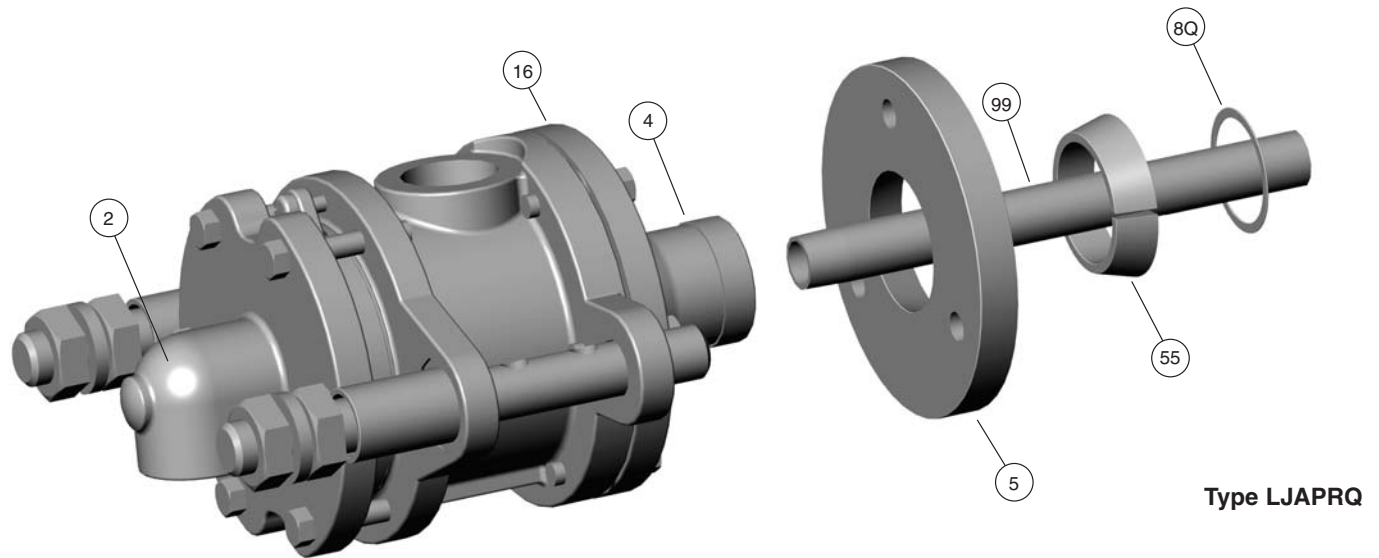


## Installation Instructions for Type LJ Joints



Follow your company's safety procedures whenever working on Kadant Johnson products. Read all of the instructions before proceeding with the installation or repair.

Please refer to the Kadant Johnson assembly drawing for part identification. Assembly drawings are available on request from Kadant Johnson.

Lubricate all fasteners with anti-seize compound. Tighten all fasteners in a star pattern. Torque specifications are listed on the product assembly drawing and are available from Kadant Johnson.

### STEP 1.

Check to make sure that all debris has been removed from the piping and roll before installing joint. This will eliminate seal ring scoring and damage to internal joint parts, which could cause unnecessary downtime and maintenance.

### STEP 2.

Thread horizontal pipe (99) into rotary joint head (2).

**NOTE:** The horizontal pipe must be straight and true. This will prevent the pipe from breaking and excessive pipe wear.

### STEP 3. For quick release style connections to your journal:

Place a new metal gasket (8Q) into the recess in the journal flange. Slide quick release nipple flange (5) over rotary joint nipple (4) with its taper facing outward. Place the two split taper wedges (55) into the recess of the nipple and slide the quick release flange over them to hold in place. Lift the joint up and slide nipple (4) into the journal flange recess and secure to the studs with nuts provided, tightening evenly. Note that the quick release nipple flange will not seat tightly against the face of the journal flange. When tight, there will be a 1/8" to 3/16" (3 to 5 mm) space between the two flanges. Measure this space to make sure it is equal around the circumference of the flange.

If the rotary joint has a threaded nipple (4) connection for attachment to your roll, thread it into the journal flange and tighten.

### STEP 4.

Using a suitable support, mount the rotary joint to it. Make sure components are in alignment, and that the rotating nipple and thrust collar are aligned squarely with the wear plate and assembly plate. If necessary, loosen supports and re-align joint. Measure the clearance between the nipple (4) and wear plate (16). Refer to Table 3 for specification.

### STEP 5.

Once the rotary joint is in position and properly aligned, set the wear indicator hex nuts (A & B) on each support rod to the prescribed distance (see Table 1 for specification) away from the rotary joints outboard lugs (see Figure 1). As the seal rings wear, this space will decrease.

### STEP 6.

Connect piping to joint using Kadant Johnson flexible metal hose. The hose(s) should be long enough so there is no binding or tension causing the joint to move off the journal centerline. The joint must be free to move outward to compensate for seal ring wear. See Table 2 for the recommended flexible metal hose length.

**NOTE:** Connect the hose as close to the joint as possible. Minimize the use of fittings and pipe, as this increased weight can affect the performance of the joint. Provide suitable support for the pipe and fitting beyond the hose.

**NOTE:** Minimize running Kadant Johnson joints dry. Excessive seal wear may occur.

## ALTERNATE PROCEDURE FOR DETERMINING SEAL RING WEAR ON NEW OR REBUILT JOINTS

Check the rotary joint regularly for seal ring wear. As seal ring wear occurs, the joint body moves away from the journal. Should the seal ring wear away completely, the nipple will wear into the joint body or wear plate and eventually through it. This will result in a significant leak and create a hazardous condition. Lack of attention may require replacement of the entire joint instead of just the seal rings.

### THIS PROCEDURE MUST BE PERFORMED WITH THE MACHINE STOPPED.

#### STEP 1.

After a new or rebuilt joint is installed, measure the X dimension from the face of the journal flange to the first machined joint surface as shown in Figure 1.

#### STEP 2.

Refer to Table 1 and determine the maximum seal ring wear for your joint size.

#### STEP 3.

Add the dimension for Step 1 to the dimension from Step 2.

#### STEP 4.

Periodically check the X dimension. When the X dimension equals the number in Step 3, the joint should be rebuilt.

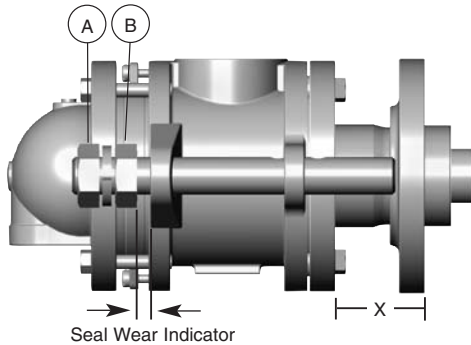


Figure 1

TABLE 1 MAXIMUM SEAL RING WEAR		
Joint Size	Seal Wear	
3/4"	1/4"	6 mm
1"	1/3"	9 mm
1-1/4"	3/8"	10 mm
1-1/2"	5/16"	8 mm
2"	1/3"	9 mm
2-1/2"	3/8"	10 mm
3"	7/16"	11 mm
3-1/2"	7/16"	11 mm
4"	9/16"	14 mm
5"	9/16"	14 mm
6"	7/16"	11 mm
7-1/2"	11/16"	18 mm
8"	13/16"	21 mm

TABLE 2 RECOMMENDED MINIMUM HOSE LENGTHS		
Hose Size	Minimum Length	
1/4"	8"	200 mm
3/8"	10"	250 mm
1/2"	10"	250 mm
3/4"	12"	300 mm
1"	15"	380 mm
1-1/4"	18"	450 mm
1-1/2"	18"	450 mm
2"	21"	530 mm
2-1/2"	24"	610 mm
3"	27"	690 mm

TABLE 3 ROTARY JOINT CLEARANCE RELATION CHART J-JOINTS									
Size		A (Inboard Nipple Wear Plate)		Gauge Size		B (Outboard Thrust Collar/ Assembly Plate)		Gauge Size	
		inches	mm	inches	mm	inches	mm	inches	mm
3/4"	2200	1/16	1.5	1/32	0.80	3/32	2.0	1/16	1.5
1"	2300	3/32	2.0	1/16	1.5	3/32	2.0	1/16	1.5
1-1/4"	2400	1/16	1.5	1/32	1.0	3/32	2.0	1/16	1.5
1-1/2"	2500	3/16	5.0	1/8	3.0	5/32	4.0	1/8	3.0
2"	2550	1/8	3.0	3/32	2.0	1/8	3.0	3/32	2.0
2-1/2"	2600	1/8	3.0	3/32	2.0	5/32	4.0	1/8	3.0
3"	2700	1/8	3.0	3/32	2.0	1/8	3.0	3/32	2.0
3-1/2"	2750	1/8	3.0	3/32	2.0	5/16	8.0	1/4	6.0
4"	2800	1/4	6.0	3/16	5.0	1/4	6.0	3/16	5.0
5"	950	1/2	12.0	3/8	10.0	7/16	11.0	3/8	10.0
6"	1000	1/4	6.0	3/16	5.0	11/32	9.0	3/16	5.0
7-1/2"	1075	1/8	3.0	3/32	2.0	1/2	12.0	7/16	11.0
8"	1100	1/4	6.0	3/16	5.0	1/4	6.5	3/16	5.0

#### NOTES:

- Dimensions are per side, not diameter.
- 'A' is maximum offset allowable before interference of rotating parts and stationary parts will occur.
- Maximum recommended eccentricity of joint nipple run-out in relation to joint body is  $\pm 1/16$  (1.5 mm) T.I.R.
- For Trunion driven dryers, vertical movement should be allowed for due to thermal expansion.
- Centerline of support rods must be parallel with centerline of dryer journal  $\pm 1^\circ$  during operation.
- The above are rounded off to the nearest lower fraction and are meant for reference only. Actual dimensions should be obtained from Kadant Johnson Engineering Drawings.
- Gauge clearance A & B with a welding rod gauge. You will have to remove head casting to check dimension B.

*Dimensions are for reference only and subject to change. Certified drawings are available on request.*

#### The Kadant Johnson Warranty

Kadant Johnson products are built to a high standard of quality. Performance is what you desire: that is what we provide. Kadant Johnson products are warranted against defects in materials and workmanship for a period of one year after date of shipment. It is expressly understood and agreed that the limit of Kadant Johnson's liability shall, at Kadant Johnson's sole option, be the repair or resupply of a like quantity of non-defective product.

**KADANT**  
AN ACCENT ON INNOVATION  
www.kadant.com