



MANUAL

FLOATING CONNECTOR



HIROTA MFG. CO., LTD.



The notes for Using

Be sure to read this before handling.



CAUTION

1. Applications

Floating connector is the floating joint that absorb misalignment and parallelism error in linear motion between rod-type pneumatic, hydraulic, electric cylinders, etc. and workpiece. Although the threaded part is able to rotate, it is not rotating joint, so do not use this for rotation.

2. Design

If the support bracket type to mount a cylinder is trunnion type or clevis type, the swing angle is large and may exceed the allowable eccentricity and rotating angle of the floating connector, causing damage or failure. Do not use on trunnion type or clevis type cylinders.

3. Mounting

When connecting the cylinder rod and workpiece using the floating connector, tighten with the appropriate torque depending on the thread size of the floating connector's socket, stud, case mounting hole, etc. In addition, if there is a concern that workpiece may fall off or be damaged due to loosening of screws, take measures to prevent loosening, such as using lock pins, locking washers, or applying adhesive.

4. Prevention of damage from impact force

Use the floating connector within the specified maximum working load (static load). When the workpiece is stopped, an impact load is generated due to inertia force, which may damage the floating connector. Install a buffer mechanism such as a shock absorber to prevent impact loads from occurring.

5. Disassembly

The floating connector is assembled using a high-strength adhesive and cannot be disassembled. etc. Also, even if it can disassemble, do not use it reassemble again.

6. Usage environment

Install a protective cover when the product will be exposed to liquids other than oil or in dusty locations.

7. Lubrication

The floating connector is already filled with lubricating grease, so lubrication is not necessary. If it need a lubrication, contact us please.

8. Maintenance

Before starting-up, check that there is no looseness in the connections between the floating connector, cylinder rod, and driven body. Also, visually or impact sound check to see if there is a large gap in the axial direction between the socket of the floating connector and the case when moving from compression to release. If the gap becomes large, do not continue to use the floating connector and replace it.

How to order

FC 22 F 1.5 D - S

① ② ③ ④ ⑤

FLOATING CONNECTOR

① Nominal thread size		② Mounting type		④ Dust cover	
3 ... 3mm	22 ... 22mm	T ... Screw type		Nil ... Without dust cover	
4 ... 4mm	24 ... 24mm	F ... Flange type		D ... With dust cover	
5 ... 5mm	26 ... 26mm	L ... Bracket type			
6 ... 6mm	27 ... 27mm				
8 ... 8mm	30 ... 30mm	③ Thread pitch		⑤ Strong type	
10 ... 10mm	33 ... 33mm	0.5 ... 0.5mm		Nil ... Standard type	
12 ... 12mm	36 ... 36mm	0.7 ... 0.7mm		S ... Strong type	
14 ... 14mm	40 ... 40mm	0.8 ... 0.8mm			
16 ... 16mm	42 ... 42mm	1.0 ... 1.0mm			
18 ... 18mm	45 ... 45mm	1.25 ... 1.25mm			
22 ... 22mm		1.5 ... 1.5mm			

Specification

Miniature · Standard type			
Item Model	Max working load (Static load) Unit : N	Allowable eccentricity φU mm	Rotating angle
FC3	18	1	10°
FC4	53	1	10°
FC5~6	120	1	10°
FC8	580	1	10°
FC10~12	1100	1.5	10°
FC14~18	5200	2	10°
FC20~24	7600	3	10°
FC26~30	13500	3	10°
FC33~45	24500	3	10°

Strong type (S type)				
Item Model	Max working load Unit : N		Allowable eccentricity φU mm	Rotating angle
	Push	Pull		
FC14~16-S	19600	5200	2	10°
FC18-S	39200	5200	2	10°
FC20~24-S	39200	7600	3	10°
FC26~27-S	39200	13500	3	10°
FC30-S	78400	13500	3	10°
FC33~45-S	78400	24500	3	10°

※ The max working load is the value at static load.

Construction

Miniature type

No.	Description	Material
①	Stud	Stainless steel
②	Lock nut	Rolled steel
③	Case	Copper alloy
④	Ball holder	Copper alloy
⑤	Ball joiner	Copper alloy
⑥	Socket	Copper alloy
⑦	Socket nut	Steel

Standard type

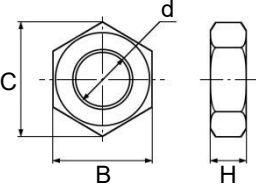
No.	Description	Material
①	Socket	Rolled steel
②	Cap	Bearing steel
③	Steel ball hold plate	Nitrile rubber
④	Steel ball	Bearing steel
⑤	Ball holder	Bearing steel
⑥	Ball joiner	Carbon steel
⑦	Steel ball holder	Bearing steel
⑧	Case	Cast iron

Strong type

No.	Description	Material
①	Socket	Rolled steel
②	Cap	Bearing steel
③	Ball holder	Bearing steel
④	Ball joiner	Carbon steel
⑤	Washer (1)	Bearing steel
⑥	Case	Rolled steel
⑦	Washer (2)	Carbon steel
⑧	Stud	Rolled steel
⑨	Lock nut	Rolled steel

Lock nut

FC3T to FC6T, FC14T1.5 to FC30T1.5, FC14T1.5-S to FC30T1.5-S comes with one lock nut.

	Symbol	M3	M4	M5	M6	M14	M16	M18	M20	M22	M24	M26	M27	M30
	d	M3 P0.5	M4 P0.7	M5 P0.8	M6 P1.0	M14 P1.5	M16 P1.5	M18 P1.5	M20 P1.5	M22 P1.5	M24 P1.5	M26 P1.5	M27 P1.5	M30 P1.5
	H	1.8	2.4	3.2	3.6	8	10	11	12	13	14	16	16	18
	B	5.5	7	8	10	22	24	27	30	32	36	41	41	46
	C	6.4	8.1	9.2	11.5	25.4	27.7	31.2	34.6	37.0	41.6	47.3	47.3	53.1



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