

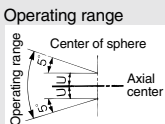
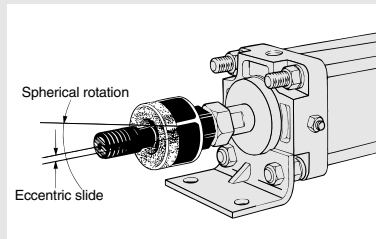
Floating Joint

JA/JAH/JB/JS Series





RoHS

The floating joint can absorb any “off-centering” or “loss of parallel accuracy” between the cylinder and the driven body.

- Centering is unnecessary.
- A high level of machining accuracy is unnecessary.
- The installation time is dramatically reduced.
- It is compact and is suitable for high tensile stresses.
- Long service life (with dustproof cover)
- Rotating angle..... $\pm 5^\circ$



Series Variations

| Series | Cylinder supply pressure | Applicable bore size (mm) | Mounting | Page | |
|---|--------------------------|---------------------------|--|--|-----------|
| Standard JA Series  | Pneumatic cylinder | 0.7 MPa or less | Basic type Flange type Foot type | 1144 | |
| | | 1 MPa or less | | | 6, 10, 15 |
| | Hydraulic cylinder | 3.5 MPa or less | 20, 25, 30, 40, 50, 63 80, 100, 125, 140, 160 | 20, 25, 30, 40, 50, 63 80, 100, 125, 140, 160 | |
| Heavy load JAH Series  | Hydraulic cylinder | 7 MPa or less | 40, 50, 63, 80, 100 | Basic type Flange type Foot type | 1151 |
| For compact cylinders JB Series  | Pneumatic cylinder | 1 MPa or less | 12, 16, 20, 25, 32 40, 50, 63, 80, 100 | Basic type (Female thread) | 1154 |
| Stainless steel type JS Series  | Pneumatic cylinder | 1 MPa or less | 10, 16, 20, 25 32, 40, 50, 63 | Basic type | 1156 |
| | Hydraulic cylinder | 3.5 MPa or less | 20, 25, 32 40, 50, 63 | | |

J□

D-□

-X□

Technical Data

Floating Joint: Standard Type

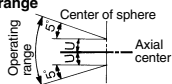
JA Series

RoHS

Specifications

| | |
|---------------------------|--|
| Operating pressure | Pneumatic cylinder: 1 MPa or less |
| | Hydraulic cylinder: 3.5 MPa or less |
| Mounting | Basic type, Flange type, Foot type |

Operating range



JA series

⚠ Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions.

Mounting

⚠ Warning

- To screw the male threads of the rod into the female threads of the socket or the case, make sure that it does not bottom out. If the floating joint is used with its rod bottom out, the stud will not be able to float, causing damage.
For the screw-in depth of the female threads, refer to the dimensions (page 1146). As a rule, after the rod bottoms out, back off 1 to 2 turns.
- The dust cover may adhere to the stud. In this case, move the dust cover at the neck of the stud by the finger or twist the stud slightly left or right to break in the dust cover before use.
Additionally, when screwing the stud and socket or the case into a driven body, screw in such parts with the dust cover removed. When screwing in such parts without removing the dust cover, this may cause damage to the dust cover.
- To use a floating joint to connect the cylinder rod to a driven body, secure it in place by applying a torque that is appropriate for the thread size. Also, if there is a risk of loosening during operation, take measures to prevent loosening, such as using a locking pin or thread adhesive. In the event that the connected portion becomes loose, the driven body might lose control or fall off, leading to equipment damage or injury to personnel.
- This product is not a rotary joint. So, the product cannot be used for rotational or rotation acting applications.
- Be sure to use the cushion mechanism of the cylinder or the buffer mechanism, such as the shock absorber so that any impact force is not applied to the floating joint when stopping a driven body. If there is no buffer mechanism, an excessive impact force is generated. As a result, the tensile compression force of the floating joint may exceed its maximum level.

Maintenance

⚠ Warning

- Do not reuse if disassembled.
High strength adhesive is applied to the portion of the connection that is threaded to prevent it from loosening, and it must not be disassembled. If it is forcefully disassembled, it could lead to damage.

1144

Model/Specifications

| Model | Applicable bore size (mm) | Applicable cylinder nominal thread size | Maximum operating tension and compression force (N) | | | Allowable eccentricity U (mm) | Rotating angle | Ambient temperature |
|--|---------------------------|---|---|-------------|-----------|-------------------------------|----------------|---------------------|
| | | | Basic type | Flange type | Foot type | | | |
| Standard/Thread nominal size | | | | | | | | |
| JA6-3-050 | 6 | M3 x 0.5 | 19 | — | — | 0.5 | ±5° | -5 to 60°C |
| JA10-4-070 | 10 | M4 x 0.7 | 54 | — | — | 0.5 | | |
| JA15-5-080 | 10, 15 | M5 x 0.8 | 123 | — | — | 0.5 | | |
| JA15-6-100 | 15 | M6 x 1 | 123 | — | — | 0.5 | | |
| JA□20-8-125 | 20 | M8 x 1.25 | 1100 | 1100 | 1000 | 0.5 | | |
| JA□30-10-125 | 25, 32 | M10 x 1.25 | 2500 | 2500 | 2000 | 0.5 | | |
| JA□40-14-150 | 40 | M14 x 1.5 | 4400 | 4400 | 4400 | 0.75 | | |
| JA□63-18-150 | 50, 63 | M18 x 1.5 | 11000 | 11000 | 9000 | 1 | | |
| JA□80-22-150 | 80 | M22 x 1.5 | 18000 | 18000 | 14000 | 1.25 | | |
| JA□100-26-150 | 100 | M26 x 1.5 | 28000 | 28000 | 22000 | 2 | | |
| JA□140-30-150 | 125, 140 | M30 x 1.5 | 54000 | 36000 | 36000 | 2.5 | | |
| JA□160-36-150 | 160 | M36 x 1.5 | 71000 | 55000 | 55000 | 3 | | |
| Semi-standard/Thread nominal size | | | | | | | | |
| JA□20-8-100 | 20 | M8 x 1 | 1100 | 1100 | 1000 | 0.5 | ±5° | -5 to 60°C |
| JA□25-10-150 | 25 | M10 x 1.5 | 2500 | 2500 | 2000 | 0.5 | | |
| JA□32-10-100 | 32 | M10 x 1 | 2500 | 2500 | 2000 | 0.5 | | |
| JA□40-12-125 | 32, 40 | M12 x 1.25 | 4400 | 4400 | 4400 | 0.75 | | |
| JA□40-12-150 | 40 | M12 x 1.5 | 4400 | 4400 | 4400 | 0.75 | | |
| JA□40-12-175 | 32, 40 | M12 x 1.75 | 4400 | 4400 | 4400 | 0.75 | | |
| JA□50-16-150 | 50 | M16 x 1.5 | 11000 | 11000 | 9000 | 1 | | |
| JA□63-16-200 | 50, 63 | M16 x 2 | 11000 | 11000 | 9000 | 1 | | |
| JA□80-20-250 | 80 | M20 x 2.5 | 18000 | 18000 | 14000 | 1.25 | | |
| JA□100-24-300 | 100 | M24 x 3 | 28000 | 28000 | 22000 | 2 | | |
| JA□100-27-150 | 100 | M27 x 1.5 | 28000 | 28000 | 22000 | 2 | | |
| JA□125-27-200 | 125 | M27 x 2 | 28000 | 28000 | 28000 | 2 | | |
| JA□160-33-200 | 160 | M33 x 2 | 71000 | 55000 | 55000 | 3 | | |

How to Order

JA F 40 - 14-150 -

Mounting type

| | |
|-----|-------------|
| Nil | Basic type |
| F | Flange type |
| L | Foot type |

Applicable bore size (mm)

| Model | Symbol | Applicable bore size (mm) |
|----------|--------|---------------------------|
| Standard | 6 | 6 |
| | 10 | 10 |
| | 15 | 10, 15 |
| | 20 | 20 |
| | 30 | 25, 32 |
| | 40 | 40 |
| | 63 | 50, 63 |
| | 80 | 80 |
| | 100 | 100 |
| | 140 | 125, 140 |
| 160 | 160 | |
| 180 | 180 | |
| 200 | 200 | |

Option

| | |
|-----|--|
| Nil | None |
| X11 | High temperature specifications -5 to 100°C |

Thread nominal size (Standard)

| Nominal thread size | Applicable cylinder nominal thread size |
|---------------------|---|
| 3-050 | M3 x 0.5 |
| 4-070 | M4 x 0.7 |
| 5-080 | M5 x 0.8 |
| 6-100 | M6 x 1 |
| 8-125 | M8 x 1.25 |
| 10-125 | M10 x 1.25 |
| 14-150 | M14 x 1.5 |
| 18-150 | M18 x 1.5 |
| 22-150 | M22 x 1.5 |
| 26-150 | M26 x 1.5 |
| 30-150 | M30 x 1.5 |
| 36-150 | M36 x 1.5 |

⚠ Caution

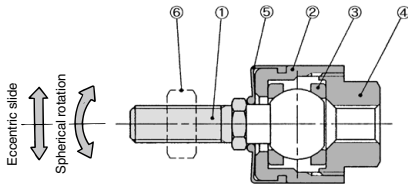
- The black zinc chromate treatment is applied to the material surfaces of the case, flange and foot. However, the white deposit may rarely occur on the surface. This white deposit does not affect the product functions. However, if the white deposit becomes a problem from a viewpoint of appearance, special products with the surface treatment changed to the electroless nickel plating are also available. For details, please contact SMC.

Made to Order: Individual Specifications -X530

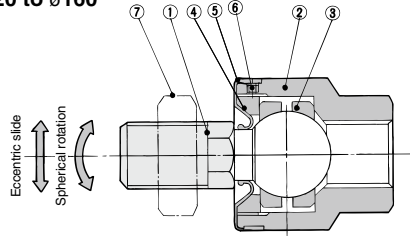
Note) For details, refer to page 1149.
For pneumatic cylinders

Construction

ø6 to ø15



ø20 to ø160



Component Parts

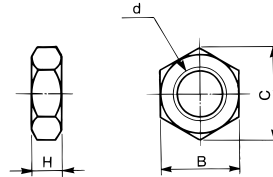
| No. | Description | Material | Note |
|-----|-------------|---------------------------|---------------------------|
| 1 | Stud | Free-cutting steel | Electroless nickel plated |
| 2 | Case | Brass | Electroless nickel plated |
| 3 | Ring | Stainless steel | |
| 4 | Socket | Brass | Electroless nickel plated |
| 5 | Dust cover | Synthetic rubber | |
| 6 | Rod end nut | Low carbon steel wire rod | Zinc chromated |

| No. | Description | Material | Note |
|-----|-------------|---------------------------|----------------------|
| 1 | Stud | Chromium molybdenum steel | Dyed black |
| 2 | Case | Carbon steel | Black zinc chromated |
| 3 | Ring | Chromium molybdenum steel | |
| 4 | Cap | Carbon steel | Black zinc chromated |
| 5 | Dust cover | Synthetic rubber | |
| 6 | Set screw | Carbon steel | Zinc chromated |
| 7 | Rod end nut | Carbon steel | Zinc chromated |
| 8 | Flange | Rolled steel | Black zinc chromated |
| 9 | Foot | Rolled steel | Black zinc chromated |

Accessory Dimensions

Rod end nut

One rod end nut is supplied with the JA series or JAH basic type. If additional nuts are needed, please order them using the part no. shown below.



| Model | Order no. | d: Thread nominal size | H | B | C |
|--------------|-----------|------------------------|-----|-----|------|
| JA6-3-050 | DA00201 | M3x0.5 | 2.4 | 5.5 | 6.4 |
| JA10-4-070 | DA00117 | M4x0.7 | 3.2 | 7 | 8.1 |
| JA15-5-080 | DA00118 | M5x0.8 | 4 | 8 | 9.2 |
| JA15-6-100 | DA00119 | M6x1 | 5 | 10 | 11.5 |
| JA20-8-100 | DA00207 | M8x1 | 5 | 13 | 15 |
| JA20-8-125 | DA00169 | M8x1.25 | 5 | 13 | 15 |
| JA32-10-100 | DA00141 | M10x1 | 6 | 17 | 19.6 |
| JA30-10-125 | DA00142 | M10x1.25 | 6 | 17 | 19.6 |
| JA25-10-150 | DA00140 | M10x1.5 | 6 | 17 | 19.6 |
| JA40-12-125 | DA00145 | M12x1.25 | 7 | 19 | 21.9 |
| JA40-12-150 | DA00146 | M12x1.5 | 7 | 19 | 21.9 |
| JA40-12-175 | DA00143 | M12x1.75 | 7 | 19 | 21.9 |
| JA40-14-150 | DA00148 | M14x1.5 | 8 | 22 | 25.4 |
| JA50-16-150 | DA00151 | M16x1.5 | 10 | 24 | 27.7 |
| JAH40-16-150 | | | | | |
| JA63-16-200 | DA00150 | M16x2 | 10 | 24 | 27.7 |
| JA63-18-150 | DA00153 | M18x1.5 | 11 | 27 | 31.2 |

(mm)

| Model | Order no. | d: Thread nominal size | H | B | C |
|---------------|-----------|------------------------|----|----|------|
| JAH50-20-150 | DA00155 | M20x1.5 | 12 | 30 | 34.6 |
| JAH80-20-250 | DA00154 | M20x2.5 | 12 | 30 | 34.6 |
| JAH80-22-150 | DA00156 | M22x1.5 | 13 | 32 | 37 |
| JAH63-24-150 | DA00158 | M24x1.5 | 14 | 36 | 41.6 |
| JAH63-24-200 | DA00159 | M24x2 | 14 | 36 | 41.6 |
| JA100-24-300 | DA00157 | M24x3 | 14 | 36 | 41.6 |
| JA100-26-150 | DA00160 | M26x1.5 | 16 | 41 | 47.3 |
| JA100-27-150 | DA00161 | M27x1.5 | 16 | 41 | 47.3 |
| JA125-27-200 | DA00162 | M27x2 | 16 | 41 | 47.3 |
| JA140-30-150 | DA00224 | M30x1.5 | 18 | 46 | 53.1 |
| JAH80-30-150 | | | | | |
| JAH80-30-200 | DA00163 | M30x2 | 18 | 46 | 53.1 |
| JA160-33-200 | DA00225 | M33x2 | 20 | 50 | 57.7 |
| JA160-36-150 | DA00164 | M36x1.5 | 21 | 55 | 63.5 |
| JAH100-39-150 | DA00204 | M39x1.5 | 23 | 60 | 69.3 |
| JA1100-42-300 | DA00165 | M42x3 | 25 | 65 | 75 |
| JAH100-48-150 | DA00205 | M48x1.5 | 29 | 75 | 86.5 |

(mm)

Floating Joint Replacement Parts

Dust cover

Order with the following part no. if dust cover is damaged. Replaceable dust cover is only for the basic type. Flange type and foot type cannot be replaced.

| Part no. for dust cover | Applicable model |
|-------------------------|------------------|
| P2152051 | JA6, JA10 |
| P2152052 | JA15, JB12, JB16 |
| P215215 | JA20, JB20 |
| P215225 | JA30, JB30 |
| P215235 | JA40, JB40 |
| P215245 | JA63, JA50, JB63 |

| Part no. for dust cover | Applicable model |
|-------------------------|----------------------|
| P215255 | JA80, JAH40, JB80 |
| P215265 | JA100, JAH50, JB100 |
| P215275 | JA125, JAH63 |
| P215285 | JA140, JAH80, JB140 |
| P215295 | JA160, JAH100, JB160 |

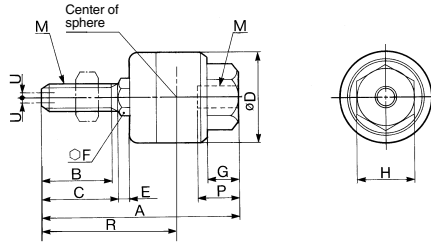
D-□

-X□

Technical Data

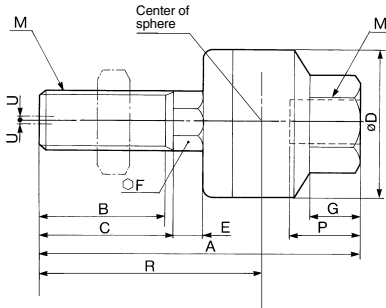
Basic Type: JA6 to JA160

JA6 to 15

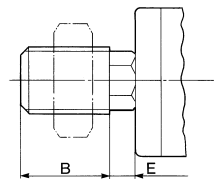
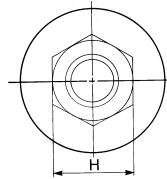


Use the precision spanner for clock 4 mm in the case of mounting male thread of JA6 and JA10.

JA20 to 160



Without C-dimension



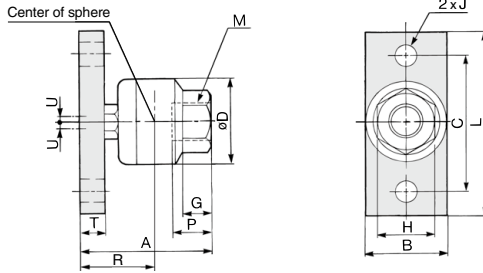
| Applicable bore size (mm) | Model | M | | A | B | C | D | E | F | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|---|--------------|--------------|-------|------|------|----|------|------|----|------|-----|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | |
| Standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa | | | | | | | | | | | | | | | | |
| 6 | JA6-3-050 | 3 | 0.5 | 23.2 | 7 | 8 | 12 | 1.5 | 4 | 3.2 | 5.5 | 15 | 5 | 0.5 | 19 | 0.01 |
| 10 (CJ1) | JA10-4-070 | 4 | 0.7 | 26 | 9 | 10 | 12 | 1.5 | 4 | 4 | 7 | 17 | 5.5 | 0.5 | 54 | 0.01 |
| 10 (CZ1), 15 (CJ1) | JA15-5-080 | 5 | 0.8 | 34.5 | 12.5 | 14 | 16 | 2 | 6 | 5 | 10 | 23 | 7 | 0.5 | 123 | 0.02 |
| 15 (CZ1) | JA15-6-100 | 6 | 1 | 34.5 | 12.5 | 14 | 16 | 2 | 6 | 5 | 10 | 23 | 7 | 0.5 | 123 | 0.02 |
| 20 | JA20-8-125 | 8 | 1.25 | 44 | 17.5 | - | 21 | 4.5 | 7 | 7 | 13 | 30.5 | 8 | 0.5 | 1100 | 0.05 |
| 25, 32 | JA30-10-125 | 10 | 1.25 | 49.5 | 19.5 | - | 24 | 5 | 8 | 8 | 17 | 34 | 9 | 0.5 | 2500 | 0.07 |
| 40 | JA40-14-150 | 14 | 1.5 | 60 | 20 | - | 31 | 6 | 11 | 11 | 22 | 38 | 13 | 0.75 | 4400 | 0.16 |
| 50, 63 | JA63-18-150 | 18 | 1.5 | 74.5 | 25 | - | 41 | 7.5 | 14 | 13.5 | 27 | 47.5 | 15 | 1 | 11000 | 0.31 |
| 80 | JA80-22-150 | 22 | 1.5 | 89.5 | 29 | - | 50 | 9.5 | 19 | 16 | 32 | 56.5 | 18 | 1.25 | 18000 | 0.58 |
| 100 | JA100-26-150 | 26 | 1.5 | 110 | 35 | - | 59.5 | 11.5 | 24 | 20 | 41 | 68 | 24 | 2 | 28000 | 1.08 |
| 125, 140 | JA140-30-150 | 30 | 1.5 | 152 | 42 | 45 | 79 | 14 | 30 | 22 | 46 | 94.5 | 38 | 2.5 | 54000 | 2.7 |
| 160 | JA160-36-150 | 36 | 1.5 | 178 | 52 | 55 | 96 | 16 | 36 | 24 | 55 | 112 | 42 | 3 | 71000 | 4.7 |

Semi-standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa

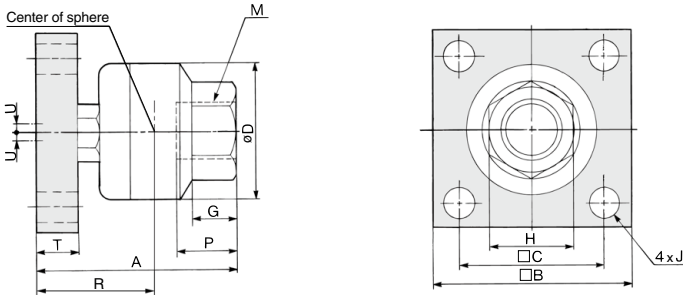
| | | | | | | | | | | | | | | | | |
|--------|--------------|----|------|------|------|----|------|------|----|------|----|------|----|------|-------|------|
| 20 | JA20-8-100 | 8 | 1 | 44 | 17.5 | - | 21 | 4.5 | 7 | 7 | 13 | 30.5 | 8 | 0.5 | 1100 | 0.05 |
| 25 | JA25-10-150 | 10 | 1.5 | 49.5 | 19.5 | - | 24 | 5 | 8 | 8 | 17 | 34 | 9 | 0.5 | 2500 | 0.07 |
| 32 | JA32-10-100 | 10 | 1 | 49.5 | 19.5 | - | 24 | 5 | 8 | 8 | 17 | 34 | 9 | 0.5 | 2500 | 0.07 |
| 32, 40 | JA40-12-125 | 12 | 1.25 | 60 | 20 | - | 31 | 6 | 11 | 11 | 22 | 38 | 13 | 0.75 | 4400 | 0.16 |
| 40 | JA40-12-150 | 12 | 1.5 | 60 | 20 | - | 31 | 6 | 11 | 11 | 22 | 38 | 13 | 0.75 | 4400 | 0.16 |
| 32, 40 | JA40-12-175 | 12 | 1.75 | 60 | 20 | - | 31 | 6 | 11 | 11 | 22 | 38 | 13 | 0.75 | 4400 | 0.16 |
| 50 | JA50-16-150 | 16 | 1.5 | 71.5 | 22 | - | 41 | 7.5 | 14 | 13.5 | 27 | 44.5 | 15 | 1 | 11000 | 0.3 |
| 50, 63 | JA63-16-200 | 16 | 2 | 71.5 | 22 | - | 41 | 7.5 | 14 | 13.5 | 27 | 44.5 | 15 | 1 | 11000 | 0.3 |
| 80 | JA80-20-250 | 20 | 2.5 | 90.5 | 27 | 30 | 50 | 9.5 | 19 | 16 | 32 | 57.5 | 18 | 1.25 | 18000 | 0.6 |
| 100 | JA100-24-300 | 24 | 3 | 110 | 32 | 35 | 59.5 | 11.5 | 24 | 20 | 41 | 68 | 24 | 2 | 28000 | 1.05 |
| 100 | JA100-27-150 | 27 | 1.5 | 110 | 35 | - | 59.5 | 11.5 | 24 | 20 | 41 | 68 | 24 | 2 | 28000 | 1.08 |
| 125 | JA125-27-200 | 27 | 2 | 123 | 34 | 38 | 66 | 13 | 24 | 20 | 41 | 77 | 24 | 2 | 28000 | 1.5 |
| 160 | JA160-33-200 | 33 | 2 | 165 | 38 | 42 | 96 | 16 | 36 | 24 | 55 | 99 | 42 | 3 | 71000 | 4.5 |

Flange Type: JAF20 to JAF160

JAF20 to ø40



øJAF50 to ø160



| Applicable bore size (mm) | Model | M | | A | B | L | C | D | T | J | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|---|---------------|--------------|-------|------|-----|----|-----|------|----|-----|------|----|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | | |
| Standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa | | | | | | | | | | | | | | | | | |
| 20 | JAF20-8-125 | 8 | 1.25 | 32.5 | 19 | 48 | 36 | 21 | 6 | 6.6 | 7 | 13 | 19 | 8 | 0.5 | 1100 | 0.08 |
| 25, 32 | JAF30-10-125 | 10 | 1.25 | 36 | 25 | 52 | 40 | 24 | 6 | 6.6 | 8 | 17 | 20.5 | 9 | 0.5 | 2500 | 0.12 |
| 40 | JAF40-14-150 | 14 | 1.5 | 49 | 32 | 70 | 52 | 31 | 9 | 9 | 11 | 22 | 27 | 13 | 0.75 | 4400 | 0.28 |
| 50, 63 | JAF63-18-150 | 18 | 1.5 | 61.5 | 65 | - | 45 | 41 | 12 | 9 | 13.5 | 27 | 34.5 | 15 | 1 | 11000 | 0.63 |
| 80 | JAF80-22-150 | 22 | 1.5 | 76.5 | 75 | - | 55 | 50 | 16 | 11 | 16 | 32 | 43.5 | 18 | 1.25 | 18000 | 1.15 |
| 100 | JAF100-26-150 | 26 | 1.5 | 94 | 90 | - | 65 | 59.5 | 19 | 11 | 20 | 41 | 52 | 24 | 2 | 28000 | 2.07 |
| 125, 140 | JAF140-30-150 | 30 | 1.5 | 131 | 125 | - | 82 | 79 | 24 | 18 | 22 | 46 | 73.5 | 38 | 2.5 | 36000 | 5.2 |
| 160 | JAF160-36-150 | 36 | 1.5 | 152 | 150 | - | 100 | 96 | 29 | 22 | 24 | 55 | 86 | 42 | 3 | 55000 | 9 |

Semi-standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa

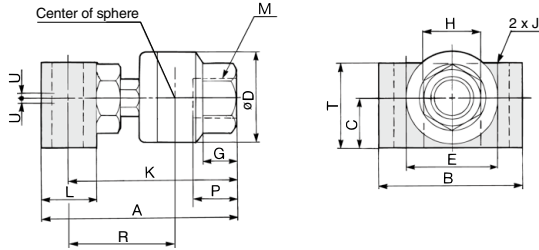
| | | | | | | | | | | | | | | | | | |
|--------|---------------|----|------|------|-----|----|-----|------|----|-----|------|----|------|----|------|-------|------|
| 20 | JAF20-8-100 | 8 | 1 | 32.5 | 19 | 48 | 36 | 21 | 6 | 6.6 | 7 | 13 | 19 | 8 | 0.5 | 1100 | 0.08 |
| 25 | JAF25-10-150 | 10 | 1.5 | 36 | 25 | 52 | 40 | 24 | 6 | 6.6 | 8 | 17 | 20.5 | 9 | 0.5 | 2500 | 0.12 |
| 32 | JAF32-10-100 | 10 | 1 | 36 | 25 | 52 | 40 | 24 | 6 | 6.6 | 8 | 17 | 20.5 | 9 | 0.5 | 2500 | 0.12 |
| 32, 40 | JAF40-12-125 | 12 | 1.25 | 49 | 32 | 70 | 52 | 31 | 9 | 9 | 11 | 22 | 27 | 13 | 0.75 | 4400 | 0.28 |
| 40 | JAF40-12-150 | 12 | 1.5 | 49 | 32 | 70 | 52 | 31 | 9 | 9 | 11 | 22 | 27 | 13 | 0.75 | 4400 | 0.28 |
| 32, 40 | JAF40-12-175 | 12 | 1.75 | 49 | 32 | 70 | 52 | 31 | 9 | 9 | 11 | 22 | 27 | 13 | 0.75 | 4400 | 0.28 |
| 50 | JAF50-16-150 | 16 | 1.5 | 61.5 | 65 | - | 45 | 41 | 12 | 9 | 13.5 | 27 | 34.5 | 15 | 1 | 11000 | 0.63 |
| 50, 63 | JAF63-16-200 | 16 | 2 | 61.5 | 65 | - | 45 | 41 | 12 | 9 | 13.5 | 27 | 34.5 | 15 | 1 | 11000 | 0.63 |
| 80 | JAF80-20-250 | 20 | 2.5 | 76.5 | 75 | - | 55 | 50 | 16 | 11 | 16 | 32 | 43.5 | 18 | 1.25 | 18000 | 1.15 |
| 100 | JAF100-24-300 | 24 | 3 | 94 | 90 | - | 65 | 59.5 | 19 | 11 | 20 | 41 | 52 | 24 | 2 | 28000 | 2.07 |
| 100 | JAF100-27-150 | 27 | 1.5 | 94 | 90 | - | 65 | 59.5 | 19 | 11 | 20 | 41 | 52 | 24 | 2 | 28000 | 2.07 |
| 125 | JAF125-27-200 | 27 | 2 | 106 | 100 | - | 72 | 66 | 21 | 18 | 20 | 41 | 60 | 24 | 2 | 28000 | 2.8 |
| 160 | JAF160-33-200 | 33 | 2 | 152 | 150 | - | 100 | 96 | 29 | 22 | 24 | 55 | 86 | 42 | 3 | 55000 | 9 |



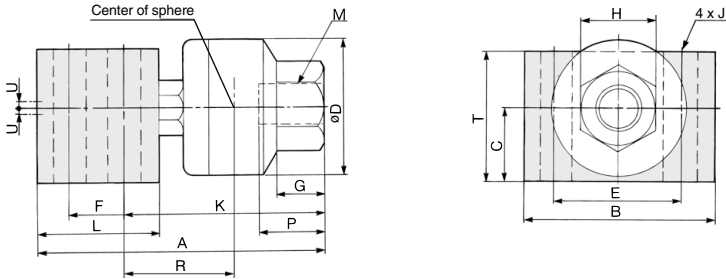
Technical Data

Foot Type: JAL20 to JAF160

JAL20 to 100



JAL125 to 160



| Applicable bore size (mm) | Model | M | | A | B | C | D | E | F | K | L | T | J | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|--|---------------|--------------|-------|------|-----|------|------|----|----|------|----|----|-----|------|----|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | | | | | |
| (mm) | | | | | | | | | | | | | | | | | | | | |
| Standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa | | | | | | | | | | | | | | | | | | | | |
| 20 | JAL20-8-125 | 8 | 1.25 | 44 | 30 | 11.5 | 21 | 18 | - | 38 | 12 | 19 | 6.6 | 7 | 13 | 24.5 | 8 | 0.5 | 1000 | 0.09 |
| 25, 32 | JAL30-10-125 | 10 | 1.25 | 52 | 42 | 14 | 24 | 24 | - | 44 | 16 | 25 | 9 | 8 | 17 | 28.5 | 9 | 0.5 | 2000 | 0.18 |
| 40 | JAL40-14-150 | 14 | 1.5 | 67 | 52 | 17.5 | 31 | 30 | - | 57.5 | 19 | 30 | 11 | 11 | 22 | 35.5 | 13 | 0.75 | 4400 | 0.36 |
| 50, 63 | JAL63-18-150 | 18 | 1.5 | 82.5 | 56 | 23 | 41 | 34 | - | 71.5 | 22 | 38 | 11 | 13.5 | 27 | 44.5 | 15 | 1 | 9000 | 0.61 |
| 80 | JAL80-22-150 | 22 | 1.5 | 98.5 | 70 | 28 | 50 | 42 | - | 86 | 25 | 47 | 14 | 16 | 32 | 53 | 18 | 1.25 | 14000 | 1.09 |
| 100 | JAL100-26-150 | 26 | 1.5 | 123 | 80 | 35 | 59.5 | 48 | - | 107 | 32 | 58 | 16 | 20 | 41 | 65 | 24 | 2 | 22000 | 2.03 |
| 125, 140 | JAL140-30-150 | 30 | 1.5 | 187 | 96 | 45 | 79 | 60 | 44 | 125 | 80 | 79 | 18 | 22 | 46 | 67.5 | 38 | 2.5 | 36000 | 6.4 |
| 160 | JAL160-36-150 | 36 | 1.5 | 213 | 116 | 55 | 96 | 74 | 48 | 144 | 90 | 89 | 22 | 24 | 55 | 78 | 42 | 3 | 55000 | 10 |
| Semi-standard Pneumatic: Up to 1 MPa Hydraulic: Up to 3.5 MPa | | | | | | | | | | | | | | | | | | | | |
| 20 | JAL20-8-100 | 8 | 1 | 44 | 30 | 11.5 | 21 | 18 | - | 38 | 12 | 19 | 6.6 | 7 | 13 | 24.5 | 8 | 0.5 | 1000 | 0.09 |
| 25 | JAL25-10-150 | 10 | 1.5 | 52 | 42 | 14 | 24 | 24 | - | 44 | 16 | 25 | 9 | 8 | 17 | 28.5 | 9 | 0.5 | 2000 | 0.18 |
| 32 | JAL32-10-100 | 10 | 1 | 52 | 42 | 14 | 24 | 24 | - | 44 | 16 | 25 | 9 | 8 | 17 | 28.5 | 9 | 0.5 | 2000 | 0.18 |
| 32, 40 | JAL40-12-125 | 12 | 1.25 | 67 | 52 | 17.5 | 31 | 30 | - | 57.5 | 19 | 30 | 11 | 11 | 22 | 35.5 | 13 | 0.75 | 4400 | 0.36 |
| 40 | JAL40-12-150 | 12 | 1.5 | 67 | 52 | 17.5 | 31 | 30 | - | 57.5 | 19 | 30 | 11 | 11 | 22 | 35.5 | 13 | 0.75 | 4400 | 0.36 |
| 32, 40 | JAL40-12-175 | 12 | 1.75 | 67 | 52 | 17.5 | 31 | 30 | - | 57.5 | 19 | 30 | 11 | 11 | 22 | 35.5 | 13 | 0.75 | 4400 | 0.36 |
| 50 | JAL50-16-150 | 16 | 1.5 | 82.5 | 56 | 23 | 41 | 34 | - | 71.5 | 22 | 38 | 11 | 13.5 | 27 | 44.5 | 15 | 1 | 9000 | 0.61 |
| 50, 63 | JAL63-16-200 | 16 | 2 | 82.5 | 56 | 23 | 41 | 34 | - | 71.5 | 22 | 38 | 11 | 13.5 | 27 | 44.5 | 15 | 1 | 9000 | 0.61 |
| 80 | JAL80-20-250 | 20 | 2.5 | 98.5 | 70 | 28 | 50 | 42 | - | 86 | 25 | 47 | 14 | 16 | 32 | 53 | 18 | 1.25 | 14000 | 1.09 |
| 100 | JAL100-24-300 | 24 | 3 | 123 | 80 | 35 | 59.5 | 48 | - | 107 | 32 | 58 | 16 | 20 | 41 | 65 | 24 | 2 | 22000 | 2.03 |
| 100 | JAL100-27-150 | 27 | 1.5 | 123 | 80 | 35 | 59.5 | 48 | - | 107 | 32 | 58 | 16 | 20 | 41 | 65 | 24 | 2 | 22000 | 2.03 |
| 125 | JAL125-27-200 | 27 | 2 | 155 | 88 | 38 | 66 | 54 | 36 | 102 | 70 | 69 | 14 | 20 | 41 | 56 | 24 | 2 | 28000 | 4.1 |
| 160 | JAL160-33-200 | 33 | 2 | 213 | 116 | 55 | 96 | 74 | 48 | 144 | 90 | 89 | 22 | 24 | 55 | 78 | 42 | 3 | 55000 | 10 |



Please contact SMC for detailed dimensions, specifications and lead times.

1 For Pneumatic Cylinders (ø180, ø200)

Symbol
-X530

JA series standard type floating joint which is used for pneumatic cylinders (ø180, ø200)

* This product is dedicated to the pneumatic cylinders.

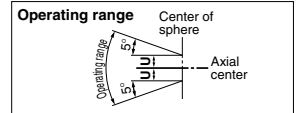


Model/Specifications

| Applicable bore size (mm) | Model | Applicable cylinder nominal thread size | Maximum operating tensile and compressive force (N) | | | Allowable eccentricity (U) | Rotating angle | Ambient temperature |
|---------------------------|--------------------|---|---|-------------|-----------|----------------------------|----------------|---------------------|
| | | | Basic type | Flange type | Foot type | | | |
| 180 | JA□180-40-150-X530 | M40 x 1.5 | 71000 | 55000 | 55000 | 3 | 5° | -5 to 60°C |
| 200 | JA□200-45-150-X530 | M45 x 1.5 | | | | | | |

Specifications

| | |
|--------------------|------------------------------------|
| Operating pressure | Pneumatic cylinder: 1 MPa or less |
| Mounting | Basic type, Flange type, Foot type |



How to Order

JA F 180 - 40-150 - X530

Mounting type

| | |
|------------|-------------|
| Nil | Basic type |
| F | Flange type |
| L | Foot type |

For pneumatic cylinders (ø180, ø200)

Applicable bore size

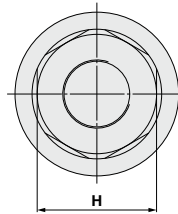
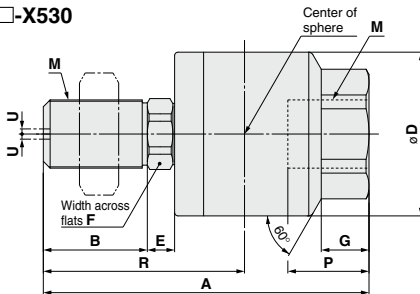
| Symbol | Applicable bore size |
|------------|----------------------|
| 180 | 180 mm |
| 200 | 200 mm |

Nominal thread size

| Nominal thread size | Applicable cylinder nominal thread size |
|---------------------|---|
| 40-150 | M40 x 1.5 |
| 45-150 | M45 x 1.5 |

Basic Type: JA

JA ¹⁸⁰/₂₀₀ - □ - X530



Dimensions

| Applicable bore size | Model | M | | A | B | D | E | F | G | H | Center of sphere R | Maximum screw-in depth P | Allowable eccentricity U | Maximum operating tensile and compressive force (N) | Weight (kg) |
|----------------------|-------------------|--------------|-------|-----|----|----|----|----|----|----|--------------------|--------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | |
| 180 | JA180-40-150-X530 | 40 | 1.5 | 191 | 61 | 96 | 16 | 36 | 28 | 70 | 118 | 49 | 3 | 71000 | 5.3 |
| 200 | JA200-45-150-X530 | 45 | 1.5 | 191 | 61 | 96 | 16 | 36 | 28 | 70 | 118 | 49 | 3 | 71000 | 5.4 |

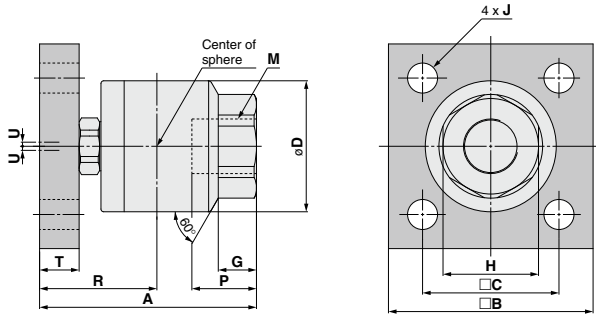
D-□

-X□

Technical Data

Flange Type: JAF

JAF 180-□-X530
200

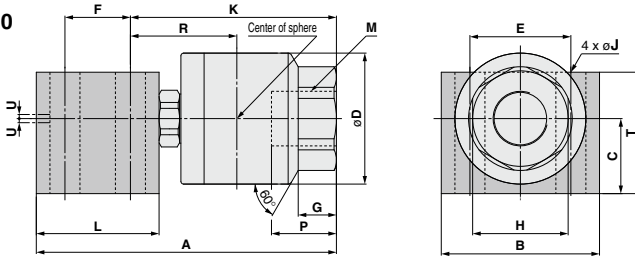


Dimensions

| Applicable bore size | Model | M | | A | B | C | D | T | J | G | H | Center of sphere R | Maximum screw-in depth P | Allowable eccentricity U | Maximum operating tensile and compressive force (N) | Weight (kg) |
|----------------------|--------------------|--------------|-------|-----|-----|-----|----|----|----|----|----|--------------------|--------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | |
| 180 | JAF180-40-150-X530 | 40 | 1.5 | 159 | 150 | 100 | 96 | 29 | 22 | 28 | 70 | 86 | 49 | 3 | 55000 | 9.1 |
| 200 | JAF200-45-150-X530 | 45 | 1.5 | 159 | 150 | 100 | 96 | 29 | 22 | 28 | 70 | 86 | 49 | 3 | 55000 | 9.2 |

Foot Type: JAL

JAL 180-□-X530
200

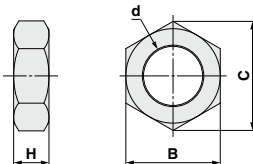


Dimensions

| Applicable bore size | Model | M | | A | B | C | D | E | F | K | L | T | J | G | H | Center of sphere R | Maximum screw-in depth P | Allowable eccentricity U | Maximum operating tensile and compressive force (N) | Weight (kg) |
|----------------------|--------------------|--------------|-------|-----|-----|----|----|----|----|-----|----|----|----|----|----|--------------------|--------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | | | | | |
| 180 | JAL180-40-150-X530 | 40 | 1.5 | 220 | 116 | 55 | 96 | 74 | 48 | 151 | 90 | 89 | 22 | 28 | 70 | 78 | 49 | 3 | 55000 | 10.3 |
| 200 | JAL200-45-150-X530 | 45 | 1.5 | 220 | 116 | 55 | 96 | 74 | 48 | 151 | 90 | 89 | 22 | 28 | 70 | 78 | 49 | 3 | 55000 | 10.4 |

Rod End Nut

The basic type has one rod end nut attached, it is possible to order additional pieces by the order numbers below.



| Model | Order no. | d: Nominal thread size | H | B | C |
|-------------------|-----------|------------------------|----|----|------|
| JA180-40-150-X530 | DA00425 | M40 x 1.5 | 23 | 60 | 69.3 |
| JA200-45-150-X530 | DA00447 | M45 x 1.5 | 27 | 70 | 80.8 |

Floating Joint Replacement Parts

Dust cover

When the dust cover is damaged and deteriorated, order with the part number below.

Replaceable dust cover is only for the basic type. Flange type and foot type cannot be replaced.

| Part no. for dust cover | Applicable model |
|-------------------------|-------------------|
| P215295 | JA180, 200-□-X530 |

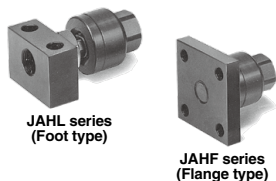
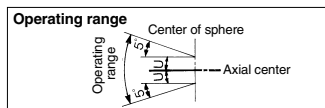
Floating Joint: Heavy Load Type

JAH Series

RoHS

Specifications

| | |
|---------------------------|--------------------------------------|
| Operating pressure | Hydraulic cylinder: 7 MPa or less |
| Mounting | Basic type, Flange type, Foot type |



Specifications

| Model | Applicable bore size (mm) | Applicable cylinder nominal thread size | Maximum operating tension and compression force (N) | | | Allowable eccentricity U (mm) | Rotating angle | Ambient temperature | | |
|--|---------------------------|---|---|-------------|-----------|-------------------------------|----------------|---------------------|--|--|
| | | | Basic type | Flange type | Foot type | | | | | |
| Standard/Thread nominal size | | | | | | | | | | |
| JAH□40-16-150 | 40 | M16 x 1.5 | 11000 | 9000 | 9000 | 1.25 | ±5° | -5 to 60°C | | |
| JAH□50-20-150 | 50 | M20 x 1.5 | 18000 | 14000 | 14000 | 2 | | | | |
| JAH□63-24-150 | 63 | M24 x 1.5 | 28000 | 22000 | 22000 | 2 | | | | |
| JAH□80-30-150 | 80 | M30 x 1.5 | 54000 | 36000 | 36000 | 2.5 | | | | |
| JAH□100-39-150 | 100 | M39 x 1.5 | 71000 | 55000 | 55000 | 3 | | | | |
| JAH□100-48-150 | 100 | M48 x 1.5 | 71000 | 55000 | 55000 | 3 | ±5° | | | |
| Semi-standard/Thread nominal size | | | | | | | | | | |
| JAH□63-24-200 | 63 | M24 x 2 | 28000 | 22000 | 22000 | 2 | | | | |
| JAH□80-30-200 | 80 | M30 x 2 | 54000 | 36000 | 36000 | 2.5 | | | | |
| JAH□100-42-300 | 100 | M42 x 3 | 71000 | 55000 | 55000 | 3 | | | | |

How to Order

J A H F 40 - 16-150 -

Heavy load type

Mounting type

| | |
|-----|-------------|
| Nil | Basic type |
| F | Flange type |
| L | Foot type |

Option

| | |
|-----|--|
| Nil | None |
| X11 | High temperature specifications -5 to 100°C |

Thread nominal size (Standard)

| Nominal thread size | Applicable cylinder nominal thread size |
|---------------------|---|
| 16-150 | M16 x 1.5 |
| 20-150 | M20 x 1.5 |
| 24-150 | M24 x 1.5 |
| 30-150 | M30 x 1.5 |
| 39-150 | M39 x 1.5 |
| 48-150 | M48 x 1.5 |

Applicable bore size (mm)

| Model | Symbol | Applicable bore size (mm) |
|-----------------|--------|---------------------------|
| Heavy load type | 40 | 40 |
| | 50 | 50 |
| | 63 | 63 |
| | 80 | 80 |
| | 100 | 100 |

⚠ Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions.

Mounting

⚠ Warning

- To screw the male threads of the rod into the female threads of the socket or the case, make sure that it does not bottom out. If the floating joint is used with its rod bottomed out, the stud will not be able to float, causing damage. For the screw-in depth of the female threads, refer to the dimensions (page 1152). As a rule, after the rod bottoms out, back off 1 to 2 turns.
- The dust cover may adhere to the stud. In this case, move the dust cover at the neck of the stud by the finger or twist the stud slightly left or right to break in the dust cover before use.

Additionally, when screwing the stud and socket or the case into a driven body, screw in such parts with the dust cover removed. When screwing in such parts without removing the dust cover, this may cause damage to the dust cover.

- To use a floating joint to connect the cylinder rod to a driven body, secure it in place by applying a torque that is appropriate for the thread size. Also, if there is a risk of loosening during operation, take measures to prevent loosening, such as using a locking pin or thread adhesive.
In the event that the connected portion becomes loose, the driven body might lose control or fall off, leading to equipment damage or injury to personnel.
- This product is not a rotary joint. So, the product cannot be used for rotational or rotation acting applications.
- Be sure to use the cushion mechanism of the cylinder or the buffer mechanism, such as the shock absorber so that any impact force is not applied to the floating joint when stopping a driven body. If there is no buffer mechanism, an excessive impact force is generated. As a result, the tensile compression force of the floating joint may exceed its maximum level.

Maintenance

⚠ Warning

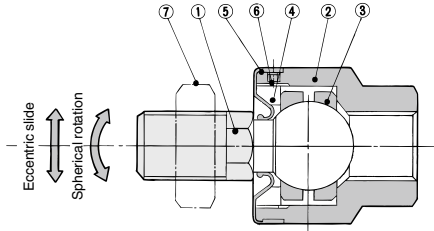
- Do not reuse if disassembled.
High strength adhesive is applied to the portion of the connection that is threaded to prevent it from loosening, and it must not be disassembled. If it is forcefully disassembled, it could lead to damage.

⚠ Caution

- The black zinc chromate treatment is applied to the material surfaces of the case, flange and foot. However, the white deposit may rarely occur on the surface. This white deposit does not affect the product functions. However, if the white deposit becomes a problem from a viewpoint of appearance, special products with the surface treatment changed to the electroless nickel plating are also available. For details, please contact SMC.

JAH Series

Construction



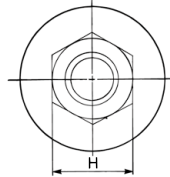
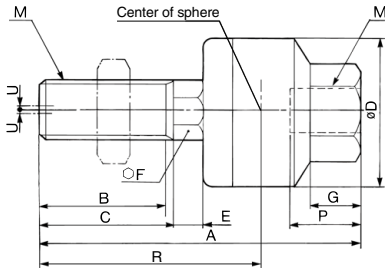
Refer to page 1145 for replacement Parts.

Component Parts

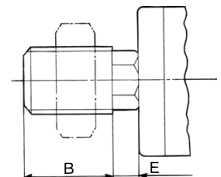
| No. | Description | Material | Note |
|-----|-------------|---------------------------|----------------------|
| 1 | Stud | Chromium molybdenum steel | Dyed black |
| 2 | Case | Carbon steel | Black zinc chromated |
| 3 | Ring | Chromium molybdenum steel | |
| 4 | Cap | Carbon steel | Black zinc chromated |
| 5 | Dust cover | Synthetic rubber | |
| 6 | Set screw | Carbon steel | Zinc chromated |
| 7 | Rod end nut | Carbon steel | Zinc chromated |
| 8 | Flange | Rolled steel plate | Black zinc chromated |
| 9 | Foot | Rolled steel plate | Black zinc chromated |

Basic Type: JAH

JAH40 to 100



Without C-dimension



(mm)

| Applicable bore size (mm) | Model | M | | A | B | C | D | E | F | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|---------------------------|-------|--------------|-------|---|---|---|---|---|---|---|---|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | |

Standard: Heavy Load Type Hydraulic: Up to 7 MPa

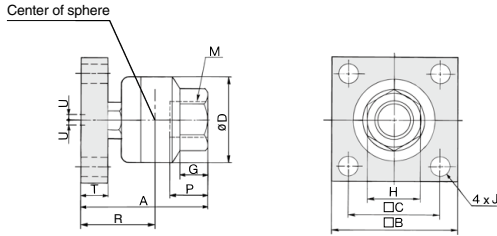
| | | | | | | | | | | | | | | | | |
|-----|---------------|----|-----|------|----|----|------|------|----|----|----|------|----|------|-------|------|
| 40 | JAH40-16-150 | 16 | 1.5 | 85.5 | 22 | 25 | 50 | 9.5 | 19 | 16 | 32 | 52.5 | 18 | 1.25 | 11000 | 0.58 |
| 50 | JAH50-20-150 | 20 | 1.5 | 101 | 28 | 31 | 59.5 | 11.5 | 24 | 16 | 32 | 64 | 18 | 2 | 18000 | 1.08 |
| 63 | JAH63-24-150 | 24 | 1.5 | 120 | 32 | 35 | 66 | 13 | 27 | 20 | 41 | 74 | 24 | 2 | 28000 | 1.5 |
| 80 | JAH80-30-150 | 30 | 1.5 | 152 | 42 | 45 | 79 | 14 | 30 | 22 | 46 | 94.5 | 38 | 2.5 | 54000 | 2.7 |
| 100 | JAH100-39-150 | 39 | 1.5 | 178 | 52 | 55 | 96 | 16 | 36 | 24 | 55 | 112 | 42 | 3 | 71000 | 4.8 |
| 100 | JAH100-48-150 | 48 | 1.5 | 191 | 61 | — | 96 | 16 | 36 | 28 | 70 | 118 | 49 | 3 | 71000 | 5.4 |

Semi-standard: Heavy Load Type Hydraulic: Up to 7 MPa

| | | | | | | | | | | | | | | | | |
|-----|---------------|----|---|-----|----|----|----|----|----|----|----|------|----|-----|-------|-----|
| 63 | JAH63-24-200 | 24 | 2 | 120 | 32 | 35 | 66 | 13 | 27 | 20 | 41 | 74 | 24 | 2 | 28000 | 1.5 |
| 80 | JAH80-30-200 | 30 | 2 | 152 | 41 | 45 | 79 | 14 | 30 | 22 | 46 | 94.5 | 38 | 2.5 | 54000 | 2.7 |
| 100 | JAH100-42-300 | 42 | 3 | 178 | 55 | — | 96 | 16 | 36 | 24 | 55 | 112 | 42 | 3 | 71000 | 4.8 |

Flange Type: JAHF

JAHF40 to 100



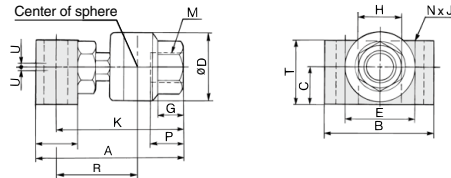
| Applicable bore size (mm) | Model | M | | A | B | C | D | T | J | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|---|----------------|--------------|-------|-----|-----|-----|------|----|----|----|----|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | |
| Standard: Heavy Load Type Hydraulic: Up to 7 MPa | | | | | | | | | | | | | | | | |
| 40 | JAHF40-16-150 | 16 | 1.5 | 76 | 75 | 50 | 50 | 15 | 11 | 16 | 32 | 43 | 18 | 1.25 | 9000 | 1.25 |
| 50 | JAHF50-20-150 | 20 | 1.5 | 89 | 100 | 62 | 59.5 | 18 | 14 | 16 | 32 | 52 | 18 | 2 | 14000 | 2.5 |
| 63 | JAHF63-24-150 | 24 | 1.5 | 106 | 100 | 72 | 66 | 21 | 18 | 20 | 41 | 60 | 24 | 2 | 22000 | 2.8 |
| 80 | JAHF80-30-150 | 30 | 1.5 | 131 | 125 | 82 | 79 | 24 | 18 | 22 | 46 | 73.5 | 38 | 2.5 | 36000 | 5.2 |
| 100 | JAHF100-39-150 | 39 | 1.5 | 152 | 150 | 100 | 96 | 29 | 22 | 24 | 55 | 86 | 42 | 3 | 55000 | 9 |
| 100 | JAHF100-48-150 | 48 | 1.5 | 159 | 150 | 100 | 96 | 29 | 22 | 28 | 70 | 86 | 49 | 3 | 55000 | 9.3 |

Semi-standard: Heavy Load Type Hydraulic: Up to 7 MPa

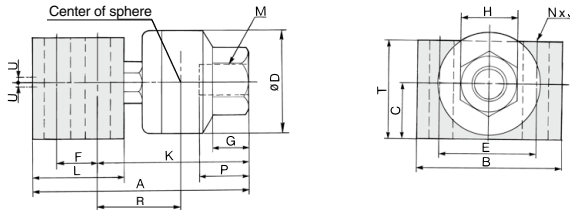
| | | | | | | | | | | | | | | | | |
|-----|----------------|----|---|-----|-----|-----|----|----|----|----|----|------|----|-----|-------|-----|
| 63 | JAHF63-24-200 | 24 | 2 | 106 | 100 | 72 | 66 | 21 | 18 | 20 | 41 | 60 | 24 | 2 | 22000 | 2.8 |
| 80 | JAHF80-30-200 | 30 | 2 | 131 | 125 | 82 | 79 | 24 | 18 | 22 | 46 | 73.5 | 38 | 2.5 | 36000 | 5.2 |
| 100 | JAHF100-42-300 | 42 | 3 | 152 | 150 | 100 | 96 | 29 | 22 | 24 | 55 | 86 | 42 | 3 | 55000 | 9 |

Foot Type: JAHL

JAHL40, 50



JAHL63 to 100



| Applicable bore size (mm) | Model | M | | A | B | C | D | E | F | K | L | T | N | J | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | Weight (kg) |
|---|----------------|--------------|-------|------|-----|----|------|----|----|-----|----|----|---|----|----|----|--------------------|------------------------|--------------------------|---|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | | | | | | | |
| Standard: Heavy Load Type Hydraulic: Up to 7 MPa | | | | | | | | | | | | | | | | | | | | | |
| 40 | JAHL40-16-150 | 16 | 1.5 | 98.5 | 70 | 28 | 50 | 42 | — | 86 | 25 | 47 | 2 | 14 | 16 | 32 | 53 | 18 | 1.25 | 9000 | 10.9 |
| 50 | JAHL50-20-150 | 20 | 1.5 | 123 | 80 | 35 | 59.5 | 48 | — | 107 | 32 | 58 | 2 | 16 | 20 | 41 | 65 | 24 | 2 | 14000 | 2.03 |
| 63 | JAHL63-24-150 | 24 | 1.5 | 155 | 88 | 38 | 66 | 54 | 36 | 102 | 70 | 69 | 4 | 18 | 20 | 41 | 56 | 24 | 2 | 22000 | 4.1 |
| 80 | JAHL80-30-150 | 30 | 1.5 | 187 | 96 | 45 | 79 | 60 | 44 | 125 | 80 | 79 | 4 | 18 | 22 | 46 | 67.5 | 38 | 2.5 | 36000 | 6.4 |
| 100 | JAHL100-39-150 | 39 | 1.5 | 213 | 116 | 55 | 96 | 74 | 48 | 144 | 90 | 89 | 4 | 22 | 24 | 55 | 78 | 42 | 3 | 55000 | 10 |
| 100 | JAHL100-48-150 | 48 | 1.5 | 220 | 116 | 55 | 96 | 74 | 48 | 151 | 90 | 89 | 4 | 22 | 28 | 70 | 78 | 49 | 3 | 55000 | 10.5 |

Semi-standard: Heavy Load Type Hydraulic: Up to 7 MPa

| | | | | | | | | | | | | | | | | | | | | | |
|-----|----------------|----|---|-----|-----|----|----|----|----|-----|----|----|---|----|----|----|------|----|-----|-------|-----|
| 63 | JAHL63-24-200 | 24 | 2 | 155 | 88 | 38 | 66 | 54 | 36 | 102 | 70 | 69 | 4 | 18 | 20 | 41 | 56 | 24 | 2 | 22000 | 4.1 |
| 80 | JAHL80-30-200 | 30 | 2 | 187 | 96 | 45 | 79 | 60 | 44 | 125 | 80 | 79 | 4 | 18 | 22 | 46 | 67.5 | 38 | 2.5 | 36000 | 6.4 |
| 100 | JAHL100-42-300 | 42 | 3 | 213 | 116 | 55 | 96 | 74 | 48 | 144 | 90 | 89 | 4 | 22 | 24 | 55 | 78 | 42 | 3 | 55000 | 10 |

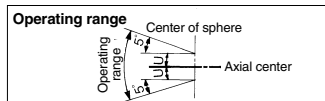
Floating Joint: For Compact Cylinders

JB Series

RoHS

Specifications

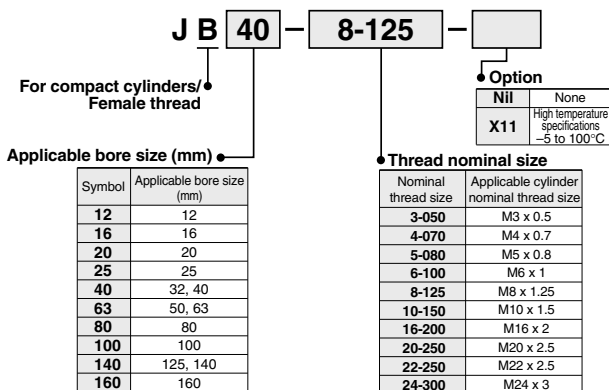
| | |
|---------------------------|--|
| Operating pressure | Air pressure compact cylinder 1 MPa or less |
|---------------------------|--|



Specifications

| Model | Applicable bore size (mm) | Applicable cylinder nominal thread size | Maximum operating tension and compression force (N) | | Allowable eccentricity U (mm) | Rotating angle | Ambient temperature |
|--------------|---------------------------|---|---|--------------|-------------------------------|----------------|---------------------|
| | | | Compression side | Tension side | | | |
| JB12-3-050 | 12 | M3 x 0.5 | 112 | 112 | 0.5 | ±5° | -5 to 60°C |
| JB16-4-070 | 16 | M4 x 0.7 | 200 | 200 | 0.5 | | |
| JB20-5-080 | 20 | M5 x 0.8 | 1100 | 300 | 0.5 | | |
| JB25-6-100 | 25 | M6 x 1 | 2500 | 500 | 0.5 | | |
| JB40-8-125 | 32, 40 | M8 x 1.25 | 6000 | 1300 | 0.75 | | |
| JB63-10-150 | 50, 63 | M10 x 1.5 | 11000 | 3100 | 1 | | |
| JB80-16-200 | 80 | M16 x 2 | 18000 | 5000 | 1.25 | | |
| JB100-20-250 | 100 | M20 x 2.5 | 28000 | 7900 | 2 | | |
| JB140-22-250 | 125, 140 | M22 x 2.5 | 54000 | 15300 | 2.5 | | |
| JB160-24-300 | 160 | M24 x 3 | 71000 | 20000 | 3 | | |

How to Order



⚠ Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions.

Mounting

⚠ Warning

- To screw the male threads of the rod into the female threads of the socket or the case, make sure that it does not bottom out. If the floating joint is used with its rod bottomed out, the stud will not be able to float, causing damage. For the screw-in depth of the female threads, refer to the dimensions (page 1155). As a rule, after the rod bottoms out, back off 1 to 2 turns.
- The dust cover may adhere to the stud. In this case, move the dust cover at the neck of the stud by the finger or twist the stud slightly left or right to break in the dust cover before use.

Additionally, when screwing the stud and socket or the case into a driven body, screw in such parts with the dust cover removed. When screwing in such parts without removing the dust cover, this may cause damage to the dust cover.

- To use a floating joint to connect the cylinder rod to a driven body, secure it in place by applying a torque that is appropriate for the thread size. Also, if there is a risk of loosening during operation, take measures to prevent loosening, such as using a locking pin or thread adhesive. In the event that the connected portion becomes loose, the driven body might lose control or fall off, leading to equipment damage or injury to personnel.
- This product is not a rotary joint. So, the product cannot be used for rotational or rotation acting applications.
- Be sure to use the cushion mechanism of the cylinder or the buffer mechanism, such as the shock absorber so that any impact force is not applied to the floating joint when stopping a driven body. If there is no buffer mechanism, an excessive impact force is generated. As a result, the tensile compression force of the floating joint may exceed its maximum level.

Maintenance

⚠ Warning

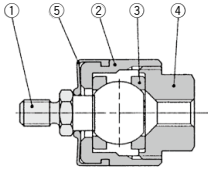
- Do not reuse if disassembled. High strength adhesive is applied to the portion of the connection that is threaded to prevent it from loosening, and it must not be disassembled. If it is forcefully disassembled, it could lead to damage.

⚠ Caution

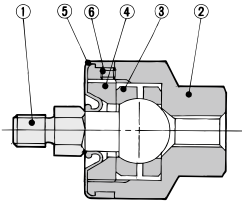
- The black zinc chromate treatment is applied to the material surfaces of the case, flange and foot. However, the white deposit may rarely occur on the surface. This white deposit does not affect the product functions. However, if the white deposit becomes a problem from a viewpoint of appearance, special products with the surface treatment changed to the electroless nickel plating are also available. For details, please contact SMC.

Construction

ø12, ø16



ø20 to ø160



Component Parts

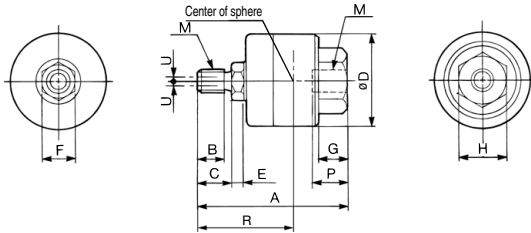
| No. | Description | Material | Note |
|-----|-------------|--------------------|---------------------------|
| 1 | Stud | Free-cutting steel | Electroless nickel plated |
| 2 | Case | Brass | Electroless nickel plated |
| 3 | Ring | Stainless steel | |
| 4 | Socket | Brass | Electroless nickel plated |
| 5 | Dust cover | Synthetic rubber | |

Refer to page 1145 for replacement Parts.

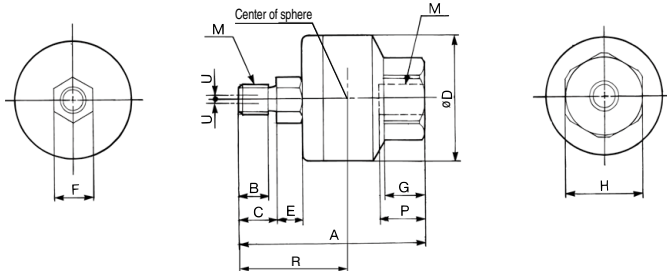
| No. | Description | Material | Note |
|-----|-------------|---------------------------|----------------------|
| 1 | Stud | Chromium molybdenum steel | Dyed black |
| 2 | Case | Carbon steel | Black zinc chromated |
| 3 | Ring | Chromium molybdenum steel | |
| 4 | Cap | Carbon steel | Black zinc chromated |
| 5 | Dust cover | Synthetic rubber | |
| 6 | Set screw | Carbon steel | Zinc chromated |

Basic Type: JB

JB12, 16



JB20 to 160



| Applicable bore size (mm) | Model | M | | A | B | C | D | E | F | G | H | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tension and compression force (N) | | Weight (kg) |
|---------------------------|--------------|--------------|-------|------|-----|-----|------|------|----|------|----|--------------------|------------------------|--------------------------|---|---------|-------------|
| | | Nominal size | Pitch | | | | | | | | | | | | Compression | Tension | |
| 12 | JB12-3-050 | 3 | 0.5 | 24.5 | 3 | 4 | 16 | 2 | 6 | 5 | 10 | 13 | 7 | 0.5 | 112 | 112 | 0.02 |
| 16 | JB16-4-070 | 4 | 0.7 | 26.5 | 4.5 | 6 | 16 | 2 | 6 | 5 | 10 | 15 | 7 | 0.5 | 200 | 200 | 0.02 |
| 20 | JB20-5-080 | 5 | 0.8 | 33 | 5 | 6.5 | 21 | 4.5 | 7 | 7 | 13 | 19.5 | 8 | 0.5 | 1100 | 300 | 0.04 |
| 25 | JB25-6-100 | 6 | 1 | 38 | 6 | 8 | 24 | 5 | 8 | 8 | 17 | 22.5 | 9 | 0.5 | 2500 | 500 | 0.07 |
| 32, 40 | JB40-8-125 | 8 | 1.25 | 51 | 8.5 | 11 | 31 | 6 | 11 | 11 | 22 | 29 | 13 | 0.75 | 6000 | 1300 | 0.15 |
| 50, 63 | JB63-10-150 | 10 | 1.5 | 62.5 | 10 | 13 | 41 | 7.5 | 14 | 13.5 | 27 | 35.5 | 15 | 1 | 11000 | 3100 | 0.29 |
| 80 | JB80-16-200 | 16 | 2 | 80.5 | 16 | 20 | 50 | 9.5 | 19 | 16 | 32 | 47.5 | 18 | 1.25 | 18000 | 5000 | 0.56 |
| 100 | JB100-20-250 | 20 | 2.5 | 101 | 21 | 26 | 59.5 | 11.5 | 24 | 20 | 41 | 59 | 24 | 2 | 28000 | 7900 | 1.04 |
| 125, 140 | JB140-22-250 | 22 | 2.5 | 129 | 17 | 22 | 79 | 14 | 30 | 22 | 46 | 71.5 | 38 | 2.5 | 54000 | 15300 | 2.6 |
| 160 | JB160-24-300 | 24 | 3 | 149 | 20 | 26 | 96 | 16 | 36 | 24 | 55 | 83 | 42 | 3 | 71000 | 20000 | 4.5 |

D-□
-X□
Technical Data

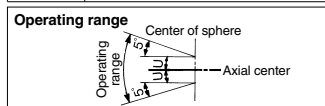
Floating Joint: Stainless Steel Type

JS Series

RoHS

Specifications

| | |
|--------------------|--|
| Operating pressure | Pneumatic cylinder: 1 MPa or less |
| | Hydraulic cylinder: 3.5 MPa or less |
| Mounting | Basic type |



JS series

⚠ Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions.

Mounting

⚠ Warning

- For the screw-in depth of the female threads, refer to the dimensions (page 1158).
- The dust cover may adhere to the stud. In this case, move the dust cover at the neck of the stud by the finger or twist the stud slightly left or right to break in the dust cover before use.
Additionally, when screwing the stud and socket or the case into a driven body, screw in such parts with the dust cover removed. When screwing in such parts without removing the dust cover, this may cause damage to the dust cover.
- To use a floating joint to connect the cylinder rod to a driven body, secure it in place by applying a torque that is appropriate for the thread size. Also, if there is a risk of loosening during operation, take measures to prevent loosening, such as using a locking pin or thread adhesive.
In the event that the connected portion becomes loose, the driven body might lose control or fall off, leading to equipment damage or injury to personnel.
- This product is not a rotary joint. So, the product cannot be used for rotational or rotation acting applications.
- Be sure to use the cushion mechanism of the cylinder or the buffer mechanism, such as the shock absorber so that any impact force is not applied to the floating joint when stopping a driven body. If there is no buffer mechanism, an excessive impact force is generated. As a result, the tensile compression force of the floating joint may exceed its maximum level.

Specifications

| Model | Applicable bore size (mm) ⁽¹⁾ | Applicable cylinder nominal thread size | Maximum operating tension and compression force (N) | Allowable eccentricity U (mm) | Operating pressure | | Ambient temperature |
|-------------|--|---|---|-------------------------------|--------------------------------|--------------------|---------------------|
| | | | | | pneumatic cylinder | Hydraulic cylinder | |
| JS10-4-070 | 10 | M4 x 0.7 | 80 | 0.5 | 1 MPa or less | - | -5 to 70°C |
| JS16-5-080 | 10, 16 | M5 x 0.8 | 210 | 0.5 | | | |
| JS20-8-125 | 20 | M8 x 1.25 | 1100 | 0.5 | | | |
| JS32-10-125 | 25, 32 | M10 x 1.25 | 2500 | 0.5 | | | |
| JS40-14-150 | 40 | M14 x 1.5 | 6000 | 0.75 | | | |
| JS63-18-150 | 50, 63 | M18 x 1.5 | 11000 | 1 | 3.5 MPa or less ⁽²⁾ | | |

Note 1) Think of applicable bore size as a guide. For details, confirm the rod end thread diameter of a cylinder to be used in the catalog.

Note 2) For 3.5 MPa hydraulic cylinders, operate within the maximum tension and compression force.

How to Order

J S 32 - 10-125

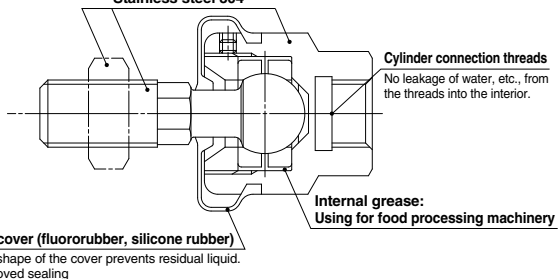
Stainless steel type Applicable bore size (mm) Nominal thread size Dust cover material

| Symbol | Applicable bore size (mm) | Symbol | Applicable cylinder nominal thread size | Symbol | Material |
|--------|---------------------------|--------|---|--------|-----------------|
| 10 | 10 | 4-070 | M4 x 0.7 | Nil | Fluororubber |
| 16 | 10, 16 | 5-080 | M5 x 0.8 | S | Silicone rubber |
| 20 | 20 | 8-125 | M8 x 1.25 | | |
| 32 | 25, 32 | 10-125 | M10 x 1.25 | | |
| 40 | 40 | 14-150 | M14 x 1.5 | | |
| 63 | 50, 63 | 18-150 | M18 x 1.5 | | |

Note) **80** 80
100 100

Made to Order: Individual Specifications -X530
Note) For details, refer to page 1159.
For pneumatic cylinders

Stainless steel 304



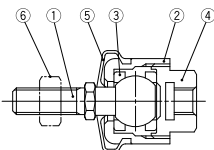
Maintenance

⚠ Warning

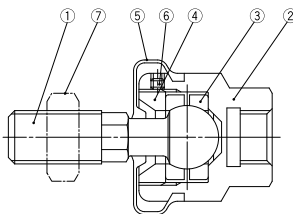
- Do not reuse if disassembled.
High strength adhesive is applied to the portion of the connection that is threaded to prevent it from loosening, and it must not be disassembled. If it is forcefully disassembled, it could lead to damage.

Construction

ø10, ø16



ø20 to ø63



Component Parts

| No. | Description | Material | Note |
|-----|-------------|-----------------------------|------|
| 1 | Stud | Stainless steel | |
| 2 | Case | Stainless steel | |
| 3 | Ring | Stainless steel | |
| 4 | Socket | Stainless steel | |
| 5 | Dust cover | Fluororubber/Silicon rubber | |
| 6 | Rod end nut | Stainless steel | |

Component Parts

| No. | Description | Material | Note |
|-----|-------------|--------------------------------|---------------------------|
| 1 | Stud | Stainless steel (Thread parts) | Electroless nickel plated |
| 2 | Case | Stainless steel | |
| 3 | Ring | Chromium molybdenum steel | Electroless nickel plated |
| 4 | Cap | Carbon steel | Electroless nickel plated |
| 5 | Dust cover | Fluororubber/Silicon rubber | |
| 6 | Set screw | Carbon steel | |
| 7 | Rod end nut | Stainless steel | |

Replacement Parts

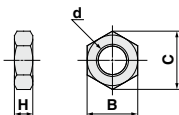
Dust cover

When the dust cover is damaged and deteriorated, order with the part number as shown below.

| Model | Part no. for dust cover | |
|-------|-------------------------|----------------|
| | Fluoro rubber | Silicon rubber |
| JS10 | P21530511 | P21530512 |
| JS16 | P21530521 | P21530522 |
| JS20 | P2153151 | P2153152 |
| JS32 | P2153251 | P2153252 |
| JS40 | P2153351 | P2153352 |
| JS63 | P2153451 | P2153452 |

Rod end nut

One rod end nut is supplied with the JS series. If additional nuts are needed, please order them using the part no. shown below.



| Model | Order no. | d: Thread nominal size | H | B | C |
|-------------|-----------|------------------------|-----|----|------|
| JS10-4-070 | DA00127 | M4×0.7 | 3.2 | 7 | 8.1 |
| JS16-5-080 | DA00128 | M5×0.8 | 4 | 8 | 9.2 |
| JS20-8-125 | DA00036 | M8×1.25 | 5 | 13 | 15 |
| JS32-10-125 | DA00006 | M10×1.25 | 6 | 17 | 19.6 |
| JS40-14-150 | DA00186 | M14×1.5 | 8 | 22 | 25.4 |
| JS63-18-150 | DA00188 | M18×1.5 | 11 | 27 | 31.2 |

J□

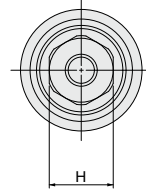
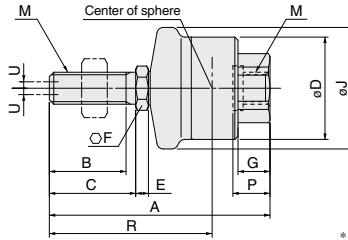
D-□

-X□

Technical
Data

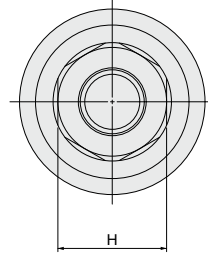
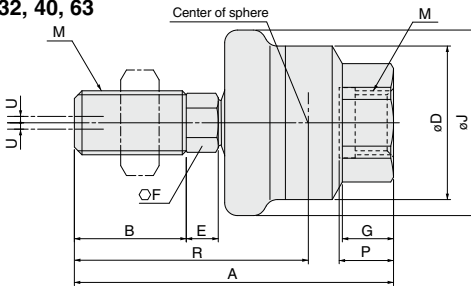
Dimensions

JS10, 16



* Use the precision spanner for clock 4 mm in the case of mounting male thread of JS10.

JS20, 32, 40, 63



| (mm) | | | | | | | | | | | | | | | |
|-------------|------------|------|------|------|----|-----|----|------|----|------|-----------------------|------------------------|-----------------------------|--|-------------|
| Model | M | A | B | C | D | E | F | G | H | J | Center of sphere R | Max. thread depth P | Allowable eccentricity U | Max. operating tension and compression force (N) | Weight (kg) |
| JS10-4-070 | M4 x 0.7 | 26 | 8.5 | 9.5 | 12 | 1.5 | 4 | 4 | 7 | 14.4 | 17 | 4.7 | 0.5 | 80 | 0.01 |
| JS16-5-080 | M5 x 0.8 | 34.5 | 12 | 13.5 | 16 | 2 | 6 | 5 | 10 | 19 | 23 | 5.8 | 0.5 | 210 | 0.02 |
| JS20-8-125 | M8 x 1.25 | 43.9 | 15.5 | — | 21 | 4.5 | 7 | 7 | 13 | 24.8 | 29.9 | 7.3 | 0.5 | 1100 | 0.05 |
| JS32-10-125 | M10 x 1.25 | 49.5 | 17.5 | — | 24 | 5 | 8 | 8 | 17 | 29 | 33.5 | 8.5 | 0.5 | 2500 | 0.08 |
| JS40-14-150 | M14 x 1.5 | 60 | 18.5 | — | 31 | 5 | 11 | 11 | 22 | 38.4 | 38 | 11.6 | 0.75 | 6000 | 0.16 |
| JS63-18-150 | M18 x 1.5 | 74.5 | 23 | — | 41 | 7 | 14 | 13.5 | 27 | 49.2 | 47.5 | 14.3 | 1 | 11000 | 0.31 |



Please contact SMC for detailed dimensions, specifications and lead times.

1 For Pneumatic Cylinders: For $\varnothing 80$, $\varnothing 100$

Symbol
-X530

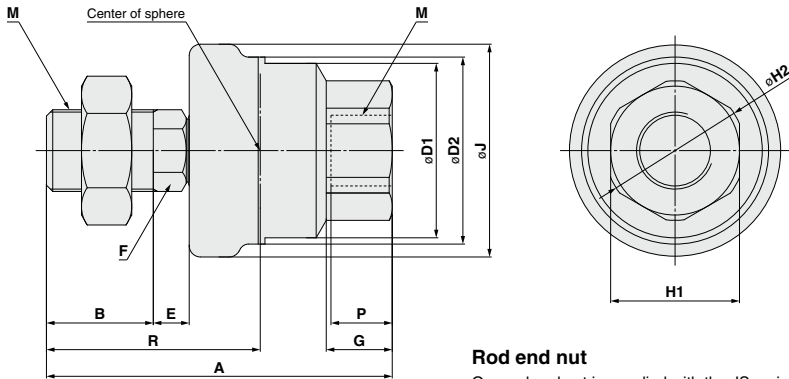
Applicable to the floating joint and stainless steel type JS series and used for pneumatic cylinders with bore sizes of $\varnothing 80$ and $\varnothing 100$.
* This product is dedicated to the pneumatic cylinders.

Model/Specifications

| Model | Applicable cylinder | | | | Maximum operating tensile and compressive force N | Allowable eccentricity U (mm) | Ambient temperature (°C) | Weight (kg) |
|--------------------|------------------------------------|---------------------|---------------------|--------------------|---|-------------------------------|--------------------------|-------------|
| | Bore size (mm) <small>Note</small> | Nominal thread size | Dust cover material | Operating pressure | | | | |
| JS80-22-150-X530 | $\varnothing 80$ | M22 x 1.5 | Fluororubber | 1 MPa or less | 5000 | 1.25 | - 5 to 70 | 0.58 |
| JS80-22-150S-X530 | | | Silicone rubber | | | | | |
| JS100-26-150-X530 | $\varnothing 100$ | M26 x 1.5 | Fluororubber | | 7850 | 2 | | |
| JS100-26-150S-X530 | | | Silicone rubber | | | | | |

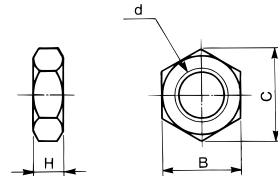
Note) Think of applicable bore size as a guide. For details, confirm the rod end thread diameter of a cylinder to be used in the catalog.

Dimensions



Rod end nut

One rod end nut is supplied with the JS series. If additional nuts are needed, please order them using the part no. shown below.



| Model | Order no. | d: Nominal thread size | H | B | C |
|----------------------|-----------|------------------------|----|----|------|
| JS80-22-150(S)-X530 | DA00243 | M22 x 1.5 | 13 | 32 | 37 |
| JS100-26-150(S)-X530 | DA00189 | M26 x 1.5 | 16 | 41 | 47.3 |

Dimensions

| Model | M | A | B | D1 | D2 | E | F | G | H1 | H2 | J | Center of sphere R | Maximum thread depth P | Allowable eccentricity U | Maximum operating tensile and compressive force (N) | Weight (kg) |
|----------------------|-----------|------|----|------|------|------|----|------|----|------|------|--------------------|------------------------|--------------------------|---|-------------|
| JS80-22-150(S)-X530 | M22 x 1.5 | 89.5 | 28 | 46 | 50 | 9.9 | 19 | 16.8 | 32 | 34.7 | 57.2 | 56.5 | 14 | 1.25 | 5000 | 0.58 |
| JS100-26-150(S)-X530 | M26 x 1.5 | 110 | 34 | 55.5 | 59.5 | 11.4 | 24 | 21 | 41 | 44.4 | 66.2 | 68 | 19.5 | 2 | 7850 | 1.05 |