

Dual Rod Cylinder: Compact Type

Series CXSJ

ø6, ø10, ø15, ø20, ø25, ø32

How to Order

Thread type

| | | |
|-----|----------|-----------|
| Nil | M thread | ø6 to ø25 |
| Nil | Rc 1/8 | |
| TN | NPT 1/8 | ø32 |
| TF | G 1/8 | |

Piping

| | |
|-----|-----------------------------|
| Nil | Standard piping (ø6 to ø32) |
| P | Axial piping (ø6, ø10) |

Compact type

Bearing type

| | |
|---|----------------------|
| M | Slide bearing |
| L | Ball bushing bearing |

Number of auto switches

| | |
|-----|----------|
| Nil | 2 pcs. |
| S | 1 pc. |
| n | "n" pcs. |

Auto switch

| | |
|-----|---------------------------------------|
| Nil | Without auto switch (Built-in magnet) |
|-----|---------------------------------------|

* For the applicable auto switch model, refer to the table below.
* The auto switches are shipped together, (but not assembled).

Bore size/Stroke (mm)

| Bore size (mm) | Standard stroke |
|----------------|-----------------------------|
| 6 | 10, 20, 30, 40, 50 |
| 10 | 10, 20, 30, 40, 50, 75 |
| 15 | |
| 20 | |
| 25 | 10, 20, 30, 40, 50, 75, 100 |
| 32 | |

Ordering Example: CXS J M 6 P 50 F9BW S

Applicable Auto Switch/Refer to page 8-30-1 for further information on auto switches.

| Type | Special function | Electrical entry | Indicator light | Wiring (Output) | Load voltage | | | Auto switch model | | Lead wire length (m)* | | | Pre-wired connector | Applicable load | |
|--------------------------------------|--|------------------|-----------------|---------------------|--------------|-----------|---------------|-------------------|-----------|-----------------------|-------|------------|---------------------|-----------------|------------|
| | | | | | DC | AC | Perpendicular | In-line | 0.5 (Nil) | 3 (L) | 5 (Z) | IC circuit | | Relay, PLC | |
| | | | | | | | | | | | | | | | 5 V, 12 V |
| Reed switch | — | Grommet | Yes | 3-wire (NPN equiv.) | — | 5 V | — | A96V | A96 | ● | ● | — | — | IC circuit | — |
| | | | | 2-wire | 24 V | 12 V | 100 V | A93V | A93 | ● | ● | — | — | — | Relay, PLC |
| Solid state switch | Diagnostic indication (2-color indication) | Grommet | Yes | 3-wire (NPN) | 24 V | 5 V, 12 V | — | M9NV | M9N | ● | ● | — | — | IC circuit | Relay, PLC |
| | | | | 3-wire (PNP) | | | | M9PV | M9P | ● | ● | — | — | | |
| | | | | 2-wire | | | | M9BV | M9B | ● | ● | — | — | | |
| | | | | 3-wire (NPN) | | | | F9NVV | F9NW | ● | ● | ○ | ○ | IC circuit | |
| | | | | 3-wire (PNP) | | | | F9PWW | F9PW | ● | ● | ○ | ○ | — | |
| | | | | 2-wire | | | | F9BWW | F9BW | ● | ● | ○ | ○ | — | |
| Water resistant (2-color indication) | — | F9BA | — | ● | ○ | ○ | — | — | | | | | | | |

* Lead wire length symbols: 0.5 m Nil (Example) A93
3 m L (Example) A93L
5 m Z (Example) M9NZ

* Solid state switches marked with "○" are produced upon receipt of order.

- Refer to page 8-28-27 for additional details and applicable auto switches other than the above types.
- Please contact SMC for detailed auto switch with pre-wired connector.

Dual Rod Cylinder: Compact Type Series CXSJ

Specifications



| Bore size (mm) | 6 | 10 | 15 | 20 | 25 | 32 |
|-------------------------------|--|---------|----------------|----|----------------|------------------|
| Fluid | Air (Non-lube) | | | | | |
| Proof pressure | 1.05 MPa | | | | | |
| Max. operating pressure | 0.7 MPa | | | | | |
| Min. operating pressure | 0.15 MPa | 0.1 MPa | 0.05 MPa | | | |
| Ambient and fluid temperature | -10 to 60°C (With no freezing) | | | | | |
| Piston speed | 30 to 800 mm/s | | 30 to 700 mm/s | | 30 to 600 mm/s | |
| Cushion | Rubber bumper on both ends | | | | | |
| Stroke adjustable range | 0 to -5 mm compared to the standard stroke | | | | | |
| Port size | M3 × 0.5 | | M5 × 0.8 | | | Rc (NPT, PF) 1/8 |

* The maximum piston speed shown in the table above is for extension.
The maximum piston speed for retraction is approximately 70% that of extension.

Standard Stroke

| Model | Standard strokes | Manufacturable stroke range (mm) |
|-----------------|-----------------------------|----------------------------------|
| CXSJ□6 | 10, 20, 30, 40, 50 | 60 to 100 |
| CXSJ□10 | 10, 20, 30, 40, 50, 75 | 80 to 150 |
| CXSJ□15 | 10, 20, 30, 40, 50, 75, 100 | 110 to 150 |
| CXSJ□20, 25, 32 | | 110 to 200 |

* Strokes beyond the standard stroke range are available as a special order.

Theoretical Output

| Bore size (mm) | Rod size (mm) | Operating direction | Piston area (mm ²) | Operating pressure (MPa) | | | | | | | |
|----------------|---------------|---------------------|--------------------------------|--------------------------|------|------|------|------|------|------|------|
| | | | | 0.1 | 0.15 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
| CXS□6 | 4 | OUT | 56 | — | 8.4 | 11.2 | 16.8 | 22.4 | 28.0 | 33.6 | 39.2 |
| | | IN | 31 | — | 4.6 | 6.2 | 9.3 | 12.4 | 15.5 | 18.6 | 21.7 |
| CXS□10 | 6 | OUT | 157 | 15.7 | — | 31.4 | 47.1 | 62.8 | 78.5 | 94.2 | 110 |
| | | IN | 100 | 10.0 | — | 20.0 | 30.0 | 40.0 | 50.0 | 60.0 | 70.0 |
| CXS□15 | 8 | OUT | 353 | 35.3 | — | 70.6 | 106 | 141 | 177 | 212 | 247 |
| | | IN | 252 | 25.2 | — | 50.4 | 75.6 | 101 | 126 | 151 | 176 |
| CXS□20 | 10 | OUT | 628 | 62.8 | — | 126 | 188 | 251 | 314 | 377 | 440 |
| | | IN | 471 | 47.1 | — | 94.2 | 141 | 188 | 236 | 283 | 330 |
| CXS□25 | 12 | OUT | 982 | 98.2 | — | 196 | 295 | 393 | 491 | 589 | 687 |
| | | IN | 756 | 75.6 | — | 151 | 227 | 302 | 378 | 454 | 529 |
| CXS□32 | 16 | OUT | 1608 | 161 | — | 322 | 482 | 643 | 804 | 965 | 1126 |
| | | IN | 1206 | 121 | — | 241 | 362 | 482 | 603 | 724 | 844 |

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm²)

Weight

| Model | Standard stroke (mm) | | | | | | |
|---------|----------------------|-------|-------|-------|-------|-------|-------|
| | 10 | 20 | 30 | 40 | 50 | 75 | 100 |
| CXSJM6 | 0.047 | 0.057 | 0.067 | 0.077 | 0.087 | — | — |
| CXSJL6 | 0.048 | 0.058 | 0.068 | 0.078 | 0.088 | — | — |
| CXSJM10 | 0.099 | 0.114 | 0.129 | 0.144 | 0.159 | 0.198 | — |
| CXSJL10 | 0.106 | 0.121 | 0.136 | 0.151 | 0.166 | 0.205 | — |
| CXSJM15 | 0.198 | 0.219 | 0.240 | 0.261 | 0.282 | 0.335 | 0.387 |
| CXSJL15 | 0.218 | 0.239 | 0.260 | 0.281 | 0.302 | 0.355 | 0.407 |
| CXSJM20 | 0.345 | 0.371 | 0.397 | 0.423 | 0.449 | 0.514 | 0.579 |
| CXSJL20 | 0.375 | 0.401 | 0.427 | 0.453 | 0.479 | 0.544 | 0.609 |
| CXSJM25 | 0.506 | 0.544 | 0.582 | 0.620 | 0.658 | 0.753 | 0.848 |
| CXSJL25 | 0.516 | 0.554 | 0.592 | 0.630 | 0.668 | 0.763 | 0.858 |
| CXSJM32 | 1.022 | 1.078 | 1.134 | 1.190 | 1.246 | 1.386 | 1.526 |
| CXSJL32 | 1.032 | 1.088 | 1.144 | 1.200 | 1.256 | 1.396 | 1.536 |

Note) For axial piping of CXSJ□6P-□ and CXSJ□10P-□, please add the following weight.
CXSJ□6P-□: 0.009 kg, CXSJ□10P-□: 0.014 kg

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

20-

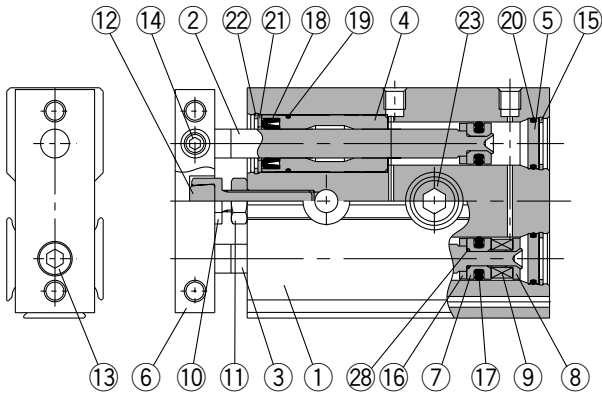
Data

Series CXSJ

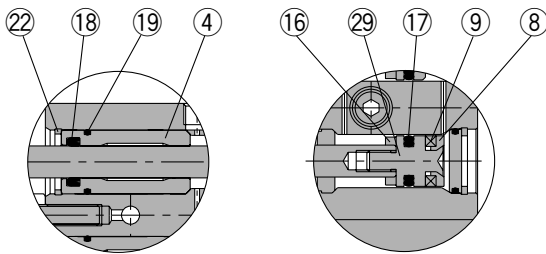
Construction: Standard Piping

CXSJM (Slide bearing)

CXSJM6



CXSJM10

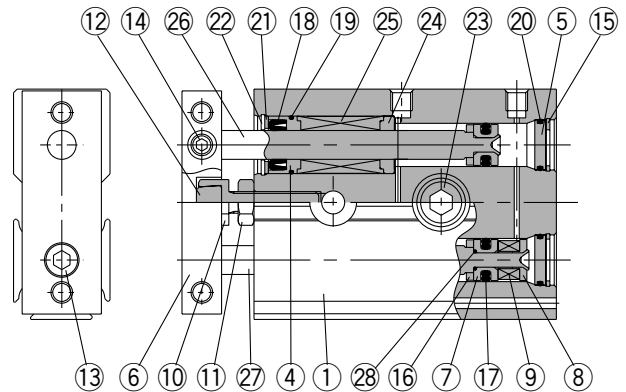


Rod cover

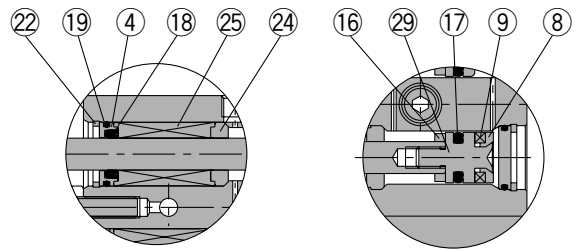
Piston rod B-side piston

CXSJL (Ball bushing bearing)

CXSJL6



CXSJL10



Rod cover

Piston rod B-side piston

Component Parts

| No. | Description | Material | Note |
|-----|-------------------------------|-------------------------------|-------------------------------------|
| ① | Housing | Aluminum alloy | Hard anodized |
| ② | Piston rod A | Carbon steel ^{Note)} | Hard chromium electroplated |
| ③ | Piston rod B | Carbon steel ^{Note)} | Hard chromium electroplated |
| ④ | Rod cover | Aluminum bearing alloy | |
| ⑤ | Head cover | Aluminum alloy | Anodized |
| ⑥ | Plate | Aluminum alloy | Glossy, self-coloring hard anodized |
| ⑦ | Piston A | Aluminum alloy | Chromated |
| ⑧ | Piston B | Aluminum alloy | Chromated |
| ⑨ | Magnet | Magnetic material | |
| ⑩ | Bumper bolt | Carbon steel | Nickel plated |
| ⑪ | Hexagon nut | Carbon steel | Nickel plated |
| ⑫ | Bumper | Polyurethane | |
| ⑬ | Hexagon socket head cap screw | Chromium steel | Nickel plated |
| ⑭ | Hexagon socket head set screw | Chromium steel | Nickel plated |
| ⑮ | Snap ring | Special steel | Nickel plated |

Note) Stainless steel for CXSJM6.

| No. | Description | Material | Note |
|-----|----------------|------------------------|-----------------------------|
| ⑯ | Bumper B | Polyurethane | |
| ⑰ | Piston seal | NBR | |
| ⑱ | Rod seal | NBR | |
| ⑲ | O-ring | NBR | |
| ⑳ | O-ring | NBR | |
| ㉑ | Seal retainer | Stainless steel | |
| ㉒ | Snap ring B | Special steel | Nickel plated |
| ㉓ | Bolt holder | Stainless steel | |
| ㉔ | Bearing spacer | Aluminum bearing alloy | |
| ㉕ | Ball bushing | — | |
| ㉖ | Piston rod A | Special steel | Hard chromium electroplated |
| ㉗ | Piston rod B | Special steel | Hard chromium electroplated |
| ㉘ | O-ring | NBR | |
| ㉙ | Piston C | Stainless steel | |
| ㉚ | Bumper holder | Resin | |

Replacement Parts: Seal Kit

| Model | Kit no. | Content |
|---------|-----------|--|
| CXSJ□6 | CXSJ6-PS | Items ⑰, ⑱, and ㉒ from the chart above |
| CXSJ□10 | CXSJ10-PS | |