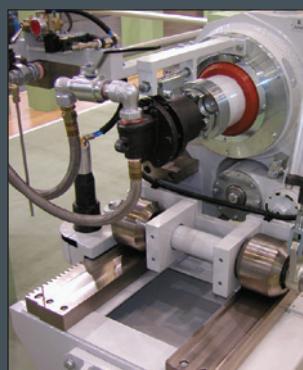


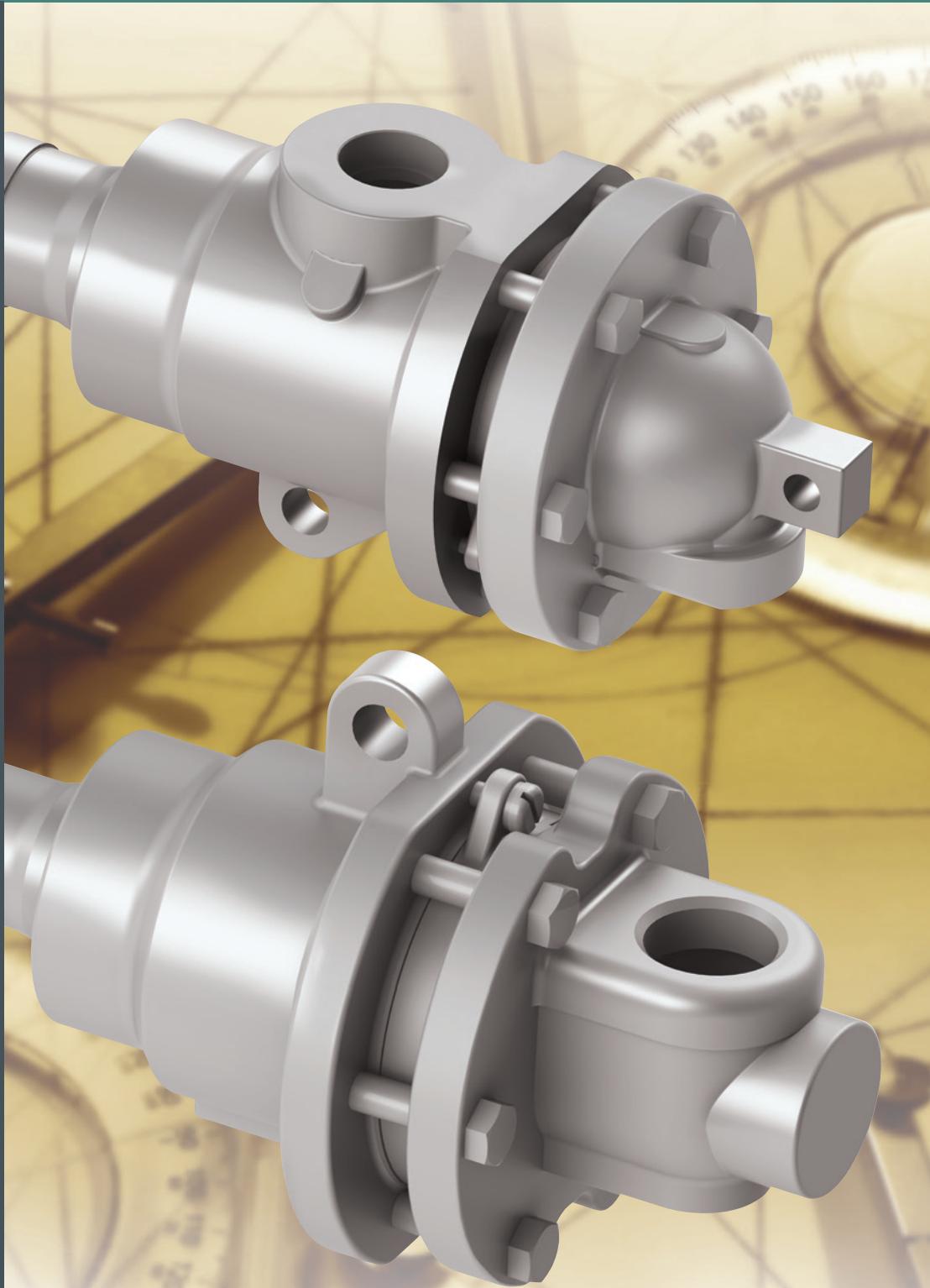
SNX™ and SX® Rotary Joints

For steam and thermal oil service

KADANT



**Self-aligning
seal with dual carbon
bearing support.**



Engineered reliability and performance.

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Quick Select Chart

SNX

Size	Model	Media			
		Hot Water	Thermal Oil	Steam	Air
2"	2550	●	●	●	●
2½"	2600	●	●	●	●
3"	2700	●	●	●	●
3½"	2750	●	●	●	●
4"	2800	●	●	●	●

● Recommended

○ Acceptable > 100°C

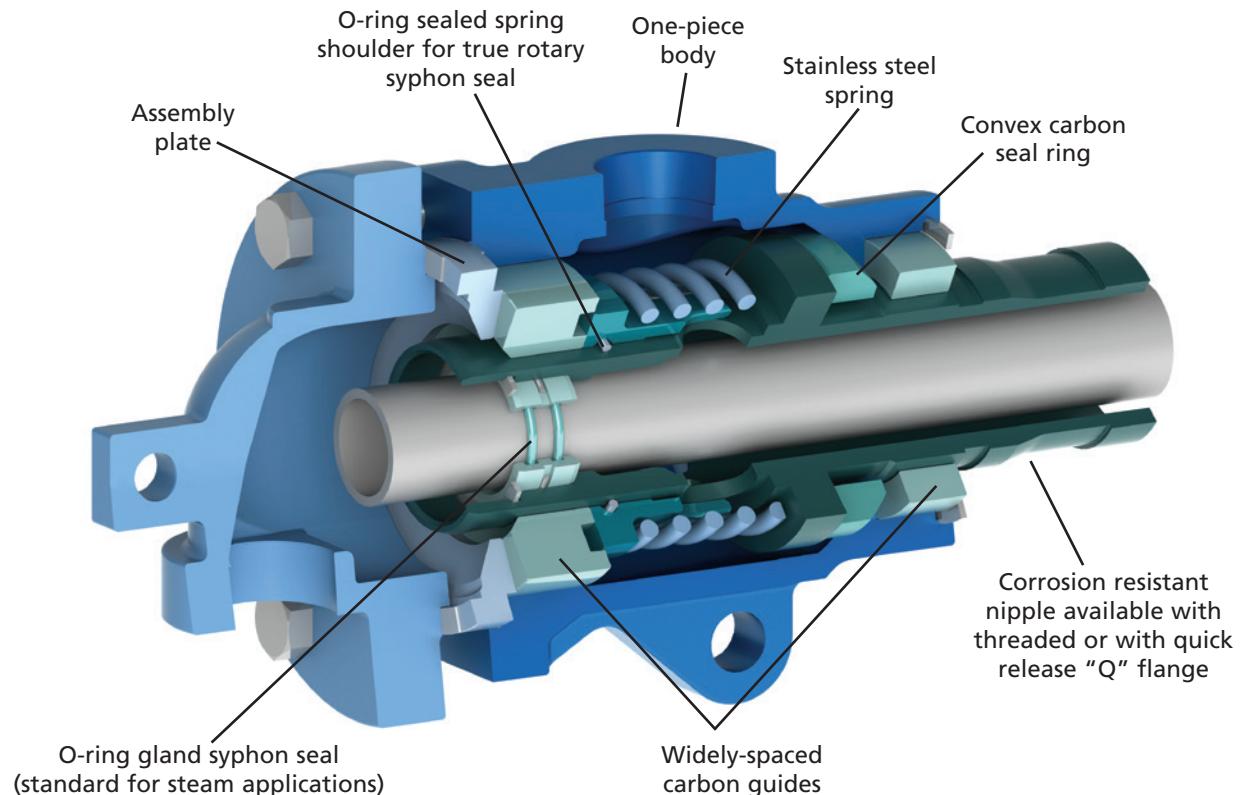
● Not Recommended

SX

Size	Model	Media			
		Hot Water	Thermal Oil	Steam	Air
¾"	3200	●	●	●	●
1"	3300	●	●	●	●
1¼"	3400	●	●	●	●
1½"	3500	●	●	●	●
2"	3550	●	●	●	●
2½"	3600	●	●	●	●
3"	3700	●	●	●	●

For operating specifications see page 15.

SNX Rotary Joint Overview



The dual-flow SNX rotary joint is designed for rotating siphon applications and features two carbon guides with maximum separation for increased operating life and siphon support. The SNX rotary joint also offers greater reliability with its positive differential seal between the rotating nipple and spring shoulder. The SNX is a robust rotary joint that performs well in steam and thermal oil applications.

Kadant Johnson can provide seal materials specific for **food and pharmaceutical industries** regulated by the **FDA/EFSA**. Those materials comply with high Kadant Johnson standards. Seal life may vary from the standard seal materials based on the specific application. For food service, Kadant Johnson uses **Green Streak™** seal rings. These seals can last up to three times longer than resin seals.

The SNX rotary joint is available for use in a potentially explosive atmosphere defined by ATEX.

The SNX rotary joints is manufactured according to Pressure Equipment Directive (PED 97/23/EC).



Features

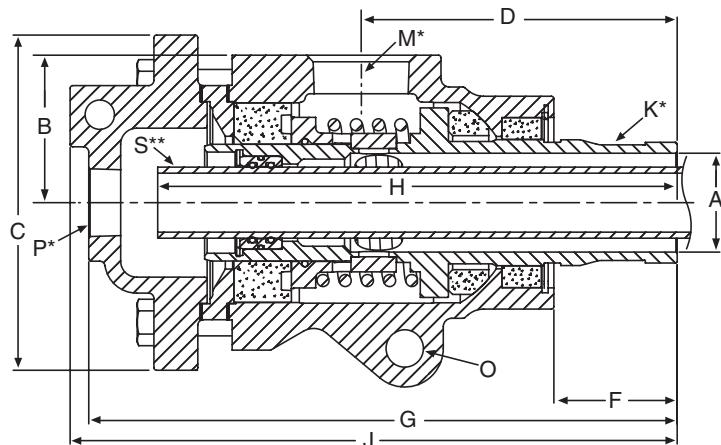
- Designed for steam and thermal oil
- Optimised seal diameter
- Convex seal ring in compression
- Two internal support guides
- Maximum carbon guide separation
- Positive differential seal
- Silver Streak™ seal ring

Benefits

- Increased reliability and performance
- Extended seal life
- Self-aligning for easy installation
- Enhanced siphon support, extended operating life
- Longer lifetime and increased maintenance intervals

Dual Flow

Type SNX – Concentric port



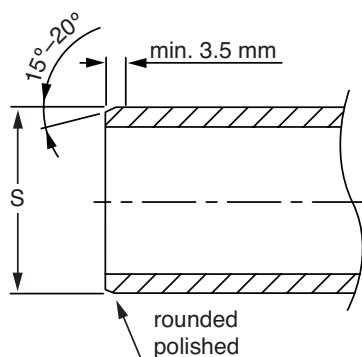
Steam	Thermal Oil
Pressure: 20 bar	10 bar
Temperature: 210°C*	288°C
Speed: Up to 450 RPM	Up to 450 RPM
See page 15 for PV curves and maximum speed ratings.	
For temperatures up to 343°C and pressure up to 35 bar, please consult factory.	
* With o-ring syphon pipe seal	

Model	K* ISO 7-1	M* – RH ISO 7-1	Steam Part ID	Oil Part ID	P* – RH ISO 7-1	S**	A	B	C	D	F	G	H	J	O
2550	Q 2"	Rc 1 1/2"	9942001/0001	9942003/0001	Rc 1 1/4"	33,4±0,5	48	80	192	161	58	305	272	305	22
	R 2"-RH	Rc 1 1/2"	9942001/0002	9942003/0002	Rc 1 1/4"										
	R 2"-LH	Rc 1 1/2"	9942001/0003	9942003/0003	Rc 1 1/4"										
2600	Q 2 1/2"	Rc 2"	9942011/0001	–	Rc 1 1/4"	42,2±0,5	59	88	200	189	74	351	310	362	22
	Q 2 1/2"	Rc 1 1/2"	–	9942013/0001	Rc 1 1/4"										
2700	Q 3"	Rc 2 1/2"	9942021/0001	–	Rc 1 1/2"	48,3±0,5	71	100	212	202	82	367	322	381	28
	Q 3"	Rc 2 1/2"	–	9942023/0001	Rc 1 1/2"										
2750	Q 3 1/2"	Rc 3"	9942031/0001	–	Rc 2"	60,3±0,5	86	119	254	239	101	419	375	447	34
	Q 3 1/2"	Rc 2"	–	9942033/0001	Rc 2"										
2800	Q 4"	Rc 3"	9942041/0001	–	Rc 2 1/2"	76,1±0,5	97	125	279	257	111	444	405	470	43
	Q 4"	Rc 2"	–	9942043/0001	Rc 2 1/2"										

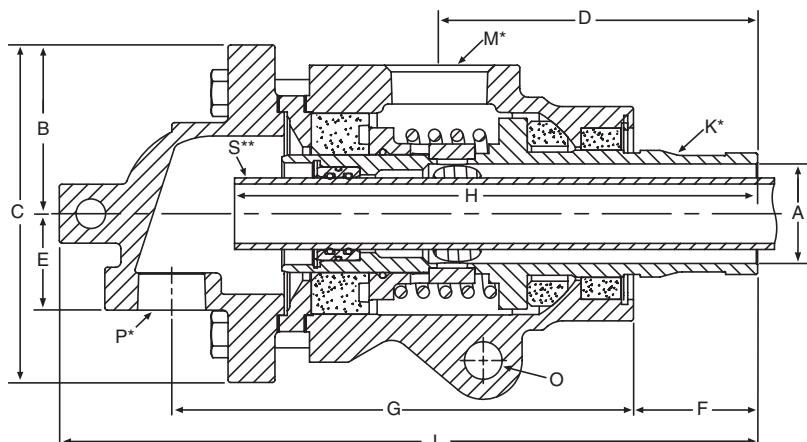
* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

** For steam rotary joints, the syphon pipe must be rounded according to the figure below.



Type SNX – Angled port



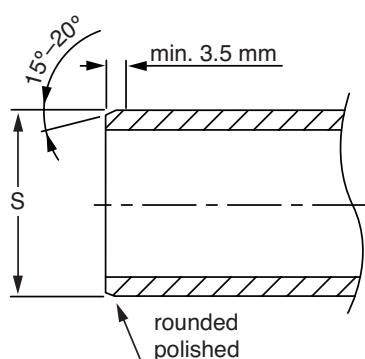
	Steam	Thermal Oil
Pressure:	20 bar	10 bar
Temperature:	210°C*	288°C
Speed:	Up to 450 RPM	Up to 450 RPM
See page 15 for PV curves and maximum speed ratings.		
For temperatures up to 343°C and pressure up to 35 bar, please consult factory.		
* With o-ring siphon pipe seal		

Model	K* ISO 7-1	M* – RH ISO 7-1	Steam Part ID	Oil Part ID	P* – RH ISO 7-1	S**	A	B	C	D	E	F	G	H	J	O
2550	Q 2"	Rc 1½"	9942005/0001	9942007/0001	Rc 1¼"	33,4±0,5	48	80	192	161	54	58	245	272	361	22
	R 2"-RH	Rc 1½"	9942005/0002	9942007/0002	Rc 1¼"											
	R 2"-LH	Rc 1½"	9942005/0003	9942007/0003	Rc 1¼"											
2600	Q 2½"	Rc 2"	9942015/0001	–	Rc 1¼"	42,2±0,5	59	88	200	189	57	74	274	310	414	22
	Q 2½"	Rc 1½"	–	9942017/0001	Rc 1¼"											
2700	Q 3"	Rc 2½"	9942025/0001	–	Rc 1½"	48,3±0,5	71	100	212	202	60	82	284	322	430	28
	Q 3"	Rc 1½"	–	9942027/0001	Rc 1½"											
2750	Q 3½"	Rc 3"	9942035/0001	–	Rc 2"	60,3±0,5	86	119	254	239	79	101	337	375	527	34
	Q 3½"	Rc 2"	–	9942037/0001	Rc 2"											
2800	Q 4"	Rc 3"	9942041/0001	–	Rc 2½"	76,1±0,5	97	125	279	257	119	111	444	405	470	43
	Q 4"	Rc 2"	–	9942043/0001	Rc 2½"											

* Other thread types (NPT, BSP) available on request.

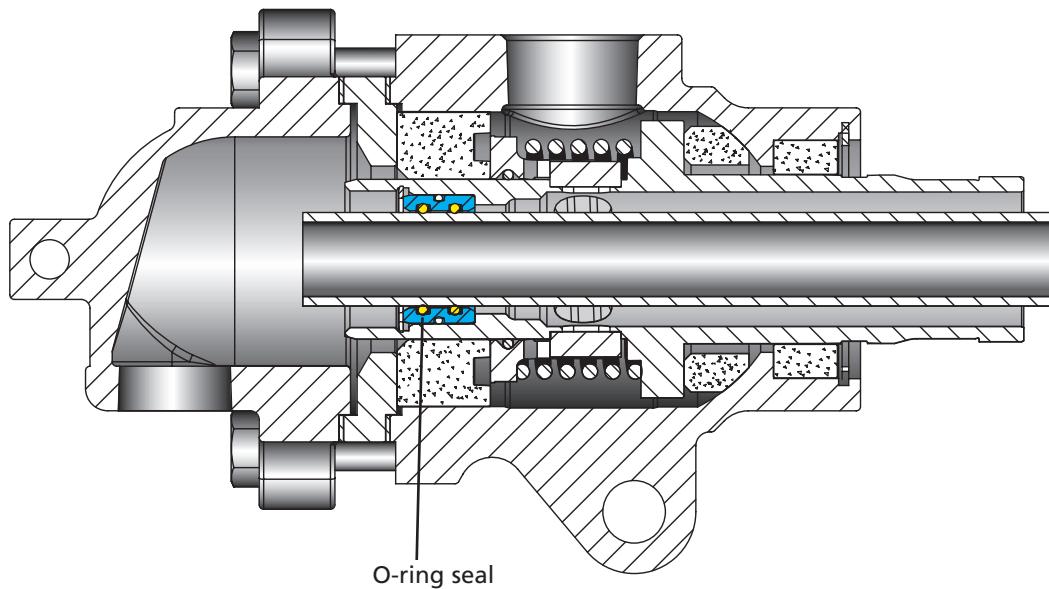
Dimensions are in mm, for reference only, and subject to change.

** For steam rotary joints, the siphon pipe must be rounded according to the figure below.

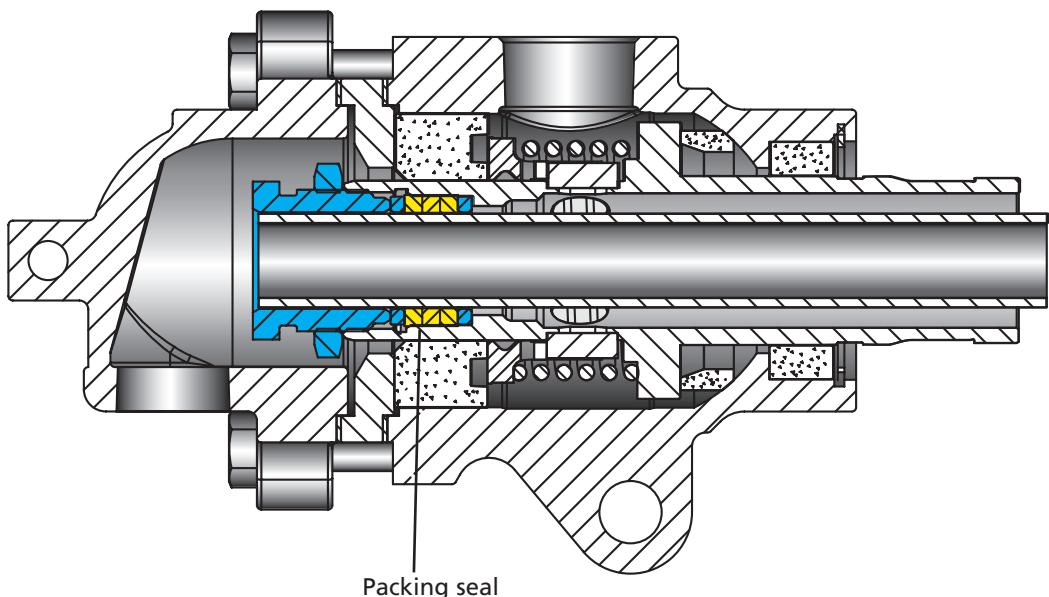


Syphon Seal Options

O-ring gland seal option for steam

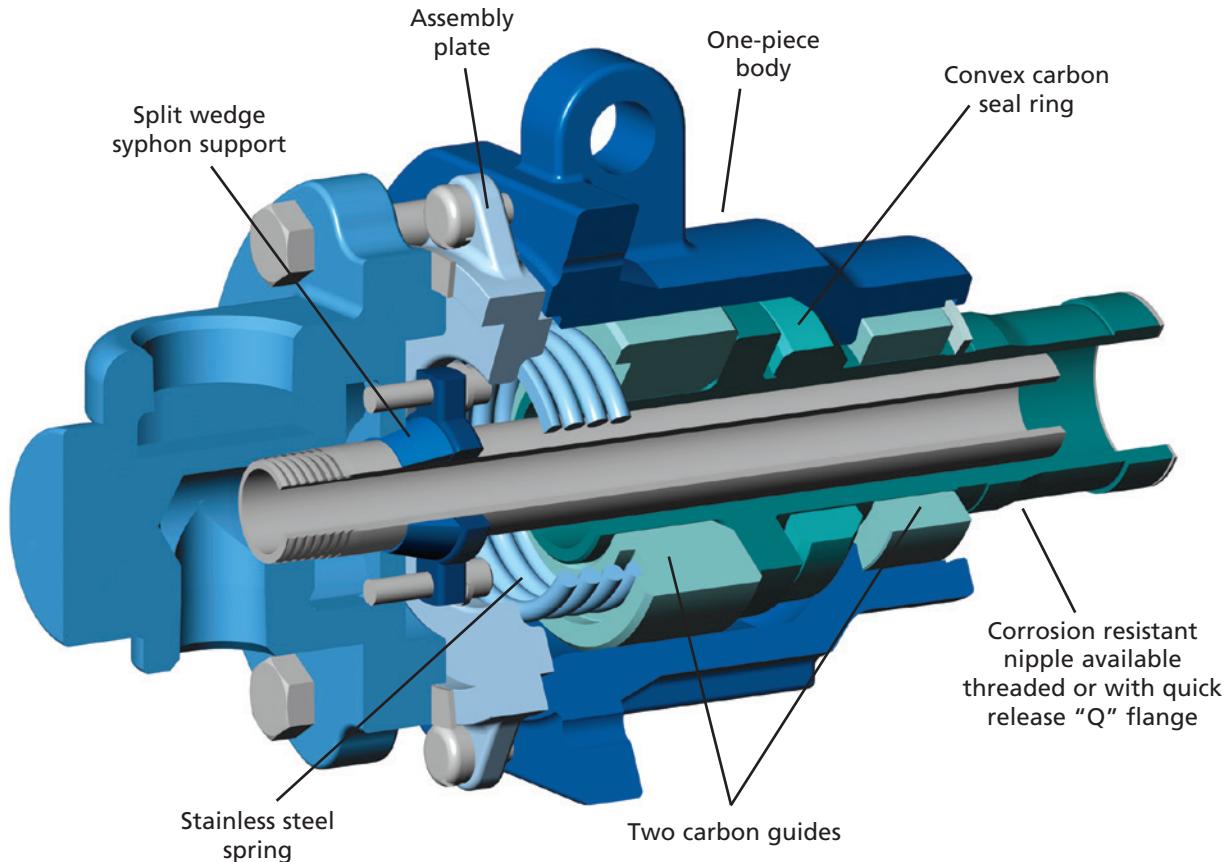


Packing gland seal option for thermal oil



When using the o-ring gland seal, it is recommended that the end of the horizontal siphon pipe has a rounded edge for ease of installation.

SX Rotary Joint Overview



The SX rotary joint provides a positive seal between stationary piping and a rotating cylinder. Using new sealing technologies, the SX rotary joint has extended seal life and increased reliability. The SX is a robust rotary joint that performs well in steam and thermal oil applications.

Kadant Johnson can provide seal materials specific for **food** and **pharmaceutical industries** regulated by the **FDA/EFSA**. Those materials comply with high Kadant Johnson standards. Seal life may vary from the standard seal materials based on the specific application. For food service, Kadant Johnson uses Green Streak seal rings. These seals can last up to three times longer than resin seals.

The SX rotary joint is available for use in a potentially explosive atmosphere defined by ATEX.

The SX rotary joint is manufactured according to Pressure Equipment Directive (PED 97/23/EC).



Features

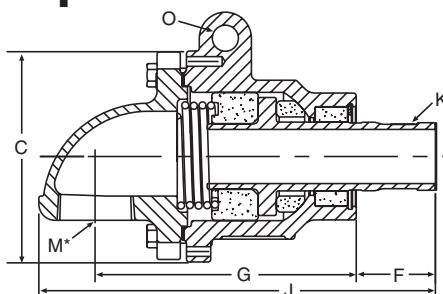
- Designed for steam or thermal oil
- Optimised seal diameter
- Convex seal ring in compression
- Maximum carbon guide separation
- Single-flow or dual-flow
- Adjustable siphon clearance option
- Silver Streak seal ring

Benefits

- Positive sealing
- Extended seal life, reduced maintenance
- Self-aligning seal, longer life
- Improved rotary joint and siphon support
- Application flexibility
- Repeatable siphon clearance adjustment
- Longer lifetime and increased maintenance intervals

Single Flow

Type SXA – Angled port



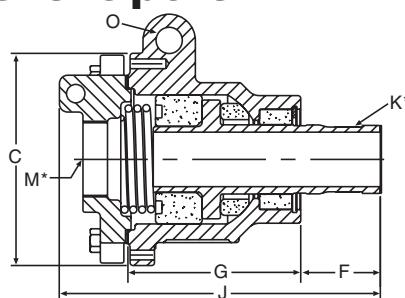
	Steam	Thermal Oil
Pressure:	20 bar	10 bar
Temperature:	288°C	288°C
Speed:	Up to 550 RPM	Up to 550 RPM
See page 15 for PV curves and maximum speed ratings.		
For temperatures up to 343°C and pressure up to 35 bar, please consult factory.		

Model	K* ISO 7-1	M* - RH ISO 7-1	Steam Part ID	Oil Part ID	C	F	G	J	O
3200	R 3/4"-RH	Rc 3/4"	9940001/0001	9940002/0001	94	52	112	184	11
	R 3/4"-LH	Rc 3/4"	9940001/0006	9940002/0002					
	Q 3/4"	Rc 3/4"	9940001/0004	9940002/0005					
3300	R 1"-RH	Rc 1"	9940016/0002	9940017/0001	105	47	122	195	11
	R 1"-LH	Rc 1"	9940016/0005	9940017/0002					
	Q 1"	Rc 1"	9940016/0006	9940017/0003					
3400	R 1 1/4"-RH	Rc 1 1/4"	9940045/0004	9940046/0002	133	50	151	233	14
	R 1 1/4"-LH	Rc 1 1/4"	9940045/0001	9940046/0003					
	Q 1 1/4"	Rc 1 1/4"	9940045/0002	9940046/0005					
3500	R 1 1/2"-RH	Rc 1 1/2"	9940074/0001	9940075/0002	166	55	178	268	18
	R 1 1/2"-LH	Rc 1 1/2"	9940074/0006	9940075/0003					
	Q 1 1/2"	Rc 1 1/2"	9940074/0002	9940075/0001					
3550	R 2"-RH	Rc 2"	9940170/0001	9940171/0001	176	57	200	302	22
	R 2"-LH	Rc 2"	9940170/0004	9940171/0003					
	Q 2"	Rc 2"	9940170/0002	9940171/0002					
3600	R 2 1/2"-RH	Rc 2 1/2"	9940120/0006	9940121/0002	198	67	215	331	22
	R 2 1/2"-LH	Rc 2 1/2"	9940120/0005	9940121/0003					
	Q 2 1/2"	Rc 2 1/2"	9940120/0001	9940121/0001					
3700	R 3"-RH	Rc 3"	9940225/0003	9940226/0001	219	76	248	389	28
	R 3"-LH	Rc 3"	9940225/0002	9940226/0002					
	Q 3"	Rc 3"	9940225/0001	9940226/0003					
3800	R 4"-RH	Rc 4"	–	–	260	109	385	608	43
	R 4"-LH	Rc 4"	–	–					
	Q 4"	Rc 4"	–	–					

* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

Type SXC – Concentric port



	Steam	Thermal Oil
Pressure:	20 bar	10 bar
Temperature:	288°C	288°C
Speed:	Up to 550 RPM	Up to 550 RPM
See page 15 for PV curves and maximum speed ratings.		
For temperatures greater than 288°C or pressure above 20 bar, consult factory.		

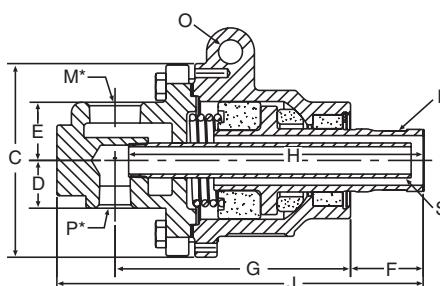
Model	K* ISO 7-1	M* - RH ISO 7-1	Steam Part ID	Oil Part ID	C	F	G	J	O
3200	R 3/4"-RH	Rc 3/4"	9940013/0002	9940014/0001	94	52	81	176	11
	R 3/4"-LH	Rc 3/4"	9940013/0004	9940014/0002					
	Q 3/4"	Rc 3/4"	9940013/0007	9940014/0003					

* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

Dual Flow

Type SXB – Two ports, 180°



	Steam	Thermal Oil
Pressure:	20 bar	10 bar
Temperature:	288°C	288°C
Speed:	Up to 550 RPM	Up to 550 RPM
See page 15 for PV curves and maximum speed ratings.		
For temperatures up to 343°C and pressure up to 35 bar, please consult factory.		

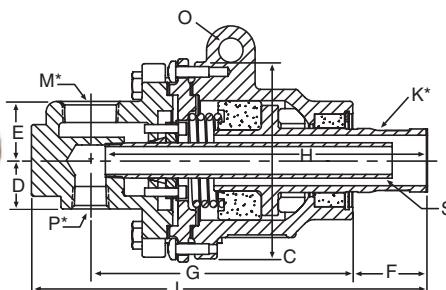
Model	K* ISO 7-1	M* - RH ISO 7-1	Steam Part ID	Oil Part ID	P* - RH ISO 7-1	S - RH ISO 7-1	C	D	E	F	G	H	J	O
3200	R 3/4"-RH	Rc 1/2"	9940003/0005	9940004/0003	Rc 1/2"	Rc 1/4"	94	19	33	52	115	149	200	11
	R 3/4"-LH	Rc 1/2"	9940003/0006	9940004/0004	Rc 1/2"	Rc 1/4"								
	Q 3/4"	Rc 1/2"	9940003/0002	9940004/0002	Rc 1/2"	Rc 1/4"								
3300	R 1"-RH	Rc 3/4"	9940019/0003	9940020/0002	Rc 1/2"	Rc 3/8"	122	29	35	47	126	162	211	11
	R 1"-RH	Rc 3/4"	9940019/0005	9940020/0008	Rc 1/2"	Rc 1/4"								
	R 1"-LH	Rc 3/4"	9940019/0002	9940020/0005	Rc 1/2"	Rc 3/8"								
	R 1"-LH	Rc 3/4"	9940019/0007	9940020/0009	Rc 1/2"	Rc 1/4"								
	Q 1"	Rc 3/4"	9940019/0001	9940020/0006	Rc 1/2"	Rc 3/8"								
	Q 1"	Rc 3/4"	9940019/0004	9940020/0011	Rc 1/2"	Rc 1/4"								
3400	R 1 1/4"-RH	Rc 1"	9940047/0009	9940048/0002	Rc 1/2"	Rc 1/2"	133	35	46	50	165	198	265	14
	R 1 1/4"-LH	Rc 1"	9940047/0010	9940048/0001	Rc 1/2"	Rc 1/2"								
	Q 1 1/4"	Rc 1"	9940047/0004	9940048/0005	Rc 1/2"	Rc 1/2"								
3500	R 1 1/2"-RH	Rc 1 1/4"	9940076/0005	9940077/0003	Rc 3/4"	Rc 3/4"	166	37	44	55	180	223	280	18
	R 1 1/2"-RH	Rc 1 1/4"	9940076/0003	9940081/0004	Rc 3/4"	Rc 1/2"								
	R 1 1/2"-LH	Rc 1 1/4"	9940076/0004	9940077/0002	Rc 3/4"	Rc 3/4"								
	R 1 1/2"-LH	Rc 1 1/4"	9940076/0013	9940081/0003	Rc 3/4"	Rc 1/2"								
	Q 1 1/2"	Rc 1 1/4"	9940076/0001	9940077/0001	Rc 3/4"	Rc 3/4"								
	Q 1 1/2"	Rc 1 1/4"	9940076/0002	9940081/0001	Rc 3/4"	Rc 1/2"								
3550	R 2"-RH	Rc 1 1/2"	9940172/0012	9940173/0001	Rc 3/4"	Rc 3/4"	176	38	48	57	197	238	312	22
	R 2"-LH	Rc 1 1/2"	9940172/0010	9940173/0005	Rc 3/4"	Rc 3/4"								
	Q 2"	Rc 1 1/2"	9940172/0005	9940173/0003	Rc 3/4"	Rc 3/4"								
3600	R 2 1/2"-RH	Rc 2"	9940122/0007	9940123/0001	Rc 1"	Rc 1"	198	38	52	67	210	257	346	22
	R 2 1/2"-LH	Rc 2"	9940122/0010	9940123/0005	Rc 1"	Rc 1"								
	Q 2 1/2"	Rc 2"	9940122/0003	9940123/0003	Rc 1"	Rc 1"								
3700	R 3"-RH	Rc 2"	9940227/0005	9940228/0004	Rc 1 1/2"	Rc 1 1/2"	219	73	86	76	264	317	391	28
	R 3"-LH	Rc 2"	9940227/0006	9940228/0005	Rc 1 1/2"	Rc 1 1/2"								
	Q 3"	Rc 2"	9940227/0016	9940228/0001	Rc 1 1/2"	Rc 1 1/2"								
3800	R 4"-RH	DN65	—	—	DN65	Rc 2 1/2"	260	171	203	109	378	419	592	43
	R 4"-LH	DN65	—	—	DN65	Rc 2 1/2"								
	Q 4"	DN65	—	—	DN65	Rc 2 1/2"								

* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

Dual Flow

Type SXBP-1 – Two ports, 180°, siphon lock



Steam	Thermal Oil
Pressure: 20 bar	10 bar
Temperature: 288°C	288°C
Speed: Up to 550 RPM	Up to 550 RPM

See page 15 for PV curves and maximum speed ratings.

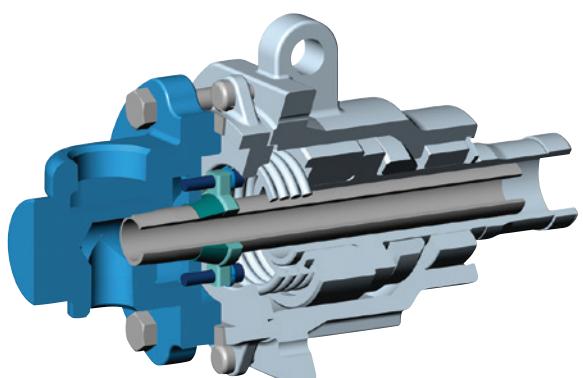
For temperatures up to 343°C and pressure up to 35 bar, please consult factory.

Model	K* ISO 7-1	M* – RH ISO 7-1	Steam Part ID	Oil Part ID	P* – RH ISO 7-1	S – RH ISO 7-1	C	D	E	F	G	H	J	O
3400	R 1 1/4"-RH	Rc 1"	9940055/0007	9940056/0003	Rc 1/2"	Rc 3/8"	133	35	46	50	183	208	281	14
	R 1 1/4"-LH	Rc 1"	9940055/0008	9940056/0004	Rc 1/2"	Rc 3/8"								
	Q 1 1/4"	Rc 1"	9940055/0003	9940056/0005	Rc 1/2"	Rc 3/8"								
3500	R 1 1/2"-RH	Rc 1 1/4"	9940084/0001	CF	Rc 3/4"	Rc 3/4"	166	37	44	55	198	241	297	18
	R 1 1/2"-LH	Rc 1 1/4"	9940084/0006	CF	Rc 3/4"	Rc 3/4"								
	Q 1 1/2"	Rc 1 1/4"	9940084/0003	CF	Rc 3/4"	Rc 3/4"								
3550	R 2"-RH	Rc 1 1/2"	9940180/0012	9940260/0002	Rc 3/4"	Rc 3/4"	176	38	48	57	214	254	329	22
	R 2"-LH	Rc 1 1/2"	9940180/0002	9940260/0001	Rc 3/4"	Rc 3/4"								
	Q 2"	Rc 1 1/2"	9940180/0004	9940260/0003	Rc 3/4"	Rc 3/4"								
3600	R 2 1/2"-RH	Rc 2"	9940129/0013	9940130/0003	Rc 1"	Rc 1"	198	38	52	67	226	272	363	22
	R 2 1/2"-LH	Rc 2"	9940129/0016	9940130/0004	Rc 1"	Rc 1"								
	Q 2 1/2"	Rc 2"	9940129/0005	9940130/0002	Rc 1"	Rc 1"								
3700	R 3"-RH	Rc 2"	9940235/0013	CF	Rc 1"	Rc 1"	219	73	86	76	281	334	408	28
	R 3"-LH	Rc 2"	9940235/0014	CF	Rc 1"	Rc 1"								
	Q 3"	Rc 2"	9940235/0007	CF	Rc 1"	Rc 1"								
3800	R 4"-RH	DN65	–	–	DN65	Rc 2 1/2"	260	171	203	109	378	419	592	43
	R 4"-LH	DN65	–	–	DN65	Rc 2 1/2"								
	Q 4"	DN65	–	–	DN65	Rc 2 1/2"								

CF = Consult Factory

* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.



SX rotary joint shown with the split wedge syphon support.

Split wedge syphon support

To improve the siphon performance and reduce maintenance, the split wedge syphon support is recommended. The split wedge and pressure plate device relieves the stress found in the threads of the cantilevered horizontal siphon pipe. When the split wedge syphon support is used, the potential for siphon pipe breakage is greatly reduced.

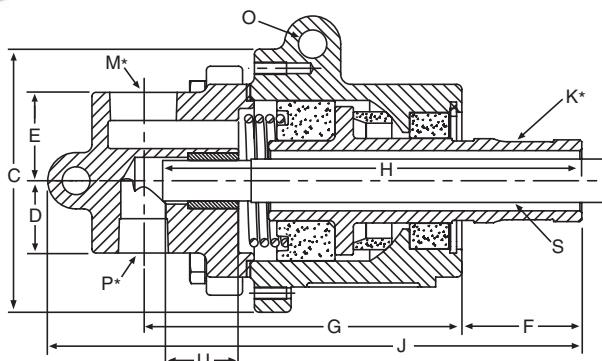
Type SXBN – Two ports, 180°, rotating supply pipe



Thermal Oil	
Pressure:	10 bar
Temperature:	288°C
Speed:	Up to 550 RPM

See page 15 for PV curves and maximum speed ratings.

For temperatures up to 343°C and pressure up to 35 bar, please consult factory.



For thermal oil service

Model	K* ISO 7-1	M* – RH ISO 7-1	Steam Part ID	Oil Part ID	P* – RH ISO 7-1	S OD f7	C	D	E	F	G	H	J	O	U
3300	R 1"-RH	Rc $\frac{3}{4}$ "	N/A	9940022/0002	Rc $\frac{1}{2}$ "	18 mm	122	28	35	47	126	166	211	11	20
	R 1"-LH	Rc $\frac{3}{4}$ "	N/A	9940022/0001	Rc $\frac{1}{2}$ "	18 mm									
	Q 1"	Rc $\frac{3}{4}$ "	N/A	9940022/0005	Rc $\frac{1}{2}$ "	18 mm									

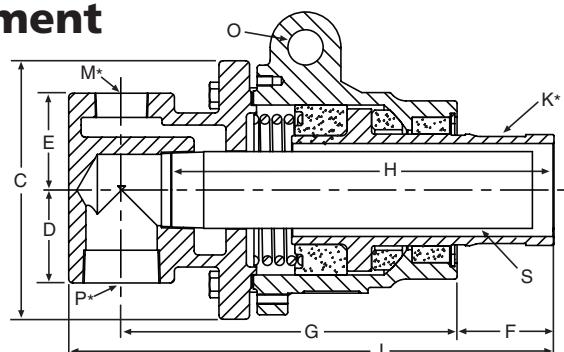
* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

Other sizes are available. Please consult factory for information.

N/A = Not available

Type SXB4 – Reverse flow arrangement



Model	K* ISO 7-1	M* – RH ISO 7-1	Steam Part ID	Oil Part ID	P* – RH ISO 7-1	S – RH ISO 7-1	C	D	E	F	G	H	J	O
3400	R 1 $\frac{1}{4}$ "-RH	Rc $\frac{3}{4}$ "	9940058/0004	9940059/0001	Rc $\frac{3}{4}$ "	Rc $\frac{3}{4}$ "	86	38	48	50	165	190	268	14
	R 1 $\frac{1}{4}$ "-LH	Rc $\frac{3}{4}$ "	CF	N/A	Rc $\frac{3}{4}$ "	Rc $\frac{3}{4}$ "								
	Q 1 $\frac{1}{4}$ "	Rc $\frac{3}{4}$ "	CF	N/A	Rc $\frac{3}{4}$ "	Rc $\frac{3}{4}$ "								
3600	R 2 $\frac{1}{2}$ "-RH	Rc 1"	9940131/0008	N/A	Rc 1 $\frac{1}{2}$ "	Rc 1 $\frac{1}{2}$ "	198	59	60	67	215	251	318	22
	R 2 $\frac{1}{2}$ "-LH	Rc 1"	9940131/0009	N/A	Rc 1 $\frac{1}{2}$ "	Rc 1 $\frac{1}{2}$ "								
	Q 2 $\frac{1}{2}$ "	Rc 1"	9940131/0003	N/A	Rc 1 $\frac{1}{2}$ "	Rc 1 $\frac{1}{2}$ "								
3700	R 3"-RH	Rc 1 $\frac{1}{4}$ "	9940236/0005	N/A	Rc 2"	Rc 2"	219	73	76	76	264	301	381	28
	R 3"-LH	Rc 1 $\frac{1}{4}$ "	9940236/0006	N/A	Rc 2"	Rc 2"								
	Q 3"	Rc 1 $\frac{1}{4}$ "	9940236/0003	N/A	Rc 2"	Rc 2"								

* Other thread types (NPT, BSP) available on request.

Dimensions are in mm, for reference only, and subject to change.

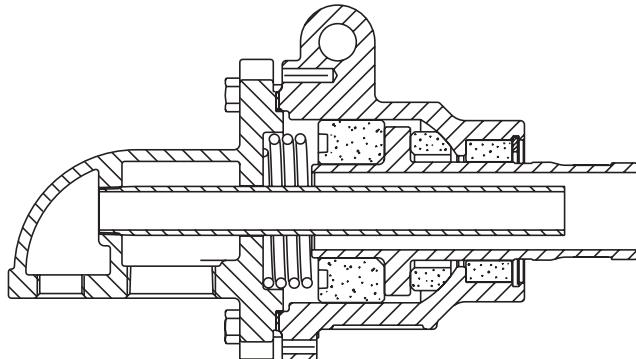
Other sizes are available. Please consult factory for information.

N/A = Not available

Dual Flow

Type SXD – Two ports, in-line

Available in sizes 1½" to 3".



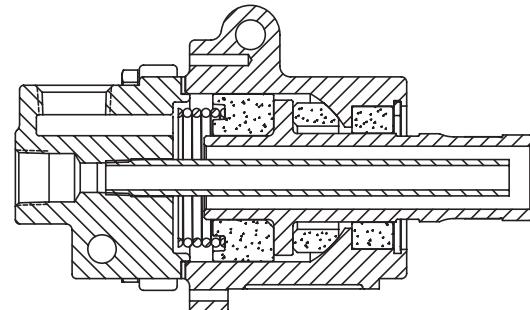
Type SXB2 – Two ports, 90°

Available in sizes ¾" to 1¼".

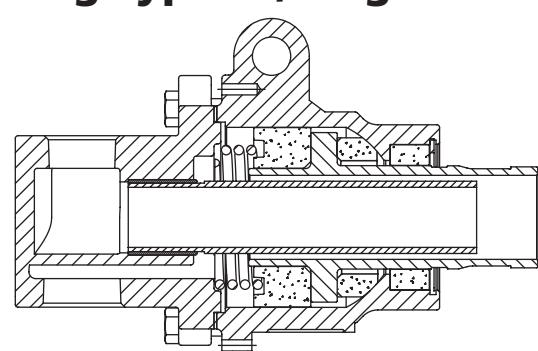


Type SXBP – Two ports, 180°, assembly plate

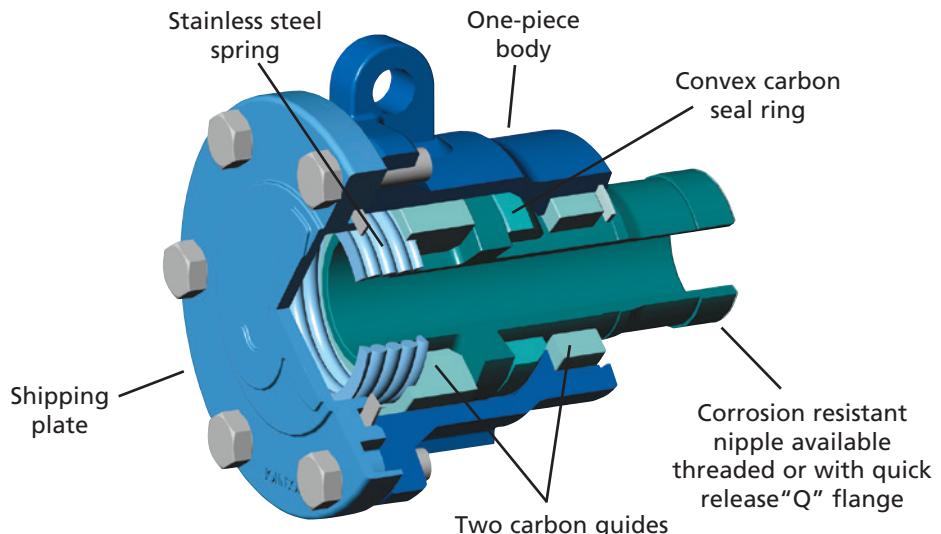
Available in sizes 1" to 3".



Type SXB5N – Two ports, 180°, rotating siphon, large outlet



SX Cartridge



Model	(K) ISO 7-1	Steam Part ID	Oil Part ID
		Standard	Standard
3200	3/4" - RH	9940530/0007	9940531/0007
	3/4" - LH	9940530/0009	9940531/0009
	Q 3/4"	9940530/0015	9940531/0005
3300	1" - RH	9940532/0007	9940533/0007
	1" - LH	9940532/0009	9940533/0009
	Q 1"	9940532/0015	9940533/0005
3400	1 1/4" - RH	9940536/0007	9940537/0007
	1 1/4" - LH	9940536/0009	CF
	Q 1 1/4"	9940536/0015	9940537/0005
3500	1 1/2" - RH	9940540/0007	9940541/0007
	1 1/2" - LH	9940540/0009	9940541/0009
	Q 1 1/2"	9940540/0015	9940541/0005
3550	2" - RH	9940545/0007	9940546/0007
	2" - LH	9940545/0009	9940546/0008
	Q 2"	9940545/0011	9940546/0006
3600	2 1/2" - RH	9940549/0007	9940550/0007
	2 1/2" - LH	9940549/0009	9940550/0009
	Q 2 1/2"	9940549/0011	9940550/0005
3700	3" - RH	9940554/0007	CF
	3" - LH	9940554/0009	CF
	Q 3"	9940554/0011	9940555/0005

CF = Consult Factor

Note: all cartridges come prepared for assembly plate. For cartridges including assembly plate, please consult factory.

The SX cartridge is an innovative and easy upgrade for users of Kadant Johnson Type S™ rotary joints. With the ability to re-use the existing Type S rotary joint head, flexible hoses, and syphon equipment, the SX cartridge is a low-cost upgrade to today's latest seal technology and improved performance.

Features

- ▶ Same connection locations as Type S rotary joint
- ▶ Fits existing Type S rotary joint heads
- ▶ Two internal support guides
- ▶ Optimised seal diameter
- ▶ Convex seal ring in compression
- ▶ Maximum carbon guide separation

Benefits

- ▶ No piping modifications, easy upgrade
- ▶ Low cost upgrade
- ▶ Increased life and reliability
- ▶ Extended seal life, reduced maintenance
- ▶ Self-aligning seal, longer life
- ▶ Improved rotary joint and syphon support

Reducers



Malleable fitting type 241 (figure 1) ISO/EN N4

Part ID	Female/Male inch	Length (mm)
CF	1/8" – 1/4"	20
CF	1/8" – 3/8"	20
CF	1/4" – 3/8"	20
CF	1/8" – 1/2"	24
CF	1/4" – 1/2"	24
830.066	3/8" – 1/2"	24
CF	1/4" – 3/4"	26
CF	3/8" – 3/4"	27
830.050	1/2" – 3/4"	26
CF	1/4" – 1"	29
830.048	3/8" – 1"	29
830.047	1/2" – 1"	29
830.051	3/4" – 1"	29
CF	3/8" – 1 1/4"	31
CF	1/2" – 1 1/4"	31
830.059	3/4" – 1 1/4"	31
830.052	1" – 1 1/4"	31
CF	3/8" – 1 1/2"	31
830.067	1/2" – 1 1/2"	31
830.058	3/4" – 1 1/2"	31
830.060	1" – 1 1/2"	31
830.053	1 1/4" – 1 1/2"	33
830.054	1/2" – 2"	35
CF	3/4" – 2"	35
830.061	1" – 2"	37
830.062	1 1/4" – 2"	37
CF	1 1/2" – 2"	37
CF	1" – 2 1/2"	40
830.057	1 1/4" – 2 1/2"	40
830.063	1 1/2" – 2 1/2"	40
830.055	2" – 2 1/2"	40
CF	1" – 3"	44
CF	1 1/4" – 3"	44
CF	1 1/2" – 3"	44
830.056	2" – 3"	44
830.064	2 1/2" – 3"	44
CF	2" – 4"	51
CF	2 1/2" – 4"	51
CF	3" – 4"	51

CF = Consult Factory



Malleable fitting type 246 (figure 2) ISO/EN M4

Part ID	Male/Female inch	Length (mm)
830.069	1/8" – 1/4"	32
CF	1/4" – 3/8"	35
CF	1/4" – 1/2"	43
CF	3/8" – 1/2"	43
CF	3/8" – 3/4"	48
830.073	1/2" – 3/4"	48
830.068	1/2" – 1"	55
830.074	3/4" – 1"	55
CF	1/2" – 1 1/4"	60
830.065	3/4" – 1 1/4"	60
830.076	1" – 1 1/4"	60
830.084	3/4" – 1 1/2"	60
CF	1" – 1 1/2"	63
830.083	1 1/4" – 1 1/2"	63
CF	1" – 2"	70
830.072	1 1/4" – 2"	70
830.070	1 1/2" – 2"	70
CF	1 1/2" – 2 1/2"	83
830.071	2" – 2 1/2"	80
830.077	2" – 3"	87
830.075	2 1/2" – 3"	91

CF = Consult Factory

Engineering Data

Kadant Johnson seal rings are made of proprietary materials that meet or exceed six critical qualification criteria. Based on results from the Seal Laboratory at the Kadant Johnson Research Centre, only a select group of seal rings are qualified for use in Kadant Johnson rotary joints.

Kadant Johnson can provide seal materials for specific food, pharmaceutical, or chemical industries regulated by the FDA. Those materials comply with the high Kadant Johnson standards. Seal life may vary from the standard seal materials based on the specific application.

For steam service, Kadant Johnson uses Silver Streak seal rings. Silver Streak seals can last up to three times longer than resin seals and are usually applied to high-pressure or high-speed applications.

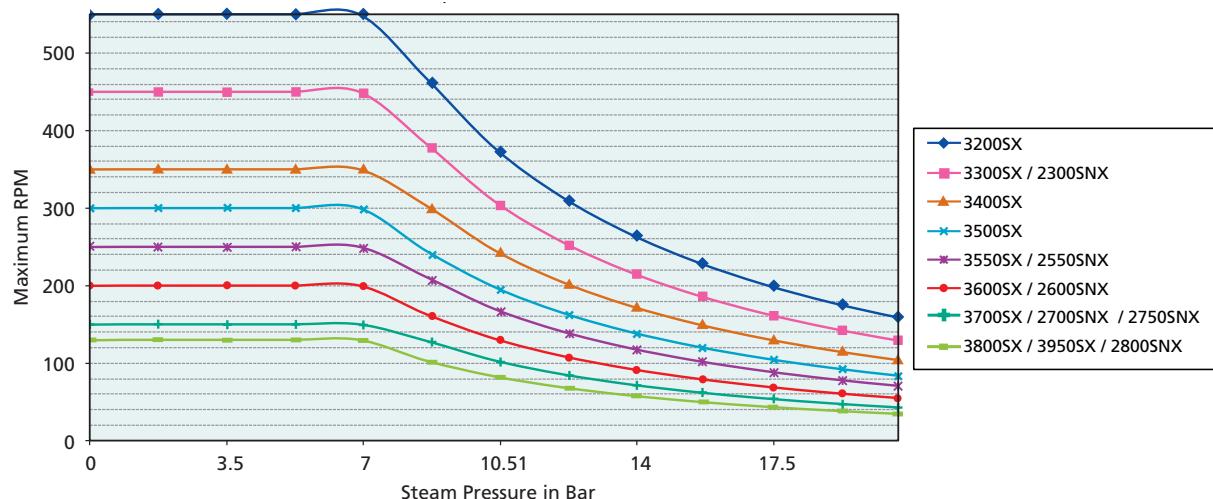


Thermal oil

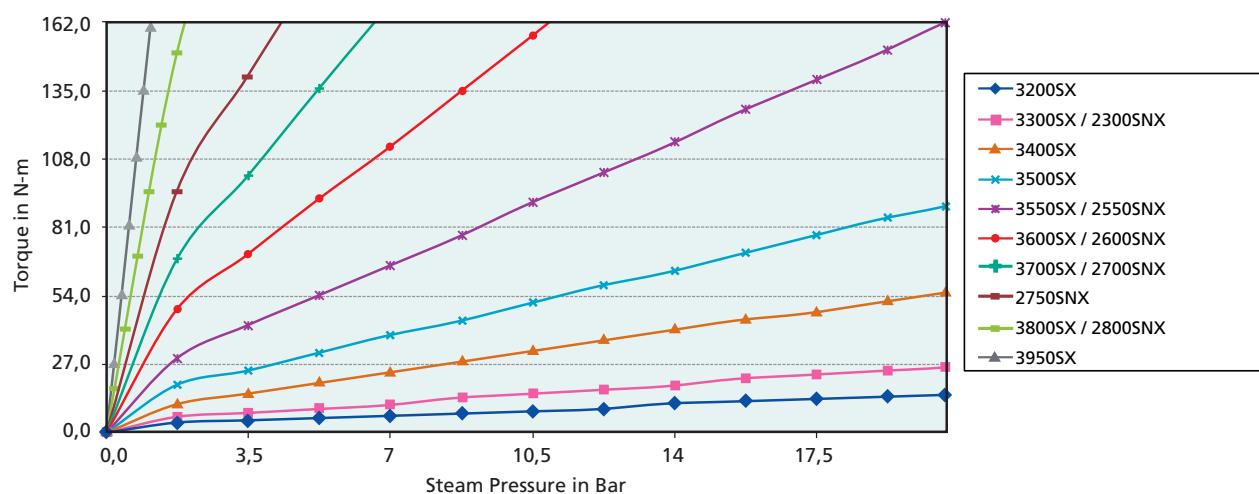
The SNX and SX rotary joints are available in a special configuration for thermal oil applications. Using a Silver Streak seal ring with distinctive seal geometry and seal loading, the SNX and SX rotary joints can operate on oil service up to 343°C (available on request).

PV Curves

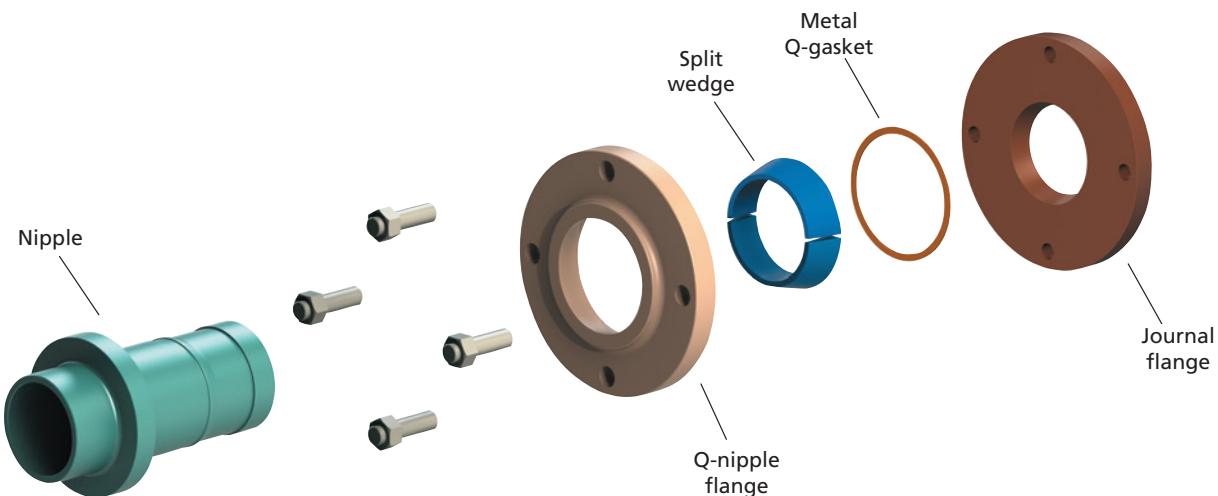
Pressure vs. Speed for the SNX and SX Rotary Joint



Pressure vs. Torque



Quick Release Flange



Model	Rotary Joint Size	Flange (n)	Flange Set Steam	Flange Set Oil	Split Wedge	Gasket Copper Steam	Gasket Aluminium Oil
3200	3/4"	4 holes	050.302	050.402	550.002	080.052	080.101
3300	1"	4 holes	050.303	050.403	550.003	080.053	080.102
3400	1 1/4"	4 holes	050.304	050.404	550.004	080.054	080.103
3500	1 1/2"	4 holes	050.305	050.405	550.005	080.055	080.104
3550/2550	2"	4 holes	050.306	050.406	550.006	080.056	080.105
3600/2600	2 1/2"	4 holes	050.307	050.407	550.007	080.057	080.106
3700/2700	3"	4 holes	050.317	050.417	550.008	080.058	080.107
		5 holes	050.308	050.408			
		6 holes	050.318	050.418			
2750	3 1/2"	6 holes	050.309	050.409	550.009	080.059	080.108
		8 holes	050.310	050.410			
3800/2800	4"	6 holes	050.311	050.411	550.010	080.060	080.109
		8 holes	050.312	050.412			

Flange set includes: Q-flange, split wedges, and metal Q-gasket.

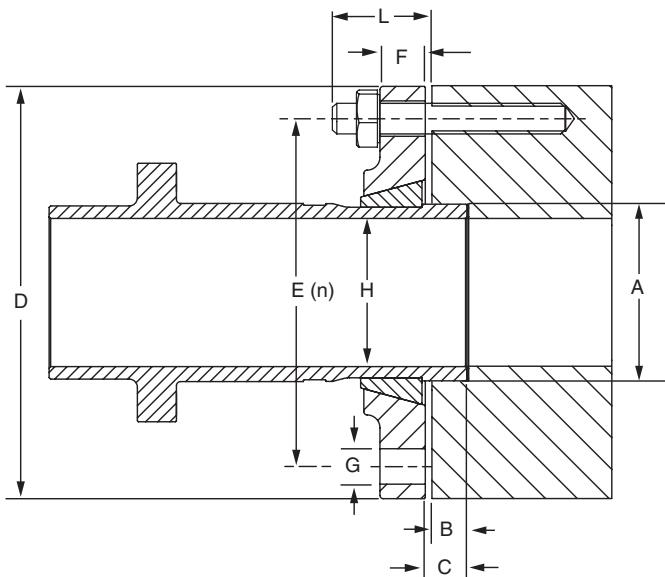
Quick Release Flanges are used for increased ease of installation and reduced maintenance cost. The Quick Release Flange can be used for steam, water, oil, and all other media which passes through the rotary joint.

Features

- ▶ Split wedge construction for ease of installation
- ▶ Q-Flange can be used for LH and RH rotation
- ▶ Gaskets for different media
- ▶ Mounting with multiple bolts
- ▶ Sizes available from 1/2" up to 12"

Benefits

- ▶ Reduced installation and maintenance times
- ▶ Reduced inventory levels
- ▶ Application for all media
- ▶ Easy installation with hand tools



Model	Size	H	Flange A (+0.1/- 0.0)	B	C	D	E	F	G	L	n	Torque (Nm) Copper Gasket	Torque (Nm) Aluminum Gasket	Kg
3200	3/4"	19	26	8	11,1	115	76,2	15	11,10	M10x35	4	12	11	1,1
3300	1"	24,5	32,5	8	11,1	127	88,9	15	14,25	M12x35	4	21	19	1,3
3400	1 1/4"	32,5	41,3	10	12,7	127	88,9	16	14,25	M12x35	4	23	21	1,3
3500	1 1/2"	38	47,6	10	12,7	140	100	20	14,25	M12x40	4	25	22	1,9
3550/2550	2"	48	59,1	13	15,9	165	120,6	20	14,25	M12x40	4	29	25	2,6
3600/2600	2 1/2"	59	72,2	16	19	165	120,6	20	14,25	M12x40	4	34	28	2,5
3700/2700	3"	73	87,3	19	22,2	203	171,5	31	17,50	M16x55	4	72	62	5,9
											5	66	57	
											6	61	54	
2750	3 1/2"	85	100	20	25,4	216	177,8	32	17,50	M16x55	6	66	57	6,4
									14,25	M12x55	8	31	26	
3800/2800	4"	97	112,7	20	25,4	229	190,5	35	17,50	M16x60	6	71	61	7,6
									8		8	63	56	

Dimensions are in mm, for reference only, and subject to change.

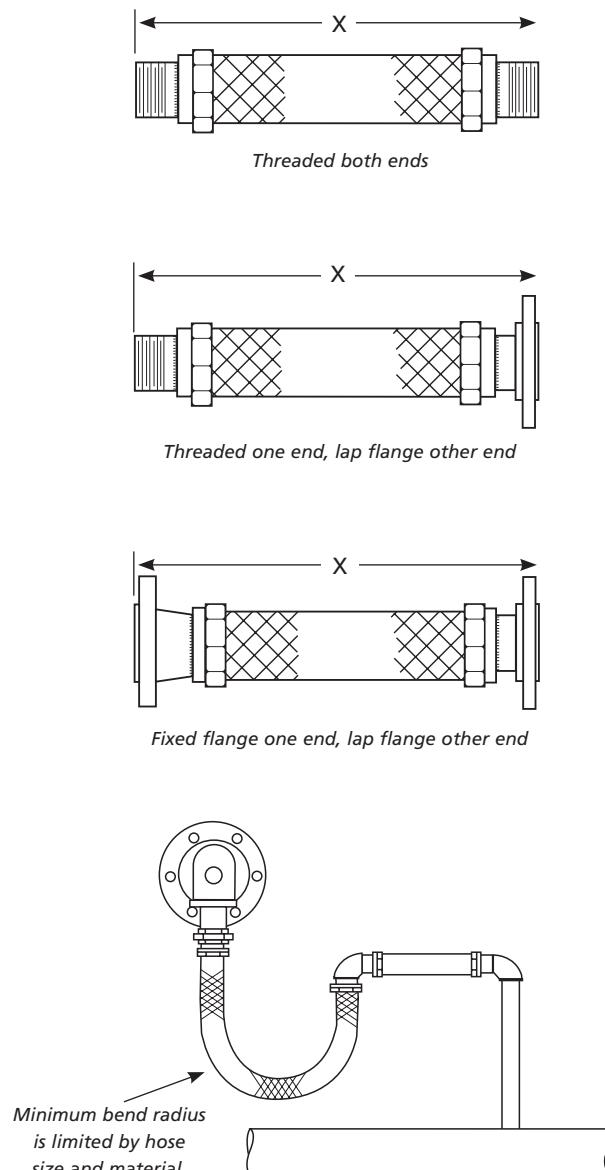
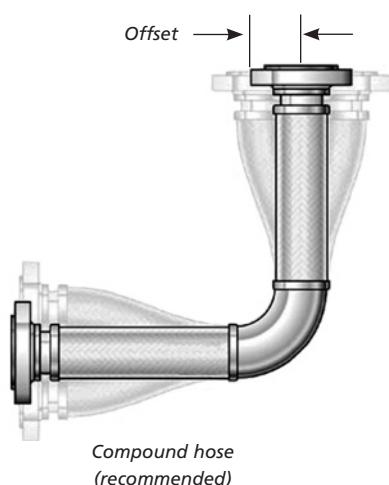
Recommendations

Flexible hose

To ensure free movement of the rotary joint and elimination of side loading, the proper installation, type, and length of flexible hose should be used.

Recommended hose length, bend, and offset (mm)

Pipe Size	Minimum Length (X)	Minimum Bend Radius	Maximum Offset
1/4"	200	140	50
3/8"	250	140	50
1/2"	250	150	38
3/4"	300	200	25
1"	375	225	38
1 1/4"	450	250	50
1 1/2"	450	300	50
2"	525	375	50
2 1/2"	550	355	60
3"	600	425	60
4"	700	550	75



Filtration

It is important to follow the filtration requirements recommended by the machinery manufacturer. SNX and SX rotary joints do not require additional filtration other than what is recommended for the fluid circulation system (typically 40–60 micron).

Guarantee

SNX and SX rotary joints are warranted against manufacturing defects for 12 months. Kadant Johnson's global sales and service network stands behind its products and provides support to more than 150 countries worldwide.

Threaded siphon pipe (Figure 1)

A threaded siphon pipe is used for dual flow installations and is connected to the rotary joint head using BSPT threads. The size of the siphon pipe determines the flow rate for a particular rotary joint size. The larger the pipe size, the higher the potential flow rate for a given size rotary joint. To avoid excessive stress at the pipe thread, the siphon pipe length should not be longer than 4x the overall length of the rotary joint.

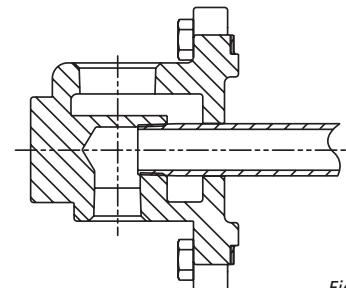


Figure 1.

Split wedge siphon support (Figure 2)

To improve the siphon performance and reduce maintenance, the split wedge siphon support is recommended. The split wedge and pressure plate device relieves the stress found in the threads of the cantilevered horizontal siphon pipe. When the split wedge siphon support is used, the potential for siphon pipe breakage is reduced.

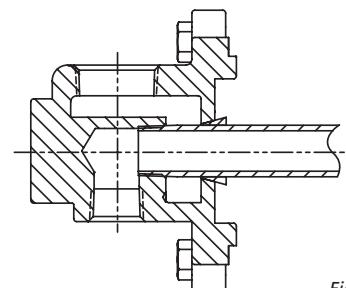


Figure 2.

Rotating siphon pipe (Figure 3)

A rotating siphon pipe can be produced from tubing or iron pipe. The end of the pipe that is inserted into the rotary joint head is machined to a specific tolerance to provide the proper fit and performance. It is recommended that the rotating siphon pipe be supported inside the roll when attempting to use a siphon pipe longer than 4x the length of the rotary joint. A straight thread nipple (for example, BSP or UNS) is used to ensure concentricity. The SXBN head is used for liquids and not for steam.

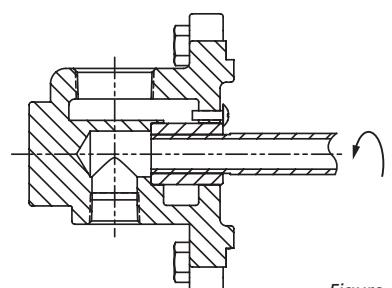
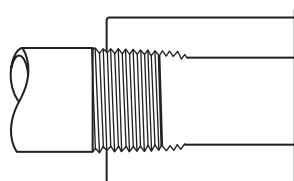


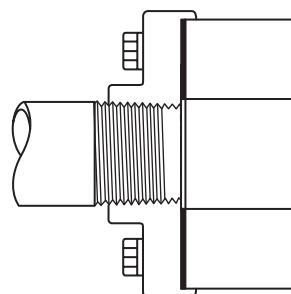
Figure 3.

Connectors

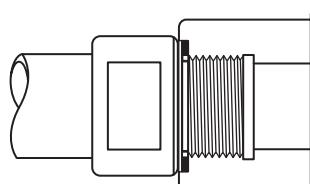
Kadant Johnson rotary joints are attached to roll journals using threaded, flanged, or quick-release nipples.



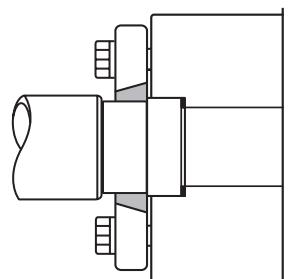
Tapered threads



Tapered threads with adapter flange



Straight threads



Quick-release flange mounted to journal

Other Rotary Joints



ELS™ rotary joint for steam and thermal oil (2" to 14")

The ELS rotary joint is designed for use with steam and thermal oil service. The double-guide design provides internal support for the rotary joint and maintains alignment even when the roll or cylinder is not concentric. The ELS is available in sizes ranging from 2" to 14" and is rated up to 343°C, 50 bar, and 200 RPM.



ELSN™ rotary joint for steam and thermal oil (2" to 14")

The dual-flow ELSN rotary joint is designed for rotating siphon applications and features two internal support guides with maximum separation for increased operating life and siphon support. The ELSN is a robust rotary joint that performs well in steam and thermal applications. The ELSN rotary joint line is available in sizes ranging from 2" to 14" and is rated up to 343°C, 50 bar, and 200 RPM.



RX® rotary union for water, thermal oil, and air (3/8" to 6")

The RX rotary union features a balanced seal and carbon-to-tungsten carbide seal package that makes the RX rotary union more robust and able to run longer than other ball bearing designs. The RX rotary union is supported by two widely-spaced anti-friction bearings, capable of intermittent dry running, and has the balanced seal-loading springs located outside the flow area to minimise potential for fouling. The RX rotary union is rated up to 250°C, 13 bar, and 3.500 RPM.



G™ rotary union for coolant, water, air, and hydraulic oil

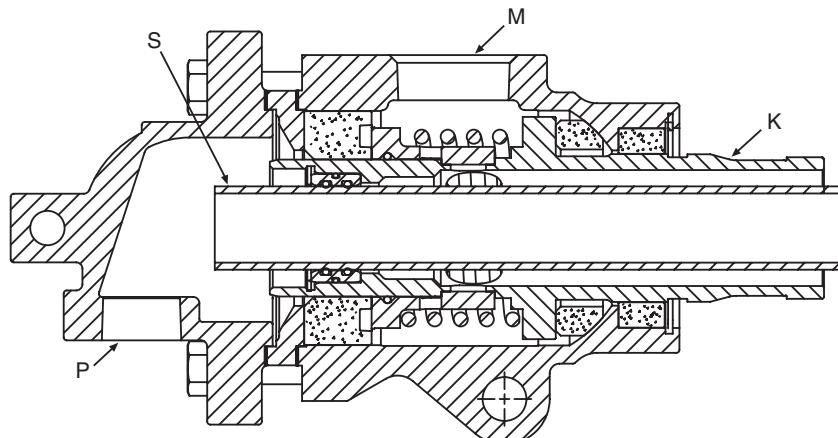
The G rotary union is a high performance, high precision union for coolant, water, air, and hydraulic oil applications. G unions are generally applied to spindles, gun drills, milling, and other machinery. The G union is designed for smooth-running at speeds up to 50.000 RPM and pressures up to 400 bar in sizes ranging from 1/4" to 5/8".

Order Information

Ordering information

If you have an existing Kadant Johnson rotary union with a product label affixed to the housing, the Part ID written on the label is all that is required to order a replacement union. For new applications or if no Part ID is available, the following data are requested:

1. Number of passages (single flow or dual flow)
2. Rotor type (threaded, Q-flange, or integral flange)
3. Rotor thread (right- or left-hand and type)
4. Supply pipe (none, fixed, or rotating)
5. Service (water, thermal oil, air, or steam)
6. Fluid pressure
7. Fluid temperature
8. Rotational speed (rpm)
9. Connection sizes shown on drawing (M, P, S, K)



Complementary Products



Sight flow indicators

Sight flow indicators are engineered to provide visual observation of liquid and non-hazardous gas flows. These pipeline indicators are available with ductile iron bodies in sizes $\frac{3}{8}$ " to 4" with threaded or flanged connections. All glass windows are made of borosilicate glass. Sight flow indicators can be furnished with special transparent-type Mica liners to provide additional protection against glass erosion.



Pivot Body™ syphon elbow

The Pivot Body syphon elbow allows a syphon pipe to be inserted into a roll through the journal and then pivot into place. Unlike conventional syphon elbows, the Pivot Body syphon elbow does not rely on a hinge pin to hold vertical and horizontal pipes together. Its patented pinless design provides improved performance and increased reliability compared to conventional syphon elbows. U.S. Patent No. 7,618,068.



Flexible hose

Flexible hose is engineered specifically for use as inlet and outlet connections to Kadant Johnson rotary joints. It is used to prevent pipe strains from creating stress on the rotating joint and enhances the rotating joint's built-in flexibility. Available in sizes from $\frac{1}{4}$ " to 8" with threaded or flanged couplings.



Thermocompressors

Steam jet thermocompressors are designed to boost low-pressure steam by accurately mixing low-pressure steam with high-pressure steam. With just three basic components; nozzle, mixing section, and diffuser, the Kadant high-efficiency thermocompressor is simple yet highly energy efficient.

Nozzles

A wide variety of nozzles are available for various industrial applications. These include both fan and needle jet nozzles constructed in stainless steel, brass, and other corrosion resistant materials with standard and custom fitting connections. Each nozzle is individually tested for pattern integrity.



Roll cleaning blades

Roll cleaning blades are used in a variety of industries and applications including fibre processing, converting, corrugating, printing, roofing, steel, and food processing. Kadant offers more than 60 blade materials including UHMW poly, fiberglass, carbon, and metal. Blade thickness, bevel, and other features are customer-engineered for the specific application requirements.



Roll cleaning blade holders and accessories

Roll cleaning blade holders feature quick and easy blade changing, precise adjustability, and flexible models that offer self-adjustability and uniform loading. Roll cleaning blade holders are available in steel, stainless steel, and lightweight composite materials.



Roll cleaning systems

Kadant roll cleaning systems provide a compact and unique technology that offers improved cleaning results for increased uptime and reduced maintenance costs in a variety of industrial roll and belt cleaning applications including drum flaking, fibre processing, filtration, and metal processing. Roll cleaning systems provide precise blade load adjustment and quick blade change.



Local Assistance On A Worldwide Basis

Many suppliers have made a commitment to the international marketplace. But few have taken that commitment as far as Kadant Johnson. To assure product availability wherever it's needed, Kadant Johnson rotary joints, syphons, and related equipment are manufactured in North America, Europe, South America, and Asia.

Because knowledgeable advice and prompt service are as important as the products, Kadant Johnson has factory-authorised representatives in nearly 150 countries. So no matter where you are, Kadant Johnson products, service, and assistance are nearby.

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SNX and SX Rotary Joints-3006 (BR EN) 05/2017
Replaces: SX-3005 (BR EN) & SNX and SX Rotary
Joints-3005 (BR EN)
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