

Pearl Joint

Rotary Joint Swivel Joint

GENERAL CATALOG

PEARL  JOINT
株式会社昭和技研工業
SHOWA GIKEN INDUSTRIAL CO., LTD.

RX

KC

AC

NC

NX

SXO

A
AS
B
C
CS

SRK
SSH

PK

ACC

PEARL
HYH8025
PHONE 048-728-8321 JAPAN
SHOWA GIKEN
DATE 2011
RH
JOINT

Pearl Joint Pearl

— Rotary Joint —

— Swivel Joint —

Rotary Joint

In various fields of industry, Pearl Rotary Joints have been successfully used under variety of service conditions covering a wide range of materials, pressures, temperatures and rotation speeds.

Pearl Rotary Joints are used for supplying/discharging compressed or decompressed (below atmospheric pressure) fluid/gas from a fixed piping to the rotary section of various machines with no leak. For example, they can be used when a heat transfer medium such as <steam>, <hot water>, or <heated oil>, or a coolant such as <water>, <brine>, <ammonia>, or <Freon> for cooling is supplied to rotating [roll], [drum], or [cylinder], and when <compressed air> or <hydraulic oil> is supplied to rotary machines such as [clutch] and [chuck] that are operated by fluid/gas. These rotary joints have been developed based on the most recent and advanced mechanical seal theory, and are extremely effective and economical. They are manufactured under strict quality control, and are compatible to one another with no deviation in the product. Furthermore, with rich line-up of models, they can satisfy various purposes.

Swivel Joint

In various fields of industry, Pearl Swivel Joints have been successfully used under variety of service conditions covering a wide range of materials, pressures, temperatures and swivel moments.

Pearl Swivel Joints are used when compressed or decompressed (below atmospheric pressure) fluid/gas is transported and the piping needs to be rotated or moved in optional direction of up/down, left/right, or forward/backward. Movable pipeline can be made easily, safely and at a low cost, and piping can be secured. These Swivel Joints can be rotated 360 degrees. They have large mechanical strength that endures large radial/thrust load and moment load due to double-row ball bearings and grease lubrication. Since a ring-type packing such as O-ring is used in the sealing section, the structure remains simple while providing stable sealing that does not leak any pressurized fluid contained. PK series, for high temperature application is incorporated with lubrication-free bearings section, and the sealing section adopts PTFE material and the mechanical seal to provide stable sealing.

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The contents are subject to change without notice.

Rotary Joints, List

Series	Line	Fluid	Size (Style)	Max.		
				Pressure (MPa)	Rotation Speed (min ⁻¹)	Temperature (°C)
RX 	RXE	Water / Oil	8A~25A	2.25	3,500	100
			32A, 40A	1.67	2,000	
			50A~80A	1.18	750	
	RXH	Water / Thermal Oil	10A~25A	2.25	3,500	150
			32A, 40A	1.67	2,000	
			50A~80A	1.18	750	
RXK	Water / Oil	90A, 100A	0.98	500	100	
KC 	—	Air / Gas / Water / Oil	6A~25A	0.98	1,500	100
			32A~65A		1,000	
AC 	—	Saturated Steam / Thermal Oil / Water / Oil / Air	10A~40A	1.47	300	180
			50A~80A		150	
NC 	—	Saturated Steam / Thermal Oil	15A~40A	1.47	300	180
			50A~80A		100	
NX 	NXE	Saturated Steam	32A~65A	1.5	150	200
	NXH	Thermal Oil	32A~65A	1.0	150	280
SXO 	—	Cutting Oil / Water / Oil	(90°)	6.9	10,000	100
			(Straight)			
			(Compact)			

* For dimensions, masses, options, precautions on selection, or order methods for respective series, see catalogs for the respective series available on our website.

Rotary Joints, Applications

Industries, Fields	Equipment, Facilities
Rubber & Plastics	Plastic extruder / Mixing roll / Banbury mixer / Intensive mixer / Kneader / Blow molding machine / Pelletizer (manufacturing of pellets)
Film & Sheet (manufacturing and processing)	Film machine / Plastic extruder / Casting roll / Film cooling and take-up roll / Laminator / Coater / Casting roll
Printing	Offset press / Photogravure press / Form printing press / Sheet offset press
Paper & Pulp	Paper dryer / Cellophane machine / Yankee dryer / Super calender / Corrugate machine / Roll cutter / Screw press
Textile & Dyeing	Dyeing and drying cylinder / Roll printing machine / Sizings
Steelmaking & Metal	Coal dryer / Mud gun (Opening machine) / Hot melt pretreatment facility / Steel converter-trunnion main unit cooling / Ladle turret / Successive casting facility / For furnace cooling / Reeler / Continuous plating
Chemicals & Pharmaceuticals	Conical dryer / Tube dryer / Vacuum dryer / Ball mill / Bead mill / Kneader / Powder blender / Disc (Paddle, CD) dryer / Filter dryer / Crusher
Food processing & Farm and marine product processing	Blender / Drum dryer / Rotary kiln / Cleaning equipment / Wrapping machine / Kneader / Powder blender / Disc (Paddle, CD) dryer / Ball mill / Bead mill/ Screw press / Noodle roller / Food transfer machine / Aseptic filling machine
Electronic & Semiconductor	Grinder / Polishing machine / Lapping machine
Environment, Plant & Infrastructure	Sludge dryer facility / Screw press / Disc (Paddle, CD) dryer / Rotary kiln / Tube dryer / Shield machine
Others	Vacuum equipment / Press for air clutch / Machine tool / Drilling machine / Electric discharge machine / Punch press / Welding robot / Cleaning equipment / Hydraulic and pneumatic equipment / Sheet roll (Linen supply machine)

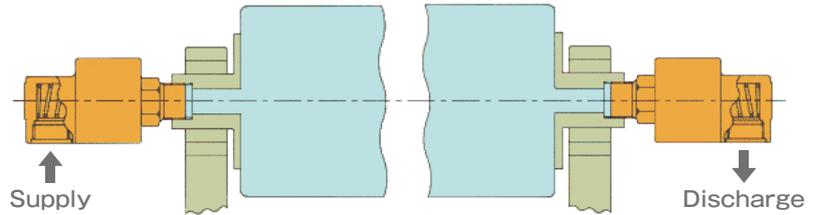


Rotary Joints, Intended use

Simplex

Can be used in a situation where fluid is supplied from one side of a roll (drum or cylinder) and drained from the opposite side.

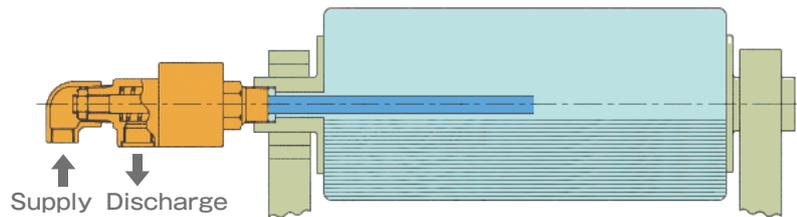
Fluid	Water / Oil / Steam
Applicable equipment	
Rolls for iron manufacture machine	
Film cooling and take-up roll	
Paper calender	



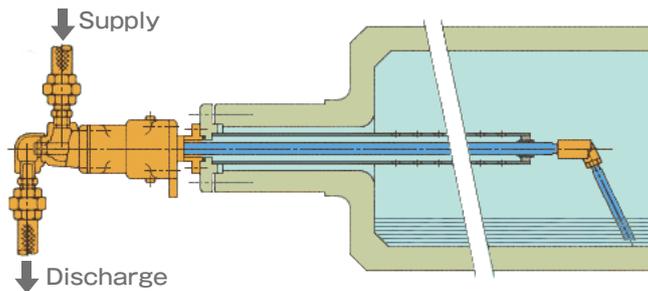
Duplex, Stationary IP

Can be used in a situation where fluid is supplied to and drained from a roll (drum or cylinder) while an internal pipe is stationary.

Fluid	Water / Thermal Oil
Applicable equipment	
Plastic extruder	
Film cooling and take-up roll	
Rubber kneading machine	



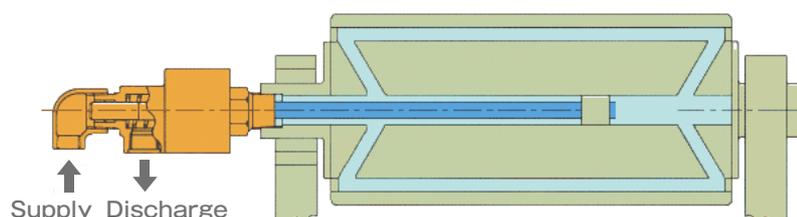
Fluid	Steam (Steam condensate)
Applicable equipment	
Paper dryer	
Plastic calender	
Double drum dryer	



Duplex, Rotational IP

Can be used in a situation where fluid is supplied to and drained from a roll (drum or cylinder) while an internal pipe rotates.

Fluid	Water / Steam / Hot water/ Thermal oil
Applicable equipment	
Drilled roll	
Film machine	



Swivel Joints, List

Series	Connection	Material (main parts)	Std Seal	Style	Size	Max.	
						Pressure (MPa)	Temperature (°C)
A 	Taper Thread (Rc)	Ductile Cast Iron Carbon Steel	O-ring NBR	1~6	10A~100A	4.1	100
AS 	Taper Thread (Rc)	Stainless Steel	O-ring NBR	1~6	10A~40A	4.1	100
				1~3	50A 65A, 80A	4.1 2.1	
B 	Taper Thread (Rc)	Carbon Steel	O-ring NBR	1~3	10A~40A	13.7	100
C 	Flange	Carbon Steel	O-ring NBR	1~6	40A~300A	2.1	100
CS 	Flange	Stainless Steel	O-ring NBR	1~6	40A~200A	2.1	100
SRK 	Taper Thread (Rc)	Carbon Steel	O-ring NBR	2,3	10A~40A 50A~65A	34.3 24.5	100
				2	80A	24.5	
SSH 	Taper Thread (Rc)	Stainless Steel	O-ring NBR	2	10A~25A	20.6	100
PK 	Taper Thread (Rc/R)	Ductile Cast Iron Bronze	PTFE	1~4	15A~50A	2.3	230

* For dimensions, masses, options, precautions on selection, or order methods for respective series, see catalogs for the respective series available on our website.

Swivel Joints, Applications

Pipes for a working medium such as oil, water, or air used for industrial machinery, hydraulic machinery, or machine tools, etc.

Pipes for a heat or cooling medium such as cold water, hot water, steam, thermal oil, or brine used for industrial machinery, etc.

Seismic isolated pipe, Pipes for absorbing ground displacement

Fluid transfer piping for cargo-handling equipment used for petroleum products or LPG, etc.

Pipes for industrial wastewater treatment equipment

Pipes for air supply and exhaust of vacuum equipment

Pipe for underwater equipment (such as ocean civil engineering machinery or submarine cable burying machine)

Swivel Joint, Styles

Depending on shapes, six styles are available for each series.

Style 1



Style 2



Style 3



Style 4



Style 5



Style 6



Note) Styles of the PK series are different from those of other series.

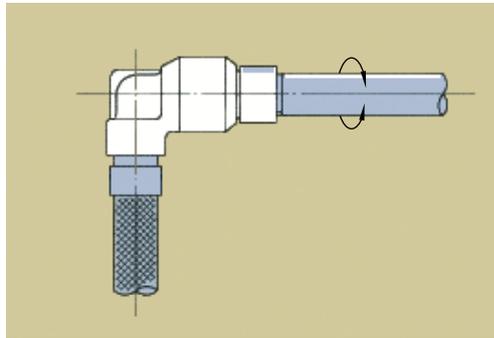
For more information, see the PK series catalog available on our website.

Swivel Joints, Intended use

Used as a single unit (Style 1 or Style 2)

Used to transport fluid to a rotating body.

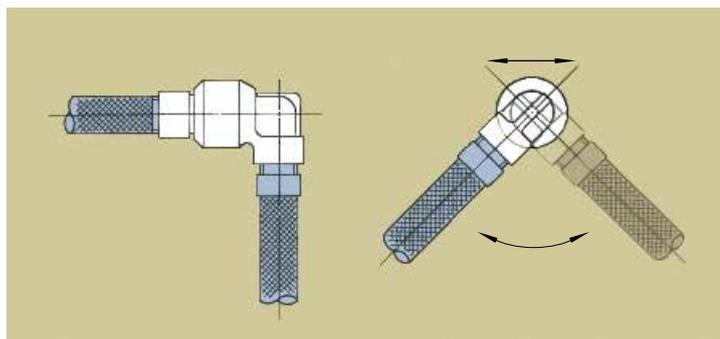
Applicable equipment
Hose reel
Rotary coil hooker



Used as a single unit (Style 2)

Used for an oscillating pipe.

Applicable equipment
Construction machine
Machine tool
Hydraulic equipment
Cargo-handling equipment

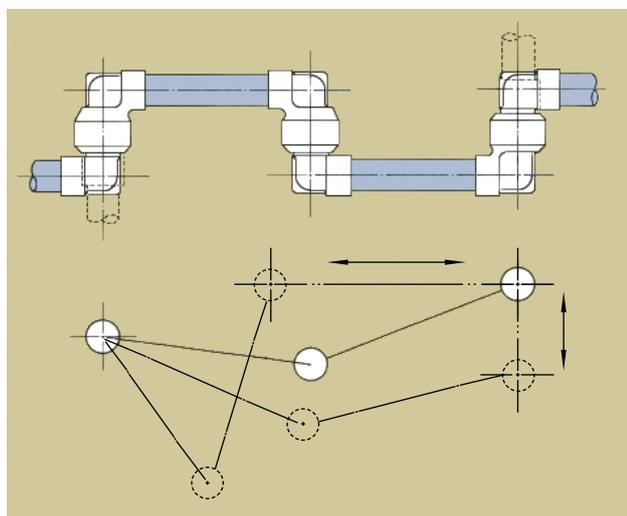


Used in a movable pipeline (Style 3-3-3 or Style 2-3-2)

A movable pipeline that uses three swivel joints allows fluid transport from a stationary pipe to machine equipment that moves on a plane. (figure shown below)

* If six swivel joints are used in a pipeline, it can be moved in all directions (three-dimensionally).

Applicable equipment
Hot press machine
Tire press machine
Die-cast machine
Injection molding machine



Customized Products

We can produce customized products according to your requests.
Contact us for more information.

Rotary Joint, Production Examples

Rotary joint

A rotary joint used in a situation where steam is supplied to a roll and steam condensate is collected through an internal pile.

Type	ONC
Size	450A-300A
Fluid	Steam (Steam condensate)
Flow passage	2



Center joint for turn table

A rotary joint used in a situation where fluid supplied from a stationary pipe (one flow passage) is distributed through multiple ports to a roll.

Type	SR
Size	65A×1P 25A×1P
Fluid	Water / Oil
Flow passage	2



Multiple port rotary joint

A rotary joint that allows different fluids to flow separately through different ports to a roll.

Type	SR
Size	16P
Fluid	Hydraulic oil / Water / Air
Flow passage	16



Swivel Joints, Production Examples

CO type movable pipeline

A movable pipeline consisting of a combination of CO type swivel joints and pipes.

Size	150A
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SRK type movable pipeline

A movable pipeline consisting of a combination of SRK type swivel joints and pipes.

Size	25A
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Ball Joints, Production Example

Ball joint

A ball joint is a joint that can be tilted in a desired direction, and is used for accommodating pipe torsion or changing the direction of the connected pipe.

We can provide a ball expansion joint that includes an extendable shaft.

Size	100A
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Product Warranty

If a malfunction occurs during the warranty period, contact us or the distributor and send the product to us. Be sure to carefully pack the product for protection before sending it. After receiving the product, we will confirm the malfunction. If the malfunction was clearly caused by the materials of product components or the manufacturing method, we will repair the product in question or replace it with a new one free of charge.

Product Warranty Provision

1. Warranty Period

< New products >

One (1) year and six (6) months after shipment (from the manufacturing date) or one (1) year after installation, whichever comes first.

< Repaired products >

Six (6) months after shipment (from the manufacturing date).

2. We charge a fee for repairs in any of the following cases.

- ① Failure after the warranty period has expired
- ② Failure caused by use of the product deviating from the service conditions
- ③ Failure caused by misuse (improper storage, installation, pipe laying, operation or maintenance, etc.)
- ④ Failure caused by fluid contaminants or foreign objects in the fluid
- ⑤ Failure caused by relocation, transport, or falling of the product after delivery
- ⑥ Failure caused by disassembly, repair, or modification done by personnel other than our service personnel
- ⑦ Failure of the product attributed to using materials or according to standards specified by the customer
- ⑧ Failure of the product attributed to using materials provided by the customer
- ⑨ Failure caused due to unavoidable acts of nature such as fires or other natural disasters

3. Scope of Responsibility

Our responsibility shall be limited to repairs, replacements, or transport expenses covered by this product warranty provision. Expenses or damages caused by said failures above shall not be covered.

4. Applicable Regions

This product warranty provision shall be applicable to products installed in Japan.
Contact our sales representative if you install and use our products outside Japan.

5. Another Agreement

If another product warranty agreement is made separately with us and clearly states that said agreement shall have priority over this product warranty provision, this provision shall not be applicable.

6. This product warranty provision shall not restrict the customer's legal rights.

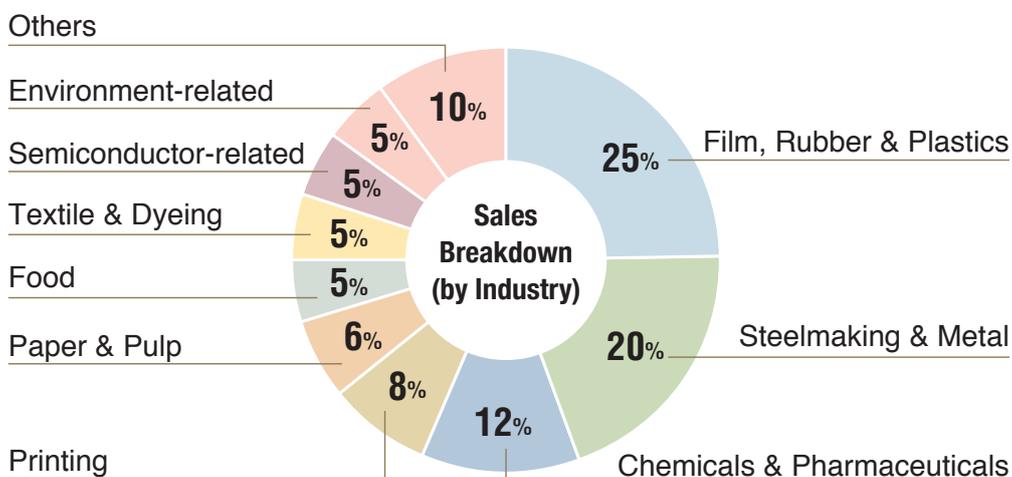
Company Profile



Company name: SHOWA GIKEN INDUSTRIAL CO.,LTD.
Establishment : 1966
Paid in capital : 30,000K JPY
President : Takashi Iwai
Employees : 102 people
Sales turnover : 2,038,551K JPY (FY2022)
Business operations : Design, manufacture, and sales of rotary and swivel joints
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We have been providing Pearl Joints in a variety of fields since our founding in 1966.



No. : SN20001-3

Issued on : Aug. 23 2022

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