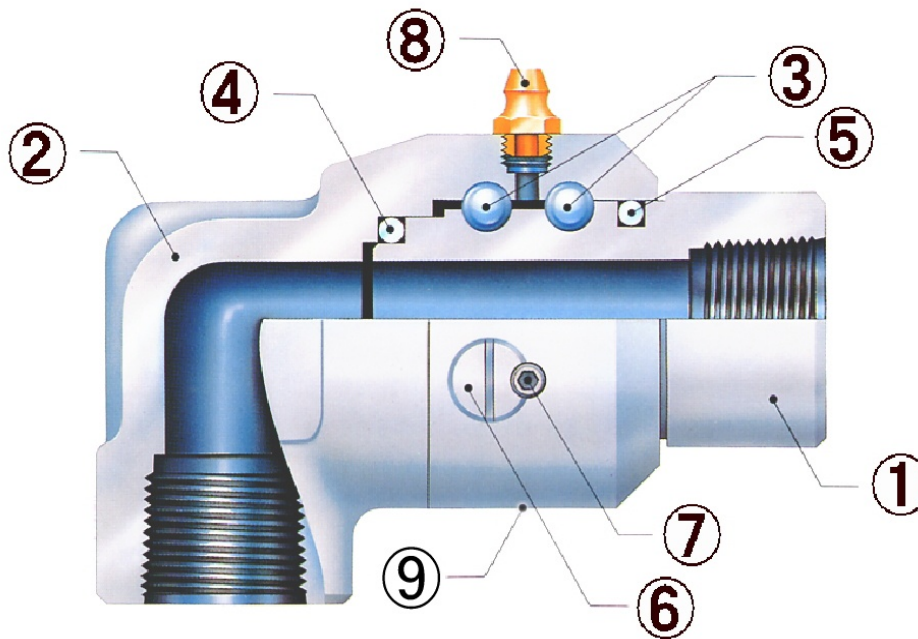


Pearl Swivel Joints

A Series

CONSTRUCTION



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

SERVICE CONDITIONS etc.

Max. Pressure	4.1MPa
Max. Temperature	100 degrees C
Material	Ductile Cast Iron (Carbon steel in part)
Seal	NBR O-ring
Connection	Female Taper Thread (Rc)

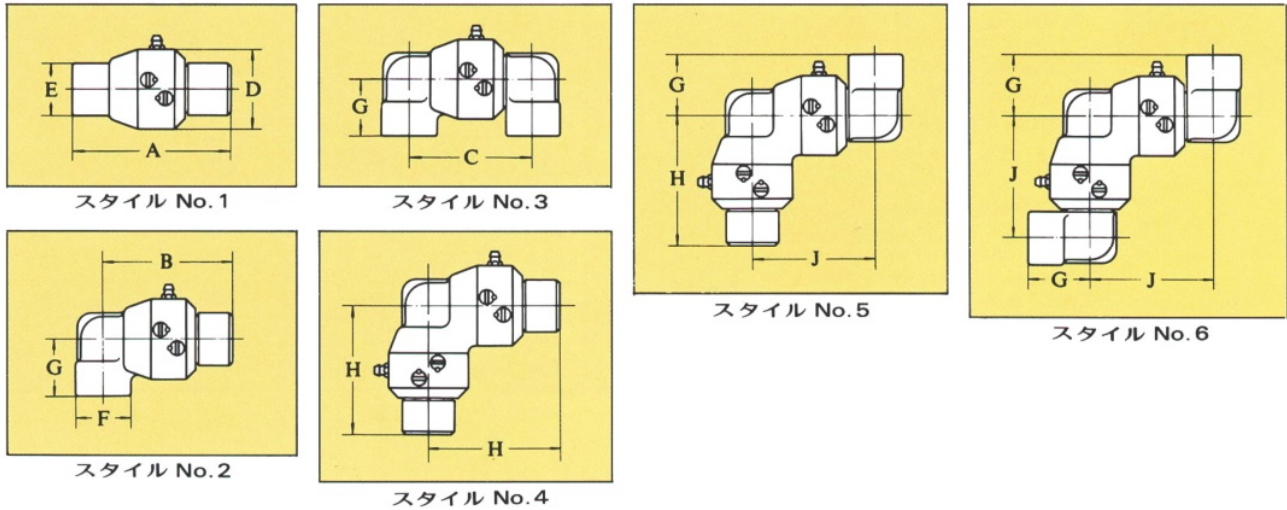
As to A series, PTFE or FKM seals are available for higher temperatures and chemical products.

Materials of Special Packing

Material	Model	Max. Temperature
FKM	AV	160 °C
PTFE seal	AP	180 °C
Perflour	AM	-
Silicon rubber	AN	-
EPDM	AE	-
Kalrez	AX	-
Steam-resistant fluoro-rubber	AH	160 °C
Other materials	AZ	-

- * 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 A Series



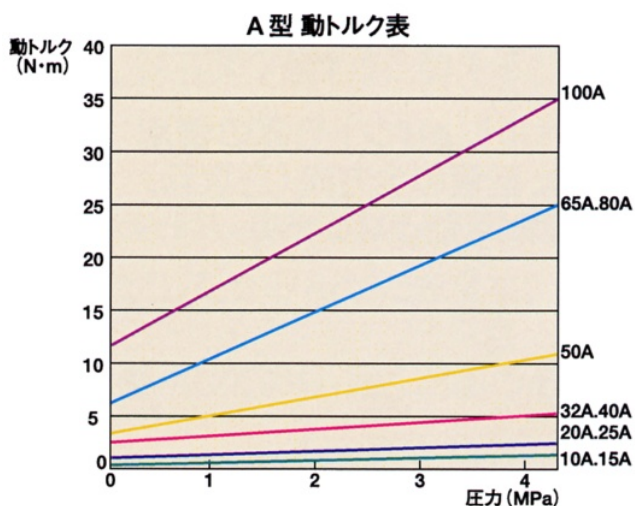
SIZE		A	B	C	D	E	F	G	H	J
(A)	(B)									
10	3/8	84	74	70	(44)	32	32	35	74	70
15	1/2	84	74	70	(44)	32	32	35	74	70
20	3/4	105	98	92	(60)	46	45	45	98	92
25	1	105	98	92	(60)	46	45	45	98	92
32	1 1/4	120	110	109	(77)	63	63	70	110	109
40	1 1/2	120	110	109	(77)	63	63	70	110	109
50	2	150	145	155	(98)	78	78	75	145	155
65	2 1/2	181	176	190	(132)	105	105	100	176	190
80	3	181	176	190	(132)	105	105	100	176	190
100	4	210	210	232	(160)	135	134	120	210	232

*() : auxiliary dimension

WEIGHT CHART(Unit = 1kg/1 piece)

SIZE(A)	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
10	0.6	0.65	0.75	1.0	1.1	1.2
15	0.55	0.6	0.7	0.9	1.0	1.1
20	1.3	1.4	1.6	2.2	2.3	2.5
25	1.2	1.3	1.5	2.1	2.2	2.4
32	2.3	2.8	3.5	3.8	4.5	5.2
40	2.2	2.7	3.3	3.8	4.4	5.0
50	4.5	5.2	6.3	8.0	9.2	10.2
65	9.8	11.8	14.3	17.6	20.2	22.6
80	9.0	11.0	13.5	16.6	19.2	21.8
100	14.5	17.6	20.5	26.5	29.5	32.3

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 A series

		NBR O-ring			FKM O-ring			
		Style	Name	Our Code	Style	Name	Our Code	
Thread Connection	NO.1	A-1	SJ-A-1 10A	AA10010101	AV-1	SJ-AV-1 10A	AA10010102	
			SJ-A-1 15A	AA15010101		SJ-AV-1 15A	AA15010102	
			SJ-A-1 20A	AA20010101		SJ-AV-1 20A	AA20010102	
			SJ-A-1 25A	AA25010101		SJ-AV-1 25A	AA25010102	
			SJ-A-1 32A	AA32010101		SJ-AV-1 32A	AA32010102	
			SJ-A-1 40A	AA40010101		SJ-AV-1 40A	AA40010102	
			SJ-A-1 50A	AA50010101		SJ-AV-1 50A	AA50010102	
			SJ-A-1 65A	AA65010101		SJ-AV-1 65A	AA65010102	
			SJ-A-1 80A	AA80010101		SJ-AV-1 80A	AA80010102	
	SJ-A-1 100A	AA82010101	SJ-AV-1 100A	AA82010102				
		NO.2	A-2	SJ-A-2 10A	AA10020101	AV-2	SJ-AV-2 10A	AA10020102
	SJ-A-2 15A			AA15020101	SJ-AV-2 15A		AA15020102	
	SJ-A-2 20A			AA20020101	SJ-AV-2 20A		AA20020102	
	SJ-A-2 25A			AA25020101	SJ-AV-2 25A		AA25020102	
	SJ-A-2 32A			AA32020101	SJ-AV-2 32A		AA32020102	
	SJ-A-2 40A			AA40020101	SJ-AV-2 40A		AA40020102	
	SJ-A-2 50A			AA50020101	SJ-AV-2 50A		AA50020102	
	SJ-A-2 65A			AA65020101	SJ-AV-2 65A		AA65020102	
	SJ-A-2 80A			AA80020101	SJ-AV-2 80A		AA80020102	
	SJ-A-2 100A	AA82020101	SJ-AV-2 100A	AA82020102				
		NO.3	A-3	SJ-A-3 10A	AA10030101	AV-3	SJ-AV-3 10A	AA10030102
	SJ-A-3 15A			AA15030101	SJ-AV-3 15A		AA15030102	
	SJ-A-3 20A			AA20030101	SJ-AV-3 20A		AA20030102	
	SJ-A-3 25A			AA25030101	SJ-AV-3 25A		AA25030102	
	SJ-A-3 32A			AA32030101	SJ-AV-3 32A		AA32030102	
SJ-A-3 40A	AA40030101			SJ-AV-3 40A	AA40030102			
SJ-A-3 50A	AA50030101			SJ-AV-3 50A	AA50030102			
SJ-A-3 65A	AA65030101			SJ-AV-3 65A	AA65030102			
SJ-A-3 80A	AA80030101			SJ-AV-3 80A	AA80030102			
SJ-A-3 100A	AA82030101	SJ-AV-3 100A	AA82030102					

Table of A series

		NBR O-ring			FKM O-ring			
		Style	Name	Our Code	Style	Name	Our Code	
Thread Connection	NO.4	A-4	SJ-A-4 10A	AA10040101	AV-4	SJ-AV-4 10A	AA10040102	
			SJ-A-4 15A	AA15040101		SJ-AV-4 15A	AA15040102	
			SJ-A-4 20A	AA20040101		SJ-AV-4 20A	AA20040102	
			SJ-A-4 25A	AA25040101		SJ-AV-4 25A	AA25040102	
			SJ-A-4 32A	AA32040101		SJ-AV-4 32A	AA32040102	
			SJ-A-4 40A	AA40040101		SJ-AV-4 40A	AA40040102	
			SJ-A-4 50A	AA50040101		SJ-AV-4 50A	AA50040102	
			SJ-A-4 65A	AA65040101		SJ-AV-4 65A	AA65040102	
			SJ-A-4 80A	AA80040101		SJ-AV-4 80A	AA80040102	
	SJ-A-4 100A	AA82040101	SJ-AV-4 100A	AA82040102				
		NO.5	A-5	SJ-A-5 10A	AA10050101	AV-5	SJ-AV-5 10A	AA10050102
	SJ-A-5 15A			AA15050101	SJ-AV-5 15A		AA15050102	
	SJ-A-5 20A			AA20050101	SJ-AV-5 20A		AA20050102	
	SJ-A-5 25A			AA25050101	SJ-AV-5 25A		AA25050102	
	SJ-A-5 32A			AA32050101	SJ-AV-5 32A		AA32050102	
	SJ-A-5 40A			AA40050101	SJ-AV-5 40A		AA40050102	
	SJ-A-5 50A			AA50050101	SJ-AV-5 50A		AA50050102	
	SJ-A-5 65A			AA65050101	SJ-AV-5 65A		AA65050102	
	SJ-A-5 80A			AA80050101	SJ-AV-5 80A		AA80050102	
	SJ-A-5 100A	AA82050101	SJ-AV-5 100A	AA82050102				
		NO.6	A-6	SJ-A-6 10A	AA10060101	AV-6	SJ-AV-6 10A	AA10060102
	SJ-A-6 15A			AA15060101	SJ-AV-6 15A		AA15060102	
	SJ-A-6 20A			AA20060101	SJ-AV-6 20A		AA20060102	
	SJ-A-6 25A			AA25060101	SJ-AV-6 25A		AA25060102	
	SJ-A-6 32A			AA32060101	SJ-AV-6 32A		AA32060102	
SJ-A-6 40A	AA40060101			SJ-AV-6 40A	AA40060102			
SJ-A-6 50A	AA50060101			SJ-AV-6 50A	AA50060102			
SJ-A-6 65A	AA65060101			SJ-AV-6 65A	AA65060102			
SJ-A-6 80A	AA80060101			SJ-AV-6 80A	AA80060102			
SJ-A-6 100A	AA82060101	SJ-AV-6 100A	AA82060102					

Table of A series

		PTFE Seal					
		Style	Name	Our Code			
Thread Connection	NO.1	AP-1	SJ-AP-1 10A	AA10010103			
			SJ-AP-1 15A	AA15010103			
			SJ-AP-1 20A	AA20010103			
			SJ-AP-1 25A	AA25010103			
			SJ-AP-1 32A	AA32010103			
			SJ-AP-1 40A	AA40010103			
			SJ-AP-1 50A	AA50010103			
			SJ-AP-1 65A	AA65010103			
			SJ-AP-1 80A	AA80010103			
			SJ-AP-1 100A	AA82010103			
	NO.2	AP-2	SJ-AP-2 10A	AA10020103			
			SJ-AP-2 15A	AA15020103			
			SJ-AP-2 20A	AA20020103			
			SJ-AP-2 25A	AA25020103			
			SJ-AP-2 32A	AA32020103			
			SJ-AP-2 40A	AA40020103			
			SJ-AP-2 50A	AA50020103			
			SJ-AP-2 65A	AA65020103			
			SJ-AP-2 80A	AA80020103			
			SJ-AP-2 100A	AA82020103			
	NO.3	AP-3	SJ-AP-3 10A	AA10030103			
			SJ-AP-3 15A	AA15030103			
			SJ-AP-3 20A	AA20030103			
			SJ-AP-3 25A	AA25030103			
			SJ-AP-3 32A	AA32030103			
			SJ-AP-3 40A	AA40030103			
			SJ-AP-3 50A	AA50030103			
			SJ-AP-3 65A	AA65030103			
			SJ-AP-3 80A	AA80030103			
			SJ-AP-3 100A	AA82030103			

Table of A series

		PTFE Seal					
		Style	Name	Our Code			
Thread Connection	NO.4	AP-4	SJ-AP-4 10A	AA10040103			
			SJ-AP-4 15A	AA15040103			
			SJ-AP-4 20A	AA20040103			
			SJ-AP-4 25A	AA25040103			
			SJ-AP-4 32A	AA32040103			
			SJ-AP-4 40A	AA40040103			
			SJ-AP-4 50A	AA50040103			
			SJ-AP-4 65A	AA65040103			
			SJ-AP-4 80A	AA80040103			
			SJ-AP-4 100A	AA82040103			
	NO.5	AP-5	SJ-AP-5 10A	AA10050103			
			SJ-AP-5 15A	AA15050103			
			SJ-AP-5 20A	AA20050103			
			SJ-AP-5 25A	AA25050103			
			SJ-AP-5 32A	AA32050103			
			SJ-AP-5 40A	AA40050103			
			SJ-AP-5 50A	AA50050103			
			SJ-AP-5 65A	AA65050103			
			SJ-AP-5 80A	AA80050103			
			SJ-AP-5 100A	AA82050103			
	NO.6	AP-6	SJ-AP-6 10A	AA10060103			
			SJ-AP-6 15A	AA15060103			
			SJ-AP-6 20A	AA20060103			
			SJ-AP-6 25A	AA25060103			
			SJ-AP-6 32A	AA32060103			
			SJ-AP-6 40A	AA40060103			
			SJ-AP-6 50A	AA50060103			
			SJ-AP-6 65A	AA65060103			
			SJ-AP-6 80A	AA80060103			
			SJ-AP-6 100A	AA82060103			

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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