# PRODUCT NEWS

PN-E-020

SERIES EXPANSION

DIJET®

# SIC-EVO

THE EVOLUTION OF
HIGH PERFORMANCE SHOULDER MILLING


進化した。

## SIC-EVO

**Indexable End Mill SSV type**

**QM Mill φ10 - φ32**
**QM Max φ16 - φ42**

**SSV type**

| | |
|---|---|
| ■Facemill | **φ40 - φ125** |
| ■Modular head | **φ25 - φ40** |
| ■End Mill | **φ25 - φ40** |

**DIJET GmbH** **www.dijet.de**

# 進化した。SIC-EVO

## Indexable End Mill SSV type

Multi functional indexable cutter
"SIC-EVO" achieved
high efficient and stable shoulder milling.

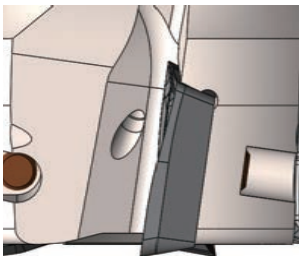
**Feature 1**

Max. depth of cut (ap)=15mm is possible.
SIC-EVO is usable for wide applications
such as face milling, slotting, pocket milling.

**Arc geometry on the periphery cutting edge**

**Cusp height can be smaller even in case of large ap and achieved high efficient & high precision machining for vertical wall**

**Applicable to various milling, such as ramping and helical machining**



**High positive geometry with low cutting force**

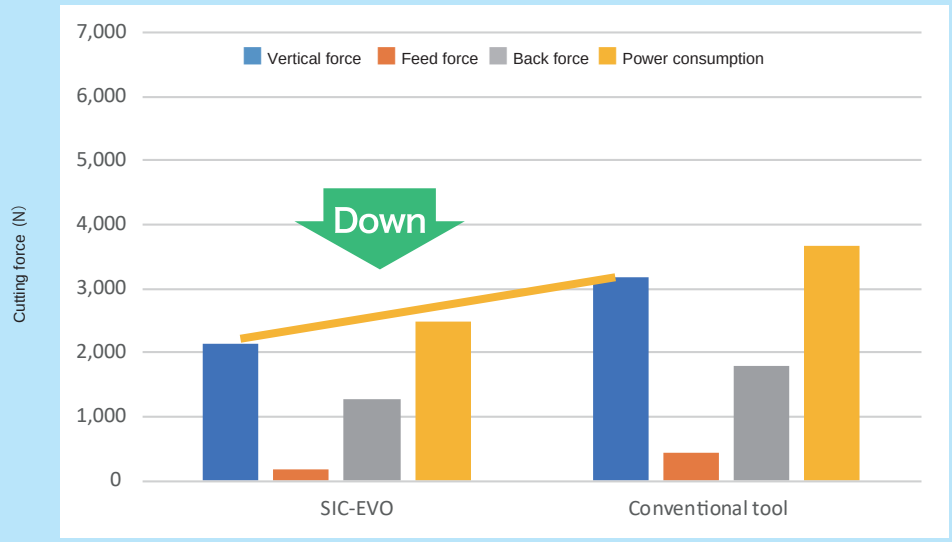
**Feature 2**

Conner radius, R0.4, R0.8, R1.6, R2.0 and R3.0 are available

## Application

| ISO | P | | | | | M | | | | | K | | | | H | | | N | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | P01 | P10 | P20 | P30 | P40 | M01 | M10 | M20 | M30 | M40 | K01 | K10 | K20 | K30 | H01 | H10 | H20 | N01 | N10 | N20 | N30 |
| Applicable range | | JC8118 | | | | | | JC8118 | | | | JC8118 | | | | JC8118 | | | | | |
| | | | | JC8050 | | | | | | JC8050 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | NEW FC18 | | |

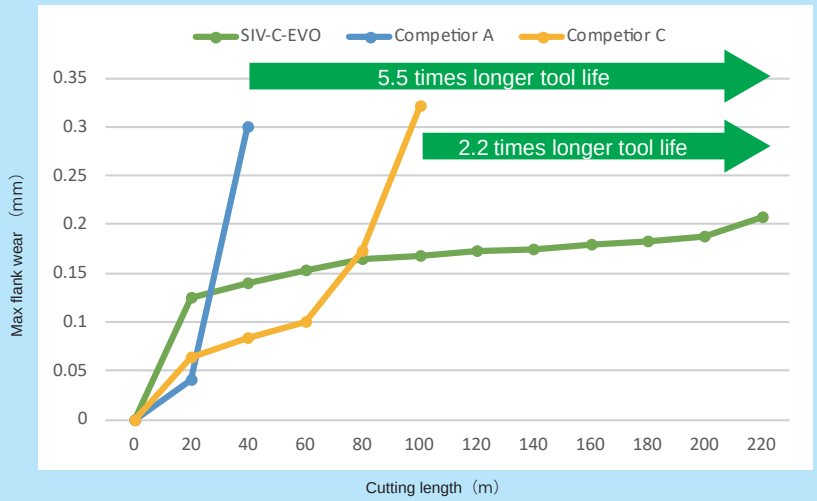
## Cutting force comparison



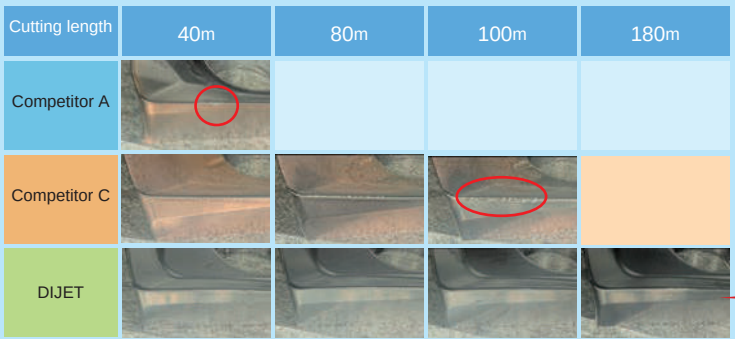

Material ：1.1213
●Tool dia.：ϕ25
● Cutting conditions：
Vc=200m/min, fz=0.1mm/t
ap=15mm, ae=1mm
Test by one insert
Down cut、
Air blow (internal)

**Achieved low cutting force**

## Tool life comparison




Material ：1.2311
●Tool dia.：ϕ25
● Cutting conditions：
Vc=150m/min, fz=0.3mm/t
ap=14mm, ae=1mm
Test by one insert
Down cut、
Air blow (internal)

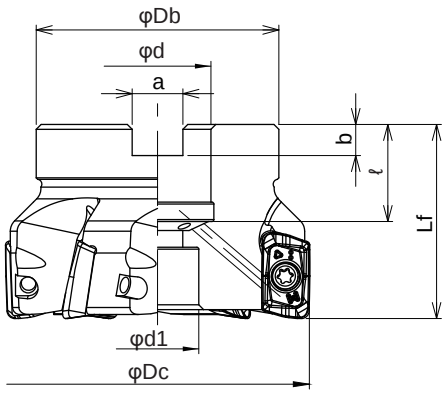



Possible to stable roughing!

# Line up


## Facemill type

● Through coolant hole




| Type | Cat. No. | Stock | No. of inserts | Dimensions φDc | Lf | φDb | φd | φd1 | a | b | ℓ | Set bolt | | Weight (kg) | Applicable Inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Metric Bore | SSV-4040R-16 | ● | 4 | 40 | 40 | 35 | 16 | 14 | 8.4 | 5.6 | 18 | M8 | Head cap screw (JIS Standard) | 0.20 | ZOMT1605**ZER-PM ZOET1605**ZFR-NL |
| | SSV-5050R-22 | ● | 5 | 50 | 40 | 47 | 22 | 16 | 10.4 | 6.3 | 20 | M10 | | 0.33 | |
| | SSV-6063R-22 | ● | 6 | 63 | 40 | 50 | 22 | 17 | 10.4 | 6.3 | 20 | M10 | | 0.52 | |
| | SSV-6063R-27 | ● | 6 | 63 | 50 | 60 | 27 | 20 | 12.4 | 7 | 22 | M12×1.75×30★ | | 0.75 | |
| | SSV-7080R-27 | ● | 7 | 80 | 50 | 60 | 27 | 20 | 12.4 | 7 | 22 | M12×1.75×30★ | | 1.08 | |
| | SSV-8100R-32 | ● | 8 | 100 | 50 | 85 | 32 | 26 | 14.4 | 8 | 25 | M16×2×30★ | | 1.95 | |
| | SSV-8125R-40 | ● | 8 | 125 | 63 | 100 | 40 | 32 | 16.4 | 9 | 32 | M20×2.5×40★ | | 3.73 | |

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. ★ mark shows :these cutter bodies are equipped with the set bolt because of the specified bolt size.
Except for these cutter bodies, please use the set bolt equipped with arbor.

| Parts | |
|---|---|
| Clamp screw | Wrench (not be included) |
|  |  |
| DSW-4075H | A-15T |

| Clamp screw | Recommended torque (N·m) |
|---|---|
| DSW-4075H | 3.6 |

Please scan the QR code for recommended cutting conditions



● : Standard stock items □ : Stock in Japan ◎ : Soon be stocked


## Endmill type

● Without coolant hole

Fig.1

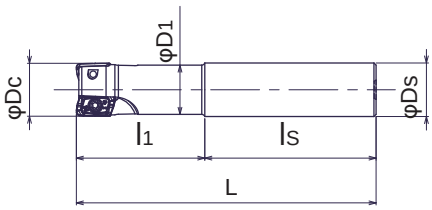
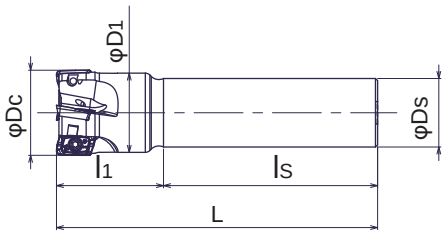
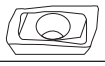



Fig.2




| Cat. No. | Stock | No. of inserts | Dimensions | | | | | | Flg. | Applicable Inserts | Parts |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | φDc | ℓ1 | ℓs | L | φD1 | φDs | | | Wrench |
| | | | | | | | | | |  |  |
| SSV-2025-60-S25+A | ● | 2 | 25 | 60 | 80 | 140 | 23 | 25 | 1 | ZOMT1605**ZER-PM<br>ZOET1605**ZFR-NL | A-15 |
| SSV-2025-100-S25+A | ● | 2 | 25 | 100 | 80 | 180 | 23 | 25 | 1 | | |
| SSV-3032-70-S32+A | ● | 3 | 32 | 70 | 80 | 150 | 29 | 32 | 1 | | |
| SSV-3032-120-S32+A | ● | 3 | 32 | 120 | 80 | 200 | 29 | 32 | 1 | | |
| SSV-4040-50-S32+A | ● | 4 | 40 | 50 | 100 | 150 | 37 | 32 | 2 | | |
| SSV-4040-50L-S32+A | ● | 4 | 40 | 50 | 150 | 200 | 37 | 32 | 2 | | |

Note)1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.

| Parts |
|---|
| Clamp screw |
|  |
| DSW-4075H |

| Clamp screw | Recommended torque (N·m) |
|---|---|
| DSW-4075H | 3.6 |

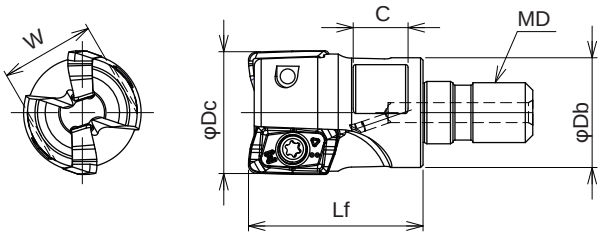
Please scan the QR code for recommended cutting conditions

● : Standard stock items □ : Stock in Japan ◎ : Soon be stocked

# Line up


## Modular head type

● Through coolant hole




| Cat. No. | Stock | No. of inserts | Dimensions | | | | | | Applicable Inserts |
|---|---|---|---|---|---|---|---|---|---|
| | | | φDc | Lf | φDb | MD | C | W |  |
| SSV-2025-M12 | ● | 2 | 25 | 35 | 22 | M12 | 11 | 19 | ZOMT1605**ZER-PM<br>ZOET1605**ZFR-NL |
| SSV-3032-M16 | ● | 3 | 32 | 43 | 29 | M16 | 12 | 22 | |
| SSV-3035-M16 | □ | 3 | 35 | 43 | 29 | M16 | 12 | 22 | |
| SSV-4040-M16 | ● | 4 | 40 | 43 | 29 | M16 | 12 | 22 | |

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.

| Parts | |
|---|---|
| Clamp screw | Wrench (not be included) |
|  |  |
| DSW-4075H | A-15 |

| Clamp screw | Recommended torque (N·m) |
|---|---|
| DSW-4075H | 3.6 |

Please scan the QR code for recommended cutting conditions

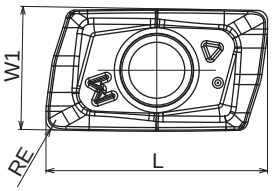


● : Standard stock items □ : Stock in Japan ◎ : Soon be stocked

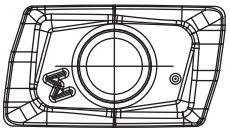
## Inserts

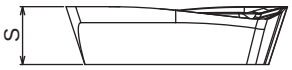
for steel

JC8050

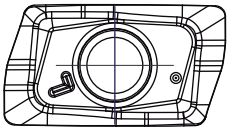



JC8118






for aluminum alloy

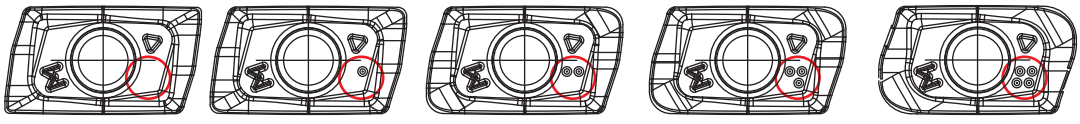


| Cat. No. | Tolerance | PVD Coated | | Un-Coated | Dimensions | | | |
|---|---|---|---|---|---|---|---|---|
| | | JC8118 | JC8050 | FC18 | L | W1 | S | RE |
| ZOMT160504ZER-PM | M | ● | ● | | 18 | 10 | 4.7 | 0.4 |
| ZOMT160508ZER-PM | M | ● | ● | | 18 | 10 | 4.7 | 0.8 |
| ZOMT160516ZER-PM | M | ● | ● | | 18 | 10 | 4.7 | 1.6 |
| ZOMT160520ZER-PM | M | ● | ● | | 18 | 10 | 4.7 | 2.0 |
| ZOMT160530ZER-PM | M | ● | ● | | 18 | 10 | 4.7 | 3.0 |
| NEW ZOET160508ZFR-NL | E | | | ● | 18 | 10 | 4.7 | 0.8 |

Note) 10 inserts per case.

### Discrimination of corner radius for insert.

Each corner radius shows discriminaition mark on the insert surface.

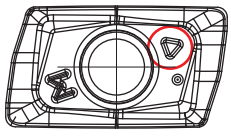


Z0MT160504ZER-PM　Z0MT160508ZER-PM　Z0MT160516ZER-PM　Z0MT160520ZER-PM　Z0MT160530ZER-PM

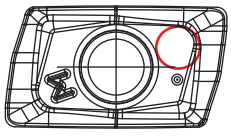
### Discrimination of grade for insert.

Each grade shows discriminaition mark on the insert surface.

JC8050



JC8118

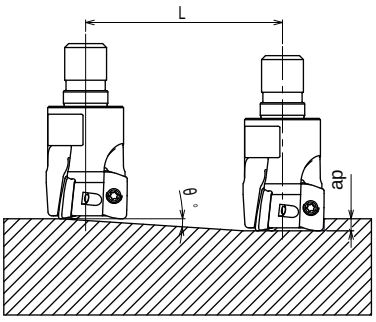


Discrimination mark of insert grade

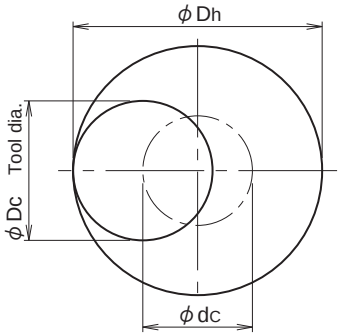
● : Standard stock items　□ : Stock in Japan　◎ : Soon be stocked

## Attention for profile milling

### Ramping




### Helical interpolation




**● Calculation of tool pass dia.**

$$\phi dc = \phi Dh - \phi Dc$$

Tool pass dia. — Bore dia. — Tool dia.

●Depth of cut per one circuit should not exceed max. depth of cut ap.

●Down cutting is recommended, so tool pass rotation should be counterclockwise.

◎In case of ramping and helical interpolation, apply 80% or less feed speed from standard cutting condition table.

◎In case of drillimg, apply 50% or less Z axis feed speed from standard cutting condition.

◎In case of helical interpolation, recommend wet cutting by coolant through the tool.

◎Long consecutive chips may come out in case of drilling, confirm the safe condition sufficiently.

### ZOMT160504ZER-PM

| Cat. No. | Tool dia. (mm) | Eff. Cutting dia. (mm) | Max. depth of cut (mm) | Ramping | | Helical interpolation | | Max. drilling depth(mm) |
|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ° | Total cutting length at Max. ap | Min. bore dia. Dh min (mm) | Max. bore dia. Dh max (mm) | |
| SSV-2025-** | 25 | 23.9 | 1.5 | 6.2 | 13.8 | 30 | 48.4 | 1.6 |
| SSV-3032-** | 32 | 30.9 | 1.5 | 4.4 | 19.5 | 44 | 62.4 | 1.6 |
| SSV-3035-M16 | 35 | 33.9 | 1.5 | 4.3 | 19.9 | 50 | 68.4 | 1.6 |
| SSV-4040-** | 40 | 38.9 | 1.5 | 3.6 | 23.8 | 60 | 78.4 | 1.6 |
| SSV-5050R-** | 50 | 48.9 | 1.5 | 2.4 | 35.8 | 80 | 98.4 | 1.4 |
| SSV-6063R-** | 63 | 61.9 | 1.5 | 1.7 | 50.5 | 106 | 124.4 | 1.4 |
| SSV-7080R-** | 80 | 78.9 | 1.5 | 1.2 | 71.6 | 140 | 158.4 | 1.4 |
| SSV-8100R-** | 100 | 98.9 | 1.5 | 0.9 | 95.5 | 180 | 198.4 | 1.4 |
| SSV-8125R-** | 125 | 123.9 | 1.5 | 0.65 | 132.2 | 230 | 248.4 | 1.4 |

### ZOMT160508ZER-PM

| Cat. No. | Tool dia. (mm) | Eff. Cutting dia. (mm) | Max. depth of cut (mm) | Ramping | | Helical interpolation | | Max. drilling depth(mm) |
|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ° | Total cutting length at Max. ap | Min. bore dia. Dh min (mm) | Max. bore dia. Dh max (mm) | |
| SSV-2025-** | 25 | 23.1 | 1.5 | 6.4 | 13.4 | 30 | 47.6 | 1.6 |
| SSV-3032-** | 32 | 30.1 | 1.5 | 4.4 | 19.5 | 44 | 61.6 | 1.6 |
| SSV-3035-M16 | 35 | 33.1 | 1.5 | 4.3 | 19.9 | 50 | 67.6 | 1.6 |
| SSV-4040-** | 40 | 38.1 | 1.5 | 3.6 | 23.8 | 60 | 77.6 | 1.6 |
| SSV-5050R-** | 50 | 48.1 | 1.5 | 2.4 | 35.8 | 80 | 97.6 | 1.4 |
| SSV-6063R-** | 63 | 61.1 | 1.5 | 1.7 | 50.5 | 106 | 123.6 | 1.4 |
| SSV-7080R-** | 80 | 78.1 | 1.5 | 1.2 | 71.6 | 140 | 157.6 | 1.4 |
| SSV-8100R-** | 100 | 98.1 | 1.5 | 0.9 | 95.5 | 180 | 197.6 | 1.4 |
| SSV-8125R-** | 125 | 123.1 | 1.5 | 0.65 | 132.2 | 230 | 247.6 | 1.4 |

## ZOMT160516ZER-PM

| Cat. No. | Tool dia. (mm) | Eff. Cutting dia. (mm) | Max. depth of cut (mm) | Ramping | | Helical interpolation | | Max. drilling depth(mm) |
|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ° | Total cutting length at Max. ap | Min. bore dia. Dh min (mm) | Max. bore dia. Dh max (mm) | |
| SSV-2025-** | 25 | 21.5 | 1.5 | 6.7 | 12.8 | 28 | 46 | 1.5 |
| SSV-3032-** | 32 | 28.5 | 1.5 | 4.7 | 18.2 | 42 | 60 | 1.5 |
| SSV-3035-M16 | 35 | 31.5 | 1.5 | 4.6 | 18.6 | 48 | 66 | 1.5 |
| SSV-4040-** | 40 | 36.5 | 1.5 | 3.8 | 22.6 | 58 | 76 | 1.5 |
| SSV-5050R-** | 50 | 46.5 | 1.5 | 2.5 | 34.4 | 78 | 96 | 1.4 |
| SSV-6063R-** | 63 | 59.5 | 1.5 | 1.8 | 47.7 | 104 | 122 | 1.4 |
| SSV-7080R-** | 80 | 76.5 | 1.5 | 1.2 | 71.6 | 138 | 156 | 1.4 |
| SSV-8100R-** | 100 | 96.5 | 1.5 | 0.9 | 95.5 | 178 | 196 | 1.4 |
| SSV-8125R-** | 125 | 121.5 | 1.5 | 0.65 | 132.2 | 228 | 246 | 1.4 |

## ZOMT160520ZER-PM

| Cat. No. | Tool dia. (mm) | Eff. Cutting dia. (mm) | Max. depth of cut (mm) | Ramping | | Helical interpolation | | Max. drilling depth(mm) |
|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ° | Total cutting length at Max. ap | Min. bore dia. Dh min (mm) | Max. bore dia. Dh max (mm) | |
| SSV-2025-** | 25 | 20.7 | 1.5 | 6.9 | 12.4 | 27 | 45.2 | 1.5 |
| SSV-3032-** | 32 | 27.7 | 1.5 | 4.7 | 18.2 | 41 | 59.2 | 1.5 |
| SSV-3035-M16 | 35 | 30.7 | 1.5 | 4.6 | 18.6 | 47 | 65.2 | 1.5 |
| SSV-4040-** | 40 | 35.7 | 1.5 | 3.8 | 22.6 | 57 | 75.2 | 1.5 |
| SSV-5050R-** | 50 | 45.7 | 1.5 | 2.5 | 34.4 | 77 | 95.2 | 1.4 |
| SSV-6063R-** | 63 | 58.7 | 1.5 | 1.8 | 47.7 | 103 | 121.2 | 1.4 |
| SSV-7080R-** | 80 | 75.7 | 1.5 | 1.2 | 71.6 | 137 | 155.2 | 1.4 |
| SSV-8100R-** | 100 | 95.7 | 1.5 | 0.9 | 95.5 | 177 | 195.2 | 1.4 |
| SSV-8125R-** | 125 | 120.7 | 1.5 | 0.65 | 132.2 | 227 | 245.2 | 1.4 |

## ZOMT160530ZER-PM

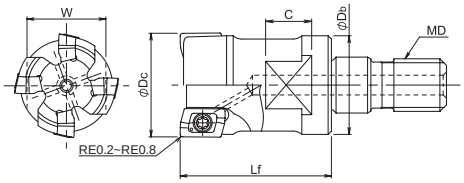
| Cat. No. | Tool dia. (mm) | Eff. Cutting dia. (mm) | Max. depth of cut (mm) | Ramping | | Helical interpolation | | Max. drilling depth(mm) |
|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ° | Total cutting length at Max. ap | Min. bore dia. Dh min (mm) | Max. bore dia. Dh max (mm) | |
| SSV-2025-** | 25 | 18.7 | 1.5 | 7.2 | 11.9 | 25 | 43.2 | 1.5 |
| SSV-3032-** | 32 | 25.7 | 1.5 | 4.8 | 17.9 | 39 | 57.2 | 1.5 |
| SSV-3035-M16 | 35 | 28.7 | 1.5 | 4.7 | 18.2 | 45 | 63.2 | 1.5 |
| SSV-4040-** | 40 | 33.7 | 1.5 | 3.9 | 22.0 | 55 | 73.2 | 1.5 |
| SSV-5050R-** | 50 | 43.7 | 1.5 | 2.5 | 34.4 | 75 | 93.2 | 1.4 |
| SSV-6063R-** | 63 | 56.7 | 1.5 | 1.8 | 47.7 | 101 | 119.2 | 1.4 |
| SSV-7080R-** | 80 | 73.7 | 1.5 | 1.3 | 66.1 | 135 | 153.2 | 1.4 |
| SSV-8100R-** | 100 | 93.7 | 1.5 | 0.95 | 90.5 | 175 | 193.2 | 1.4 |
| SSV-8125R-** | 125 | 118.7 | 1.5 | 0.65 | 132.2 | 225 | 243.2 | 1.4 |

QM Quick & Mini
"QM MILL"

## ■Modular head MPM type

G-Body

Through coolant hole




■Parts

| Clamp screw | Wrench (Not be included) |
|---|---|
| DSW-1840H | A-06 |

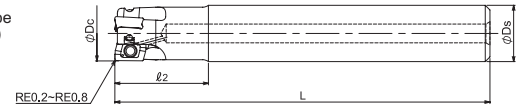
| Clamp screw | Recommended torque |
|---|---|
| DSW-1840H | 0.4 |

| Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | | Applicable inserts |
|---|---|---|---|---|---|---|---|---|---|
| | | | φDc | Lf | φDb | MD | C | W | |
| MPM-2010-M6 | ● | 2 | 10 | 18 | 9.5 | M6 | 6.5 | 8 | ZOMT0602**ZER-PL |
| MPM-2011-M6 | ● | | 11 | | 9.7 | M6 | | | |
| MPM-3012-M6 | ● | 3 | 12 | 20 | 11.2 | M6 | | | |
| MPM-3013-M6 | ● | | 13 | | 11.5 | M6 | | | |
| MPM-3015-M8 | □ | | 15 | 23 | 14 | M8 | 8 | 12 | |
| MPM-4016-M8 | ● | 4 | 16 | | 15 | M8 | | | |
| MPM-4017-M8 | ● | | 17 | | | M8 | | | |
| MPM-4018-M8 | □ | | 18 | | | M8 | | | |
| MPM-5020-M10 | ● | 5 | 20 | 30 | 19 | M10 | 9 | 14 | |
| MPM-5021-M10 | ● | | 21 | | | M10 | | | |
| MPM-6025-M12 | ● | 6 | 25 | 35 | 23.6 | M12 | 10 | 17 | |
| MPM-7030-M16 | ● | 7 | 30 | 43 | 29 | M16 | 12 | 22 | |
| MPM-8032-M16 | ● | 8 | 32 | | | M16 | | | |

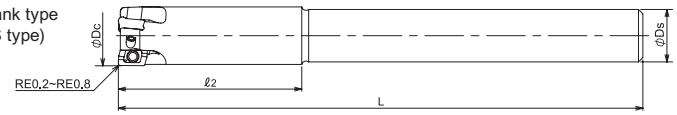
## ■END mill type

Through coolant hole

●Regular type (PME type)



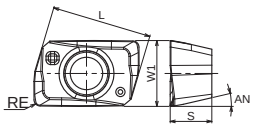

●Long shank type (PME-LS type)




| Type | Cat. No. | Stock | No. of inserts | Dimensions (mm) | | | | | Applicable inserts |
|---|---|---|---|---|---|---|---|---|---|
| | | | | φDc | ℓ2 | L | φD1 | φDs | |
| Regular type | PME2010S10 | ● | 2 | 10 | 20 | 80 | 9.3 | 10 | ZOMT0602**ZER-PL |
| | PME3012S12 | ● | 3 | 12 | | | 10.3 | 12 | |
| | PME3014S12 | ● | | 14 | | | 11.2 | | |
| Long shank type | PME2011S10-LS | ● | 2 | 11 | 33 | 120 | 12.2 | 10 | |
| | PME3013S12-LS | ● | 3 | 13 | 39 | | 13.15 | 12 | |
| | PME3014S12-LS | ● | | 14 | 42 | | | | |

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.

Shoulder milling insert for steel （ZOMT0602＊＊ZER-PL）




recommended cutting conditions

QM mill

QM max

## ■Inserts

| Cat. No. | Tolerance | JC8050 | JC8118 | Dimensions (mm) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | RE | L | W1 | S | AN |
| ZOMT060202ZER-PL | M | ● | ● | 0.2 | 6.62 | 4.3 | 2.7 | 13° |
| ZOMT060204ZER-PL | | ● | ● | 0.4 | 6.62 | 4.3 | 2.7 | 13° |
| ZOMT060208ZER-PL | | ● | ● | 0.8 | 6.62 | 4.3 | 2.7 | 13° |

Note) 10 inserts per case.



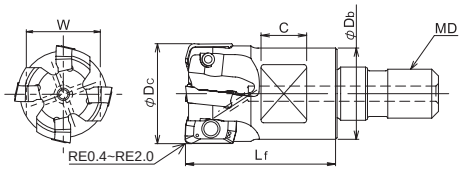
● : Standard stock items　□ : Stock in Japan　◎ : Soon be stocked

# QM Quick & Mini "QM MAX"

## ■Modular head MQX type

**G-Body**

Through coolant hole

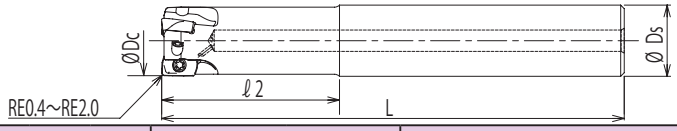



| Clamp screw | Recommended torque |
|---|---|
| TSW-2556H | 1.1 |
| DSW-2563H | |

| Cat. No. | Stock | No.of inserts | Dimensions (mm) | | | | | | Parts | | Applicable inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | φDc | Lf | φDb | MD | C | W | Clamp screw | Wrench (Not be included) | |
| MQX-2016-M8 | ● | 2 | 16 | 23 | 14 | M8 | 8 | 12 | TSW-2556H | A-08 | ZPMT1003**ZER-NL<br>ZPMT1003**ZER-PL<br>ZPMT1003**ZER-SL |
| MQX-2017-M8 | ● | | 17 | | | M8 | | | | | |
| MQX-3020-M10 | ● | 3 | 20 | 30 | 18 | M10 | 9 | 14 | | | |
| MQX-4020-M10 | ● | 4 | | | | M10 | | | | | |
| MQX-4021-M10 | ● | | 21 | | | M10 | | | | | |
| MQX-4025-M12 | ● | | 25 | 35 | 22.5 | M12 | 10 | 17 | DSW-2563H | | |
| MQX-5025-M12 | ● | 5 | | | | M12 | | | | | |
| MQX-4026-M12 | □ | 4 | 26 | | | M12 | | | | | |
| MQX-5026-M12 | ● | 5 | | | | M12 | | | | | |
| MQX-5028-M12 | □ | | 28 | | 23.6 | M12 | | | | | |
| MQX-5030-M16 | □ | | 30 | 43 | 27 | M16 | 12 | 22 | | | |
| MQX-5032-M16 | ● | | 32 | | 29 | M16 | | | | | |
| MQX-6032-M16 | ● | 6 | | | | M16 | | | | | |
| MQX-5035-M16 | ● | 5 | 35 | | | M16 | | | | | |
| MQX-6035-M16 | ● | 6 | | | | M16 | | | | | |
| MQX-6040-M16 | ● | | 40 | | 32 | M16 | 14 | 26 | | | |
| MQX-7040-M16 | ● | 7 | | | | M16 | | | | | |
| MQX-6042-M16 | ● | 6 | 42 | | | M16 | | | | | |

## ■END mill type

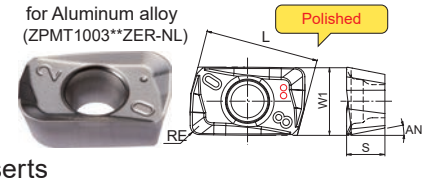
Through coolant hole



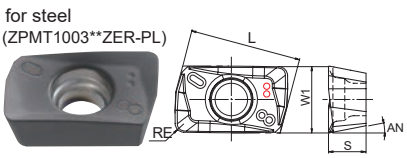

| Cat. No. | Stock | No.of inserts | Dimensions (mm) | | | | Parts | | Applicable inserts |
|---|---|---|---|---|---|---|---|---|---|
| | | | φDc | ℓ2 | L | φDs | Clamp screw | Wrench (Not be included) | |
| QXPS2016S16+A | ● | 2 | 16 | 30 | 100 | 16 | TSW-2556H | A-08 | ZPMT1003**ZER-NL<br>ZPMT1003**ZER-PL<br>ZPMT1003**ZER-SL |
| QXPS3020S20+A | ● | 3 | 20 | 50 | 130 | 20 | | | |
| QXPS4025S25+A | ● | 4 | 25 | 60 | 140 | 25 | DSW-2563H | | |

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.

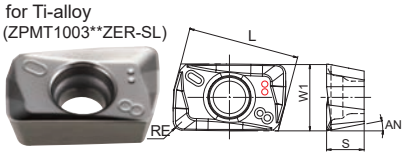
for Aluminum alloy (ZPMT1003**ZER-NL)




for steel (ZPMT1003**ZER-PL)




for Ti-alloy (ZPMT1003**ZER-SL)




## ■Inserts

| Type | Cat. No. | Tolerance | PVD coated | | | | | Uncoated | Cermet | Dimensions (mm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JC8118 | DH102 | JC7518 | JC8050 | DS118 | FC18 | CX75 | L | S | W1 | RE | AN |
| Shoulder milling insert for aluminium alloy | ZPMT100304ZER-NL | M | | | | | | ● | | 10.08 | 3.4 | 6 | 0.4 | 11° |
| | ZPMT100308ZER-NL | M | | | | | | ● | | 10.08 | 3.4 | 6 | 0.8 | 11° |
| | ZPMT100320ZER-NL | M | | | | | | ● | | 10.08 | 3.4 | 6 | 2.0 | 11° |
| Shoulder milling insert for steel | ZPMT100304ZER-PL | M | ● | ● | | ● | | | ● | 10.08 | 3.4 | 6 | 0.4 | 11° |
| | ZPMT100308ZER-PL | M | ● | ● | | ● | | | ● | 10.08 | 3.4 | 6 | 0.8 | 11° |
| | ZPMT100320ZER-PL | M | ● | ● | | ● | | | ● | 10.08 | 3.4 | 6 | 2.0 | 11° |
| Shoulder milling insert for Ti-alloy | ZPMT100304ZER-SL | M | | | ● | | ● | | | 10.08 | 3.4 | 6 | 0.4 | 11° |
| | ZPMT100308ZER-SL | M | | | ● | | ● | | | 10.08 | 3.4 | 6 | 0.8 | 11° |
| | ZPMT100320ZER-SL | M | | | ● | | ● | | | 10.08 | 3.4 | 6 | 2.0 | 11° |

Note) 10 inserts per case.

● : Standard stock items □ : Stock in Japan ◎ : Soon be stocked

ISO9001 JQA-2089 ISO14001 JQA-EM1580

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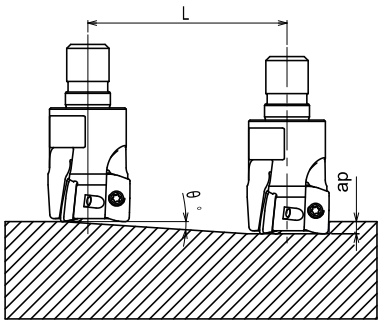
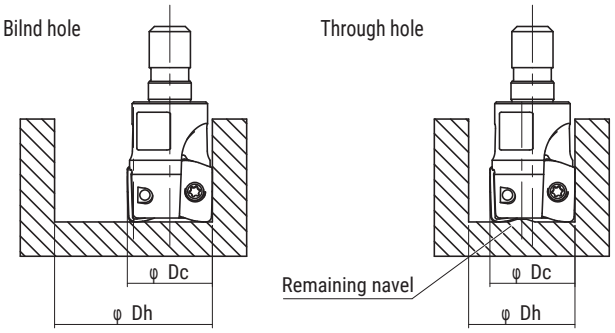
**Web : www.dijet.de**

## Recommended Data for Profile Milling

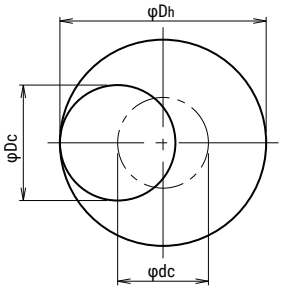
### Ramping




### Helical interpolation




- In case of ramping and helical interpolation, apply 80% or less feed (Vf) from standard cutting condition table
- In case of drilling , apply 50% or less feed (Vf) from standard cutting condition table
- In case of helical interpolation, recommend wet cutting by coolant through the tool
- Long chips may come out in case of drilling, confirm safe operating conditions




- Calculation of tool pass dia.

$$\varphi dc = \varphi Dh - \varphi Dc$$

Tool pass dia. Bore dia. Tool Dia.

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

## ZOMT160504ZER-PM

| Cat.No. | Tool dia. (mm) | Effective cutting dia. (mm) | Max.depth of cut：ap (mm) | Ramping | | Helical interpolation | | | Max. drilling depth: Z |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ | Max. depth of cut (ap) Total cutting length L(mm) | Through hole Min. Bore dia. (mm) | Blind hole Min. Bore dia. (mm) | Blind hole Max. Bore dia. (mm) | |
| SSV-2025-** | 25 | 23.9 | 1.5 | 6.2 | 13.8 | 31 | 48 | 48.8 | 1.6 |
| SSV-2028-M12 | 28 | 26.9 | 1.5 | 5.3 | 16.2 | 37 | 54 | 54.8 | 1.6 |
| SSV-3030-** | 30 | 28.9 | 1.5 | 4.8 | 17.9 | 41 | 58 | 58.8 | 1.6 |
| SSV-3032-** | 32 | 30.9 | 1.5 | 4.4 | 19.5 | 45 | 62 | 62.8 | 1.6 |
| SSV-3035-M16 | 35 | 33.9 | 1.5 | 4.3 | 19.9 | 51 | 68 | 68.8 | 1.6 |
| SSV-4040-** | 40 | 38.9 | 1.5 | 3.6 | 23.8 | 61 | 78 | 78.8 | 1.6 |
| SSV-5050R-** | 50 | 48.9 | 1.5 | 2.4 | 35.8 | 81 | 98 | 98.8 | 1.4 |
| SSV-6063R-** | 63 | 61.9 | 1.5 | 1.7 | 50.5 | 107 | 124 | 124.8 | 1.4 |
| SSV-7080R-** | 80 | 78.9 | 1.5 | 1.2 | 71.6 | 141 | 158 | 158.8 | 1.4 |
| SSV-8100R-** | 100 | 98.9 | 1.5 | 0.9 | 95.5 | 181 | 198 | 198.8 | 1.4 |
| SSV-8125R-** | 125 | 123.9 | 1.5 | 0.65 | 132.2 | 231 | 248 | 248.8 | 1.4 |

## ZOMT160508ZER-PM

| Cat.No. | Tool dia. (mm) | Effective cutting dia. (mm) | Max.depth of cut：ap (mm) | Ramping | | Helical interpolation | | | Max. drilling depth: Z |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ | Max. depth of cut (ap) Total cutting length L(mm) | Through hole Min. Bore dia. (mm) | Blind hole Min. Bore dia. (mm) | Blind hole Max. Bore dia. (mm) | |
| SSV-2025-** | 25 | 23.1 | 1.5 | 6.4 | 13.4 | 31 | 47.2 | 48 | 1.6 |
| SSV-2028-M12 | 28 | 26.1 | 1.5 | 5.4 | 15.9 | 37 | 53.2 | 54 | 1.6 |
| SSV-3030-** | 30 | 28.1 | 1.5 | 4.8 | 17.9 | 41 | 57.2 | 58 | 1.6 |
| SSV-3032-** | 32 | 30.1 | 1.5 | 4.4 | 19.5 | 45 | 61.2 | 62 | 1.6 |
| SSV-3035-M16 | 35 | 33.1 | 1.5 | 4.3 | 19.9 | 51 | 67.2 | 68 | 1.6 |
| SSV-4040-** | 40 | 38.1 | 1.5 | 3.6 | 23.8 | 61 | 77.2 | 78 | 1.6 |
| SSV-5050R-** | 50 | 48.1 | 1.5 | 2.4 | 35.8 | 81 | 97.2 | 98 | 1.4 |
| SSV-6063R-** | 63 | 61.1 | 1.5 | 1.7 | 50.5 | 107 | 123.2 | 124 | 1.4 |
| SSV-7080R-** | 80 | 78.1 | 1.5 | 1.2 | 71.6 | 141 | 157.2 | 158 | 1.4 |
| SSV-8100R-** | 100 | 98.1 | 1.5 | 0.9 | 95.5 | 181 | 197.2 | 198 | 1.4 |
| SSV-8125R-** | 125 | 123.1 | 1.5 | 0.65 | 132.2 | 231 | 247.2 | 248 | 1.4 |

## ZOMT160516ZER-PM

| Cat.No. | Tool dia. (mm) | Effective cutting dia. (mm) | Max.depth of cut: ap (mm) | Ramping | | Helical interpolation | | | Max. drilling depth: Z |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ | Max. depth of cut (ap) Total cutting length L(mm) | Through hole Min. Bore dia. (mm) | Blind hole Min. Bore dia. (mm) | Blind hole Max. Bore dia. (mm) | |
| SSV-2025-** | 25 | 21.5 | 1.5 | 6.7 | 12.8 | 31 | 45.8 | 46.4 | 1.5 |
| SSV-2028-M12 | 28 | 24.5 | 1.5 | 5.6 | 15.3 | 37 | 51.8 | 52.4 | 1.5 |
| SSV-3030-** | 30 | 26.5 | 1.5 | 5 | 17.1 | 41 | 55.8 | 56.4 | 1.5 |
| SSV-3032-** | 32 | 28.5 | 1.5 | 4.7 | 18.2 | 45 | 59.8 | 60.4 | 1.5 |
| SSV-3035-M16 | 35 | 31.5 | 1.5 | 4.6 | 18.6 | 51 | 65.8 | 66.4 | 1.5 |
| SSV-4040-** | 40 | 36.5 | 1.5 | 3.8 | 22.6 | 61 | 75.8 | 76.4 | 1.5 |
| SSV-5050R-** | 50 | 46.5 | 1.5 | 2.5 | 34.4 | 81 | 95.8 | 96.4 | 1.4 |
| SSV-6063R-** | 63 | 59.5 | 1.5 | 1.8 | 47.7 | 107 | 121.8 | 122.4 | 1.4 |
| SSV-7080R-** | 80 | 76.5 | 1.5 | 1.2 | 71.6 | 141 | 155.8 | 156.4 | 1.4 |
| SSV-8100R-** | 100 | 96.5 | 1.5 | 0.9 | 95.5 | 181 | 195.8 | 196.4 | 1.4 |
| SSV-8125R-** | 125 | 121.5 | 1.5 | 0.65 | 132.2 | 231 | 245.8 | 246.4 | 1.4 |

## ZOMT160520ZER-PM

| Cat.No. | Tool dia. (mm) | Effective cutting dia. (mm) | Max.depth of cut: ap (mm) | Ramping | | Helical interpolation | | | Max. drilling depth: Z |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ | Max. depth of cut (ap) Total cutting length L(mm) | Through hole Min. Bore dia. (mm) | Blind hole Min. Bore dia. (mm) | Blind hole Max. Bore dia. (mm) | |
| SSV-2025-** | 25 | 20.7 | 1.5 | 6.9 | 12.4 | 31 | 45 | 45.6 | 1.5 |
| SSV-2028-M12 | 28 | 23.7 | 1.5 | 5.7 | 15.0 | 37 | 51 | 51.6 | 1.5 |
| SSV-3030-** | 30 | 25.7 | 1.5 | 5 | 17.1 | 41 | 55 | 55.6 | 1.5 |
| SSV-3032-** | 32 | 27.7 | 1.5 | 4.7 | 18.2 | 45 | 59 | 59.6 | 1.5 |
| SSV-3035-M16 | 35 | 30.7 | 1.5 | 4.6 | 18.6 | 51 | 65 | 65.6 | 1.5 |
| SSV-4040-** | 40 | 35.7 | 1.5 | 3.8 | 22.6 | 61 | 75 | 75.6 | 1.5 |
| SSV-5050R-** | 50 | 45.7 | 1.5 | 2.5 | 34.4 | 81 | 95 | 95.6 | 1.4 |
| SSV-6063R-** | 63 | 58.7 | 1.5 | 1.8 | 47.7 | 107 | 121 | 121.6 | 1.4 |
| SSV-7080R-** | 80 | 75.7 | 1.5 | 1.2 | 71.6 | 141 | 155 | 155.6 | 1.4 |
| SSV-8100R-** | 100 | 95.7 | 1.5 | 0.9 | 95.5 | 181 | 195 | 195.6 | 1.4 |
| SSV-8125R-** | 125 | 120.7 | 1.5 | 0.65 | 132.2 | 231 | 245 | 245.6 | 1.4 |

## ZOMT160530ZER-PM

| Cat.No. | Tool dia. (mm) | Effective cutting dia. (mm) | Max.depth of cut: ap (mm) | Ramping | | Helical interpolation | | | Max. drilling depth: Z |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. ramping angle θ | Max. depth of cut (ap) Total cutting length L(mm) | Through hole Min. Bore dia. (mm) | Blind hole Min. Bore dia. (mm) | Blind hole Max. Bore dia. (mm) | |
| SSV-2025-** | 25 | 18.7 | 1.5 | 7.2 | 11.9 | 31 | 43 | 43.6 | 1.5 |
| SSV-2028-M12 | 28 | 21.7 | 1.5 | 6 | 14.3 | 37 | 49 | 49.6 | 1.5 |
| SSV-3030-** | 30 | 23.7 | 1.5 | 5.3 | 16.2 | 41 | 53 | 53.6 | 1.5 |
| SSV-3032-** | 32 | 25.7 | 1.5 | 4.8 | 17.9 | 45 | 57 | 57.6 | 1.5 |
| SSV-3035-M16 | 35 | 28.7 | 1.5 | 4.7 | 18.2 | 51 | 63 | 63.6 | 1.5 |
| SSV-4040-** | 40 | 33.7 | 1.5 | 3.9 | 22.0 | 61 | 73 | 73.6 | 1.5 |
| SSV-5050R-** | 50 | 43.7 | 1.5 | 2.5 | 34.4 | 81 | 93 | 93.6 | 1.4 |
| SSV-6063R-** | 63 | 56.7 | 1.5 | 1.8 | 47.7 | 107 | 119 | 119.6 | 1.4 |
| SSV-7080R-** | 80 | 73.7 | 1.5 | 1.3 | 66.1 | 141 | 153 | 153.6 | 1.4 |
| SSV-8100R-** | 100 | 93.7 | 1.5 | 0.95 | 90.5 | 181 | 193 | 193.6 | 1.4 |
| SSV-8125R-** | 125 | 118.7 | 1.5 | 0.65 | 132.2 | 231 | 243 | 243.6 | 1.4 |

## ■Recommended Cutting Conditions - Shoulder Milling -

| Material | Grade | Vc | fz | | Tool dia. (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Carbon Steel below 250HB | JC8050 | 160 - 200 | 0.20 - 0.35 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Cast Steel below 285HB | JC8050 | 140 - 180 | 0.20 - 0.30 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Tool & Die Steel below 255HB | JC8050 | 160 - 200 | 0.20 - 0.35 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Mold Steel 30-36HRC | JC8118 | 120 - 150 | 0.20 -0.35 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Mold Steel 38-43HRC | JC8118 | 90 - 120 | 0.15 - 0.25 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~12 | ~18 | ~20 | ~30 | ~30 | ~45 | ~45 | ~45 |
| Hardened Die Steel 42-52HRC | JC8118 | 80 - 100 | 0.10 - 0.20 | ap | ~10.0 | ~12.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~8 | ~12 | ~12 | ~18 | ~25 | ~45 | ~45 | ~45 |
| Grey Cast Iron below 160-260HB | JC8118 | 210 - 250 | 0.20 - 0.35 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Nodular Cast Iron below 170-300HB | JC8118 | 110 - 150 | 0.15 - 0.30 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Austenitic Stainless Steel | JC8050 | 100 - 120 | 0.10 - 0.20 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Martensitic Stainless Steel | JC8118 | 140 - 180 | 0.15 - 0.30 | ap | ~10.0 | ~12.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~15 | ~24 | ~30 | ~40 | ~45 | ~45 | ~45 | ~45 |
| Aluminium | FC18 | 700 - 900 | 0.07 - 0.20 | ap | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 | ~15.0 |
| | | | | ap x ae | ~75 | ~75 | ~75 | ~75 | ~75 | ~75 | ~75 | ~75 |

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occuring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use airblow. (For Aluminium machining Wet cutting is recommended.)

## ■Recommended Cutting Conditions - Face Milling -

| Material | Grade | Vc | fz | | Tool dia. (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Carbon Steel below 250HB | JC8050 | 110 - 150 | 0.20 - 0.35 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Cast Steel below 285HB | JC8050 | 110 - 150 | 0.20 - 0.35 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Tool & Die Steel below 255HB | JC8050 | 110 - 150 | 0.15 - 0.30 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Mold Steel 30-36HRC | JC8118 | 110 - 130 | 0.15 - 0.30 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Mold Steel 38-43HRC | JC8118 | 90 - 110 | 0.15 - 0.25 | ap | ~2.0 | ~2.5 | ~2.5 | ~3.0 | ~3.0 | ~3.0 | ~3.0 | ~3.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Hardened Die Steel 42-52HRC | JC8118 | 70 - 90 | 0.10 - 0.20 | ap | ~1.5 | ~2.0 | ~2.0 | ~2.5 | ~2.5 | ~2.5 | ~2.5 | ~2.5 |
| | | | | ae | ~20 | ~26 | ~32 | ~40 | ~55 | ~65 | ~80 | ~100 |
| Grey Cast Iron below 160-260HB | JC8118 | 130 - 200 | 0.20 - 0.35 | ap | ~5.0 | ~5.5 | ~5.5 | ~6.0 | ~6.0 | ~6.0 | ~6.0 | ~6.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Nodular Cast Iron below 170-300HB | JC8118 | 110 - 130 | 0.15 - 0.30 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Austenitic Stainless Steel | JC8050 | 90 - 110 | 0.10- 0.20 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~20 | ~26 | ~32 | ~40 | ~55 | ~65 | ~80 | ~100 |
| Martenstic Stainless Steel | JC8118 | 110 - 150 | 0.15 - 0.30 | ap | ~3.0 | ~3.5 | ~3.5 | ~4.0 | ~4.0 | ~4.0 | ~4.0 | ~4.0 |
| | | | | ae | ~25 | ~32 | ~40 | ~50 | ~63 | ~80 | ~100 | ~125 |
| Aluminium | FC18 | 700 - 900 | 0.07 - 0.20 | ap | ~7.0 | ~7.0 | ~7.0 | ~7.0 | ~7.0 | ~7.0 | ~7.0 | ~7.0 |
| | | | | ae | ~18 | ~22 | ~28 | ~35 | ~44 | ~56 | ~70 | ~87 |

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occuring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use airblow. (For Aluminium machining Wet cutting is recommended.)