

Floating Joint

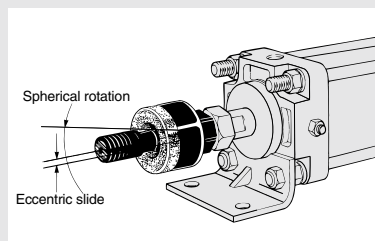
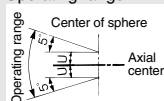
JA/JAH/JB/JS Series

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..... $\pm 5^\circ$

Operating range



Series Variations

Series	Cylinder supply pressure		Applicable bore size (mm)	Mounting	Page
Standard JA Series 	Pneumatic cylinder	0.7 MPa or less	6, 10, 15	Basic type Flange type Foot type	1144
		1 MPa or less	20, 25, 30, 40, 50, 63 80, 100, 125, 140, 160		
	Hydraulic cylinder	3.5 MPa or less	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		

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D-□

-X□

Technical
Data

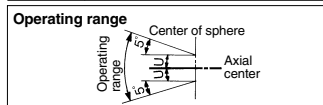
Floating Joint: Standard Type

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



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.

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				
JA20-8-125	20	M8 x 1.25	1100	1100	1000	0.5				
JA30-10-125	25, 32	M10 x 1.25	2500	2500	2000	0.5				
JA40-14-150	40	M14 x 1.5	4400	4400	4400	0.75				
JA63-18-150	50, 63	M18 x 1.5	11000	11000	9000	1				
JA80-22-150	80	M22 x 1.5	18000	18000	14000	1.25				
JA100-26-150	100	M26 x 1.5	28000	28000	22000	2				
JA140-30-150	125, 140	M30 x 1.5	54000	36000	36000	2.5	±5°	-5 to 60°C		
JA160-36-150	160	M36 x 1.5	71000	55000	55000	3				
Semi-standard/Thread nominal size										
JA20-8-100	20	M8 x 1	1100	1100	1000	0.5				
JA25-10-150	25	M10 x 1.5	2500	2500	2000	0.5				
JA32-10-100	32	M10 x 1	2500	2500	2000	0.5				
JA40-12-125	32, 40	M12 x 1.25	4400	4400	4400	0.75				
JA40-12-150	40	M12 x 1.5	4400	4400	4400	0.75				
JA40-12-175	32, 40	M12 x 1.75	4400	4400	4400	0.75				
JA50-16-150	50	M16 x 1.5	11000	11000	9000	1				
JA63-16-200	50, 63	M16 x 2	11000	11000	9000	1				
JA80-20-250	80	M20 x 2.5	18000	18000	14000	1.25				
JA100-24-300	100	M24 x 3	28000	28000	22000	2				
JA100-27-150	100	M27 x 1.5	28000	28000	22000	2				
JA125-27-200	125	M27 x 2	28000	28000	28000	2				
JA160-33-200	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.

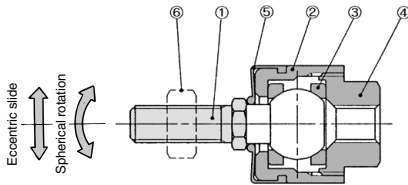
Made to Order: Individual Specifications -X530

Note) For details, refer to page 1149.

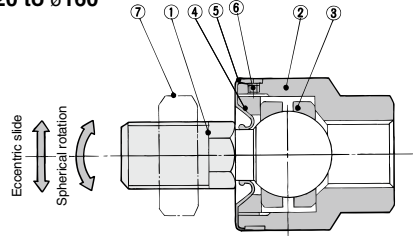
For pneumatic cylinders

Construction

ø6 to ø15



ø20 to ø160



Component Parts

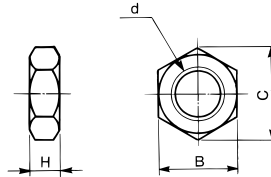
No.	Description	Material	Note
1	Stud	Free-cutting steel	Electroless nickel plated
2	Case	Brass	Electroless nickel plated
3	Ring	Stainless steel	
4	Socket	Brass	Electroless nickel plated
5	Dust cover	Synthetic rubber	
6	Rod end nut	Low carbon steel wire rod	Zinc chromated

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			10	24	27.7
JA63-16-200	DA00150	M16x2	10	24	27.7
JA63-18-150	DA00153	M18x1.5	11	27	31.2

Model	Order no.	d: Thread nominal size	H	B	C
JAH50-20-150	DA00155	M20x1.5	12	30	34.6
JA80-20-250	DA00154	M20x2.5	12	30	34.6
JA80-22-150	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			18	46	53.1
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
JAH100-42-300	DA00165	M42x3	25	65	75
JAH100-48-150	DA00205	M48x1.5	29	75	86.5

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

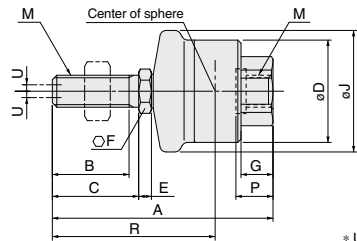
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Technical Data

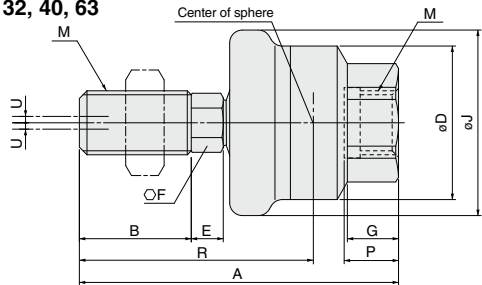
Dimensions

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