

PICO precision guide specification

PICO precision guide system

For upper head



| | | |
|-----------|----------------------------|----------------------------|
| Part No. | 23EC085A207 | 23EC085A222 |
| Part name | Round guide (dia. 0.10 mm) | Round guide (dia. 0.15 mm) |
| Remarks | For dia. 0.10 mm wire | For dia. 0.15 mm wire |

- Application: For upper head
- Using method: 1 piece used for upper head
- Features: Must be changed according to the wire diameter used.
- Interval: 1 - 3 pieces / year



| | |
|-----------|-------------------------------------|
| Part No. | 23EC085A716 |
| Part name | V guide (upper) |
| Remarks | Attached above the energizing plate |

- Application: For upper head
- Using method: 1 piece used for upper head
- Features: Dia. 4.5 mm
- Interval: 1 - 3 pieces / year



| | |
|-----------|-------------------------------------|
| Part No. | 23EC085A717 |
| Part name | V guide (lower) |
| Remarks | Attached under the energizing plate |

- Application: For upper head
- Using method: 1 piece used for upper head
- Features: Dia. 5.0 mm
- Interval: 1 - 3 pieces / year

For lower head



| | | |
|-----------|----------------------------|----------------------------|
| Part No. | 20EC090A213 | 20EC090A201 |
| Part name | Round guide (dia. 0.10 mm) | Round guide (dia. 0.15 mm) |
| Remarks | For dia. 0.10 mm wire | For dia. 0.15 mm wire |

- Application: For lower head
- Using method: 1 piece used for lower head
- Features: Must be changed according to the wire diameter used.
- Interval: 1 - 3 pieces / year



| | |
|-----------|-------------------------------------|
| Part No. | 20EC090A702 |
| Part name | V guide (70) |
| Remarks | Attached above the energizing plate |

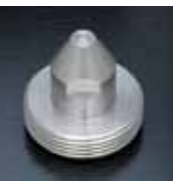
- Application: For lower head ("70" stamped in black)
- Using method: 1 piece used for lower head
- Interval: 1 - 3 pieces / year



| | |
|-----------|-------------------------------------|
| Part No. | 23EC090A705 |
| Part name | V guide pulley |
| Remarks | Attached under the energizing plate |

- Application: For lower head
- Using method: 1 piece used for lower head
- Interval: 1 piece / year

Jet nozzle



| | | |
|-----------|--------------------------|--------------------------|
| Part No. | 23EC085A217 | 23EC085A218 |
| Part name | Jet nozzle (dia. 0.5 mm) | Jet nozzle (dia. 0.7 mm) |
| Remarks | Jet diameter 0.5 mm | Jet diameter 0.7 mm |

| | | |
|-----------|--------------------------|--------------------------|
| Part No. | 23EC085A219 | 23EC085A220 |
| Part name | Jet nozzle (dia. 1.0 mm) | Jet nozzle (dia. 1.5 mm) |
| Remarks | Jet diameter 1.0 mm | Jet diameter 1.5 mm |

- Application: For auto threading of wire
- Using method: Used in place of standard Jet nozzle (dia. 1.0 mm)
- Interval: When Jet doesn't go straight, even after cleaning.

Energizing Plates



| | |
|-----------|-------------------------------|
| Part No. | Z248W0200400 |
| Part name | Energizing plate |
| Remarks | For upper head and lower head |

- Application: For upper head and lower head
- Using method: Upper head: 1 piece is used (totally 22 positions can be used). Lower head: 1 piece is used (totally 16 positions can be used).
- Interval: Upper head: 4 - 6 pieces/year. Lower head: 6 - 8 pieces/year

Cutter



| | |
|-----------|-------------|
| Part No. | 23EC085A718 |
| Part name | Cutter |

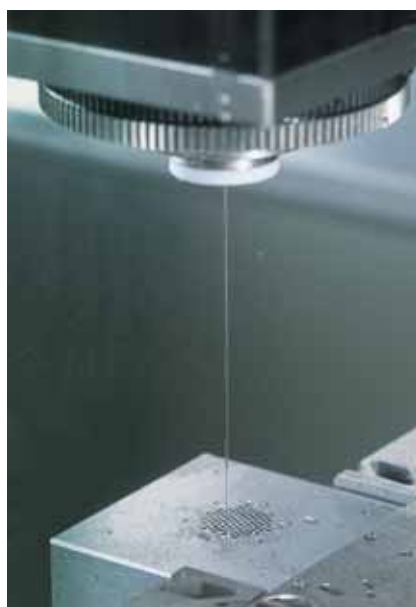
- Application: Cuts the wire.
- Using method: 2 pieces used
- Interval: Rotate to shift the position when the edge becomes dull, and replace if it is rotated by one turn.

Clamping tools



| | | |
|-----------|----------------------|----------------------|
| Part No. | 23EC455A (for DUO43) | 29EC455A (for DUO64) |
| Part name | Clamping tools | |

- Application: The tools are composed of clamps and screws to secure the workpiece.



Nozzle · Nozzle Guard

Nozzle close machining



| | |
|-----------|---------------------------------------|
| Part No. | 23EC085A418 |
| Part name | Nozzle guard, high speed type (upper) |
| Remarks | For high speed machining, upper head |

- Application: For high speed machining, upper head (metal-made)
- Using method: 1 piece used for upper head
- Interval: Used for high speed machining conditions 1.2 and 1.6. When broken



| | |
|-----------|---------------------------------------|
| Part No. | 18EC130B401 |
| Part name | Nozzle guard, high speed type (lower) |
| Remarks | For high speed machining, lower head |

- Application: For high speed machining, lower head (metal-made)
- Using method: 1 piece used for lower head
- Interval: Used for high speed machining conditions 1.2 and 1.6. When broken

● Combination for upper head
①+④+⑥

● Combination for lower head
②+③+⑤+⑦

| | |
|-----------|------------------------|
| Part No. | 20EC080A702 |
| Part name | Insulated bush (lower) |
| Remarks | For lower head |

- Application: For high speed machining, lower head
- Using method: 1 piece used for lower head (exclusive). Fit this in the nozzle guard, high speed type. If the nozzle guard, high speed type is newly purchased, order the insulated bush together.



| | |
|-----------|--------------------------------------|
| Part No. | 23EC085A708=2 |
| Part name | Nozzle, high speed type (upper) |
| Remarks | For high speed machining, upper head |

- Application: Nozzle for high speed machining, upper head
- Using method: 1 piece used for upper head
- Interval: When fluid pressure does not increase due to wear



| | |
|-----------|--------------------------------------|
| Part No. | 18EC130B706 |
| Part name | Nozzle, high speed type (lower) |
| Remarks | For high speed machining, lower head |

- Application: Nozzle for high speed machining, lower head
- Using method: 1 piece used for lower head
- Interval: Holes are made in the sidewall. When fluid pressure does not increase due to wear



| | | |
|-----------|-----------------------|-----------------------|
| Part No. | 23EC085A709=1 | 18EC130B705 |
| Part name | Nozzle spacer (upper) | Nozzle spacer (lower) |
| Remarks | For upper head | For lower head |

- Using method: 1 piece each used for upper and lower heads (exclusive)
- Features: Large upper hole is made in the nozzle spacer for lower head.
- Interval: When the leading edge has worn

Taper machining



| | |
|-----------|---------------------------------|
| Part No. | 23EC085A722=1 |
| Part name | Nozzle guard type-0 (upper) |
| Remarks | For taper machining, upper head |

- Application: For taper machining, upper head (resin-made)
- Using method: 1 piece used for upper head
- Interval: When the leading edge has worn, the plating has peeled, or nozzle guard has broken.



| | |
|-----------|---------------------------------|
| Part No. | 6EC80A418=2 |
| Part name | Nozzle guard type-0 (lower) |
| Remarks | For taper machining, lower head |

- Application: For taper machining, lower head (resin-made)
- Using method: 1 piece used for lower head
- Interval: When the leading edge has worn, the plating has peeled, or nozzle guard has broken.

● Combination for lower head
②+③



| | |
|-----------|---------------------------------|
| Part No. | 4EC80A708=1 |
| Part name | Nozzle type-0 |
| Remarks | For taper machining, lower head |

- Application: For taper machining, lower head
- Using method: 1 piece used for lower head
- Interval: When nozzle has broken.

Nozzle away machining



| | |
|-----------|---------------------------------------|
| Part No. | 23EC085A223 |
| Part name | Laminar nozzle (dia. 6 mm) (upper) |
| Remarks | For nozzle away machining, upper head |

- Application: For nozzle away machining, upper head (resin-made)
- Using method: 1 piece used for upper head
- Interval: When the plating has peeled or nozzle has broken.



| | |
|-----------|---------------------------------------|
| Part No. | 20EC130A401=1 |
| Part name | Laminar nozzle (dia. 6 mm) (lower) |
| Remarks | For nozzle away machining, lower head |

- Application: For nozzle away machining, lower head
- Using method: 1 piece used for lower head
- Interval: When the plating has peeled or nozzle has broken.

Wire Discharge Machines

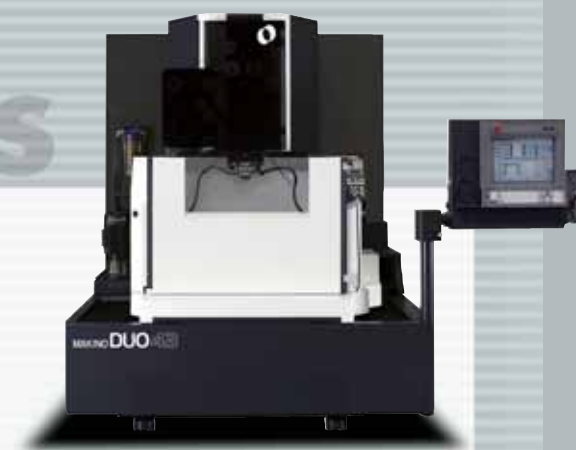
DUO SERIES



DUO43 DUO64

Parts

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This is a list of consumable and support parts for DUO Series.
Interval is recommended time between item change.
Interval may vary depending on type of machining performed.
Parts marked with "※" require more frequent changes.

Split precision guide system specification

Split precision guide system

| | | | | | | |
|--|--|---|--|--|---|--|
| | Part No. 6EC80B406 Part name Diamond wire guide (dia. 0.10mm) Remarks For dia. 0.10 wire | 6EC80B407 Diamond wire guide (dia. 0.15mm) For dia. 0.15 wire | | Part No. 6EC80B403 Part name Diamond wire guide (dia. 0.20mm) Remarks For dia. 0.20 wire | 6EC80B404 Diamond wire guide (dia. 0.25mm) For dia. 0.25 wire | 11EC80A401 Diamond wire guide (dia. 0.30mm) For dia. 0.30 wire |
|--|--|---|--|--|---|--|

Application Used commonly to the upper and lower heads
Using method 1 piece each used for upper and lower heads
Interval 1 piece / year

| | |
|--|--|
| | Part No. 18EC80A702 Part name V guide (10) Remarks Attached above the energizing plate |
|--|--|

Application For upper head ("10" stamped in blue)
Using method 1 piece used for upper head
Interval 1 piece / year

| | |
|--|--|
| | Part No. 15EC80B701 Part name V guide (01) Remarks Attached under the energizing plate |
|--|--|

Application For upper head ("1" stamped in black)
Using method 1 piece used for upper head
Interval 1 piece / year

Cutter

| | |
|--|---|
| | Part No. 6EC220A706=1 Part name Cutter |
|--|---|

Application Cuts the wire.
Using method 2 pieces used
Interval Rotate to shift the position when the edge becomes dull, and replace if it is rotated by one turn.

Energizing Plates

| | |
|--|---|
| | Part No. Z248W0200300 Part name Energizing plate (upper) |
|--|---|

Application For upper head
Using method 1 piece is used (totally 6 positions can be used).
Interval 15 - 18 pieces / year

Angle Cut

| | | |
|--|---|--|
| | Part No. 18EC390A405-Z1 Part name Split round guide (dia. 0.20mm) Remarks Set of L & R guides | 18EC390A407-Z1 Split round guide (dia. 0.25mm) Set of L & R guides |
|--|---|--|

Application For upper and lower heads
Using method One set each used for upper and lower heads
Features 2 - 3 sets/year (if large-angle taper machining is executed continuously)

| | | |
|--|---|--|
| | Part No. Z332K9200050 Part name MEGACUT-T (dia. 0.20mm) Remarks 5 kg reel (P5R) | Z332K9250050 MEGACUT-T (dia. 0.25mm) 5 kg reel (P5R) |
|--|---|--|

| | | |
|--|--|---|
| | Part No. Z332K9200200 Part name MEGACUT-T (dia. 0.20mm) Remarks 20 kg reel (P15) | Z332K9250200 MEGACUT-T (dia. 0.25mm) 20 kg reel (P15) |
|--|--|---|

Note Auto loader (optional) is required when using 20 kg reel.

| | |
|--|--|
| | Part No. Z334D330006 Part name Torque screwdriver Remarks 12LTDK |
|--|--|

Application Controls the clamping torque.
Using method Attach the + driver or HEX BIT to the leading end according to the applications.

| | | |
|--|--|--|
| | Part No. 6EC220B714=1 Part name Felt pad (Front) Remarks Diameter 16 | 6EC220B716=1 Felt pad (Rear) Diameter 16 |
|--|--|--|

Application Prevents the wire from bouncing. Use a set of front and rear pads.
Interval When dirty entirely

| | |
|--|--|
| | Part No. 6EC100A761 Part name Felt pad (H, I axes) Remarks Diameter 15 |
|--|--|

Application Cleans the wire. Use 2 sheets.
Interval When dirty entirely. Front and back sides usable.

| | |
|--|---|
| | Part No. 1EC100B703 Part name Felt pad (B axis) Remarks Diameter 32 |
|--|---|

Application Cleans the wire. Use 2 sheets.
Interval When dirty entirely. Front and back sides usable.

| | |
|--|---|
| | Part No. Z491J0007000 Part name Needle Remarks "10" stamped |
|--|---|

Application Attached to the machine as standard
Using method Replace when broken
Features Water jet diameter 2.0 mm

| | |
|--|--|
| | Part No. FW28EC420A-A01 Part name Workpiece support |
|--|--|

Application Used when clamping the workpiece in the form of overhang. This supports the workpiece from the work tank bottom.

| | |
|--|--|
| | Part No. Z334D330006 Part name Torque screwdriver Remarks 12LTDK |
|--|--|

Application Controls the clamping torque.
Using method Attach the + driver or HEX BIT to the leading end according to the applications.

| | |
|--|---|
| | Part No. Z334D330006 Part name HEX BIT Remarks 3.0 mm |
|--|---|

Application Used to lock the energizing plate and the V guide bracket

| | |
|--|--|
| | Part No. Z334D330006 Part name Torque screwdriver Remarks 12LTDK |
|--|--|

Application Controls the clamping torque.
Using method Attach the + driver or HEX BIT to the leading end according to the applications.

| | |
|--|---|
| | Part No. Z334D330006 Part name HEX BIT Remarks 3.0 mm |
|--|---|

Application Used to lock the energizing plate and the V guide bracket

| | |
|--|--|
| | Part No. Z334D330006 Part name Torque screwdriver Remarks 12LTDK |
|--|--|

Application Controls the clamping torque.
Using method Attach the + driver or HEX BIT to the leading end according to the applications.

| | |
|--|---|
| | Part No. Z334D330006 Part name HEX BIT Remarks 3.0 mm |
|--|---|

Application Used to lock the energizing plate and the V guide bracket

Nozzle · Nozzle Guard

Nozzle close machining

①

● Combination for upper head ①+②+③+⑤
● Combination for lower head ①+②+④+⑥

Part No. 18EC80A717
Part name Nozzle, high speed type (upper)
Remarks For high speed machining, upper head

Application Nozzle for high speed machining, upper head
Using method 1 piece used for upper head
Interval When fluid pressure does not increase due to wear

③

Part No. 18EC130B706
Part name Nozzle, high speed type (lower)
Remarks For high speed machining, lower head

Application Nozzle for high speed machining, lower head
Using method 1 piece used for lower head
Features Holes are made in the side wall.
Interval When fluid pressure does not increase due to wear

④

Part No. 18EC130B401
Part name Nozzle guard, high speed type

Application For high speed machining, upper and lower heads (metal-made)
Using method 1 piece each used for upper and lower heads
Features Used for high speed machining conditions 1.2 and 1.6
Interval When broken

⑤

Part No. 20EC080A702
Part name Insulated bush

Application For high speed machining, upper and lower heads
Using method Fit this in the nozzle guard, high speed type. If the nozzle guard, high speed type is newly purchased, order the insulated bush together.

⑥

Part No. 18EC80A719
Part name Nozzle spacer (upper)

⑦

Part No. 18EC130B705
Part name Nozzle spacer (lower)

Using method 1 piece each used for upper and lower heads (exclusive)
Features Large upper hole is made in the nozzle spacer for lower head.
Interval When the leading edge has worn

Taper machining

①

● Commonly combination for upper and lower heads ①+②

Part No. 20EC920A401-00
Part name Laminar nozzle HS

Application For H.E.A.T. machining, nozzle away machining, upper and lower heads (metal-made)
Using method 1 piece each used for upper and lower heads
Interval When broken

②

Part No. 6EC80A418=2
Part name Nozzle guard type-0

Application For taper machining, upper and lower heads (resin-made)
Using method 1 piece each used for upper and lower heads
Interval When the plating has peeled or nozzle guard has broken

③

Part No. 4EC80A708=1
Part name Nozzle type-0
Remarks For taper machining

Application For taper machining, upper and lower heads
Using method 1 piece each used for upper and lower heads

H.E.A.T. Nozzle away machining

Part No. 20EC920A401-00
Part name Laminar nozzle HS

Application For H.E.A.T. machining, nozzle away machining, upper and lower heads (metal-made)
Using method 1 piece each used for upper and lower heads
Interval When broken

Part No. 20EC920A701-00
Part name Insulated bush

Application For H.E.A.T. machining, nozzle away machining, upper and lower heads
Using method Fit this in the Laminar nozzle HS. If the Laminar nozzle is newly purchased, order the insulated bush together.

Common for Split precision guide, PICO Precision guide

Deionizing Resin

| | | |
|--|--|---|
| | Part No. Z429G0170100 Part name Deionizing resin Remarks Standard type | Part No. Z429G0160100 Part name Deionizing Resin Remarks Cartridge type |
|--|--|---|

Capacity 5L / carton
Using method 4 cartons (20L) are necessary for replacement.
Interval 20 times / year
* For standard type bottle

Capacity 5L / cartridge
Using method 4 cartridges (20L) are necessary for replacement.
Interval 20 times / year
* For cartridge type bottle

Filters

| | | | |
|--|--|--|---|
| | Part No. Z476A1010500 Part name Dielectric fluid filter | | Part No. Z474D1070100 Part name Jet filter |
|--|--|--|---|

Application Dielectric fluid sludge removing filter
Using method 4 pieces are used.
Features Inside-out type. Filtration capability 6 μm
Interval 1 - 2 times / month

Application Automatic wire threading jet filter
Using method 1 piece is used.
Features This filter catches particles with whole itself into which filtrate is distributed.
Interval 6 times / year

Wire Guide Device / Wire Feed System

| | | | | | |
|--|--|--|--|--|--|
| | Part No. 18EC100A701 Part name Pinch roller | | Part No. 6EC220B714=1 Part name Felt pad (Front) Remarks Diameter 16 | | 6EC220B716=1 Felt pad (Rear) Diameter 16 |
|--|--|--|--|--|--|

Application Winds wire
Using method 1 piece each used for L-axis and M-axis
Interval When wire slips due to deep wire traces. Usable two times by inverting

Application Prevents the wire from bouncing. Use a set of front and rear pads.
Interval When dirty entirely

| | |
|--|--|
| | Part No. 6EC100A761 Part name Felt pad (H, I axes) Remarks Diameter 15 |
|--|--|

Application Cleans the wire. Use 2 sheets.
Interval When dirty entirely. Front and back sides usable.

| | |
|--|---|
| | Part No. 1EC100B703 Part name Felt pad (B axis) Remarks Diameter 32 |
|--|---|

Application Cleans the wire. Use 2 sheets.
Interval When dirty entirely. Front and back sides usable.

| | |
|--|---|
| | Part No. Z491J0007000 Part name Needle Remarks "10" stamped |
|--|---|

Application Attached to the machine as standard
Using method Replace when broken
Features Water jet diameter 2.0 mm

| | |
|--|---|
| | Part No. 6EC100B404 Part name Clutch roller (D axis) |
|--|---|

Application Generates wire tension
Interval When wire slips even after cleaning Usable by inverting

| | |
|--|---|
| | Part No. 6EC100A747 Part name I-roller |
|--|---|

Application Prevents the wire from loosening at the clutch roller (D-shaft)
Interval When wire slips due to deep wire traces Usable several times by changing positions

Workpiece Support / Tools

| | | | |
|--|--|--|---|
| | Part No. FW28EC420A-A01 Part name Workpiece support | | Part No. Z334D3310026 Part name + driver Remarks No.2 BIT |
|--|--|--|---|

Application Used when clamping the workpiece in the form of overhang. This supports the workpiece from the work tank bottom.

Application Used to install the diamond wire guide, diamond wire hold guide, V guide, and head cover.

| | | | |
|--|--|--|---|
| | Part No. Z334D330006 Part name Torque screwdriver Remarks 12LTDK | | Part No. Z334D330006 Part name HEX BIT Remarks 3.0 mm |
|--|--|--|---|

Application Controls the clamping torque.
Using method Attach the + driver or HEX BIT to the leading end according to the applications.

Application Used to lock the energizing plate and the V guide bracket