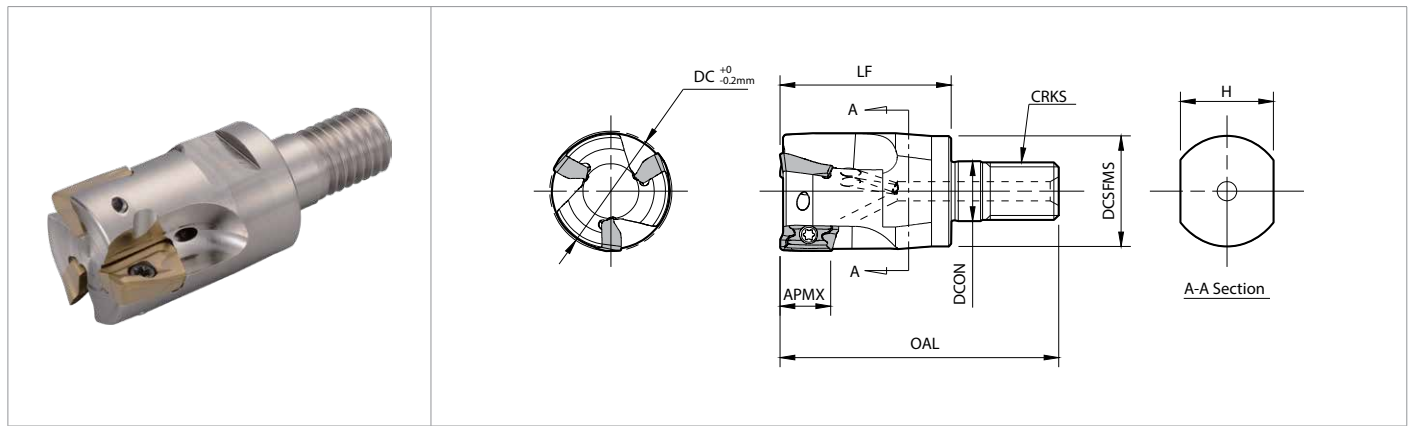
In order to obtain smoothly finished shoulder wall with multiple passes of MEC Milling Cutter, please keep D.O.C. less than 0.217" (5.5mm) for 11T3 type insert and also keep D.O.C. less than 0.354" (9mm) for 1704 type insert.

| Toolholder        | Arbor Bolt | Wrench                       | Toolholder  | Arbor Bolt  | Wrench                       |
|-------------------|------------|------------------------------|-------------|-------------|------------------------------|
| MEC040R-...-M     | HH8×25H    | LW-5<br>(Double width 5mm)   | MEC160R-... | HF24×60H    | LW-17<br>(Double width 17mm) |
| MEC050R-...-M     | HH10×30H   | LW-6<br>(Double width 6mm)   | MEC1500-... | HH3/8-1.25H |                              |
| MEC063R-...-M     | HH12×35H   | LW-8<br>(Double width 8mm)   | MEC2500-... | HH1/2-1.25H |                              |
| MEC080R-...       | HH16×52H   | LW-12<br>(Double width 12mm) | MEC3000-... | HH3/4-2.30H |                              |
| MEC100R-...-(M) N | HH16×52H   | LW-12<br>(Double width 12mm) | MEC4000-... | HH3/4-2.30H |                              |
| MEC125R-...-(M)   | HF20×53H   | LW-14<br>(Double width 14mm) |             |             |                              |
| MEC160R-...-M     | HF20×53H   | LW-14<br>(Double width 14mm) |             |             |                              |

Wrench is not included. Please purchase separately.

## Applicable Inserts

| Part Number | Applicable Inserts → P4, P5 |                    |                    | Applicable PCD Inserts → P5 |                 |
|-------------|-----------------------------|--------------------|--------------------|-----------------------------|-----------------|
|             |                             |                    |                    |                             |                 |
| MEC-...-11T | BDMT 11T3 ○○ ER-JT          | BDMT 11T3 ○○ ER-JS | BDGT 11T3 ○○ FR-JA | BDGT 11T3 ○○ FR(-LE)        | BDMT 11T3 ○○ FR |
| MEC-...-17  | BDMT 1704 ○○ ER-JT          | BDMT 1704 ○○ ER-JS | BDGT 1704 ○○ FR-JA | -                           | BDMT 1704 ○○ FR |



## Toolholder Dimensions (Metric)

| Part Number       | Stock | No. of Inserts | Dimensions (mm) |        |      |     |    |           |    |      | Rake Angle (°) |      | Coolant Hole | Applicable Inserts P4, P5 | Max RPM |
|-------------------|-------|----------------|-----------------|--------|------|-----|----|-----------|----|------|----------------|------|--------------|---------------------------|---------|
|                   |       |                | DC              | DCSFMS | DCON | OAL | LF | CRKS      | H  | APMX | A.R. (Max)     | R.R. |              |                           |         |
| MEC 16-M08-11T-2T | ●     | 2              | 16              | 14.7   | 8.5  | 43  | 25 | M8xP1.25  | 12 | 10   | +18°           | -14° | Yes          | BDMT11T3<br>BDGT11T3      | 43,750  |
| 20-M10-11T-2T     | ●     | 2              | 20              | 18.7   | 10.5 | 49  | 30 | M10xP1.5  | 15 |      | +20°           | -10° |              |                           | 41,000  |
| 20-M10-11T-3T     | ●     | 3              | 20              | 18.7   | 10.5 | 49  | 30 | M10xP1.5  | 15 |      | +20°           | -10° |              |                           | 41,000  |
| 25-M12-11T-3T     | ●     | 3              | 25              | 23     | 12.5 | 57  | 35 | M12xP1.75 | 19 |      | +21°           | -10° |              |                           | 37,500  |
| 32-M16-11T-4T     | ●     | 4              | 32              | 30     | 17   | 63  | 40 | M16xP2.0  | 24 |      | +23°           | -9°  |              |                           | 33,900  |
| MEC 25-M12-17-2T  | ●     | 2              | 25              | 23     | 12.5 | 57  | 35 | M12xP1.75 | 19 | 15.7 | +16°           | -11° | Yes          | BDMT1704<br>BDGT1704      | 35,000  |
| 32-M16-17-3T      | ●     | 3              | 32              | 30     | 17   | 63  | 40 | M16xP2.0  | 24 |      | +17°           | -7°  |              |                           | 30,000  |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions → [P12](#), [P13](#)

●: Standard item

### Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page [P13](#).

## Spare Parts

| Part Number       | Spare Parts  |        |                     |
|-------------------|--------------|--------|---------------------|
|                   | Insert Screw | Wrench | Anti-seize Compound |
|                   |              |        |                     |
| MEC 16-M08-11T-2T | SB-2555TRG   | DTM-8  | P-37                |
| 20-M10-11T-2T     |              |        |                     |
| 20-M10-11T-3T     |              |        |                     |
| 25-M12-11T-3T     |              |        |                     |
| 32-M16-11T-4T     |              |        |                     |
| MEC 25-M12-17-2T  | SB-4070TRN   | DTM-15 | P-37                |
| 32-M16-17-3T      |              |        |                     |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

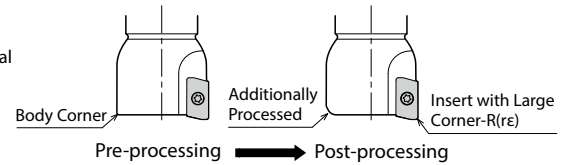
## Applicable Inserts

| Part Number | Applicable Inserts → <a href="#">P4</a> , <a href="#">P5</a> |                    |                    | Applicable PCD Inserts → <a href="#">P5</a> |                 |
|-------------|--------------------------------------------------------------|--------------------|--------------------|---------------------------------------------|-----------------|
|             |                                                              |                    |                    |                                             |                 |
| MEC...-11T  | BDMT 11T3 ○○ ER-JT                                           | BDMT 11T3 ○○ ER-JS | BDGT 11T3 ○○ FR-JA | BDGT 11T3 ○○ FR(-LE)                        | BDMT 11T3 ○○ FR |
| MEC...-17   | BDMT1704 ○○ ER-JT                                            | BDMT 1704 ○○ ER-JS | BDGT 1704 ○○ FR-JA | -                                           | BDMT 1704 ○○ FR |

When using inserts with corner-R (RE) 1.6mm or larger, additional modifications of the cutter body will be necessary. Refer to the chart below for the recommended modifications.

| Insert Corner-R (RE) | Additional Modifications of the Cutter Body Corner |
|----------------------|----------------------------------------------------|
| 1.6                  | R1.0                                               |
| 2.0                  |                                                    |
| 2.4                  | R1.2                                               |
| 3.1                  | R1.6                                               |
| 4.0                  | R2.5                                               |

\* R shape is recommended for additional processing to the body corner.  
When applying chamfer shaped additional processing, do not cut away too much.



## JT Chipbreaker

| Workpiece Material                     | Feed Rate fz (ipt)             |                                                                        | Recommended Insert Grade Vc (sfm) |                           |                           |                           |                           |                           |
|----------------------------------------|--------------------------------|------------------------------------------------------------------------|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                                        | Toolholder Part Number         |                                                                        | Cermet                            | MEGACOAT NANO EX          |                           |                           | MEGACOAT NANO             | CVD                       |
|                                        | MEC0500~MEC0750<br>MEC10~MEC19 | MEC1000~MEC1500<br>MEC20~MEC40<br>MEC1500R~MEC4000R<br>MEC040R~MEC160R | TN100M                            | PR1810                    | PR1825                    | PR1835                    | PR1535                    | CA6535                    |
| Carbon Steel                           | 0.002~ <b>0.004</b> ~0.006     | 0.003~ <b>0.006</b> ~0.010                                             | ☆<br>390~ <b>520</b> ~660         | -                         | ★<br>390~ <b>590</b> ~820 | ☆<br>390~ <b>590</b> ~820 | ☆<br>390~ <b>590</b> ~820 | -                         |
| Alloy Steel                            | 0.002~ <b>0.004</b> ~0.005     | 0.003~ <b>0.006</b> ~0.008                                             | ☆<br>330~ <b>460</b> ~590         | -                         | ★<br>330~ <b>520</b> ~720 | ☆<br>330~ <b>520</b> ~720 | ☆<br>330~ <b>520</b> ~720 | -                         |
| Mold Steel                             | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.008                                             | ☆<br>260~ <b>390</b> ~490         | -                         | ★<br>260~ <b>460</b> ~590 | ☆<br>260~ <b>460</b> ~590 | ☆<br>260~ <b>460</b> ~590 | -                         |
| Austenitic Stainless Steel             | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.006                                             | -                                 | -                         | ★<br>330~ <b>520</b> ~660 | ☆<br>330~ <b>520</b> ~660 | ☆<br>330~ <b>520</b> ~660 | -                         |
| Martensitic Stainless Steel            | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.008                                             | -                                 | -                         | -                         | ☆<br>490~ <b>660</b> ~820 | ☆<br>490~ <b>660</b> ~820 | ★<br>590~ <b>790</b> ~980 |
| Precipitation Hardened Stainless Steel | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.008                                             | -                                 | -                         | -                         | ★<br>300~ <b>390</b> ~490 | ★<br>300~ <b>390</b> ~490 | -                         |
| Gray Cast Iron                         | 0.002~ <b>0.004</b> ~0.006     | 0.003~ <b>0.007</b> ~0.010                                             | -                                 | ★<br>390~ <b>590</b> ~820 | -                         | -                         | -                         | -                         |
| Nodular Cast Iron                      | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.006</b> ~0.008                                             | -                                 | ★<br>330~ <b>490</b> ~660 | -                         | -                         | -                         | -                         |
| Ni-base Heat-Resistant Alloy           | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.006                                             | -                                 | -                         | -                         | ☆<br>70~ <b>100</b> ~160  | ☆<br>70~ <b>100</b> ~160  | ★<br>70~ <b>100</b> ~160  |
| Titanium Alloy                         | 0.002~ <b>0.004</b> ~0.004     | 0.003~ <b>0.005</b> ~0.008                                             | -                                 | ☆<br>100~ <b>160</b> ~230 | -                         | ☆<br>130~ <b>200</b> ~260 | ☆<br>130~ <b>200</b> ~260 | -                         |

\* Bold numbers in the graph indicate the most recommended value of feed (fz) Adjust cutting speed and feed rate according to the actual machining conditions

\* Machining with coolant is recommended for Ni-base heat resistant alloy and titanium alloys

★ : 1st Recommendation

☆ : 2nd Recommendation

## JS Chipbreaker

| Workpiece Material                     | Feed Rate fz (ipt)             |                                                                        | Recommended Insert Grade Vc (sfm) |                           |                           |                           |
|----------------------------------------|--------------------------------|------------------------------------------------------------------------|-----------------------------------|---------------------------|---------------------------|---------------------------|
|                                        | Toolholder Part Number         |                                                                        | MEGACOAT NANO EX                  |                           | MEGACOAT NANO             | CVD                       |
|                                        | MEC0500~MEC0750<br>MEC10~MEC19 | MEC1000~MEC1500<br>MEC20~MEC40<br>MEC1500R~MEC4000R<br>MEC040R~MEC160R | PR1825                            | PR1835                    | PR1535                    | CA6535                    |
| Carbon Steel                           | 0.002~ <b>0.004</b> ~0.005     | 0.003~ <b>0.006</b> ~0.007                                             | ★<br>390~ <b>590</b> ~820         | ☆<br>390~ <b>590</b> ~820 | ☆<br>390~ <b>590</b> ~820 | -                         |
| Alloy Steel                            | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.005</b> ~0.006                                             | ★<br>330~ <b>520</b> ~720         | ☆<br>330~ <b>520</b> ~720 | ☆<br>330~ <b>520</b> ~720 | -                         |
| Mold Steel                             | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | ★<br>260~ <b>460</b> ~590         | ☆<br>260~ <b>460</b> ~590 | ☆<br>260~ <b>460</b> ~590 | -                         |
| Austenitic Stainless Steel             | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | ☆<br>330~ <b>520</b> ~660         | ★<br>330~ <b>520</b> ~660 | ★<br>330~ <b>520</b> ~660 | -                         |
| Martensitic Stainless Steel            | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | -                                 | ☆<br>490~ <b>660</b> ~820 | ☆<br>490~ <b>660</b> ~820 | ★<br>590~ <b>790</b> ~980 |
| Precipitation Hardened Stainless Steel | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | -                                 | ☆<br>300~ <b>390</b> ~490 | ☆<br>300~ <b>390</b> ~490 | -                         |
| Ni-base Heat-Resistant Alloy           | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | -                                 | ☆<br>70~ <b>100</b> ~160  | ☆<br>70~ <b>100</b> ~160  | ★<br>70~ <b>100</b> ~160  |
| Titanium Alloy                         | 0.002~ <b>0.003</b> ~0.004     | 0.003~ <b>0.004</b> ~0.005                                             | -                                 | ★<br>130~ <b>200</b> ~260 | ★<br>130~ <b>200</b> ~260 | -                         |

\* Bold numbers in the graph indicate the most recommended value of feed (fz) Adjust cutting speed and feed rate according to the actual machining conditions

\* Machining with coolant is recommended for Ni-base heat resistant alloy and titanium alloys

★ : 1st Recommendation

☆ : 2nd Recommendation

## JA Chipbreaker

| Workpiece Material               | Feed Rate fz (ipt) | Recommended Insert Grade Vc (sfm) |          |
|----------------------------------|--------------------|-----------------------------------|----------|
|                                  |                    | DLC Coated Carbide                | Carbide  |
|                                  |                    | PDL025                            | GW25     |
| Aluminum Alloy (Si 13% or Less)  | 0.002~0.012        | 660~3280                          | 660~2620 |
| Aluminum Alloy (Si 13% and Over) | 0.002~0.008        | 660~980                           | 660~980  |

## PCD Inserts

| Workpiece Material               | Feed Rate fz (ipt) | Recommended Insert Grade Vc (sfm) |
|----------------------------------|--------------------|-----------------------------------|
|                                  |                    | PCD                               |
|                                  |                    | KPD230 (KPD001)                   |
| Aluminum Alloy (Si 13% or Less)  | 0.002~0.008        | 1640~4,920                        |
| Aluminum Alloy (Si 13% and Over) | 0.002~0.006        | 980~3,280                         |



**Warning**

Please observe below precautions fully.  
Failure to observe the precautions may cause serious damage to human body.

Warning about Maximum Revolution indicated on the main holder body

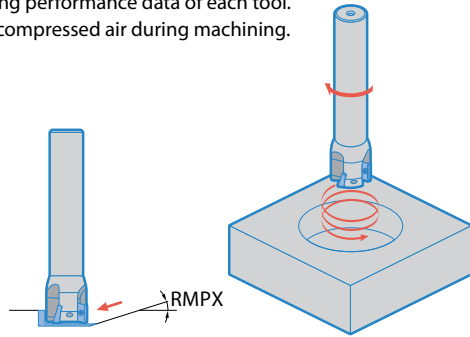
- When running the end mill and the face mill at revolutions exceeding the maximum revolution limit, the inserts or toolholder may be damaged due to the centrifugal force.
- For actual practical revolution, please set within recommended cutting condition.
- When using at a higher revolution (over 10,000 RPM), refer to the table to adjust the balance of MEC and suitable arbor.

| Max RPM | Balance quality grade G<br>ISO 1940-1 / 8821<br>(JIS B0905) |
|---------|-------------------------------------------------------------|
| ~20,000 | G16                                                         |
| ~30,000 | G6.3                                                        |
| 30,000~ | G2.5                                                        |

## Ramping / Helical Milling / Plunging

### Ramping / Helical Milling

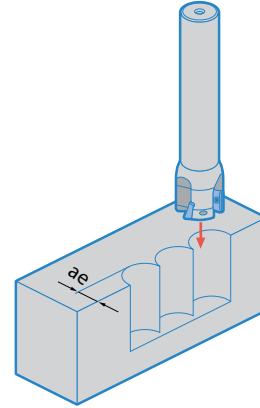
- Ramping Angle should be Under  $\alpha^\circ$
- For plunge depth per revolution when helical milling, see the cutting performance data of each tool.  
Use compressed air during machining.



| Cutting Dia.       | Applicable Inserts     | Max. Ramping Angle (RMPX) |
|--------------------|------------------------|---------------------------|
| Ø0.625", Ø16~Ø18mm | BDMT 11T3<br>BDGT 11T3 | 3°                        |
| Ø0.750", Ø19~Ø21mm |                        | 5°                        |
| Ø1.000", Ø22~Ø25mm |                        | 2.5°                      |
| Ø1.250", Ø28~Ø32mm |                        | 1.5°                      |
| Ø1.500", Ø40mm     |                        | 0.7°                      |
| Ø50mm~             | BDMT 1704              | Not Recommended           |
| Ø1.000", Ø25mm     |                        | 8°                        |
| Ø1.250", Ø32mm     |                        | 5°                        |
| Ø1.500", Ø40mm     |                        | 2.5°                      |
| Ø50mm~             |                        | Not Recommended           |

BDMT1103/BDGT1103.. inserts are not recommended for ramping or helical milling.

### Plunging



| Cutting Dia.                  | Applicable Inserts     | Max. Ramping Angle (RMPX) |
|-------------------------------|------------------------|---------------------------|
| Ø0.625"<br>Ø16~Ø19mm          | BDMT 11T3<br>BDGT 11T3 | 0.060"<br>1.5mm           |
| Ø0.750"~Ø4.000"<br>Ø20~Ø160mm | BDMT 11T3<br>BDGT 11T3 | 0.197"<br>5mm             |
| Ø1.500", Ø40mm<br>Ø50mm~      | BDMT 1704<br>BDGT 1704 | 0.315"<br>8mm             |

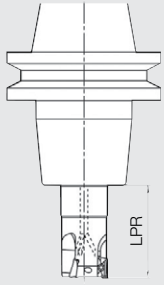
BDMT1103.. inserts are not recommended for ramping or helical milling.

## Minimum Cutting Diameter for Helical Milling

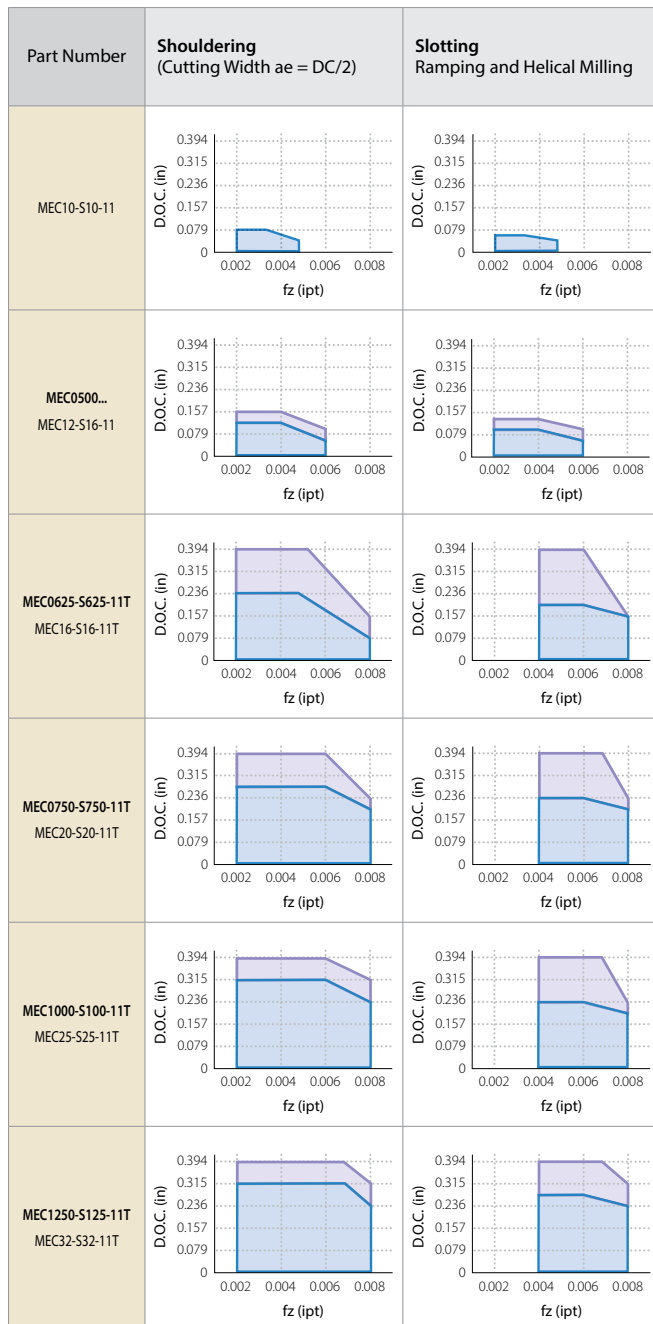
| Insert           | Cutter Dia.                          | Ø0.625" | Ø0.750" | Ø1.000" | Ø1.250" | Ø1.500" | Ø16mm | Ø18mm                                   | Ø20mm | Ø22mm | Ø25mm | Ø28mm | Ø30mm | Ø32mm | Ø40mm | Ø50mm                                   |
|------------------|--------------------------------------|---------|---------|---------|---------|---------|-------|-----------------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------|
| BD_T11T3<br>Type | Min. Cutting Dia.                    | Ø0.827" | Ø1.102" | Ø1.575" | Ø2.087" | Ø2.598" | Ø21mm | Ø25mm                                   | Ø29mm | Ø33mm | Ø39mm | Ø45mm | Ø49mm | Ø53mm | Ø69mm | Not recommended<br>for helical milling. |
|                  | Min. Cutting Dia. for<br>Flat Bottom | Ø1.102" | Ø1.339" | Ø1.850" | Ø2.362" | Ø2.835" | Ø28mm | Ø32mm                                   | Ø36mm | Ø40mm | Ø46mm | Ø52mm | Ø56mm | Ø60mm | Ø76mm |                                         |
| Insert           | Cutter Dia.                          | Ø1.000" | Ø1.250" | Ø1.500" | Ø25mm   | Ø32mm   | Ø40mm | Ø50mm                                   |       |       |       |       |       |       |       |                                         |
| BD_T1704<br>Type | Min. Cutting Dia.                    | Ø1.339" | Ø1.850" | Ø2.362" | Ø34mm   | Ø48mm   | Ø64mm | Not recommended<br>for helical milling. |       |       |       |       |       |       |       |                                         |
|                  | Min. Cutting Dia. for<br>Flat Bottom | Ø1.850" | Ø2.323" | Ø2.835" | Ø46mm   | Ø60mm   | Ø76mm |                                         |       |       |       |       |       |       |       |                                         |

# Cutting Performance of MEC End Mills

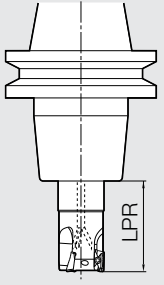
## (1) Overhang Length When Using BDMT 11mm-type Insert (Standard / Straight Shank)

| Cutting Dia.     | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |       | Shape<br> |
|------------------|-----------------------------------------|--------------------------|-------|--------------------------------------------------------------------------------------------|
| Ø10mm            | MEC10-S10-11                            | 0.670                    | -     |                                                                                            |
| Ø0.500"<br>Ø12mm | MEC0500...<br>MEC12-S16-11              | 0.787                    | 1.180 |                                                                                            |
| Ø0.625"<br>Ø16mm | MEC0625-S625-11T<br>MEC16-S16-11T       | 1.180                    | 1.790 |                                                                                            |
| Ø0.750"<br>Ø20mm | MEC0750-S750-11T<br>MEC20-S20-11T       | 1.180                    | 1.790 |                                                                                            |
| Ø1.000"<br>Ø25mm | MEC1000-S100-11T<br>MEC25-S25-11T       | 1.260                    | 1.890 |                                                                                            |
| Ø1.250"<br>Ø32mm | MEC1250-S125-11T<br>MEC32-S32-11T       | 1.580                    | 2.360 |                                                                                            |

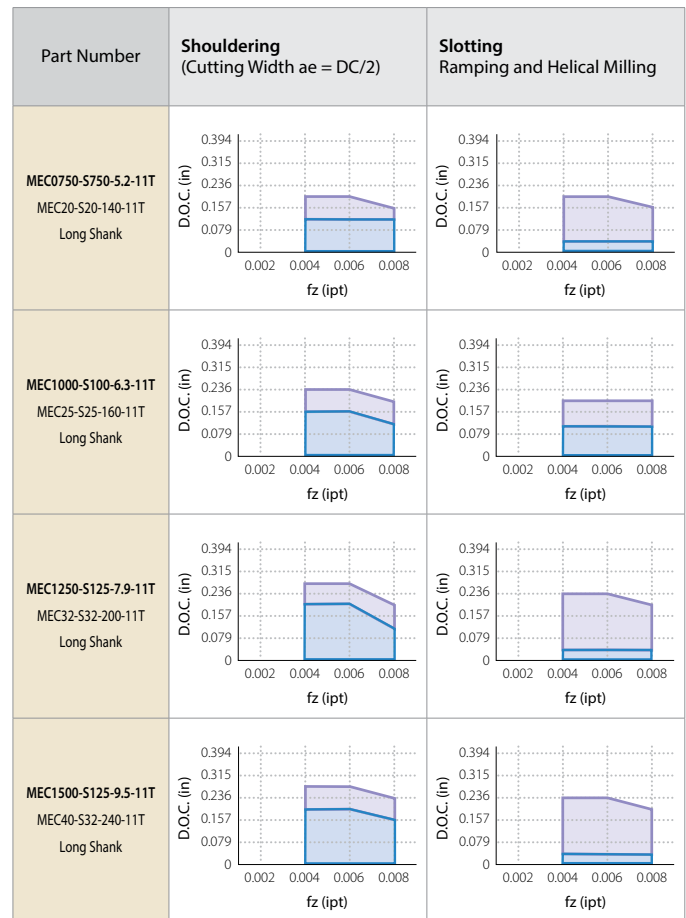
(JT Chipbreaker Vc = 400 sfm Workpiece :1049)



## (2) Overhang Length When Using BDMT 11mm-type Insert (Long Shank)

| Cutting Dia.                   | Part Number<br>Inch Size<br>Metric Size   | Overhang Length LPR (in) |       | Shape<br> |
|--------------------------------|-------------------------------------------|--------------------------|-------|----------------------------------------------------------------------------------------------|
| Ø0.750"<br>Ø20mm<br>Long Shank | MEC0750-S750-5.2-11T<br>MEC20-S20-140-11T | 2.362                    | 3.543 |                                                                                              |
| Ø1.000"<br>Ø25mm<br>Long Shank | MEC1000-S100-6.3-11T<br>MEC25-S25-160-11T | 2.362                    | 3.957 |                                                                                              |
| Ø1.250"<br>Ø32mm<br>Long Shank | MEC1250-S125-7.9-11T<br>MEC32-S32-200-11T | 3.957                    | 5.118 |                                                                                              |
| Ø1.500"<br>Ø40mm<br>Long Shank | MEC1500-S125-9.5-11T<br>MEC40-S32-240-11T | 3.957                    | 5.119 |                                                                                              |

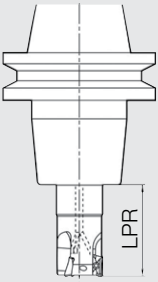
(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

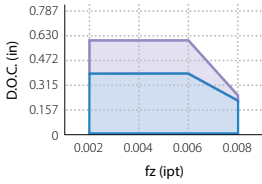
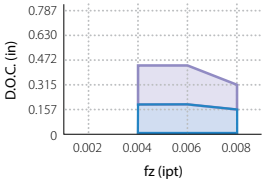
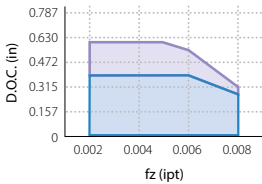
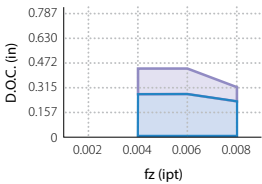
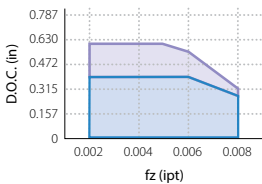
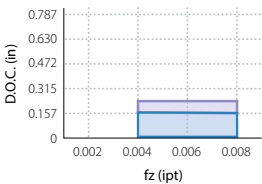
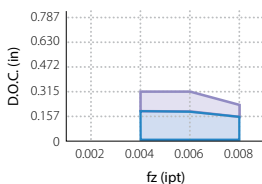
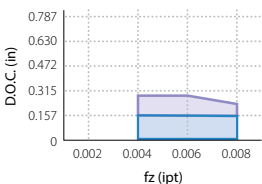
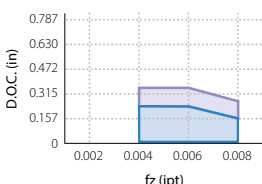
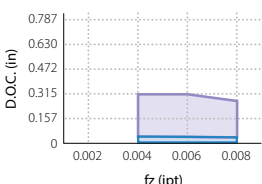
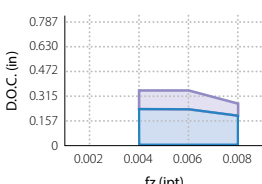
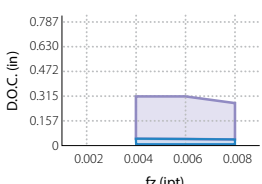


# Cutting Performance of MEC End Mills

## (3) Overhang Length When Using BDMT 17mm-type Insert

(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

| Cutting Dia.                   | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) | Shape                                                                             |
|--------------------------------|-----------------------------------------|--------------------------|-----------------------------------------------------------------------------------|
| Ø1.000"<br>Ø25mm               | MEC1000-S100-17<br>MEC25-S25-17         | 1.417 2.126              |  |
| Ø1.250"<br>Ø32mm               | MEC1250-S125-17<br>MEC32-S32-17         | 1.575 2.362              |                                                                                   |
| Ø1.500"<br>Ø40mm               | MEC1500-S125-17<br>MEC40-S32-17         | 1.969 2.953              |                                                                                   |
| Ø1.000"<br>Ø25mm<br>Long Shank | MEC1000-S100-6.3-17<br>MEC25-S25-160-17 | 2.362 3.937              |                                                                                   |
| Ø1.250"<br>Ø32mm<br>Long Shank | MEC1250-S125-7.9-17<br>MEC32-S32-200-17 | 3.937 5.118              |                                                                                   |
| Ø1.500"<br>Ø40mm<br>Long Shank | MEC1500-S125-9.5-17<br>MEC40-S32-240-17 | 3.937 5.118              |                                                                                   |

| Part Number                             | Shouldering<br>(Cutting Width ae = DC/2)                                             | Slotting<br>Ramping, Helical Milling                                                  |
|-----------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| MEC1000-S100-17<br>MEC25-S25-17         |    |    |
| MEC1250-S125-17<br>MEC32-S32-17         |    |    |
| MEC1500-S125-17<br>MEC40-S32-17         |    |    |
| MEC1000-S100-6.3-17<br>MEC25-S25-160-17 |   |   |
| MEC1250-S125-7.9-17<br>MEC32-S32-200-17 |  |  |
| MEC1500-S125-9.5-17<br>MEC40-S32-240-17 |  |  |

# Cutting Performance of MEC Face Mills

## (1) Overhang Length When Using BDMT 11mm-type Insert

(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

| Cutting Dia.      | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |
|-------------------|-----------------------------------------|--------------------------|
| Ø1.500"<br>Ø40mm  | MEC1500R-11T-5T<br>MEC040R-11-5T-M      | 4.528                    |
| Ø2.000"<br>Ø50mm  | MEC2000R-11T-5T<br>MEC050R-11-OT-M      | 3.937                    |
| Ø2.500"<br>Ø63mm  | MEC2500R-11T-6T<br>MEC063R-11-OT-M      | 3.740                    |
| Ø3.000"<br>Ø80mm  | MEC3000R-11T-7T<br>MEC080R-11-OT        | 3.740                    |
| Ø4.000"<br>Ø100mm | MEC4000R-11-9TN<br>MEC100R-11-9TN       | 4.252                    |
| Ø125mm            | MEC125R-11-11T                          | 4.252                    |
| Ø160mm            | MEC160R-11-14T                          |                          |

Shape

| Part Number                                                                               | Shouldering<br>(Cutting Width ae = DC/2) | Slotting |
|-------------------------------------------------------------------------------------------|------------------------------------------|----------|
| MEC1500R-11T-5T<br>MEC040R-11-5T-M                                                        |                                          |          |
| MEC2000R-ØT-ØT<br>MEC4000R-ØT-ØT<br>MEC050R-11-OT-M<br>MEC100R-11-9TN<br>MEC100R-11-9T-MN |                                          |          |
| MEC125R-11-11T(-M)<br>MEC160R-11-14T(-M)                                                  |                                          |          |

## (2) Overhang Length When Using BDMT 17mm-type Insert

(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

| Cutting Dia.      | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |
|-------------------|-----------------------------------------|--------------------------|
| Ø40mm             | MEC040R-17-4T-M                         | 4.528                    |
| Ø2.000"<br>Ø50mm  | MEC2000R-17-4T<br>MEC050R-17-OT-M       | 3.937                    |
| Ø2.500"<br>Ø63mm  | MEC2500R-17-4T<br>MEC063R-17-OT         | 3.740                    |
| Ø63mm             | MEC063R-17-OT-M                         |                          |
| Ø3.000"<br>Ø80mm  | MEC3000R-17-6T<br>MEC080R-17-OT         | 4.252                    |
| Ø4.000"<br>Ø100mm | MEC4000R-17-7T<br>MEC100R-17-OTN        |                          |
| Ø125mm            | MEC125R-17-9T(-M)                       | 4.252                    |
| Ø160mm            | MEC160R-17-12T(-M)                      |                          |

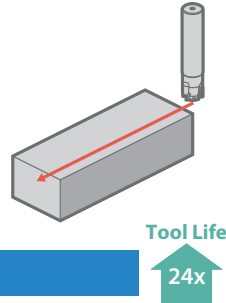
Shape

| Part Number                                                                                  | Shouldering<br>(Cutting Width ae = DC/2) | Slotting |
|----------------------------------------------------------------------------------------------|------------------------------------------|----------|
| MEC040R-17-4T-M                                                                              |                                          |          |
| MEC2000R-17-4T<br>MEC050R-17-OT-M                                                            |                                          |          |
| MEC2500R-17-ØT<br>MEC4000R-17-ØTN<br>MEC063R-17-OT(-M)<br>MEC100R-17-OTN<br>MEC100R-17-7T-MN |                                          |          |
| MEC125R-17-9T(-M)<br>MEC160R-17-12T(-M)                                                      |                                          |          |

## MEC Case Studies

### RC55 (Prehardened Tool Steel)

Test Piece (54 - 56HRC)  
 $V_c = 160$  sfm ( $n = 800$  RPM)  
 $f_z = 0.005$  ipt ( $V_f = 11.80$  ipm)  
 $D.O.C. \times a_e = 0.079" \times 0.55"$   
 Dry  
 MEC20-S20-11T (3 Teeth)  
 BDMT11T308ER-JT (PR830)



Metal Removal Volume

**MEC**

**4.35 in<sup>3</sup>**

**24x**

Competitor N  
 (End Mill)

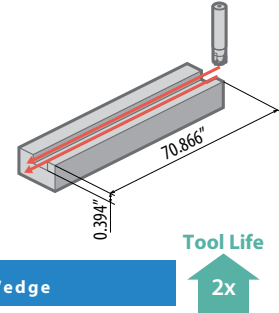
**0.18 in<sup>3</sup> (Chipping)**

Competitor N ( $\phi 25 : 2$  Teeth) caused chipping after 10 minutes machining with the conditions of  $V_c = 130$  sfm,  $f_z = 0.003$  ipt,  $D.O.C. \times a_e = 0.079" \times 0.118"$  and it was noisy. Also, higher feed rate was not possible because it would cause breakage. MEC maintained a good edge condition even after 10 minutes and was still available for further machining.

(User Evaluation)

### SS400

Plate  
 $V_c = 290$  sfm ( $n = 1,400$  RPM)  
 $f_z = 0.0047$  ipt ( $V_f = 19.68$  ipm)  
 $D.O.C. = 0.197" \times 2$  Passes  
 Dry  
 MEC20-S20-11T (3 Teeth)  
 BDMT11T308ER-JT (PR830)



Number of Workpieces

**MEC**

**23 pcs/edge**

**2x**

Competitor O  
 (End Mill)

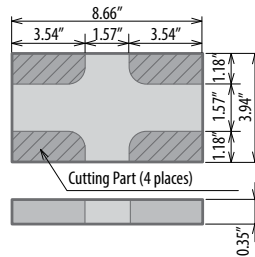
**10~11 pcs/edge**

MEC doubled Competitor O's tool life under the same machining conditions.

(User Evaluation)

### 304

Plate  
 $V_c = 410$  sfm ( $n = 1,600$  RPM)  
 $f_z = 0.004$  ipt ( $V_f = 12.60$  ipm)  
 $D.O.C. = 0.354"$   
 Dry  
 MEC25-S25-17 (2 Teeth)  
 BDMT170408ER-JT (PR830)



Number of Workpieces

**MEC**

**4 pcs/edge or over**

**4x**

Competitor P  
 (End Mill)

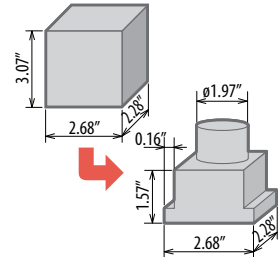
**Under 1 pc/edge**

Competitor M showed higher cutting forces and caused cracking to the cutting edge. MEC produced 4 pcs/edge without cracking.

(User Evaluation)

### Hot Tool Steel

Mold  
 $V_c = 430$  sfm ( $n = 1,040$  RPM)  
 $f_z = 0.007$  ipt ( $V_f = 36.85$  ipm)  
 $D.O.C. \times a_e = 0.118" \times 0.197"$   
 (depends on machined part)  
 Dry(with air)  
 MEC40-S32-11T (5 teeth)  
 BDMT11T308ER-JT (PR830)



Cutting Time

**MEC**

**2 Hours (Less Wear/Can Continue)**

**Tool Life**  
**Same or More**

Competitor Q  
 (End Mill)

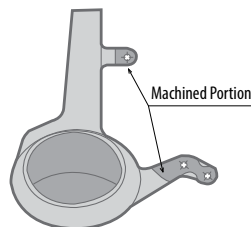
**2 Hours (Cracking/Cannot Continue)**

MEC tool life was better than Competitor Q. MEC's wear was less and able to machine further. Competitor mill had 6 teeth and its table feed rate was 36.85 ipm. ( $f_z = 0.006$  ipt)

(User Evaluation)

### 4131

Knuckle Steering  
 $V_c = 490$  sfm ( $n = 1,200$  RPM)  
 $f_z = 0.004$  ipt ( $V_f = 18.82$  ipm)  
 $D.O.C. = 0.020" - 0.197"$  (Shouldering)  
 Dry  
 MEC40-S32-17 (4 teeth)  
 BDMT170408ER-JT (PR830)



Number of Workpieces

**MEC**

**150 pcs/edge**

**Tool Life**  
**3x**

Competitor R  
 (End Mill)

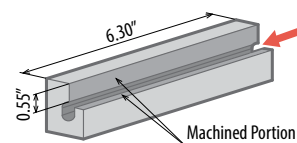
**40 pcs/edge**

MEC surface finish was better than the Competitor end mill R and the tool life was over 3 times longer.

(User Evaluation)

### Ni-base Heat Resistant Alloy

Turbine Part  
 $V_c = 50$  sfm ( $n = 120$  RPM)  
 $f_z = 0.003$  ipt ( $V_f = 1.50$  ipm)  
 $D.O.C. = 0.020"$   
 Wet  
 MEC040R-17-4T-M (4 teeth)  
 BDMT170408ER-JS PR1025



Number of Workpieces

**MEC**

**9 pcs/edge**

**Tool Life**  
**9x**

Competitor S  
 (End Mill)

**Less than 1 pc/edge**

Competitor S was not able to successfully machine one piece, but the MEC produced 9 pieces with good surface finishes.

(User Evaluation)

# MECH

High Efficiency Helical End Mill

Notched Inserts Reduce Chattering, Break Chips into Small Pieces, and Improve Chip Evacuation

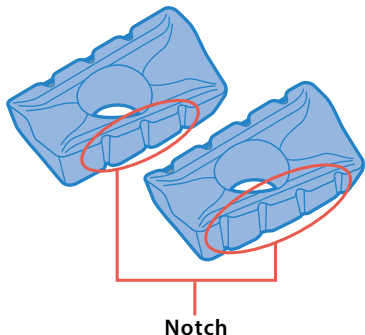
High Efficiency Heavy Machining with Large D.O.C.

1

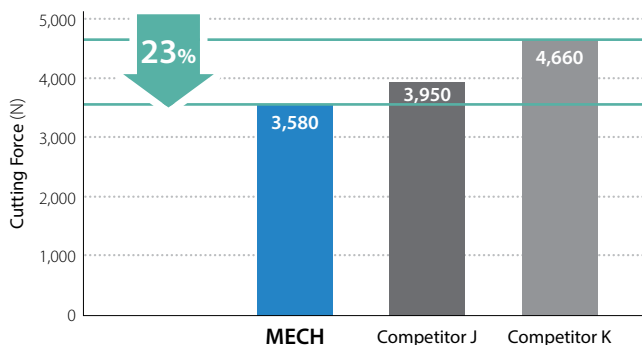
## Low Cutting Forces with Notched Inserts for Heavy Machining

Notched Inserts Reduce Cutting Forces

Lower Cutting Forces and Reduced Chattering

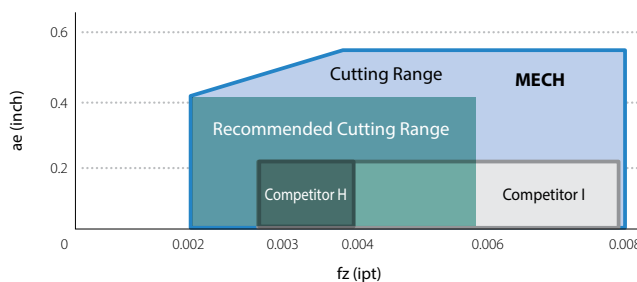


Cutting Force Comparison (Internal Evaluation)

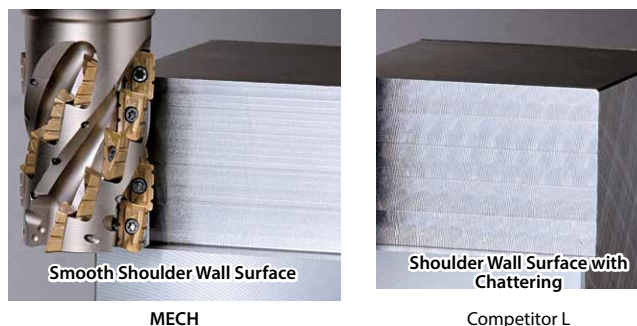


Cutting Conditions :  $V_c = 390$  ipm,  $f_z = 0.004$  ipt, D.O.C.  $\times$  ae =  $1.57'' \times 0.39''$ , Dry  
MECH032-S32-11-5-4T Workpiece : 1049

Application Range Comparison (Internal Evaluation)



Surface Wall Comparison (Internal Evaluation)



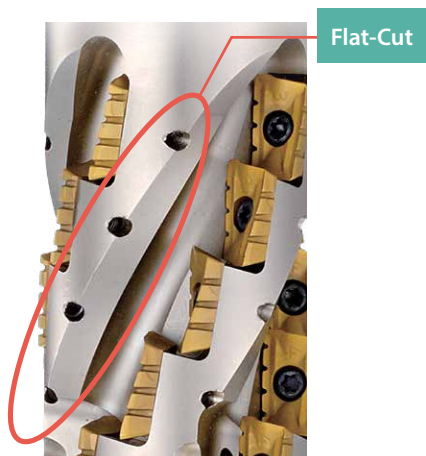
Cutting Conditions :  $V_c = 394$  sfm,  $f_z = 0.005$  ipt, D.O.C.  $\times$  ae =  $1.57'' \times 0.27''$ , Dry  
MECH032-S32-11-5-4T Workpiece : 1049

2

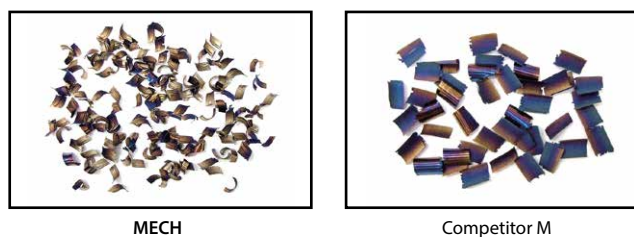
## Improved Chip Evacuation

Notched Insert Breaks Chips into Small Pieces

Flat-Cut Flute Provides Excellent Chip Evacuation

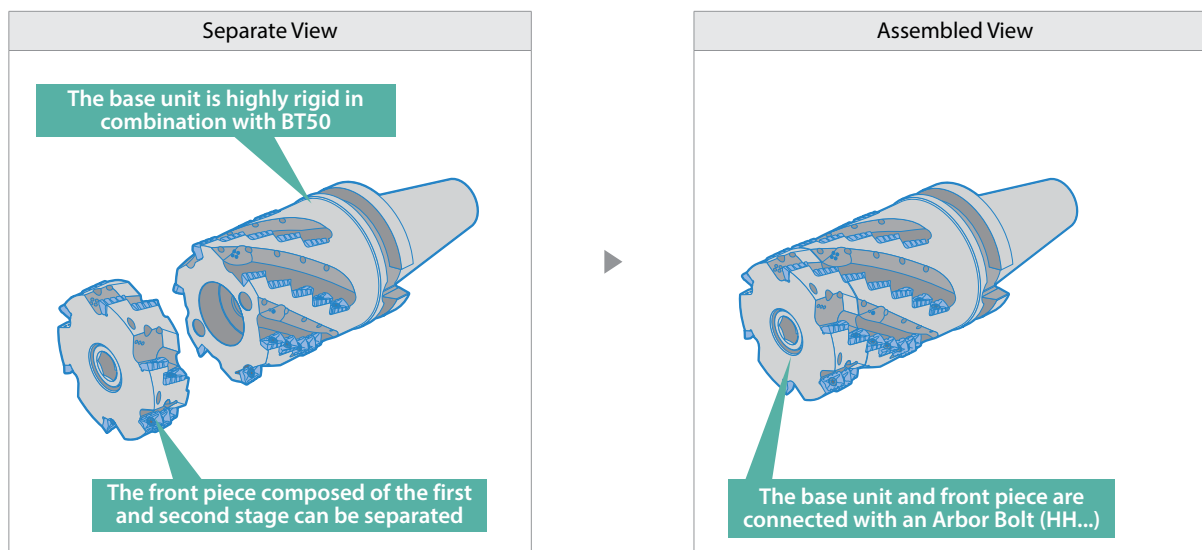


Chips Comparison (Internal Evaluation)

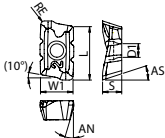
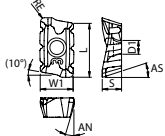
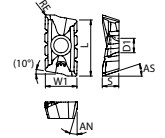
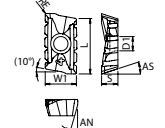


Cutting Conditions :  $V_c = 390$  sfm,  $f_z = 0.005$  ipt, D.O.C.  $\times$  ae =  $1.57'' \times 0.27''$ , Dry  
MECH032-S32-11-5-4T Workpiece : SS400

If head is damaged, it can be replaced, minimizing tooling costs



## Applicable Inserts

| Usage Classification                                                                                                                                                                               |                                                                                     | P                | Carbon Steel / Alloy Steel             |       |       |       |       |       | ★   | ☆                    | ☆      |        |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------|----------------------------------------|-------|-------|-------|-------|-------|-----|----------------------|--------|--------|----------------|
|                                                                                                                                                                                                    |                                                                                     |                  | Mold Steel                             |       |       |       |       |       | ★   | ☆                    | ☆      |        |                |
| <div>★ : Roughing / 1st Choice</div> <div>☆ : Roughing / 2nd Choice</div> <div>■ : Finishing / 1st Choice</div> <div>□ : Finishing / 2nd Choice</div> <div>(In case hardness is under 45HRC)</div> |                                                                                     | M                | Austenitic Stainless Steel             |       |       |       |       |       |     |                      | ★      |        |                |
|                                                                                                                                                                                                    |                                                                                     |                  | Martensitic Stainless Steel            |       |       |       |       |       |     |                      | ☆      |        |                |
|                                                                                                                                                                                                    |                                                                                     |                  | Precipitation Hardened Stainless Steel |       |       |       |       |       |     |                      | ★      |        |                |
|                                                                                                                                                                                                    |                                                                                     | K                | Gray Cast Iron                         |       |       |       |       | ★     |     |                      |        |        |                |
|                                                                                                                                                                                                    |                                                                                     |                  | Nodular Cast Iron                      |       |       |       |       | ★     |     |                      |        |        |                |
|                                                                                                                                                                                                    |                                                                                     | N                | Non Ferrous Metals                     |       |       |       |       |       |     |                      |        |        |                |
|                                                                                                                                                                                                    |                                                                                     | S                | Heat Resistant Alloy (Ni-base)         |       |       |       |       |       |     |                      |        | ☆      |                |
|                                                                                                                                                                                                    |                                                                                     |                  | Titanium Alloy                         |       |       |       |       |       |     |                      |        | ★      |                |
| H                                                                                                                                                                                                  | Hard Materials                                                                      |                  |                                        |       |       |       |       |       |     |                      |        |        |                |
| Insert<br><br>(Right-hand Shown)                                                                                                                                                                   |                                                                                     | Part Number      | Dimension (in)                         |       |       |       |       | Angle |     | NEW MEGACOAT NANO EX |        |        | MEGA COAT NANO |
|                                                                                                                                                                                                    |                                                                                     |                  | W1                                     | S     | D1    | L     | RE    | AS    | AN  | PR1810               | PR1825 | PR1835 | PR1535         |
| <br>2-Notch                                                                                                     |  | BDMT 11T308ER-N2 | 0.264                                  | 0.150 | 0.110 | 0.433 | 0.031 | 18°   | 13° | ●                    | ●      | ●      | ●              |
| <br>3-Notch                                                                                                     |  | BDMT 11T308ER-N3 | 0.264                                  | 0.150 | 0.110 | 0.433 | 0.031 | 18°   | 13° | ●                    | ●      | ●      | ●              |
| <br>3-Notch                                                                                                     |  | BDMT 170408ER-N3 | 0.378                                  | 0.193 | 0.173 | 0.669 | 0.031 | 18°   | 13° | ●                    | ●      | ●      | ●              |
| <br>4-Notch                                                                                                     |  | BDMT 170408ER-N4 | 0.378                                  | 0.193 | 0.173 | 0.669 | 0.031 | 18°   | 13° | ●                    | ●      | ●      | ●              |

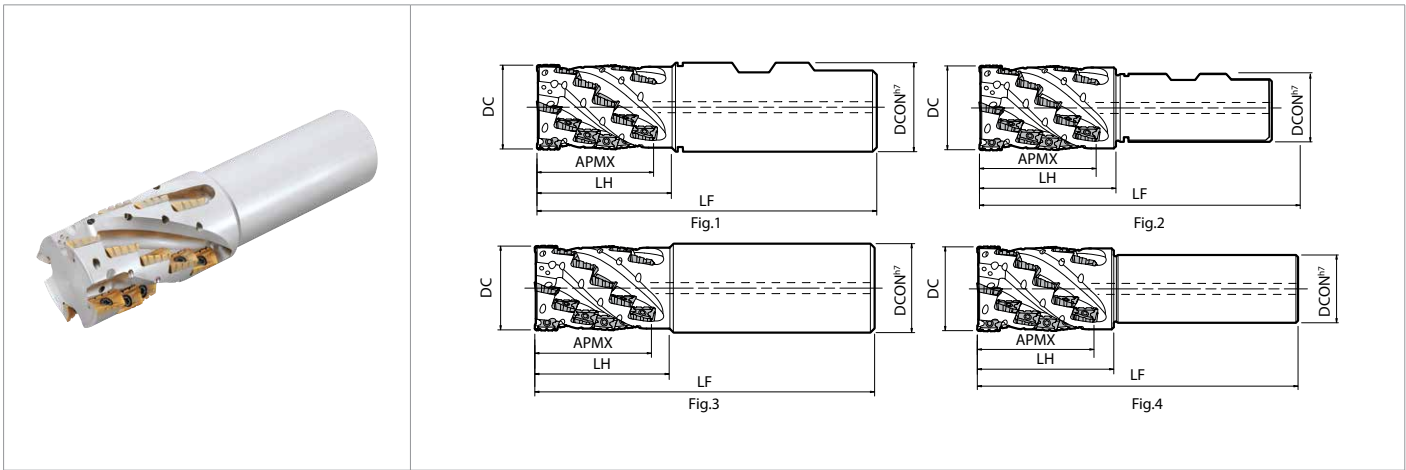
Ref. Page for Applicable Toolholders

P21  
P22  
P23  
P24  
P25

Ref. Page for Applicable Toolholders

Inserts are sold in 10 piece boxes

● : Standard Item


**Toolholder Dimensions (Inch)**

| Shank  | Part Number        |                    | Stock | No. of Flutes | No. of Stages | No. of Inserts | Dimensions (in) |      |      |      |       | Rake Angle (°) |       | Drawing | Coolant Hole | Spare Parts                                                                       |                                                                                   |                     | Applicable Inserts                 |
|--------|--------------------|--------------------|-------|---------------|---------------|----------------|-----------------|------|------|------|-------|----------------|-------|---------|--------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|------------------------------------|
|        |                    |                    |       |               |               |                | DC              | DCON | LF   | LH   | APMX  | A.R. (Max)     | R.R.  |         |              |  |  | Anti-seize Compound |                                    |
|        |                    |                    |       |               |               |                |                 |      |      |      |       |                |       |         |              |                                                                                   |                                                                                   |                     |                                    |
| Weldon | MECH               | 1000-W100-11-4-2T  | ●     | 2             | 4             | 8              | 1.00            | 1.00 | 4.17 | 1.81 | 1.46  | +21°           | -10°  | Fig.1   | No           | SB-2555TRG                                                                        | DTM-8                                                                             | P-37                | BDMT11T308ER-N2<br>BDMT11T308ER-N3 |
|        |                    | 1250-W125-11-5-2T  | ●     |               | 5             | 10             | 1.25            | 1.25 | 4.52 | 2.17 | 1.81  |                | -9°   |         |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 1250-W125-11-5-4T  | ●     | 4             |               | 6              | 24              |      | 1.50 | 4.90 | 2.52  |                | 2.16  | +23°    |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 1500-W125-11-6-4T  | ●     |               | 6             | 24             | 1.50            | 5.28 | 2.52 | 2.16 | Fig.1 |                |       |         |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 1500-W150-11-6-4T  | ●     |               | 7             | 28             | 2.00            | 1.50 | 5.73 | 2.95 | 2.52  | -7°            | Fig.2 |         |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 2000-W150-11-7-4T  | ●     |               |               |                |                 |      |      |      |       |                |       |         |              |                                                                                   |                                                                                   |                     |                                    |
|        | 2000-W1500-11-7-6T | ●                  | 6     | 42            |               |                |                 |      |      |      |       |                |       |         |              |                                                                                   |                                                                                   |                     |                                    |
|        | MECH               | 1500-W125-17-4-2T  | ●     | 2             | 4             | 8              | 1.50            | 1.25 | 5.26 | 2.87 | 2.32  | +19°           | -7°   | Fig.2   |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 1500-W150-17-4-2T  | ●     |               | 4             | 5              | 20              | 2.00 | 1.50 | 5.64 | 3.46  |                | 2.91  | Fig.1   |              |                                                                                   |                                                                                   |                     |                                    |
|        |                    | 2000-W1500-17-5-4T | ●     |               |               |                |                 |      |      |      |       |                |       | Fig.2   |              |                                                                                   |                                                                                   |                     |                                    |

**Toolholder Dimensions (Metric)**

| Shank       | Part Number          | Stock | No. of Flutes | No. of Stages | No. of Inserts | Dimensions (mm) |      |     |     |      | Rake Angle (°) |       | Drawing | Coolant Hole | Spare Parts                                                                         |                                                                                     |                     | Applicable Inserts                 |       |
|-------------|----------------------|-------|---------------|---------------|----------------|-----------------|------|-----|-----|------|----------------|-------|---------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|------------------------------------|-------|
|             |                      |       |               |               |                | DC              | DCON | LF  | LH  | APMX | A.R. (Max)     | R.R.  |         |              |  |  | Anti-seize Compound |                                    |       |
|             |                      |       |               |               |                |                 |      |     |     |      |                |       |         |              |                                                                                     |                                                                                     |                     |                                    |       |
| Cylindrical | MECH 025-S25-11-4-2T | ●     | 2             | 4             | 8              | 25              | 25   | 120 | 46  | 37   | +21°           | -10°  | Fig.3   | Yes          | SB-2555TRG                                                                          | DTM-8                                                                               | P-37                | BDMT11T308ER-N2<br>BDMT11T308ER-N3 |       |
|             | 032-S32-11-5-2T      | ●     |               | 5             | 10             | 32              | 32   | 140 | 55  | 46   |                | -9°   |         |              |                                                                                     |                                                                                     |                     |                                    |       |
|             | 032-S32-11-5-4T      | ●     | 4             |               | 6              | 24              |      | 40  | 150 | 64   |                | 55    | +23°    |              |                                                                                     |                                                                                     |                     |                                    | -8°   |
|             | 040-S32-11-6-4T      | ●     |               | 6             | 24             | 40              | 160  | 64  | 55  | -8°  | Fig.3          |       |         |              |                                                                                     |                                                                                     |                     |                                    |       |
|             | 040-S42-11-6-4T      | ●     |               | 7             | 28             | 50              | 42   | 172 | 75  | 64   |                | -7°   |         |              |                                                                                     |                                                                                     |                     |                                    | Fig.4 |
|             | 050-S42-11-7-4T      | ●     |               |               |                |                 |      | 172 | 75  | 64   |                | -7°   |         |              |                                                                                     |                                                                                     |                     |                                    | Fig.4 |
|             | 050-S42-11-7-6T      | ●     | 6             | 7             | 42             | 50              | 42   | 172 | 75  | 64   |                | -7°   | Fig.4   |              |                                                                                     |                                                                                     |                     |                                    |       |
|             | MECH 040-S32-17-4-2T | ●     | 2             | 4             | 8              | 40              | 32   | 160 | 73  | 59   | +19°           | -7°   | Fig.4   |              |                                                                                     |                                                                                     |                     |                                    | Yes   |
|             | 040-S42-17-4-2T      | ●     |               | 4             | 5              | 20              | 50   | 42  | 170 | 88   |                | 74    | -7°     | Fig.3        |                                                                                     |                                                                                     |                     |                                    |       |
|             | 050-S42-17-5-4T      | ●     | 185           |               |                |                 |      | 88  | 74  | -6°  |                | Fig.4 |         |              |                                                                                     |                                                                                     |                     |                                    |       |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

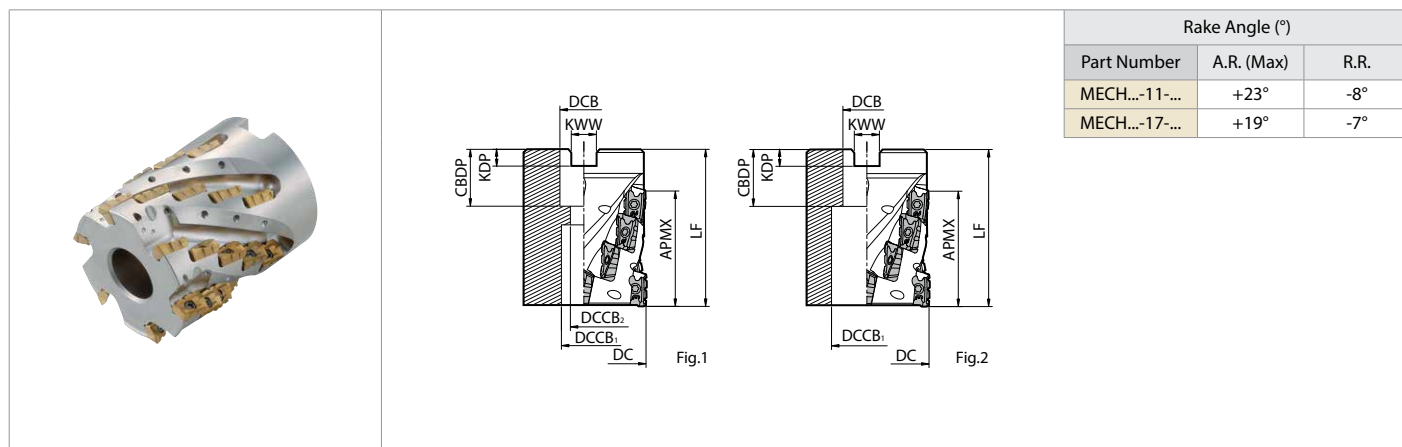
Recommended Cutting Conditions → **P27** ●: Standard item

**Caution with Max. Revolution**

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

**Applicable Inserts**

| Part Number    | Applicable Inserts: P4                                                                      |                                                                                             |                                                                                               |                                                                                               |
|----------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                |  2-Notch |  3-Notch |  3-Notch |  4-Notch |
| MECH...-11-... | BDMT 11T308ER-N2                                                                            | BDMT 11T308ER-N3                                                                            | -                                                                                             | -                                                                                             |
| MECH...-17-... | -                                                                                           | -                                                                                           | BDMT 170408ER-N3                                                                              | BDMT 170408ER-N4                                                                              |



### Toolholder Dimensions

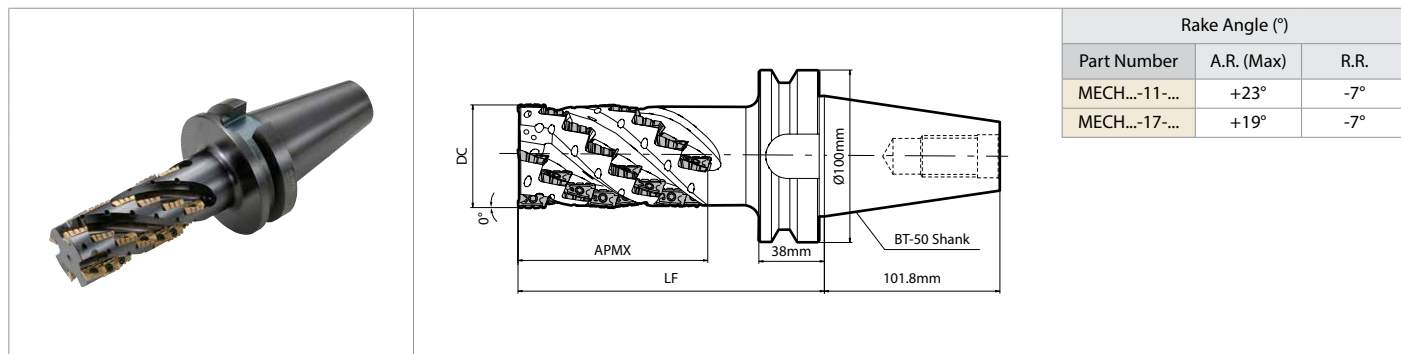
| Part Number         | Stock | Unit | No. of Flutes | No. of Stages | No. of Inserts | Dimensions |       |                   |                   |       |       |       |       |       | Drawing | Spare Parts                                                                       |                                                                                   |                                                                                   |                                                                                   | Applicable Inserts                 |                                    |
|---------------------|-------|------|---------------|---------------|----------------|------------|-------|-------------------|-------------------|-------|-------|-------|-------|-------|---------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------|------------------------------------|
|                     |       |      |               |               |                | DC         | DCB   | DCCB <sub>1</sub> | DCCB <sub>2</sub> | LF    | CBDP  | KDP   | KWW   | APMX  |         | Insert Screw                                                                      | Wrench                                                                            | Anti-seize Compound                                                               | Arbor Bolt                                                                        |                                    |                                    |
|                     |       |      |               |               |                |            |       |                   |                   |       |       |       |       |       |         |  |  |  |  |                                    |                                    |
| MECH 2000R-11-5-6T  | ●     | inch | 6             | 5             | 30             | 2.00       | 0.75  | 0.63              | 0.417             | 2.480 | 0.750 | 0.197 | 0.313 | 1.811 | Fig.1   | SB-2555TRG                                                                        | DTM-8                                                                             | P-37                                                                              | HH3/8-1.5                                                                         | BDMT11T308ER-N2<br>BDMT11T308ER-N3 |                                    |
| 2000R-17-2-4T       | ●     |      | 4             | 2             | 8              |            |       |                   |                   | 2.047 |       |       |       | 1.181 |         | SB-4070TRN                                                                        | DTM-15                                                                            |                                                                                   | HH3/8-1.25                                                                        |                                    | BDMT170408ER-N3<br>BDMT170408ER-N4 |
| 2000R-17-4-4T       | ●     |      | 4             | 4             | 16             |            |       |                   |                   | 3.070 |       |       |       | 2.322 |         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                    |                                    |
| MECH 040R-11-4-4T-M | ●     | mm   | 4             | 4             | 16             | 40         | 16    | 15                | 9                 | 50    | 19    | 5.6   | 8.4   | 37    | Fig.1   | SB-2555TRG                                                                        | DTM-8                                                                             | P-37                                                                              | HH8X25                                                                            | BDMT11T308ER-N2<br>BDMT11T308ER-N3 |                                    |
| 050R-11-5-6T-M      | ●     |      | 6             | 5             | 30             | 50         | 22    | 18                | 11                | 63    | 21    | 6.3   | 10.4  | 46    |         |                                                                                   |                                                                                   |                                                                                   | HH10X30                                                                           |                                    |                                    |
| MECH 050R-17-2-4T-M | ●     |      | 4             | 2             | 8              | 50         | 22    | 18                | 11                | 52    | 21    | 6.3   | 10.4  | 30    | Fig.1   | SB-4070TRN                                                                        | DTM-15                                                                            | P-37                                                                              | HH10X30                                                                           | BDMT170408ER-N3<br>BDMT170408ER-N4 |                                    |
| 050R-17-4-4T-M      | ●     |      |               |               |                |            |       |                   |                   | 4     |       |       |       | 16    |         |                                                                                   |                                                                                   |                                                                                   | 78                                                                                |                                    | 59                                 |
| 063R-17-3-4T-M      | ●     |      | 4             | 3             | 12             | 63         | 27    | 20                | 14                | 70    | 24    | 7     | 12.4  | 45    | Fig.2   |                                                                                   |                                                                                   | P-37                                                                              | HH12X35                                                                           |                                    |                                    |
| 080R-17-4-6T-M      | ●     |      | 6             | 4             | 24             | 80         | 32    | 26                | 18                | 85    | 28    | 8     | 14.4  | 59    |         |                                                                                   |                                                                                   |                                                                                   | HH16X45                                                                           |                                    |                                    |
| 100R-17-4-6T-M      | ●     |      |               |               |                | 100        | 40    | 56                | -                 | 85    | 30    | 9     | 16.4  | 59    |         |                                                                                   |                                                                                   | -                                                                                 |                                                                                   |                                    |                                    |
| MECH 063R-17-3-4T   | ●     |      | 4             | 3             | 12             | 63         | 25.4  | 20                | 14                | 70    | 26    | 6     | 9.5   | 45    | Fig.1   | SB-4070TRN                                                                        | DTM-15                                                                            | P-37                                                                              | HH12X35                                                                           |                                    |                                    |
| 080R-17-4-6T        | ●     |      | 6             | 4             | 24             | 80         | 31.75 | 26                | 18                | 85    | 32    | 8     | 12.7  | 59    |         |                                                                                   |                                                                                   |                                                                                   | HH16X45                                                                           |                                    |                                    |
| 100R-17-4-6T        | ●     |      |               |               |                | 100        | 38.1  | 56                | -                 | 85    | 38    | 10    | 15.9  | 59    |         |                                                                                   |                                                                                   |                                                                                   | Fig.2                                                                             |                                    |                                    |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions → **P27** ●: Standard item

### Applicable Inserts

| Part Number    | Applicable Inserts: P4 |                  |                  |                  |
|----------------|------------------------|------------------|------------------|------------------|
|                | 2-Notch                | 3-Notch          | 3-Notch          | 4-Notch          |
| MECH...-11-... | BDMT 11T308ER-N2       | BDMT 11T308ER-N3 | -                | -                |
| MECH...-17-... | -                      | -                | BDMT 170408ER-N3 | BDMT 170408ER-N4 |



### Toolholder Dimensions

| Part Number           | Stock | No. of Flutes | No. of Stages | No. of Inserts | Dimensions (mm) |     |      | Weight (kg) | Spare Parts  |        |                     | Applicable Inserts                 |
|-----------------------|-------|---------------|---------------|----------------|-----------------|-----|------|-------------|--------------|--------|---------------------|------------------------------------|
|                       |       |               |               |                | DC              | LF  | APMX |             | Insert Screw | Wrench | Anti-seize Compound |                                    |
| MECH 050R11-8-4T-BT50 | ●     | 4             | 8             | 32             | 50              | 143 | 73   | 4.8         | SB-2555TRG   | DTM-8  | P-37                | BDMT11T308ER-N2<br>BDMT11T308ER-N3 |
| MECH 050R17-7-4T-BT50 | ●     | 4             | 7             | 28             | 50              | 173 | 104  | 4.9         | SB-4070TRN   | DTM-15 | P-37                | BDMT170408ER-N3<br>BDMT170408ER-N4 |
| 063R17-7-4T-BT50      | ●     |               |               |                | 63              |     |      | 5.9         |              |        |                     |                                    |
| 080R17-7-4T-BT50      | ●     |               |               |                | 80              |     |      | 7.8         |              |        |                     |                                    |
| 100R17-7-6T-BT50      | ●     | 6             | 42            | 100            | 100             |     |      | 10.2        |              |        |                     |                                    |
|                       |       |               |               |                |                 |     |      |             |              |        |                     |                                    |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Recommended Cutting Conditions → **P27**

●: Standard item

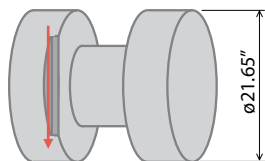
### Applicable Inserts

| Part Number    | Applicable Inserts: P4 |                  |                  |                  |
|----------------|------------------------|------------------|------------------|------------------|
|                | 2-Notch                | 3-Notch          | 3-Notch          | 4-Notch          |
| MECH050R11-... | BDMT 11T308ER-N2       | BDMT 11T308ER-N3 | -                | -                |
| MECH...R17-... | -                      | -                | BDMT 170408ER-N3 | BDMT 170408ER-N4 |

## MECH Case Studies

### Ship parts 1045

Vc = 490 sfm (n = 955 RPM)  
D.O.C. x ae = 2.75" x 0.39"  
fz = 0.008 ipt (Vf = 30.08 ipm)  
Dry  
MECH050-S42-17-5-4T(4 Flutes)  
BDMT170408ER-N3  
BDMT170408ER-N4  
(PR830)



Metal Removal Volume

**MECH**

**534cc/min**

Productivity

**4.6x**

Competitor T

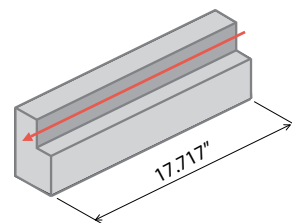
**115cc/min**

MECH machining efficiency improved 4.6 times that of Competitor T

(User Evaluation)

### Plate SS400

Vc = 490 sfm (n = 955 RPM)  
D.O.C. x ae = 2.75" x 0.39"  
fz = 0.008 ipt (Vf = 30.00 ipm)  
Dry  
MECH050-S42-17-5-4T(4 Flutes)  
BDMT170408ER-N3  
BDMT170408ER-N4  
(PR830)



Metal Removal Volume

**MECH**

**532cc/min**

Productivity

**3.1x**

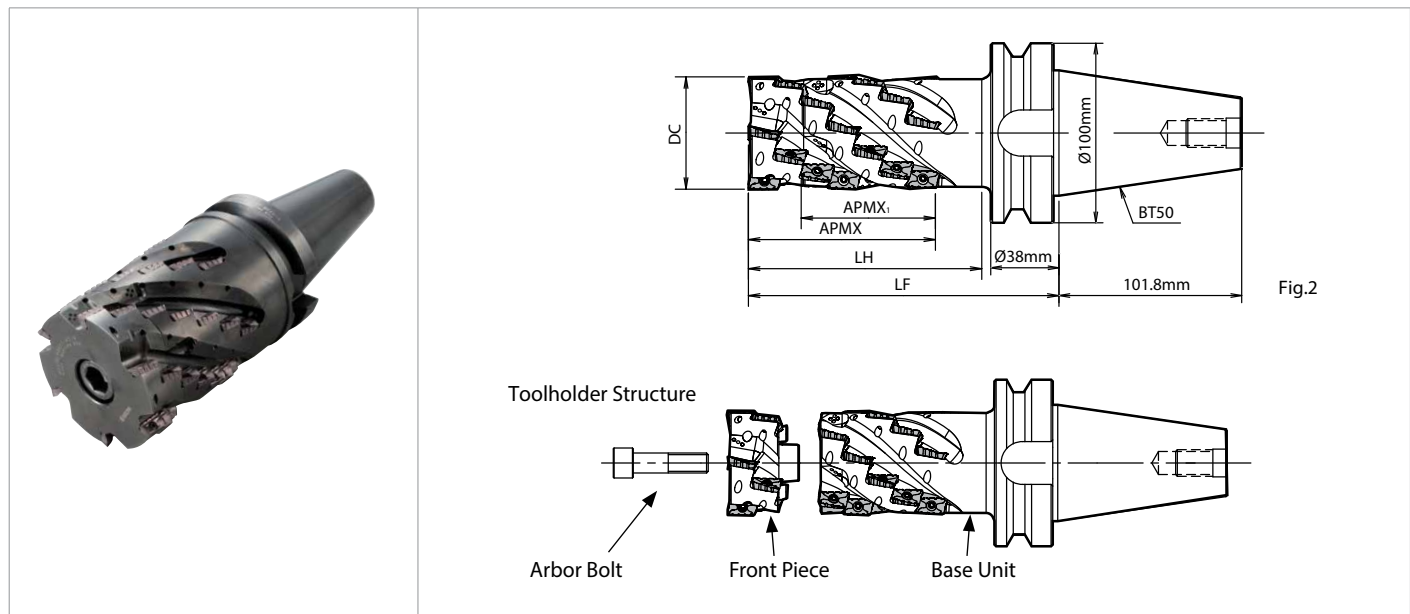
Competitor U

**170cc/min**

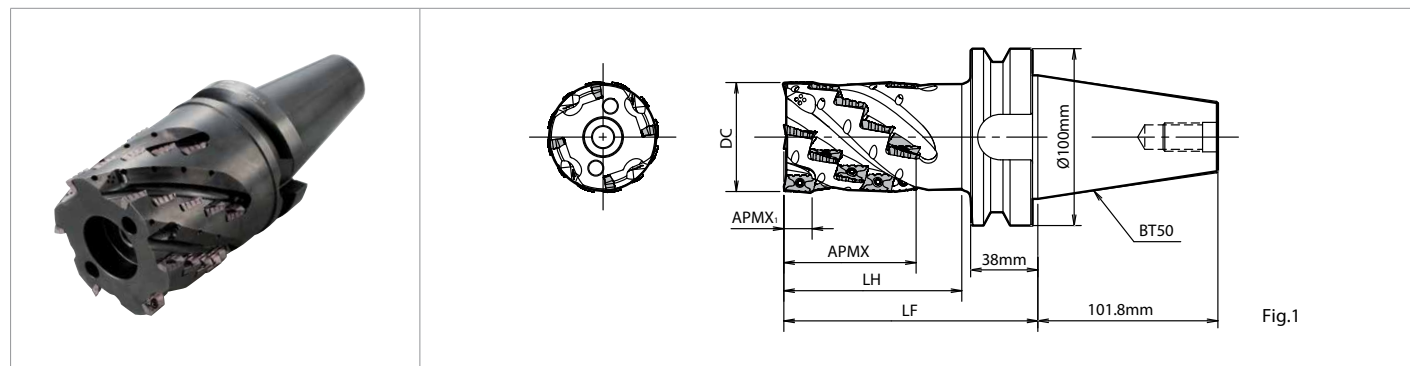
MECH machining efficiency improved 3.1 times that of Competitor U and had an excellent wall finish

(User Evaluation)

## MECH-BT50SA Integral Arbor Set (without Coolant Hole)



## MECH-BT50-A Base Unit (without Coolant Hole)



### Toolholder Dimensions

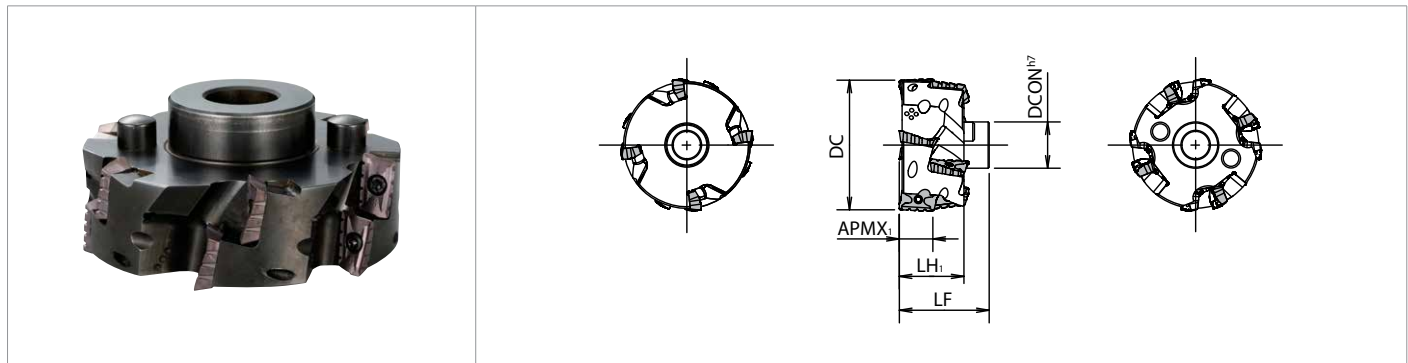
| Part Number          |      |                  | Stock                    | No. of Flutes | No. of Stages | No. of Inserts | Dimensions (mm) |     |     |      |                   | Rake Angle (°) |      | Drawing | Weight (kg) |
|----------------------|------|------------------|--------------------------|---------------|---------------|----------------|-----------------|-----|-----|------|-------------------|----------------|------|---------|-------------|
|                      |      |                  |                          |               |               |                | DC              | LF  | LH  | APMX | APMX <sub>1</sub> | A.R.           | R.R. |         |             |
| Integral Arbor (Set) | MECH | 050R11-4T-BT50SA | <input type="checkbox"/> | 4             | 8             | 32             | 50              | 143 | 99  | 73   | 55                | +23°           | -7°  | Fig.1   | 4.8         |
|                      |      | 063R17-4T-BT50SA | <input type="checkbox"/> |               | 7             | 28             | 63              | 173 | 130 | 104  | 75                | +19°           | -7°  |         | 5.8         |
|                      |      | 080R17-4T-BT50SA | <input type="checkbox"/> |               |               |                | 80              |     |     |      |                   |                |      |         | 7.6         |
|                      |      | 100R17-6T-BT50SA | <input type="checkbox"/> | 6             | 7             | 42             | 100             |     |     |      |                   |                |      |         |             |
| Base Unit            | MECH | 050R11-4T-BT50-A | <input type="checkbox"/> | 4             | 6             | 24             | 50              | 125 | 81  | 55   | 10                | +23°           | -7°  | Fig.2   | 4.6         |
|                      |      | 063R17-4T-BT50-A | <input type="checkbox"/> |               | 5             | 20             | 63              | 143 | 100 | 75   | 16                | +19°           | -7°  |         | 5.4         |
|                      |      | 080R17-4T-BT50-A | <input type="checkbox"/> |               |               |                | 80              |     |     |      |                   |                |      |         | 6.8         |
|                      |      | 100R17-6T-BT50-A | <input type="checkbox"/> | 6             | 5             | 30             | 100             |     |     |      |                   |                |      |         |             |

### Toolholder Structure

Recommended Cutting Conditions ➔ **P27** ☐ : Made to Order

| End Mill (Above) |                  | Base Unit (Above) |                      | Front Piece (1pc) |                 | Arbor Bolt |         |
|------------------|------------------|-------------------|----------------------|-------------------|-----------------|------------|---------|
| MECH             | 050R11-4T-BT50SA | =                 | MECH050R11-4T-BT50-A | +                 | MECH050R11-4T-F | +          | HH12X35 |
|                  | 063R17-4T-BT50SA |                   | MECH063R17-4T-BT50-A |                   | MECH063R17-4T-F |            | HH12X40 |
|                  | 080R17-4T-BT50SA |                   | MECH080R17-4T-BT50-A |                   | MECH080R17-4T-F |            | HH16X40 |
|                  | 100R17-6T-BT50SA |                   | MECH100R17-6T-BT50-A |                   | MECH100R17-6T-F |            | HH20X40 |

## MECH-F Front Piece (without Coolant Hole)



### Toolholder Dimensions

| Part Number      | Stock                    | No. of Flutes | No. of Stages | No. of Inserts | Dimensions (mm) |      |    |     |       | Rake Angle (°) |      | Weight (kg) |
|------------------|--------------------------|---------------|---------------|----------------|-----------------|------|----|-----|-------|----------------|------|-------------|
|                  |                          |               |               |                | DC              | DCON | LF | LH1 | APMX1 | A.R.           | R.R. |             |
| MECH 050R11-4T-F | <input type="checkbox"/> | 4             | 2             | 8              | 50              | 22   | 32 | 18  | 10    | +23°           | -7°  | 0.2         |
| 063R17-4T-F      | <input type="checkbox"/> |               |               |                | 63              | 22   | 44 | 30  | 16    | +19°           | -7°  | 0.4         |
| 080R17-4T-F      | <input type="checkbox"/> |               |               |                | 80              | 32   |    |     |       |                |      | 0.8         |
| 100R17-6T-F      | <input type="checkbox"/> | 6             | 2             | 12             | 100             | 45   |    |     |       |                |      | 1.3         |

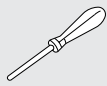
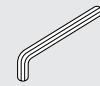
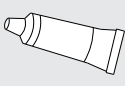
☐ : Made to Order

### Applicable Inserts

| End Mill              | Base Unit            | Front Piece     | Applicable Inserts                   |
|-----------------------|----------------------|-----------------|--------------------------------------|
| MECH 050R11-4T-BT50SA | MECH050R11-4T-BT50-A | MECH050R11-4T-F | BDMT 11T308ER-N2<br>BDMT 11T308ER-N3 |
| 063R17-4T-BT50SA      | MECH063R17-4T-BT50-A | MECH063R17-4T-F | BDMT 170408ER-N3<br>BDMT 170408ER-N4 |
| 080R17-4T-BT50SA      | MECH080R17-4T-BT50-A | MECH080R17-4T-F |                                      |
| 100R17-6T-BT50SA      | MECH100R17-6T-BT50-A | MECH100R17-6T-F |                                      |

Recommended Cutting Conditions ➔ **P27**

### Spare Parts

| Part Number                |                       | Spare Parts                                                                         |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|----------------------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                            |                       | Insert Screw                                                                        | Wrench<br>(for Insert Screw)                                                        | Arbor Bolt                                                                            | Wrench<br>(for Arbor Bolt)                                                            | Anti-seize<br>Compound                                                                |
|                            |                       |  |  |  |  |  |
| Integral<br>Arbor<br>(Set) | MECH 050R11-4T-BT50SA | SB-2555TRG                                                                          | DTM-8                                                                               | HH12X35                                                                               | LW-10                                                                                 | P-37                                                                                  |
|                            | 063R17-4T-BT50SA      | SB-4070TRN                                                                          | DTM-15                                                                              | HH12X40                                                                               | LW-10                                                                                 |                                                                                       |
|                            | 080R17-4T-BT50SA      |                                                                                     |                                                                                     | HH16X40                                                                               | LW-14                                                                                 |                                                                                       |
|                            | 100R17-6T-BT50SA      |                                                                                     |                                                                                     | HH20X40                                                                               | LW-17                                                                                 |                                                                                       |
| Base Unit                  | MECH 050R11-4T-BT50-A | SB-2555TRG                                                                          | DTM-8                                                                               | HH12X35                                                                               | LW-10                                                                                 |                                                                                       |
|                            | 063R17-4T-BT50-A      | SB-4070TRN                                                                          | DTM-15                                                                              | HH12X40                                                                               | LW-10                                                                                 |                                                                                       |
|                            | 080R17-4T-BT50-A      |                                                                                     |                                                                                     | HH16X40                                                                               | LW-14                                                                                 |                                                                                       |
|                            | 100R17-6T-BT50-A      |                                                                                     |                                                                                     | HH20X40                                                                               | LW-17                                                                                 |                                                                                       |
| Front Piece                | MECH 050R11-4T-F      | SB-2555TRG                                                                          | -                                                                                   | -                                                                                     | -                                                                                     |                                                                                       |
|                            | 063R17-4T-F           | SB-4070TRN                                                                          | -                                                                                   | -                                                                                     | -                                                                                     |                                                                                       |
|                            | 080R17-4T-F           |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|                            | 100R17-6T-F           |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

• If you purchased the front piece only, the insert screw wrench, arbor bolt, and arbor bolt wrench are not included.

 Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

## MECH Inserts

### MECH Helical End Mill

| Part Number                                | No. of Flutes | No. of Inserts                            | No. of Inserts                                                                    |                                                                                   |                                                                                   |                                                                                   |   |   |    |    |    |
|--------------------------------------------|---------------|-------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---|---|----|----|----|
|                                            |               |                                           | BDMT11T308ER-                                                                     |                                                                                   | BDMT170408ER-                                                                     |                                                                                   |   |   |    |    |    |
|                                            |               |                                           |  |  |  |  |   |   |    |    |    |
|                                            |               |                                           | N2                                                                                | N3                                                                                | N3                                                                                | N4                                                                                |   |   |    |    |    |
| MECH 1000-W1000-11-4-2T<br>025-S25-11-4-2T | 2             | 8                                         | 4                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |   |   |    |    |    |
|                                            |               | 10                                        | 5                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |   |   |    |    |    |
|                                            | 4             | 20                                        | 10                                                                                | 10                                                                                |                                                                                   |                                                                                   |   |   |    |    |    |
|                                            |               | 24                                        | 12                                                                                | 12                                                                                |                                                                                   |                                                                                   | - | - |    |    |    |
|                                            |               |                                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |   |   | 28 | 14 | 14 |
|                                            |               |                                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |   |   | 6  | 42 | 21 |
|                                            |               | MECH 1500-W125-17-4-2T<br>040-S32-17-4-2T | 2                                                                                 | 8                                                                                 |                                                                                   |                                                                                   |   |   | -  | -  | 4  |
| 4                                          | 20            |                                           |                                                                                   |                                                                                   | 10                                                                                | 10                                                                                |   |   |    |    |    |
|                                            |               |                                           | 2000-W1500-17-5-4T<br>050-S42-17-5-4T                                             |                                                                                   |                                                                                   |                                                                                   |   |   |    |    |    |

### MECH Helical Shell Mill

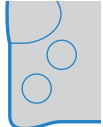
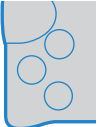
| Part Number                          | No. of Flutes | No. of Inserts | No. of Inserts                                                                      |                                                                                     |                                                                                     |                                                                                     |  |  |
|--------------------------------------|---------------|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|                                      |               |                | BDMT11T308ER-                                                                       |                                                                                     | BDMT170408ER-                                                                       |                                                                                     |  |  |
|                                      |               |                |  |  |  |  |  |  |
|                                      |               |                | N2                                                                                  | N3                                                                                  | N3                                                                                  | N4                                                                                  |  |  |
| MECH 040R-11-4-4T-M                  | 4             | 16             | 8                                                                                   | 8                                                                                   | -                                                                                   | -                                                                                   |  |  |
| 2000R-11-5-6T<br>050R-11-5-6T-M      | 6             | 30             | 15                                                                                  | 15                                                                                  |                                                                                     |                                                                                     |  |  |
| MECH 2000R-17-2-4T<br>050R-17-2-4T-M | 4             | 8              |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   |  |  |
| 2000R-17-4-4T<br>050R-17-4-4T-M      |               | 16             |                                                                                     |                                                                                     | 8                                                                                   | 8                                                                                   |  |  |
| 063R-17-3-4T-M                       |               | 12             |                                                                                     |                                                                                     | 6                                                                                   | 6                                                                                   |  |  |
| 080R-17-4-6T-M                       | 6             | 24             | -                                                                                   | -                                                                                   | 12                                                                                  | 12                                                                                  |  |  |
| 100R-17-4-6T-M                       |               |                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |  |
| MECH 063R-17-3-4T                    | 4             | 12             |                                                                                     |                                                                                     | 6                                                                                   | 6                                                                                   |  |  |
| 080R-17-4-6T                         | 6             | 24             |                                                                                     |                                                                                     | 12                                                                                  | 12                                                                                  |  |  |
| 100R-17-4-6T                         |               |                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |  |

## MECH Precautions when Installing Notched Inserts

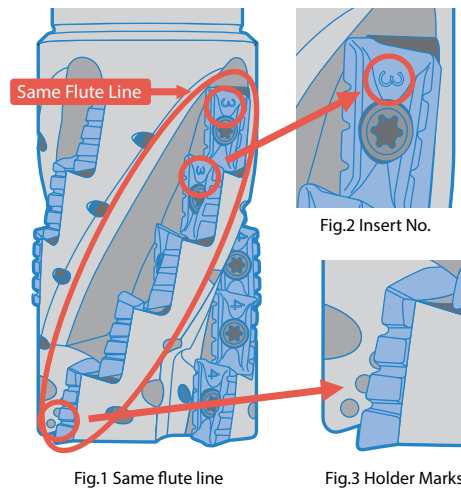
1. Install notched inserts by matching the insert with the number of marks on the holder body.

2. When installing notched inserts in flute line, ensure that the number on the insert is the same as the insert in first stage. Ref. to Fig.1, 2 and 3.

### Insert Number and Holder Marks

| Insert Size | 11 Type                                                                             |                                                                                     | 17 Type                                                                             |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Insert No.  | 2                                                                                   | 3                                                                                   | 3                                                                                   | 4                                                                                   |
| Marks       |  |  |  |  |

Using the cutter with the inserts installed incorrectly will damage the holder.



| Workpiece Material | Feed Rate fz (ipt) | Recommended Insert Grade Vc (sfm) |                  |                  |                  |
|--------------------|--------------------|-----------------------------------|------------------|------------------|------------------|
|                    |                    | MEGACOAT NANO EX                  |                  |                  | MEGACOAT NANO    |
|                    |                    | PR1810                            | PR1825           | PR1835           | PR1535           |
| Carbon Steel       | 0.003~0.004~0.006  | -                                 | ★<br>390~590~820 | ☆<br>390~590~820 | ☆<br>390~590~820 |
| Alloy Steel        | 0.003~0.004~0.006  | -                                 | ★<br>330~520~720 | ☆<br>330~520~720 | ☆<br>330~520~720 |
| Mold Steel         | 0.003~0.004~0.006  | -                                 | ★<br>260~460~590 | ☆<br>260~460~590 | ☆<br>260~460~590 |
| Gray Cast Iron     | 0.003~0.006~0.007  | ★<br>390~590~820                  | -                | -                | -                |
| Nodular Cast Iron  | 0.003~0.006~0.007  | ★<br>330~490~660                  | -                | -                | -                |
| Titanium Alloys    | 0.003~0.004~0.006  | ☆<br>100~160~230                  | -                | ★<br>130~200~260 | ☆<br>130~200~260 |

\* Bold numbers in the graph indicate the most recommended value of feed (fz) Adjust cutting speed and feed rate according to the actual machining conditions

\* Machining with coolant is recommended for titanium alloys

\* Recommended cutting conditions above are for notched inserts. If using an insert without a notch, the cutting depth (D.O.C.) and width (ae) should be 60% of that of notched inserts.

★ : 1st Recommendation

☆ : 2nd Recommendation

## JA Chipbreaker

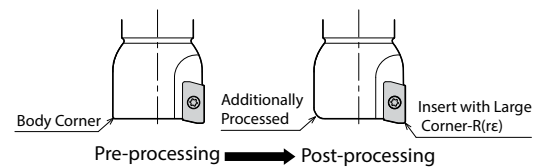
| Workpiece Material               | Feed Rate fz (ipt) | Vc (sfm) |
|----------------------------------|--------------------|----------|
|                                  |                    | Carbide  |
|                                  |                    | GW25     |
| Aluminum Alloy (Si 13% or Less)  | 0.003~0.012        | 660~2620 |
| Aluminum Alloy (Si 13% and Over) | 0.003~0.008        | 660~980  |

When using inserts with corner-R (RE) 1.6mm or larger, additional modifications of the cutter body will be necessary.

Refer to the table below for the recommended modifications. (Additional grind off is not necessary when corner-R (RE) is 1.2mm or less.)

| Insert Corner-R (RE) | Additional Processing Dimension to Body Corner (mm) |
|----------------------|-----------------------------------------------------|
| 1.6                  | R1.0                                                |
| 2.0                  |                                                     |
| 2.4                  | R1.2                                                |
| 3.1                  | R1.6                                                |
| 4.0                  | R2.5                                                |

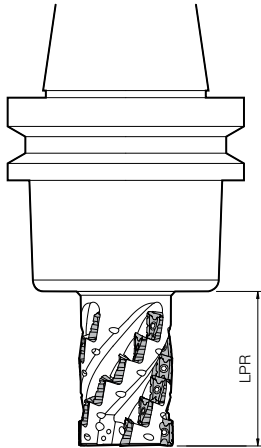
\* Round-shaped additional processing is recommended. When applying chamfer shaped additional processing, do not cut away too much.



## MECH Helical End Mill

| Cutting Dia.     | Part Number<br>Inch Size<br>Metric Size       | Overhang Length LPR (in) |
|------------------|-----------------------------------------------|--------------------------|
| Ø1.000"<br>Ø25mm | MECH1000-W1000-11-4-2T<br>MECH025-S25-11-4-2T | 1.89                     |
| Ø1.250"<br>Ø32mm | MECH1250-W1250-11-5-2T<br>MECH032-S32-11-5-2T | 2.24                     |
|                  | MECH1250-W1250-11-5-4T<br>MECH032-S32-11-5-4T |                          |
| Ø1.500"<br>Ø40mm | MECH1500-W1250-11-6-4T<br>MECH040-S32-11-6-4T | 2.56                     |
|                  | MECH1500-W1500-11-6-4T<br>MECH040-S42-11-6-4T |                          |
| Ø2.000"<br>Ø50mm | MECH2000-W1500-11-7-4T<br>MECH050-S42-11-7-4T | 2.99                     |
|                  | MECH2000-W1500-11-7-6T<br>MECH050-S42-11-7-6T |                          |
| Ø1.500"<br>Ø40mm | MECH1500-W1250-17-4-2T<br>MECH040-S32-17-4-2T | 2.91                     |
|                  | MECH1500-W1500-17-4-2T<br>MECH040-S42-17-4-2T |                          |
| Ø2.000"<br>Ø50mm | MECH2000-W1500-17-5-4T<br>MECH050-S42-17-5-4T | 3.50                     |

Shape



## 2 Flute Type

(Workpiece :1049)

| Part Number                                                                                    | Shouldering                                                              | Slotting                                                                 |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|
|                                                                                                | <p>Cutting Speed:<br/>Vc = 330~590 sfm<br/>Feed fz = 0.003~0.006 ipt</p> | <p>Cutting Speed:<br/>Vc = 330~390 sfm<br/>Feed fz = 0.003~0.005 ipt</p> |
| MECH1000-W1000-11-4-2T<br>MECH025-S25-11-4-2T                                                  |                                                                          |                                                                          |
| MECH1250-W1250-11-5-2T<br>MECH032-S32-11-5-2T                                                  |                                                                          |                                                                          |
| MECH1500-W1250-17-4-2T<br>MECH1500-W1500-17-4-2T<br>MECH040-S32-17-4-2T<br>MECH040-S42-17-4-2T |                                                                          |                                                                          |

## 4 Flute / 6 Flute Type

|                                                                                                |  |
|------------------------------------------------------------------------------------------------|--|
| MECH1250-W1250-11-5-4T<br>MECH032-S32-11-5-4T                                                  |  |
| MECH1500-W1250-11-6-4T<br>MECH1500-W1500-11-6-4T<br>MECH040-S32-11-6-4T<br>MECH040-S42-11-6-4T |  |
| MECH1200-W1500-11-7-4T<br>MECH050-S42-11-7-4T                                                  |  |
| MECH1200-W1500-11-7-6T<br>MECH050-S42-11-7-6T                                                  |  |
| MECH1200-W150017-5-4T<br>MECH050-S42-17-5-4T                                                   |  |

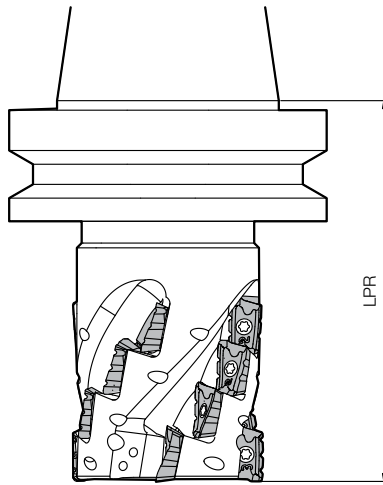
\*4 and 6 flute types are not recommended for slotting

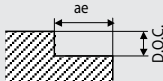
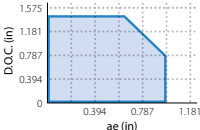
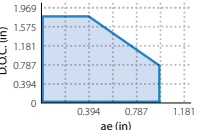
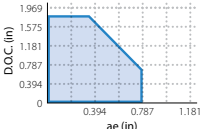
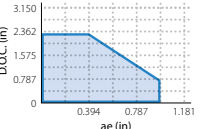
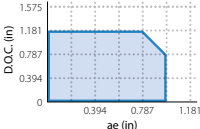
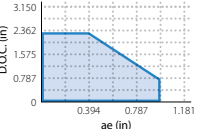
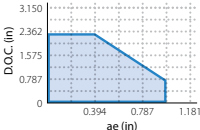
## MECH Helical Shell Mill

(Workpiece :1049)

| Cutting Dia.     | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |
|------------------|-----------------------------------------|--------------------------|
| Ø40mm            | MECH040R-11-4-4T-M                      | 4.92                     |
| Ø2.000"<br>Ø50mm | MECH2000R-11-5-6T<br>MECH050R-11-5-6T-M | 4.84                     |
|                  | MECH2000R-17-2-4T<br>MECH050R-17-2-4T-M | 4.41                     |
|                  | MECH2000R-17-4-4T<br>MECH050R-17-4-4T-M | 5.43                     |
| Ø63mm            | MECH063R-17-3-4T-M                      | 4.53                     |
| Ø80mm            | MECH080R-17-4-6T-M                      | 5.12                     |
| Ø100mm           | MECH100R-17-4-6T-M                      | 5.12                     |

Shape



| Part Number                                                   | Shouldering                                                                         |                               |                                                                                     |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|
|                                                               |  |                               |                                                                                     |
| Cutting Speed: Vc = 330~590 sfm<br>Feed: fz = 0.003~0.006 ipt |                                                                                     |                               |                                                                                     |
| MECH040R-11-4-4T-M                                            |   | MECH063R-17-3-4T-M            |  |
| MECH2000R-11-5-6T<br>MECH050R-11-5-6T-M                       |   | MECH080R-17-4-6T-M            |  |
| MECH2000R-17-2-4T<br>MECH050R-17-2-4T-M                       |   | MECH100R-17-4-6T-M            |  |
| MECH2000R-17-4-4T<br>MECH050R-17-4-4T-M                       |  | *Not recommended for slotting |                                                                                     |

\*Not recommended for slotting

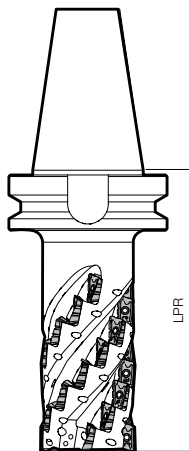
## MECH-BT50 Integral Arbor

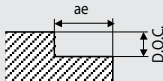
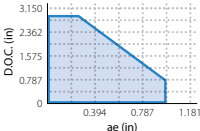
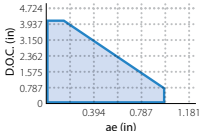
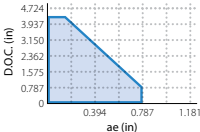
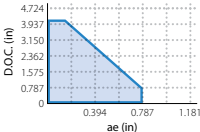
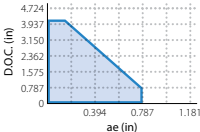
### MECH-BT50SA Integral Arbor with Replaceable Front Piece

(Workpiece :1049)

| Cutting Dia. | Part Number<br>Inch Size<br>Metric Size      | Overhang Length LPR (in) |
|--------------|----------------------------------------------|--------------------------|
| Ø50mm        | MECH050R11-8-4T-BT50<br>MECH050R11-4T-BT50SA | 5.63                     |
|              | MECH050R17-7-4T-BT50                         | 6.81                     |
| Ø63mm        | MECH063R17-7-4T-BT50<br>MECH063R17-4T-BT50SA |                          |
| Ø80mm        | MECH080R17-7-4T-BT50<br>MECH080R17-4T-BT50SA |                          |
| Ø100mm       | MECH100R17-7-6T-BT50<br>MECH100R17-6T-BT50SA |                          |

Shape



| Part Number                                  | Shouldering                                                                           |                                              |                                                                                       |
|----------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|
|                                              |  |                                              |                                                                                       |
|                                              | Cutting Speed: $V_c = 330 \sim 590$ sfm<br>Feed: $f_z = 0.003 \sim 0.006$ ipt         |                                              |                                                                                       |
| MECH050R11-8-4T-BT50<br>MECH050R11-4T-BT50SA |   | MECH080R17-7-4T-BT50<br>MECH080R17-4T-BT50SA |  |
| MECH050R17-7-4T-BT50                         |   | MECH100R17-7-6T-BT50<br>MECH100R17-6T-BT50SA |  |
| MECH063R17-7-4T-BT50<br>MECH063R17-4T-BT50SA |   |                                              |                                                                                       |

\*Not recommended for slotting

\*Not recommended for slotting

# MECX

High Efficiency Fine-Pitch Endmills & Facemills

Extra-fine Pitch increases Machining Efficiency

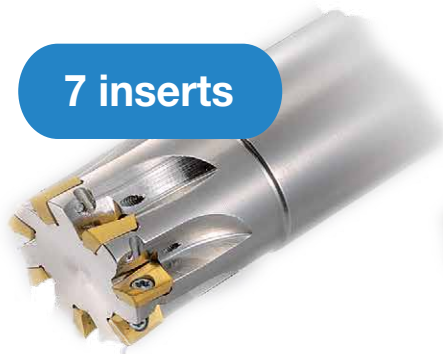
Ideal for Lower Horsepower Machines

## 1 Increased Machining Efficiency

Multiple inserts promote high efficiency machining at higher table feeds

### MECX vs MEC

(1" diameter cutter)



7 inserts

MECX1000-S100-07-7T



3 inserts

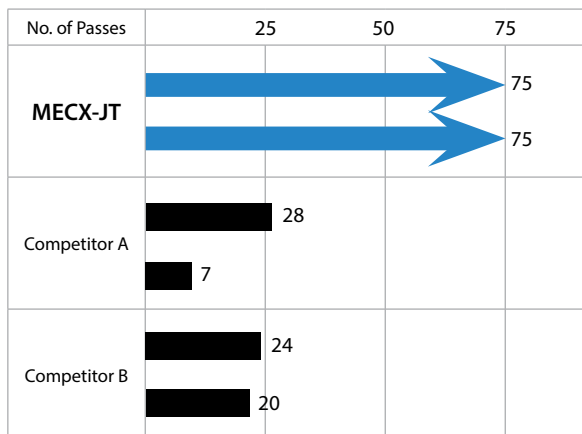
MEC1000-S100-11T



2 inserts

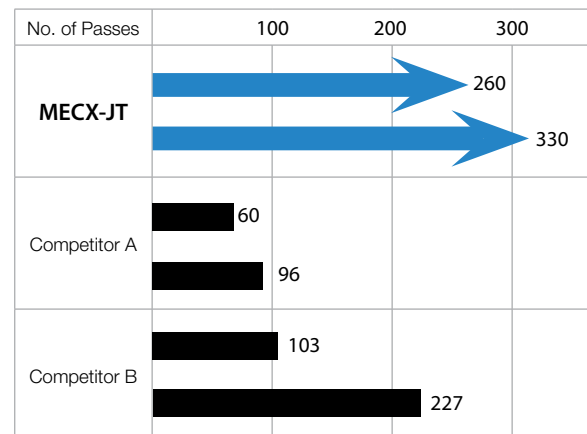
MEC1000-S100-17

#### Cutting Edge Strength Comparison (Internal Evaluation)



Vc = 400 sfm, fz = 0.008 ipt, D.O.C. x ae = 0.08" x 0.4"  
4140 Steel

#### Toolholder Strength Comparison (Internal Evaluation)



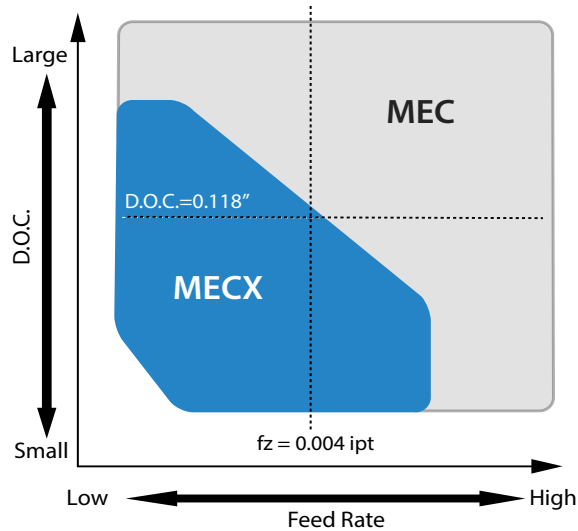
Cutting Diameter 0.787", Vc = 400 sfm, fz = 0.006 ipt, D.O.C. x ae = 0.200" x 0.275"  
1049 Steel

## 2

## MECX Lineup for Lower Horsepower Machines

Low resistance and high toughness, optimum for low horsepower machines  
Face Mills hold up to 14 inserts for high precision milling

### MEC & MECX Application Range



### MECX Face Mill Series

Cutter Dia:  $\varnothing 1.25"$ ,  $\varnothing 1.5"$ ,  $\varnothing 2"$ ,  $\varnothing 2.5"$

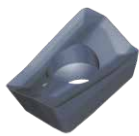


## 3

## Wide Range of Machining Applications

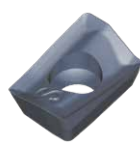
Various chipbreakers available for multiple machining applications

### JT Chipbreaker



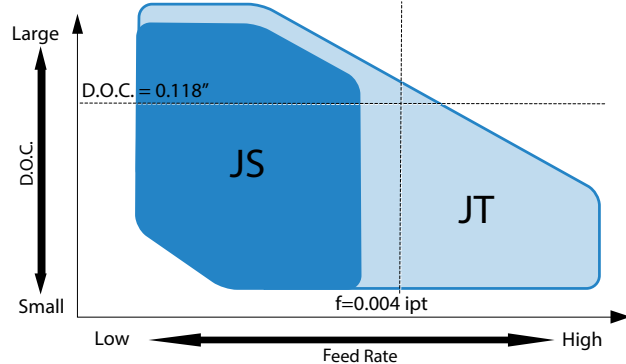
General Purpose  
(Tough Edge)

### JS Chipbreaker

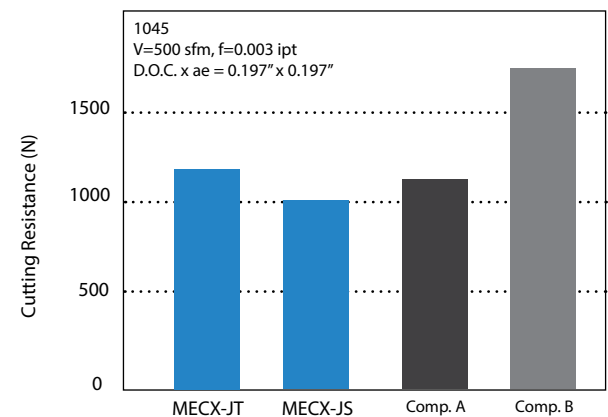


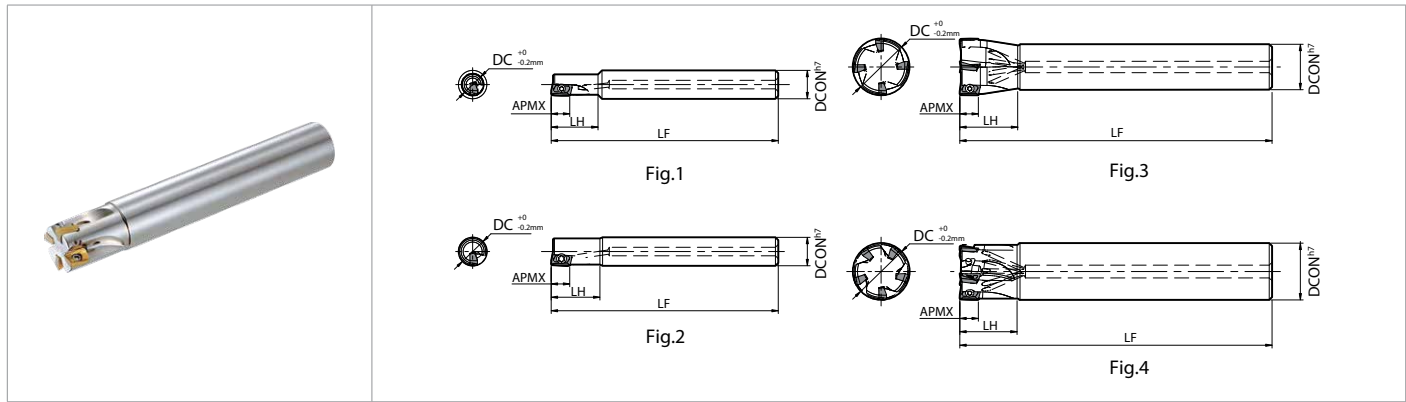
Low Resistance  
(Sharp Edge)

### Chipbreaker Application Chart



### Low Cutting Forces (4140)





## Toolholder Dimensions

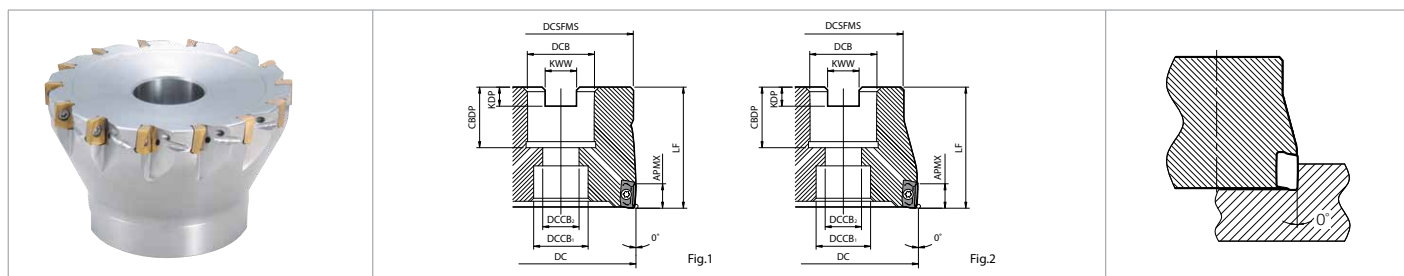
| Shank          | Part Number           | Stock             | Unit       | No. of Inserts | Dimensions            |        |       |        |        | Rake Angle (°) |        | Coolant Hole | Drawing    | Spare Parts                                                                       |                                                                                   | Max RPM |        |        |       |        |     |       |            |       |        |
|----------------|-----------------------|-------------------|------------|----------------|-----------------------|--------|-------|--------|--------|----------------|--------|--------------|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|--------|--------|-------|--------|-----|-------|------------|-------|--------|
|                |                       |                   |            |                | DC                    | DCON   | LF    | LH     | APMX   | A.R. (Max)     | R.R.   |              |            |  |  |         |        |        |       |        |     |       |            |       |        |
|                |                       |                   |            |                |                       |        |       |        |        |                |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
| Standard Shank | MECX 0375-S375-07-1T  | ●                 | inch       | 1              | 0.375                 | 0.375  | 3.00  | 0.669  | 0.236  | 12.8°          | -19.7° | Yes          | Fig.1      | SB-2035TRG                                                                        | DTM-6                                                                             | 47,150  |        |        |       |        |     |       |            |       |        |
|                | 0500-S500-07-2T       | ●                 |            | 2              | 0.500                 | 0.500  | 3.27  | 0.709  |        | 14.3°          | -12.9° |              | Fig.1      | SB-2042TRG                                                                        |                                                                                   | 45,800  |        |        |       |        |     |       |            |       |        |
|                | 0625-S625-07-3T       | ●                 |            | 3              | 0.625                 | 0.625  | 3.50  | 0.787  |        | 16.3°          | -11.3° |              | Fig. 2     |                                                                                   |                                                                                   | 43,300  |        |        |       |        |     |       |            |       |        |
|                | 0750-S625-07-4T       | ●                 |            | 4              | 0.750                 |        | 4.00  |        | Fig. 3 |                | 40,900 |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 0750-S750-07-4T       | ●                 |            | 4              |                       | Fig. 2 |       |        | 40,900 |                |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 0750-S750-07-5T       | ●                 |            | 5              | 0.750                 | 4.00   | 0.787 | -10.9° | Fig. 2 | 40,900         |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 1000-S100-07-5T       | ●                 |            | 5              | 1.000                 | 1.000  | 4.50  | 0.984  | 0.236  | 16.3°          | -9.5°  | Yes          | Fig. 2     | SB-2042TRG                                                                        | DTM-6                                                                             | 36,900  |        |        |       |        |     |       |            |       |        |
|                | 1000-S100-07-7T       | ●                 |            | 7              |                       | 0.750  | 4.50  | 0.984  |        |                |        |              | Fig. 3     | 36,900                                                                            |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 1000-S750-07-5T       | ●                 |            | 5              | Fig.2                 |        |       |        |        |                |        |              | SB-2035TRG | 33,700                                                                            |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 1250-S125-07-6T       | ●                 |            | 6              | 1.250                 | 1.250  | 5.00  | 1.181  | -8.9°  | Fig.4          | 33,700 |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 1250-S125-07-8T       | ●                 |            | 8              |                       |        |       |        |        |                |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
| Long Shank     | MECXL 0625-S625-07-3T | ●                 | inch       | 3              | 0.625                 | 0.625  | 5.10  | 2.175  | 0.236  | 16.3°          | -11.3° | Yes          | Fig.4      | SB-2042TRG                                                                        | DTM-6                                                                             | 43,300  |        |        |       |        |     |       |            |       |        |
|                | 0750-S750-07-4T       | ●                 |            | 4              | 0.750                 | 0.750  | 5.50  | 2.362  |        |                | -10.9° |              |            |                                                                                   |                                                                                   | 40,900  |        |        |       |        |     |       |            |       |        |
|                | 1000-S100-07-5T       | ●                 |            | 5              | 1.000                 | 1.000  | 6.30  | -9.5°  |        |                | 36,900 |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                | 1250-S125-07-6T       | ●                 |            | 6              | 1.250                 | 1.250  | 7.90  | 2.559  |        |                | -8.9°  |              |            |                                                                                   |                                                                                   | 33,700  |        |        |       |        |     |       |            |       |        |
| Standard Shank | MECX 08-S10-07-1T     | ●                 | mm         | 1              | 8                     | 10     | 80    | 16     | 6      | 11.7°          | -24.0° | Yes          | Fig.1      | SB-2035TRG                                                                        | DTM-6                                                                             | 48,100  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 10                    |        |       |        |        | 17             | 12.8°  |              | -18.7°     |                                                                                   |                                                                                   | Fig.2   | 47,100 |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            | 2              | 12                    | 12     | 18    | 14.3°  |        | -13.7°         | Fig.4  |              | 46,200     |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 14                    |        |       | 16.3°  |        | -12.1°         | Fig.3  |              | 44,800     |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            | 3              | 16                    | 16     | 100   | 20     | 6      | 16.3°          | -11.3° | Yes          | Fig.4      | SB-2042TRG                                                                        | DTM-6                                                                             | 43,200  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 17                    |        |       |        |        |                | -11.0° |              | Fig.3      |                                                                                   |                                                                                   | 42,400  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 18                    |        |       |        |        |                | -10.9° |              |            |                                                                                   |                                                                                   | 41,600  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 20                    |        |       |        |        |                | -10.4° |              | Fig.4      |                                                                                   |                                                                                   | 40,200  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            | 4              | 20                    | 20     | 110   |        |        |                | -10.1° |              | Fig.3      |                                                                                   | 39,500                                                                            |         |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 21                    |        |       |        |        |                |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            | 5              | 25                    | 25     | 120   | 25     | 6      | 16.3°          | -9.7°  | Yes          | Fig.3      | SB-2042TRG                                                                        | DTM-6                                                                             | 37,000  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 26                    |        |       |        |        |                | -9.5°  |              | Fig.4      |                                                                                   |                                                                                   | 37,000  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            | 6              | 33                    | 32     | 130   | 30     |        |                | -8.8°  |              | Fig.3      |                                                                                   |                                                                                   | 36,500  |        |        |       |        |     |       |            |       |        |
|                |                       | ●                 |            |                | 32                    |        |       |        |        |                |        |              | Fig.3      |                                                                                   |                                                                                   | 33,100  |        |        |       |        |     |       |            |       |        |
|                | Fine Pitch            | MECX 16-S16-07-4T | ●          | mm             | 4                     | 16     | 16    | 100    | 20     | 6              | 16.3°  | -11.3°       | Yes        | Fig.4                                                                             | SB-2042TRG                                                                        | DTM-6   | 43,200 |        |       |        |     |       |            |       |        |
|                |                       |                   | ●          |                | 5                     | 20     |       |        |        |                |        | 110          |            | -10.4°                                                                            |                                                                                   |         | Fig.3  | 40,200 |       |        |     |       |            |       |        |
|                |                       |                   | ●          |                | 7                     | 25     | 120   | 25     | -9.7°  |                |        |              |            | Fig.4                                                                             |                                                                                   |         | 40,200 |        |       |        |     |       |            |       |        |
|                |                       |                   | ●          |                |                       | 25     |       | -9.7°  | Fig.3  |                |        | 37,000       |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |
|                |                       |                   | ●          |                | 8                     | 32     | 32    | 130    | 30     |                |        | -8.9°        |            | Fig.4                                                                             |                                                                                   |         | 37,000 |        |       |        |     |       |            |       |        |
|                |                       |                   | ●          |                |                       | 32     |       |        |        |                |        |              |            | Fig.4                                                                             |                                                                                   |         | 33,600 |        |       |        |     |       |            |       |        |
|                |                       |                   | Long Shank |                | MECX 17-S16-130-07-3T | ●      | mm    | 3      | 17     |                |        | 16           |            | 130                                                                               |                                                                                   |         | 20     | 6      | 16.3° | -11.0° | Yes | Fig.3 | SB-2042TRG | DTM-6 | 42,400 |
|                |                       |                   |            |                |                       | ●      |       | 4      | 21     |                |        | 20           |            | 140                                                                               |                                                                                   |         |        |        |       | -10.1° |     |       |            |       | 39,500 |
| ●              | 5                     | 26                |            | 25             |                       | 160    |       | 25     | -9.5°  | 36,500         |        |              |            |                                                                                   |                                                                                   |         |        |        |       |        |     |       |            |       |        |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

● : Standard Item



## Toolholder Dimensions

| Part Number       | Stock | Unit | No. of Inserts | Dimensions |        |      |                   |                   |       |       |       |       |       | Rake Angle (°) |       | Coolant Hole | Drawing | Weight (kg) | Spare Parts                                                                       |                                                                                   |                                                                                   | Max RPM |        |  |  |
|-------------------|-------|------|----------------|------------|--------|------|-------------------|-------------------|-------|-------|-------|-------|-------|----------------|-------|--------------|---------|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|--------|--|--|
|                   |       |      |                | DC         | DCSFMS | DCB  | DCCB <sub>1</sub> | DCCB <sub>2</sub> | LF    | CBDP  | KDP   | KWW   | APMX  | A.R. (Max)     | R.R.  |              |         |             |  |  |  |         |        |  |  |
|                   |       |      |                |            |        |      |                   |                   |       |       |       |       |       |                |       |              |         |             |                                                                                   |                                                                                   |                                                                                   |         |        |  |  |
| MECX 1250R-07-8T  | ●     | inch | 8              | 1.250      | 1.181  | 0.75 | 0.630             | 0.417             | 1.575 | 0.807 | 0.187 | 0.313 | 0.236 | +7°            | -8.9° | Yes          | Fig.1   | 0.15        | SB-2042TRG                                                                        | DTM-6                                                                             | HH3/8-1.25H                                                                       | 33,600  |        |  |  |
| 1500R-07-10T      | ●     |      | 10             | 1.500      | 1.496  |      |                   |                   |       |       |       |       |       |                | -8.4° |              |         | 0.25        |                                                                                   |                                                                                   |                                                                                   | 30,500  |        |  |  |
| 2000R-07-12T      | ●     |      | 12             | 2.000      | 1.575  |      | 0.646             | 0.417             | 1.575 | 0.819 |       |       |       |                | -8.3° |              | Fig.2   | 0.125       |                                                                                   |                                                                                   |                                                                                   | 27,700  |        |  |  |
| 2500R-07-14T      | ●     |      | 14             | 2.500      |        |      |                   |                   |       |       |       |       |       |                | 0.630 |              |         | -7.9°       |                                                                                   |                                                                                   |                                                                                   | 0.50    | 24,900 |  |  |
| MECX 032R-07-8T-M | ●     | mm   | 8              | 32         | 30     | 16   | 14                | 8.5               | 40    | 20    | 5.5   | 8.5   | 6     | +7°            | -8.9° | Yes          | Fig.1   | 0.15        | SB-2042TRG                                                                        | DTM-6                                                                             | HH8x25H                                                                           | 33,600  |        |  |  |
| 040R-07-10T-M     | ●     |      | 10             | 40         | 38     | 22   | 18                | 12                |       | 22    | 6.3   | 10.4  |       |                | -8.4° |              |         | 0.25        |                                                                                   |                                                                                   | 30,500                                                                            |         |        |  |  |
| 050R-07-12T-M     | △     |      | 12             | 50         | 40     |      |                   |                   |       |       |       |       |       |                | -8.3° |              | Fig.2   | 0.35        |                                                                                   |                                                                                   | HH10x30H                                                                          | 27,700  |        |  |  |
| 063R-07-14T-M     | △     |      | 14             | 63         |        |      |                   |                   |       |       |       |       |       |                | -7.9° |              |         | 0.50        |                                                                                   |                                                                                   | 24,900                                                                            |         |        |  |  |

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread when insert is fixed

● : Standard Item △ : Phaseout Item (will be removed from next brochure)

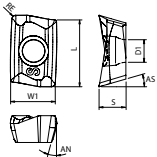
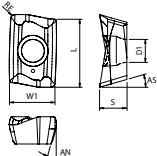
### Caution with Max. Revolution

When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force. For more details, see "Warning" on page P13.

To obtain a smooth shoulder wall finish using step milling, set D.O.C. within 0.197" for each cut.

## Applicable Inserts

| Usage Classification                                                                                                                                                                               |  | P              | Carbon Steel / Alloy Steel             |  |   | ★ | ☆ | ☆ |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------|----------------------------------------|--|---|---|---|---|---|---|
|                                                                                                                                                                                                    |  | Mold Steel     |                                        |  | ★ | ☆ | ☆ |   |   |   |
| <div>★ : Roughing / 1st Choice</div> <div>☆ : Roughing / 2nd Choice</div> <div>■ : Finishing / 1st Choice</div> <div>□ : Finishing / 2nd Choice</div> <div>(In case hardness is under 45HRC)</div> |  | M              | Austenitic Stainless Steel             |  |   | ★ | ☆ | ★ |   |   |
|                                                                                                                                                                                                    |  |                | Martensitic Stainless Steel            |  |   |   |   | ☆ | ★ |   |
|                                                                                                                                                                                                    |  |                | Precipitation Hardened Stainless Steel |  |   |   | ★ | ★ |   |   |
|                                                                                                                                                                                                    |  | K              | Gray Cast Iron                         |  | ★ |   |   |   |   |   |
|                                                                                                                                                                                                    |  |                | Nodular Cast Iron                      |  | ★ |   |   |   |   |   |
|                                                                                                                                                                                                    |  | N              | Non Ferrous Metals                     |  |   |   |   |   |   |   |
|                                                                                                                                                                                                    |  | S              | Heat Resistant Alloy (Ni-base)         |  |   |   |   |   | ☆ | ★ |
|                                                                                                                                                                                                    |  |                | Titanium Alloy                         |  |   |   |   |   | ★ |   |
| H                                                                                                                                                                                                  |  | Hard Materials |                                        |  |   |   |   |   |   |   |

| Insert                                                                              |                                                                                     | Part Number      | Dimension (in.) |       |       |       |       | Angle |     | NEW | MEGACOAT NANO EX |        |        | MEGACOAT NANO | CVD Coated Carbide |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------|-----------------|-------|-------|-------|-------|-------|-----|-----|------------------|--------|--------|---------------|--------------------|
|                                                                                     |                                                                                     |                  | W1              | S     | D1    | L     | RE    | AS    | AN  |     | PR1810           | PR1825 | PR1835 | PR1535        | CA6335             |
|  |  | BDMT 070302ER-JS | 0.181           | 0.102 | 0.091 | 0.264 | 0.008 | 16°   | 15° |     | ●                | ●      | ●      | ●             |                    |
|                                                                                     |                                                                                     | 070304ER-JS      |                 |       |       |       | 0.016 |       |     |     | ●                | ●      | ●      | ●             |                    |
|                                                                                     |                                                                                     | 070308ER-JS      |                 |       |       |       | 0.031 |       |     |     | ●                | ●      | ●      | ●             |                    |
|  |  | BDMT 070302ER-JT | 0.181           | 0.102 | 0.091 | 0.264 | 0.008 | 16°   | 15° | ●   | ●                | ●      | ●      | ●             |                    |
|                                                                                     |                                                                                     | 070304ER-JT      |                 |       |       |       | 0.016 |       |     | ●   | ●                | ●      | ●      | ●             |                    |
|                                                                                     |                                                                                     | 070308ER-JT      |                 |       |       |       | 0.031 |       |     | ●   | ●                | ●      | ●      | ●             |                    |

Inserts are sold in 10 piece boxes

● : Standard Item

| Workpiece Material                     | Feed Rate fz (ipt)            |                               | Recommended Insert Grade Vc (sfm) |                           |                           |                           |                           |
|----------------------------------------|-------------------------------|-------------------------------|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                                        | JS Chipbreaker                | JT Chipbreaker                | MEGACOAT NANO EX                  |                           |                           | MEGACOAT NANO             | CVD Coated Carbide        |
|                                        |                               |                               | PR1810                            | PR1825                    | PR1835                    | PR1535                    | CA6535                    |
| Carbon Steel                           | 0.0016~ <b>0.0031</b> ~0.0039 | 0.0024~ <b>0.0039</b> ~0.0047 | -                                 | ★<br>390~ <b>590</b> ~820 | ☆<br>390~ <b>590</b> ~820 | ☆<br>390~ <b>590</b> ~820 | -                         |
| Alloy Steel                            | 0.0016~ <b>0.0024</b> ~0.0031 | 0.0024~ <b>0.0031</b> ~0.0039 | -                                 | ★<br>330~ <b>520</b> ~720 | ☆<br>330~ <b>520</b> ~720 | ☆<br>330~ <b>520</b> ~720 | -                         |
| Mold Steel                             | 0.0016~ <b>0.0024</b> ~0.0031 | 0.0024~ <b>0.0031</b> ~0.0039 | -                                 | ★<br>260~ <b>460</b> ~590 | ☆<br>260~ <b>460</b> ~590 | ☆<br>260~ <b>460</b> ~590 | -                         |
| Austenitic Stainless Steel             | 0.0012~ <b>0.0016</b> ~0.0020 | 0.0020~ <b>0.0024</b> ~0.0028 | -                                 | ★<br>330~ <b>520</b> ~660 | ☆<br>330~ <b>520</b> ~660 | ☆<br>330~ <b>520</b> ~660 | -                         |
| Martensitic Stainless Steel            | 0.0012~ <b>0.0016</b> ~0.0020 | 0.0020~ <b>0.0024</b> ~0.0039 | -                                 | -                         | ☆<br>490~ <b>660</b> ~820 | ☆<br>490~ <b>660</b> ~820 | ★<br>590~ <b>790</b> ~980 |
| Precipitation Hardened Stainless Steel | 0.0012~ <b>0.0016</b> ~0.0020 | 0.0020~ <b>0.0024</b> ~0.0039 | -                                 | -                         | ★<br>300~ <b>390</b> ~490 | ★<br>300~ <b>390</b> ~490 | -                         |
| Gray Cast Iron                         | 0.0016~ <b>0.0031</b> ~0.0039 | 0.0031~ <b>0.0039</b> ~0.0059 | ★<br>390~ <b>590</b> ~820         | -                         | -                         | -                         | -                         |
| Nodular Cast Iron                      | 0.0016~ <b>0.0024</b> ~0.0031 | 0.0031~ <b>0.0039</b> ~0.0047 | ★<br>330~ <b>490</b> ~660         | -                         | -                         | -                         | -                         |
| Ni-base Heat-Resistant Alloy           | 0.0012~ <b>0.0016</b> ~0.0020 | 0.0020~ <b>0.0024</b> ~0.0028 | -                                 | -                         | ☆<br>70~ <b>100</b> ~160  | ☆<br>70~ <b>100</b> ~160  | ★<br>70~ <b>100</b> ~160  |
| Titanium Alloys                        | 0.0016~ <b>0.0024</b> ~0.0031 | 0.0031~ <b>0.0039</b> ~0.0047 | -                                 | -                         | ☆<br>130~ <b>200</b> ~260 | ☆<br>130~ <b>200</b> ~260 | -                         |

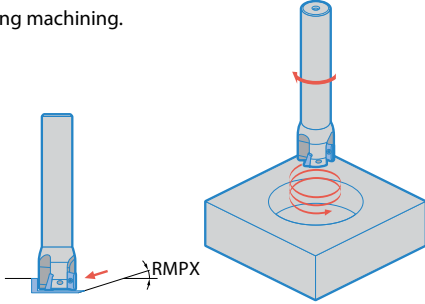
\* Bold numbers in the graph indicate the most recommended value of feed (fz) Adjust cutting speed and feed rate according to the actual machining conditions

\* Machining with coolant is recommended for Ni-base heat-resistant alloy and titanium alloys

★ : 1st Recommendation

☆ : 2nd Recommendation

## Ramping / Helical Milling / Plunging

| Ramping / Helical Milling                                                                                                                                                                                                                   |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|---------------------------|---------------|-----------|-----------------|-------|------|-----------------------|----|----------------|----|--------------|------|----------------|----|-------|------|----------------|------|-------|------|----------------|------|-------|------|
| <ul style="list-style-type: none"> <li>● Ramping Angle should be Under RMPX</li> <li>● For plunge depth per revolution when helical milling, see the cutting performance data of each tool. Use compressed air during machining.</li> </ul> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
|                                                                                                                                                          |                    | <table> <tr> <th>Cutting Dia.</th><th>Applicable Inserts</th><th>Max. Ramping Angle (RMPX)</th></tr> <tr> <td>Ø0.375", Ø8mm</td><td rowspan="11">BDMT 0703</td><td>Not Recommended</td></tr> <tr> <td>Ø10mm</td><td>1.5°</td></tr> <tr> <td>Ø0.500", Ø12mm, Ø14mm</td><td>2°</td></tr> <tr> <td>Ø0.625", Ø16mm</td><td>3°</td></tr> <tr> <td>Ø17mm, Ø18mm</td><td>1.5°</td></tr> <tr> <td>Ø0.750", Ø20mm</td><td>2°</td></tr> <tr> <td>Ø21mm</td><td>1.8°</td></tr> <tr> <td>Ø1.000", Ø25mm</td><td>1.3°</td></tr> <tr> <td>Ø26mm</td><td>1.2°</td></tr> <tr> <td>Ø1.250", Ø32mm</td><td>0.8°</td></tr> <tr> <td>Ø33mm</td><td>0.5°</td></tr> </table> | Cutting Dia. | Applicable Inserts | Max. Ramping Angle (RMPX) | Ø0.375", Ø8mm | BDMT 0703 | Not Recommended | Ø10mm | 1.5° | Ø0.500", Ø12mm, Ø14mm | 2° | Ø0.625", Ø16mm | 3° | Ø17mm, Ø18mm | 1.5° | Ø0.750", Ø20mm | 2° | Ø21mm | 1.8° | Ø1.000", Ø25mm | 1.3° | Ø26mm | 1.2° | Ø1.250", Ø32mm | 0.8° | Ø33mm | 0.5° |
| Cutting Dia.                                                                                                                                                                                                                                | Applicable Inserts | Max. Ramping Angle (RMPX)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø0.375", Ø8mm                                                                                                                                                                                                                               | BDMT 0703          | Not Recommended                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø10mm                                                                                                                                                                                                                                       |                    | 1.5°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø0.500", Ø12mm, Ø14mm                                                                                                                                                                                                                       |                    | 2°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø0.625", Ø16mm                                                                                                                                                                                                                              |                    | 3°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø17mm, Ø18mm                                                                                                                                                                                                                                |                    | 1.5°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø0.750", Ø20mm                                                                                                                                                                                                                              |                    | 2°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø21mm                                                                                                                                                                                                                                       |                    | 1.8°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø1.000", Ø25mm                                                                                                                                                                                                                              |                    | 1.3°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø26mm                                                                                                                                                                                                                                       |                    | 1.2°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø1.250", Ø32mm                                                                                                                                                                                                                              |                    | 0.8°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |
| Ø33mm                                                                                                                                                                                                                                       |                    | 0.5°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                    |                           |               |           |                 |       |      |                       |    |                |    |              |      |                |    |       |      |                |      |       |      |                |      |       |      |

## Minimum Cutting Diameter for Helical Milling

| MECX          | Cutting Dia.                      | Ø0.375" | Ø0.500" | Ø0.625" | Ø0.750" | Ø8mm                                 | Ø10mm | Ø12mm | Ø14mm | Ø16mm | Ø17mm | Ø18mm | Ø20mm |
|---------------|-----------------------------------|---------|---------|---------|---------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| BDMT0703 Type | Min. Cutting Dia.                 | Ø0.512" | Ø0.748" | Ø0.984" | Ø1.260" | Not recommended for helical milling. | Ø14mm | Ø18mm | Ø22mm | Ø26mm | Ø28mm | Ø30mm | Ø34mm |
|               | Min. Cutting Dia. for Flat Bottom | Ø0.630" | Ø0.866" | Ø1.142" | Ø1.378" |                                      | Ø17mm | Ø21mm | Ø25mm | Ø29mm | Ø31mm | Ø33mm | Ø37mm |
| MECX          | Cutting Dia.                      | Ø1.000" | Ø1.250" | Ø21mm   | Ø25mm   | Ø26mm                                | Ø32mm | Ø33mm |       |       |       |       |       |
| BDMT0703 Type | Min. Cutting Dia.                 | Ø1.732" | Ø2.244" | Ø36mm   | Ø44mm   | Ø46mm                                | Ø58mm | Ø60mm |       |       |       |       |       |
|               | Min. Cutting Dia. for Flat Bottom | Ø1.890" | Ø2.362" | Ø39mm   | Ø47mm   | Ø49mm                                | Ø61mm | Ø63mm |       |       |       |       |       |

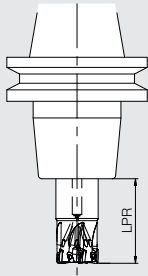
# Cutting Performance of MECX

## MECX End Mill

(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

| Cutting Dia.     | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |       |
|------------------|-----------------------------------------|--------------------------|-------|
| Ø8mm             | MECX08-S10-07-1T                        | 0.630                    | -     |
| Ø0.375"<br>Ø10mm | MECX0375-S375-07-1T<br>MECX10-S10-07-1T | 0.670                    | -     |
| Ø0.500"<br>Ø12mm | MECX0500-S500-07-2T<br>MECX12-S12-07-2T | 0.709                    | 1.180 |
| Ø0.625"<br>Ø16mm | MECX0625-S625-07-3T<br>MECX16-S16-07-3T | 0.787                    | 1.570 |
| Ø0.750"<br>Ø20mm | MECX0750-S750-07-4T<br>MECX20-S20-07-4T | 0.787                    | 1.570 |
| Ø1.000"<br>Ø25mm | MECX1000-S100-07-5T<br>MECX25-S25-07-5T | 1.000                    | 1.970 |
| Ø1.250"<br>Ø32mm | MECX1250-S125-07-6T<br>MECX32-S32-07-6T | 1.180                    | 1.970 |

Shape



- Machining with extended overhang length is not recommended for Ø0.315" and Ø0.394".
- The cutting performance list shows applicable range of JT Chipbreaker (PR830) with Standard flute-number type.  
For Multi-Edge type, use with 70% or less of D.O.C..

- Cutting conditions of JS Chipbreaker

(1) For MECX0375~MECX0500 / MECX08~MECX12

Decrease the feed rate by 25% according to cutting capability list.

(2) For MECX 0625 / MECX16 and over

Decrease the feed rate and D.O.C. by 30% according to cutting capability list.

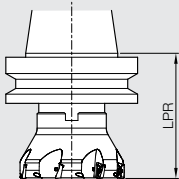
| Part Number                             | Shouldering<br>(Cutting Width ae = DC/2) | Slotting<br>Ramping, Helical Milling |
|-----------------------------------------|------------------------------------------|--------------------------------------|
| MECX08-S10-07-1T                        |                                          |                                      |
| MECX0375-S375-07-1T<br>MECX10-S10-07-1T |                                          |                                      |
| MECX0500-S500-07-2T<br>MECX12-S12-07-2T |                                          |                                      |
| MECX0625-S625-07-3T<br>MECX16-S16-07-3T |                                          |                                      |
| MECX0750-S750-07-4T<br>MECX20-S20-07-4T |                                          |                                      |
| MECX1000-S100-07-5T<br>MECX25-S25-07-5T |                                          |                                      |
| MECX1250-S125-07-6T<br>MECX32-S32-07-6T |                                          |                                      |

## MECX Face Mill

(JT Chipbreaker Vc = 400 sfm Workpiece :1049)

| Cutting Dia.     | Part Number<br>Inch Size<br>Metric Size | Overhang Length LPR (in) |
|------------------|-----------------------------------------|--------------------------|
| Ø1.250"<br>Ø32mm | MECX1250R-07-8T<br>MECX032R-07-8T-M     | 3.937                    |
| Ø1.500"<br>Ø40mm | MECX1500R-07-10T<br>MECX040R-07-10T-M   |                          |
| Ø2.000"<br>Ø50mm | MECX2000R-07-12T<br>MECX050R-07-12T-M   |                          |
| Ø2.500"<br>Ø63mm | MECX2500R-07-14T<br>MECX063R-07-14T-M   |                          |

Shape



| Part Number                           | Shouldering<br>(Cutting Width ae = DC/2) |
|---------------------------------------|------------------------------------------|
| MECX1250R-07-8T<br>MECX032R-07-8T-M   |                                          |
| MECX1500R-07-10T<br>MECX040R-07-10T-M |                                          |
| MECX2000R-07-12T<br>MECX050R-07-12T-M |                                          |
| MECX2500R-07-14T<br>MECX063R-07-14T-M |                                          |

Not recommended for slotting



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