# Brackets for Compact Cylinders

## Foot

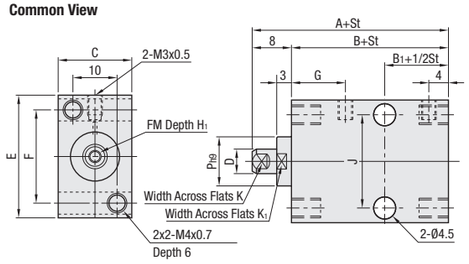
**Brackets for Compact Cylinders – Foot Brackets**

RoHS10

| Type | Features |
|---|---|
| MSMCS | Tip shape of cylinder rod is selectable |

### MSMCS

**Common View**



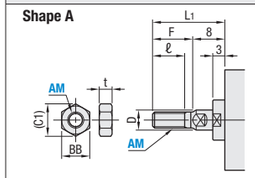

! No sensor can be mounted.

**Small Cylinder: Basic Specifications**

| | |
|---|---|
| Tube Inner Diameter (mm) | 6–10 |
| Operating Type | Double Acting |
| Permissible Fluid | Air |
| Min. Operating Pressure (MPa) | 0.2 |
| Max. Operating Pressure (MPa) | 0.7 |
| Pressure Resistance (MPa) | 1.0 |
| Operating Temp. Range (°C) | 5–60 |
| Piston Speed (mm/s) | 50–500 |
| Cushion Mechanism | No |
| Stroke Tolerance (mm) | 0–0.5 |
| Lubrication | Lube-Maintenance Free |
| Pipe Connection Bore Diameter | M3 x 0.5 |

**Select Tip Shape for Standard Type**

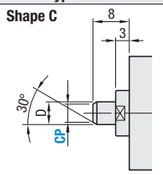
**Shape A**



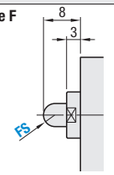

Accessory:
Nut 1 pc.
(304 Stainless Steel)

| AM | BB | (C1) | t |
|---|---|---|---|
| 3 | 5.5 | 6.4 | 1.8 |
| 4 | 7 | 8.1 | 2.4 |
| 5 | 8 | 9.2 | 3.2 |

**Shape C**




**Shape F**



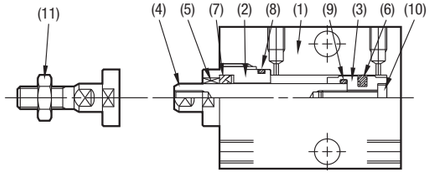

| Tube I.D. (mm) | A | B | B1 | E | C | D | F | FM | G | H1 | J | K | K1 | Ph9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 28 | 20 | 6.5 | 20 | 15 | 4 | 15 | M2.5 x 0.45 | 11 | 5 | 14 | 3.5 | 9 | 10 |
| 8 | 30 | 22 | 8 | 25 | | 5 | 19 | | 10 | | 19 | 4 | 9.5 | |
| 10 | | | | | | 6 | | M3 x 0.5 | | 6 | | 5 | 11 | 12 |

**Dimensions of Shape A Selection**

| Tube I.D. (mm) | ℓ | L1 | F |
|---|---|---|---|
| 6 | 6 | 16 | 8 |
| 8 | 8 | 18 | 10 |
| 10 | 10 | 21 | 13 |

| Part Number | | St Stroke (mm) | Piston Rod Tip Shape | | | |
|---|---|---|---|---|---|---|
| Type | Tube I.D. (mm) | | Shape A AM (Thread Dia.) | | Shape C CP (mm) | Shape F FS (mm) |
| MSMCS | 6 | 5 10 15 20 | 3 | | 3 | 2 |
| | 8 | 5 10 15 20 25 30 | 3 | 4 | 4 | 2.5 |
| | 10 | | 4 | 5 | 5 | 3 |

**Small Cylinders Tip Shape Selectable Structural Diagram**




**Small Cylinder: Theoretical Output** Unit: (N)

| Tube I.D. (mm) | Operating Direction | Operating Pressure (MPa) 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|
| 6 | Push | 5.7 | 8.5 | 11.3 | 14.1 | 17.0 | 19.8 |
| | Pull | 3.1 | 4.7 | 6.3 | 7.9 | 9.4 | 11.0 |
| 8 | Push | 10.1 | 15.1 | 20.1 | 25.1 | 30.2 | 35.2 |
| | Pull | 6.1 | 9.2 | 12.3 | 15.3 | 18.4 | 21.4 |
| 10 | Push | 15.7 | 23.6 | 31.4 | 39.3 | 47.1 | 55.0 |
| | Pull | 10.1 | 15.1 | 20.1 | 25.1 | 30.2 | 35.2 |

**Small Cylinder: Part List**

| Number | Part Name | | Material | Surface Treatment and Others |
|---|---|---|---|---|
| 1 | Body | | Aluminum Alloy | Clear Anodize |
| 2 | Rod Cover | | Aluminum Alloy | Clear Anodize |
| 3 | Piston | Ø6 | Stainless Steel | — |
| | | Ø8,10 | Aluminum Alloy | Clear Anodize |
| 4 | Piston Rod | | Stainless Steel | Hard Chrome Plating |
| 5 | Bearing | | PTFE Type | — |
| 6 | Piston Gasket | | NBR Rubber | — |
| 7 | Rod Gasket | | NBR Rubber | — |
| 8 | Body Gasket | | NBR Rubber | — |
| 9 | Piston Gasket | | NBR Rubber | Ø8, Ø10 only |
| 10 | Mounting Bolt | | Stainless Steel | Ø8, Ø10 only |
| 11 | Nut | | Stainless Steel | For Threaded only |

**Part Number Example**

| Part Number | - | St Stroke | - | Piston Rod Tip Shape |
|---|---|---|---|---|
| MSMCS8 | - | 10 | - | AM4 |

**Application Example**

It can be installed in four directions.

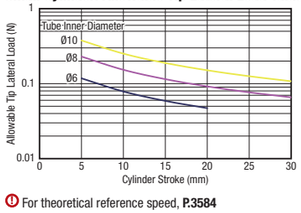
(1) Top Mount

(2) Front Mount

(3) Bottom Mount

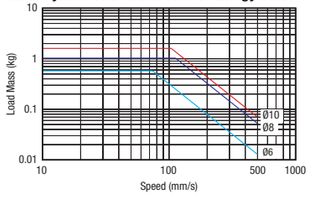
(4) Back Mount

**Small Cylinder: Allowable Tip Lateral Load Table**




! For theoretical reference speed, **P.3584**

**Small Cylinder: Allowable Kinetic Energy Table**



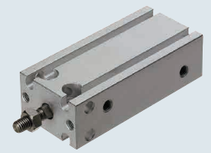



There's more on the web: misumiusa.com

# Small Cylinder

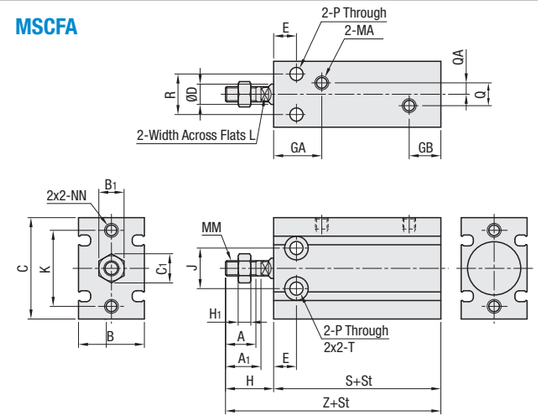
## Sensor Slot Type

**Small Cylinder – Sensor Slot Type**



RoHS10

### MSCFA



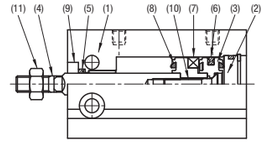

**MSCFA: Basic Specifications**

| | | | | |
|---|---|---|---|---|
| Tube Inner Dia. (mm) | 6 | 10 / 16 | 20 / 25 | 32 |
| Operating Type | Double Acting | | | |
| Permissible Fluid | Air | | | |
| Min. Operating Press. (MPa) | 0.12 | 0.06 | 0.05 | |
| Max. Operating Press. (MPa) | 0.7 | | | |
| Pressure Resistance (MPa) | 1.0 | | | |
| Operating Temp. Range (°C) | 5–60 | | | |
| Piston Speed (mm/s) | 50–500 | | | |
| Cushion Mechanism | NBR Rubber | | | |
| Stroke Tolerance (mm) | 0–+2.0 | | | |
| Lubrication | Lube-Maintenance Free | | | |
| Pipe Connection Bore Dia. | M5 x 0.8 | | | Rc1/8 |

| Tube I.D. (mm) | A | A1 | B | B1 | C | C1 | D | E | GA | GB | H | H1 | J | K | L | MA | MM | NN | P | Q | QA | R | S | T | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 7 | — | 13 | 5.5 | 22 | 6.4 | 3 | 7 | 15 | 10 | 13 | 1.8 | 10 | 17 | — | M5 x 0.8 | M3 x 0.5 | M3 x 0.5 Depth 5 | 3.2 | — | — | 7 | 33 | Ø6 Counterbore Depth 4.8 | 46 |
| 10 | 10 | — | 15 | 7 | 24 | 8.1 | 4 | 7 | 16.5 | 10 | 16 | 2.4 | 11 | 18 | — | M5 x 0.8 | M4 x 0.7 | M3 x 0.5 Depth 5 | 3.2 | — | — | 9 | 36 | Ø6 Counterbore Depth 5 | 52 |
| 16 | 11 | 12.5 | 20 | 8 | 32 | 9.2 | 6 | 7 | 16.5 | 11.5 | 16 | 4 | 14 | 25 | 5 | M5 x 0.8 | M5 x 0.8 | M4 x 0.7 Depth 6 | 4.5 | 4 | 2 | 12 | 40 | Ø7.6 Counterbore Depth 6.5 | 56 |
| 20 | 12 | 14 | 26 | 10 | 40 | 11.5 | 8 | 9 | 19 | 12.5 | 19 | 5 | 16 | 30 | 6 | M5 x 0.8 | M6 x 1.0 | M5 x 0.8 Depth 8 | 5.2 | 9 | 4.5 | 16 | 46 | Ø9.3 Counterbore Depth 8 | 65 |
| 25 | 15.5 | 18 | 32 | 13 | 50 | 15 | 10 | 10 | 21.5 | 13 | 23 | 5 | 20 | 38 | 8 | M5 x 0.8 | M8 x 1.25 | M5 x 0.8 Depth 8 | 5.5 | 9 | 4.5 | 20 | 50 | Ø9.3 Counterbore Depth 9 | 73 |
| 32 | 19.5 | 22 | 40 | 17 | 62 | 19.6 | 12 | 11 | 23 | 12.5 | 27 | 6 | 24 | 48 | 10 | Rc1/8 | M10 x 1.25 | M6 x 1.0 Depth 9 | 6.6 | 13.5 | 4.5 | 24 | 52 | Ø11 Counterbore Depth 11.5 | 79 |

| Part Number | | St Stroke (mm) Selection |
|---|---|---|
| Type | Tube I.D. (mm) | |
| MSCFA | 6 | 10 20 30 |
| | 10 | |
| | 16 | |
| | 20 | 10 20 30 50 |
| | 25 | |
| | 32 | |

**Small Cylinder Structure Diagram**

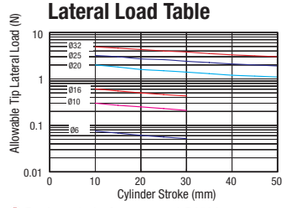



**Part List**

| Number | Part Name | Ø6 | Ø10 | Ø16 | Ø20 | Ø25 | Ø32 |
|---|---|---|---|---|---|---|---|
| 1 | Body | 6061 Aluminum Alloy | | | | | |
| 2 | End Cover | 6061 Aluminum Alloy | | | 5052 Aluminum Alloy | | 6061 Al Alloy |
| 3 | Piston(*) | 6061 Aluminum Alloy (2 pcs.) | | | | | |
| 4 | Piston Rod | 303 Stainless Steel | | | | | 1045 Carbon Steel or Equivalent |
| 5 | Rod Gasket | NBR Rubber | | | | | |
| 6 | Piston Gasket | NBR Rubber | | | | | |
| 7 | Magnet | — | | | | | |
| 8 | Cushion | NBR Rubber | | — | NBR Rubber | | |
| 9 | Rod Cover | 6061 Aluminum Alloy | | — | | | |
| 10 | Piston Bolt | — | | 303 Stainless Steel | | | 4137 Alloy Steel |
| 11 | Rod Nut | 1018 Carbon Steel or Equivalent | | | | | |

(*) One piece of 6061 Aluminum Alloy and C3604 Brass (JIS)-CD each are applied for Ø16 rod piston.

**Allowable Tip Lateral Load Table**

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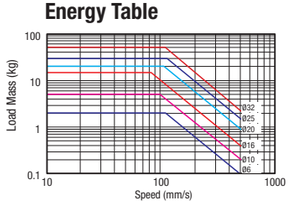
**Allowable Kinetic Energy Table**




**Theoretical Output** Unit: (N)

| Tube I.D. (mm) | Operating Direction | Operating Pressure (MPa) 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|
| 6 | Push | 5.7 | 8.5 | 11.3 | 14.1 | 17.0 | 19.8 |
| | Pull | 4.2 | 6.4 | 8.5 | 10.6 | 12.7 | 14.8 |
| 10 | Push | 15.7 | 23.6 | 31.4 | 39.3 | 47.1 | 55.0 |
| | Pull | 13.2 | 19.8 | 26.4 | 33.0 | 39.6 | 46.2 |
| 16 | Push | 40 | 60 | 80 | 101 | 121 | 141 |
| | Pull | 35 | 52 | 69 | 86 | 104 | 121 |
| 20 | Push | 63 | 94 | 126 | 157 | 188 | 220 |
| | Pull | 53 | 79 | 106 | 132 | 158 | 185 |
| 25 | Push | 98 | 147 | 196 | 245 | 295 | 344 |
| | Pull | 82 | 124 | 165 | 206 | 247 | 289 |
| 32 | Push | 161 | 241 | 322 | 402 | 483 | 563 |
| | Pull | 138 | 207 | 276 | 346 | 415 | 484 |

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