

Installation Instructions for Type ELS Joints



Type ELSBRQ

Please follow your company's safety procedures whenever working on Kadant Johnson rotary joints. Read all of the instructions completely before proceeding.

Please refer to the assembly drawings supplied with your Kadant Johnson rotary joint for part identification. If you have any questions, contact your Representative or 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 into the rotary joint body (1).

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 copper gasket (8Q) into the recess of 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 tube 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 (5) will not seat tightly against the

face of the journal flange. When tight, there should be 1/8" to 3/16" (3 to 5 mm) space between the two flanges. Measure the gap to make sure it is even.

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.

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

STEP 5.

Install anti-rotation rods in the anti-rotation rod hole using Schedule 80 pipe. See recommended sizes for anti-rotation rods in Table 3. It is recommended that not more than two joints be joined with one anti-rotation rod. Secure the rod in the anti-rotation rod hole of one joint using cotter pins and let the rod float in the anti-rotation rod hole of the second joint. This will absorb the torque generated by the joint and prevent premature hose failure by reducing stresses.

NOTE: Never apply oil or grease to Kadant Johnson joints. The saturated steam, condensate, or liquid passing through it is the only lubrication required for the carbon-graphite parts.

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

PROCEDURE FOR DETERMINING SEAL RING WEAR

Check the rotary joint regularly to determine seal ring (6) wear. As shown in Figure 1, the shoulder of the nipple will be exposed as seal ring wear occurs. Should the seal ring (6) wear away completely, the metal nipple can wear into the 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 ring.

STEP 1.

Locate the shoulder that has been machined into the joint nipple. See Figure 1.

STEP 2.

As the joint moves, the shoulder on the joint's nipple is exposed.

STEP 3.

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

STEP 4.

When the exposed shoulder on the nipple is equal to the dimension in Step 3, the joint should be rebuilt.

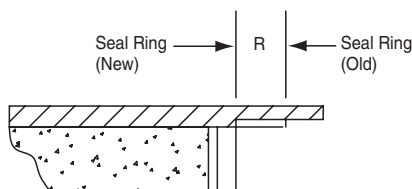


Figure 1. Seal ring wear indicator shoulder

TABLE 1		
MAXIMUM SEAL RING WEAR (R)		
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			
RECOMMENDED SIZES FOR ANTI-ROTATION RODS			
Joint Size	Joint Number	Use Schedule 80 Pipe Size	
3/4"	2200	1/8"	3 mm
1"	2300	1/8"	3 mm
1-1/4"	2400	1/4"	6 mm
1-1/2"	2500	1/4"	6 mm
2"	2550	1/4"	6 mm
2-1/2"	2600	3/8"	10 mm
3"	2700	1/2"	12 mm

Dimensions and specifications are for reference only and subject to change. Certified drawings are available on request. Please refer to Kadant Johnson Drawing Number A37640 for torque specifications.

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