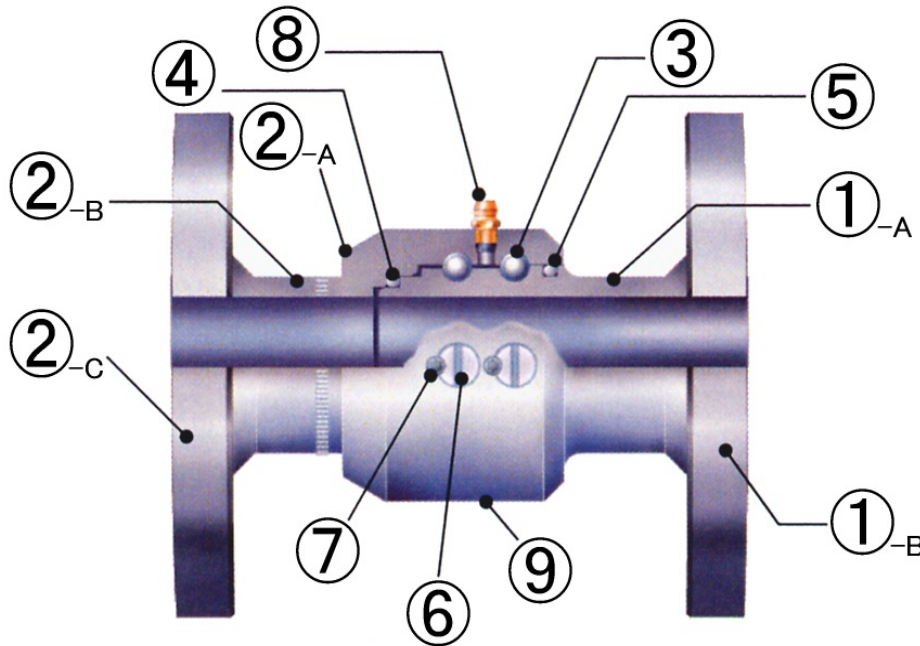


Pearl Swivel Joints

CS Series

CONSTRUCTION



①-A SHAFT ①-B FLANGE ②-A BODY ②-B PIPE ②-C FLANGE ③ STEEL BALL ④ SEAL(O-RING)
 ⑤ DUST SEAL ⑥ BALL PLUG ⑦ SET SCREW ⑧ GREASE NIPPLE ⑨ PLUG (IMAGE: CS-1)

SERVICE CONDITIONS etc.

Max. Pressure	2.1MPa
Max. Temperature	100 degrees C
Material	Weld Stainless Steel
Seal	NBR O-ring
Connection	Flange

As to C series, PTFE or FKM seals are available for higher temperatures and chemical products.

* The standard flange is JIS 10K. JIS 20K and JIS 5K flange can also be manufactured upon request

Products of ANSI Class 150/Class 300 can also be manufactured if specified.

* A submerged type can also be manufactured upon request.

Materials of Special Packing

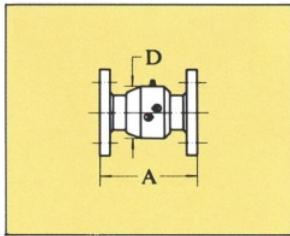
Material	Model	Max. Temperature
FKM	CSV	160 °C
PTFE seal	CSP	180 °C
Perflour	CSM	-
Silicon rubber	CSN	-
EPDM	CSE	-
Kalrez	CSX	-
Steam-resistant fluoro-rubber	CSH	160 °C
Other materials	CSZ	-

* Max. temperatures are given as a guide for use with hot water, steam, and hot oil. Please consult us for use with a special fluid.

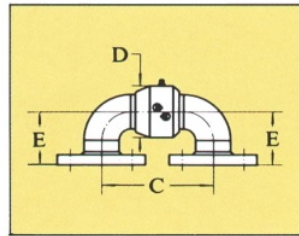
* The grease must be changed for use with a fluid at 100°C or more or with a special fluid.

* "Kalrez" is a registered trademark of DuPont.

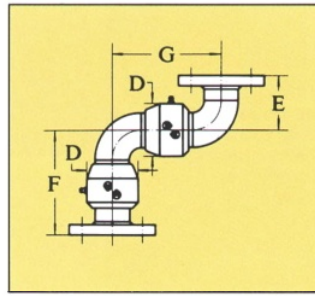
DIMENSIONS of CS series



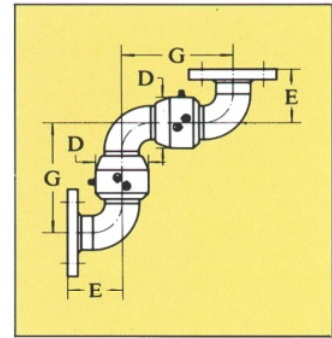
スタイル No. 1



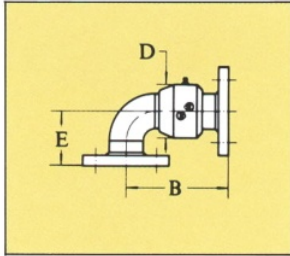
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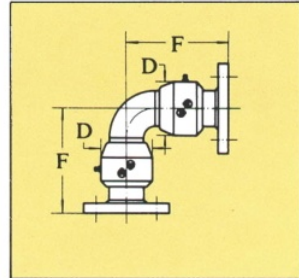
スタイル No. 5



スタイル No. 6



スタイル No. 2



スタイル No. 4

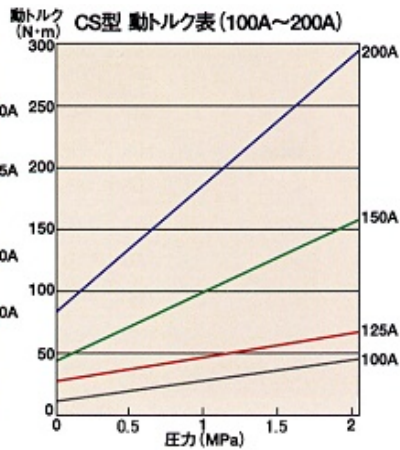
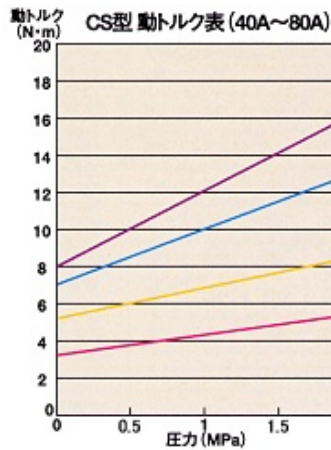
SIZE		A	B	C	D	E	F	G
(A)	(B)							
40	1 1/2	160	160	160	76	80	160	160
50	2	170	180	190	94	95	180	190
65	2 1/2	190	205	220	113	115	205	220
80	3	205	230	255	125	135	230	255
100	4	220	265	310	152	160	265	310
125	5	250	315	380	185	190	315	380
150	6	280	365	450	225	225	365	450
200	8	320	450	580	278	280	450	580

WEIGHT CHART(Unit = 1kg/1 piece)

SIZE(A)	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
40	5.3	5.5	5.7	7.2	7.4	7.6
50	7.2	7.6	8.0	10.6	11.0	11.3
65	10.4	11.0	11.3	15.3	15.6	16.1
80	11.3	12.1	13.0	17.0	17.9	18.7
100	15.6	16.9	18.2	24.5	25.7	26.9
125	25	27	30	39.5	43	45
150	39	42.5	46	65	68.5	72
200	59	68	76	105	114	122

※FLANGE JIS10K

DYNAMIC TORQUE GRAPH



Dynamic Torque Graph

- * The rotating torque varies with the storage condition and storage period of a swivel joint and the type of fluid used.
- * This data represents typical values obtained by measurements according to internal test standards and does not represent guaranteed values.
- * The starting torque is larger than the dynamic torque. When wringing (adhesion phenomenon) occurs, the starting torque is particularly large. It is not an abnormality.

Table of CS series

		NBR O-ring			FKM O-ring		
		Style	Name	Our Code	Style	Name	Our Code
Flange Connection	NO.1	CS-1	SJ-CS-1 40A × 10K	CS40011001	CSV-1	SJ-CSV-1 40A × 10K	CS40011002
			SJ-CS-1 50A × 10K	CS50011001		SJ-CSV-1 50A × 10K	CS50011002
			SJ-CS-1 65A × 10K	CS65011001		SJ-CSV-1 65A × 10K	CS65011002
			SJ-CS-1 80A × 10K	CS80011001		SJ-CSV-1 80A × 10K	CS80011002
			SJ-CS-1 100A × 10K	CS82011001		SJ-CSV-1 100A × 10K	CS82011002
			SJ-CS-1 125A × 10K	CS83011001		SJ-CSV-1 125A × 10K	CS83011002
			SJ-CS-1 150A × 10K	CS84011001		SJ-CSV-1 150A × 10K	CS84011002
			SJ-CS-1 200A × 10K	CS85011001		SJ-CSV-1 200A × 10K	CS85011002
	NO.2	CS-2	SJ-CS-2 40A × 10K	CS40021001	CSV-2	SJ-CSV-2 40A × 10K	CS40021002
			SJ-CS-2 50A × 10K	CS50021001		SJ-CSV-2 50A × 10K	CS50021002
			SJ-CS-2 65A × 10K	CS65021001		SJ-CSV-2 65A × 10K	CS65021002
			SJ-CS-2 80A × 10K	CS80021001		SJ-CSV-2 80A × 10K	CS80021002
			SJ-CS-2 100A × 10K	CS82021001		SJ-CSV-2 100A × 10K	CS82021002
			SJ-CS-2 125A × 10K	CS83021001		SJ-CSV-2 125A × 10K	CS83021002
			SJ-CS-2 150A × 10K	CS84021001		SJ-CSV-2 150A × 10K	CS84021002
			SJ-CS-2 200A × 10K	CS85021001		SJ-CSV-2 200A × 10K	CS85021002
	NO.3	CS-3	SJ-CS-3 40A × 10K	CS40031001	CSV-3	SJ-CSV-3 40A × 10K	CS40031002
			SJ-CS-3 50A × 10K	CS50031001		SJ-CSV-3 50A × 10K	CS50031002
			SJ-CS-3 65A × 10K	CS65031001		SJ-CSV-3 65A × 10K	CS65031002
			SJ-CS-3 80A × 10K	CS80031001		SJ-CSV-3 80A × 10K	CS80031002
			SJ-CS-3 100A × 10K	CS82031001		SJ-CSV-3 100A × 10K	CS82031002
			SJ-CS-3 125A × 10K	CS83031001		SJ-CSV-3 125A × 10K	CS83031002
			SJ-CS-3 150A × 10K	CS84031001		SJ-CSV-3 150A × 10K	CS84031002
			SJ-CS-3 200A × 10K	CS85031001		SJ-CSV-3 200A × 10K	CS85031002
NO.4	CS-4	SJ-CS-4 40A × 10K	CS40041001	CSV-4	ask		
		SJ-CS-4 50A × 10K	CS50041001				
		SJ-CS-4 65A × 10K	CS65041001				
		SJ-CS-4 80A × 10K	CS80041001				
NO.5	CS-5	SJ-CS-5 40A × 10K	CS40051001	CSV-5	ask		
		SJ-CS-5 50A × 10K	CS50051001				
		SJ-CS-5 65A × 10K	CS65051001				
		SJ-CS-5 80A × 10K	CS80051001				
		SJ-CS-5 100A × 10K	CS82051001				
NO.6	CS-6	SJ-CS-6 40A × 10K	CS40061001	CSV-6	ask		
		SJ-CS-6 50A × 10K	CS50061001				
		SJ-CS-6 65A × 10K	CS65061001				
		SJ-CS-6 80A × 10K	CS80061001				
		SJ-CS-6 100A × 10K	CS82061001				

Table of CS series

		PTFE Seal					
		Style	Name	Our Code			
Flange Connection	NO.1	CSP-1	SJ-CSP-1 40A × 10K	CS40011003			
			SJ-CSP-1 50A × 10K	CS50011003			
			SJ-CSP-1 65A × 10K	CS65011003			
			SJ-CSP-1 80A × 10K	CS80011003			
			SJ-CSP-1 100A × 10K	CS82011003			
	NO.2	CSP-2	SJ-CSP-2 40A × 10K	CS40021003			
			SJ-CSP-2 50A × 10K	CS50021003			
			SJ-CSP-2 65A × 10K	CS65021003			
			SJ-CSP-2 80A × 10K	CS80021003			
			SJ-CSP-2 100A × 10K	CS82021003			
	NO.3	CSP-3	SJ-CSP-3 40A × 10K	CS40031003			
			SJ-CSP-3 50A × 10K	CS50031003			
			SJ-CSP-3 65A × 10K	CS65031003			
			SJ-CSP-3 80A × 10K	CS80031003			
			SJ-CSP-3 100A × 10K	CS82031003			
	NO.4	CSP-4	ask				
	NO.5	CSP-5	ask				
	NO.6	CSP-6	ask				

Ordering Information

The following data is required:

1. Type of joint
 2. Product (fluid) to be handled
 3. Working & Maximum temperature and pressure
 4. Style & Size of joint
 5. Frequency of movement
 6. Working environment: Ex) Use in a clean room, etc.
- * Any other special requirements

Installation Suggestions

1. Standard packing material NBR (Buna-N) cannot be used, for the fluid such as phosphoric ester-type operating oil, chlorinated hydrocarbon-type operating oil, organic solvent or acid.
2. The ball bearing section of the joint is finished precisely and has no backlash, restricting the movement of pipeline in the direction of joint swivel.
Therefore, please make careful examination of the pipeline movement before selecting the style.
3. The life of joint depends largely on the size of moment load. Please avoid giving large moment load onto the joint when designing.
4. Swivel joints are not suited for successive rotation unlike rotary joint.
However, they have sufficient properties to be used in extremely low speed.
5. While lubrication at packing replacement is normally sufficient for use under room temperature, lubrication of once a week may be necessary if they are used under high temperature.
6. When a joint is used correctly, the limit of packing use is when leak is discovered. Replace the packing with a new one in this case.

Frequently Asked Questions

Q. Can I use the swivel joint for running steam?

A. Yes. Please select the type "PK". If there is a problem with the dimensions and rotating torque, you can use the swivel joint with low-pressure steam up to about 160°C by changing the packing material and grease of "A" and "C".

Q. Is there no problem with using the swivel joint under high rotation speed?

A. The swivel joint can be used even under high rotation speed, though its service life will be shortened.

Q. Can I use the swivel joint by connecting it to the end of a hose?

A. The swivel joint has a bearing structure and is sealed with an O-ring. Therefore, its rotating torque is larger than that of a rotary joint. There is no advantage in using the swivel joint unless the hose has adequate strength.

Q. The swivel joint fails to operate properly.

A. It is time to replace the swivel joint.

Q. Fluid leaks when the swivel joint is in a certain position during operation.

A. **There is probably a problem regarding installation.**

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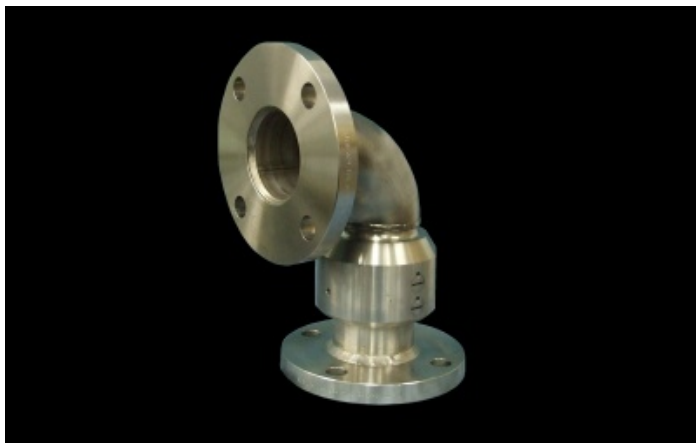
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