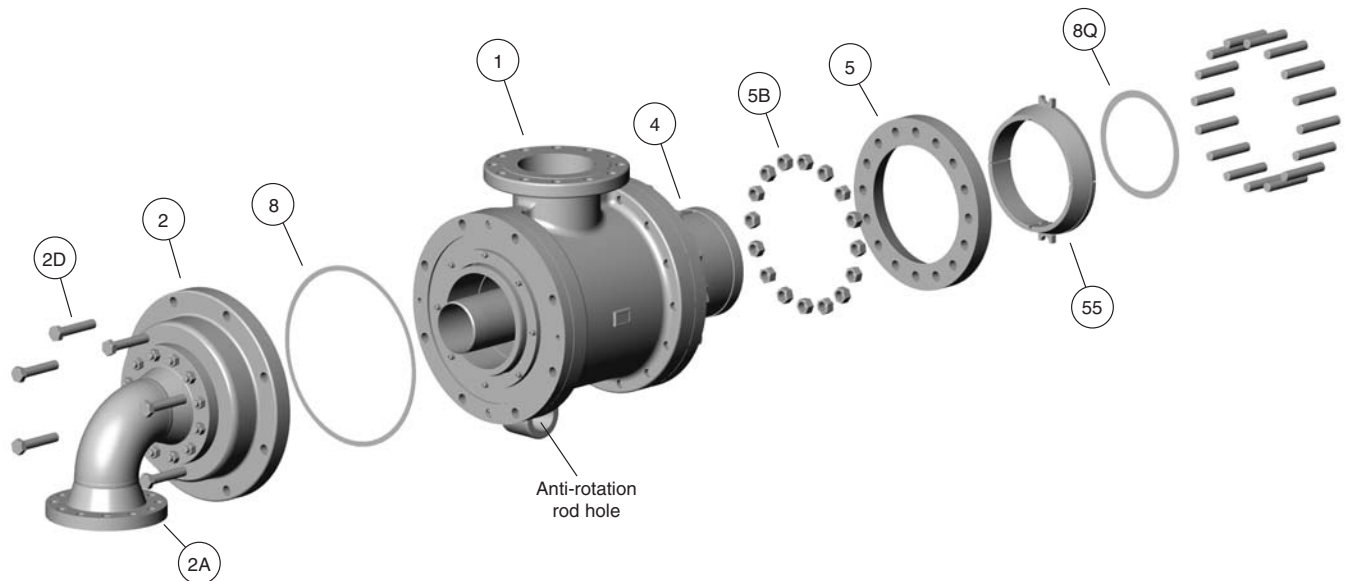


# Installation Instructions for Large ELSJ Joints



Please follow your company's safety procedures whenever working on Kadant Johnson rotary joints and 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 questions, please contact your representative or Kadant Johnson.

Tighten all fasteners in a star pattern. See joint assembly drawing for torque specifications.

## STEP 1.

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

## STEP 2.

Remove the elbow and head assembly (2A and 2) from the joint.

## STEP 3.

Slide the quick release nipple flange (5) onto the rotary joint nipple (4). Place the two split rings (55) into the recess of the nipple and slide the quick release nipple flange over the split rings.

## STEP 4.

Using a crane and straps around the body of the joint, lift the joint into position of installation until it is aligned on the center of the dryer. Place a new metal gasket (8Q) into the counterbore of the journal flange.

## STEP 5.

Secure the quick release nipple flange (5) to the journal flange studs with nuts (5B) provided. Tighten evenly.

**NOTE:** The quick release nipple flange (5) will not seat tightly against the face of the journal flange. When tight, there will be

a space between the flanges. Make sure this gap is equal around the circumference of the flanges.

## STEP 6.

After "Q" nipple flange connection is secured, crane and straps can be removed. Attach the head (2) to the horizontal pipe.

## STEP 7.

Make sure gasket (8) is in position between the body (1) and head assembly (2 and 2A). Install head (2) and elbow assembly (2A) over gasket and secure into position using bolts (2D).

## STEP 8.

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

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

## STEP 9.

Install anti-rotation rod in the anti-rotation rod hole. No more than two joints should be joined with one anti-rotation rod. Secure the rod to the rod hole of one joint and let it float in 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. 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 wear. As shown in Figure 1, the shoulder on the nipple will move outward as seal ring wear takes place. Should the seal ring (6) wear away completely, the metal nipple (4) can contact the joint body (1) and the wear plate (16), eventually wearing through it. This will result in a significant leak and create a hazardous condition. Metal to metal contact of these parts may require replacement of the entire joint instead of just the seal rings.

### STEP 1.

Determine the location of a shoulder that is machined into the shaft of the rotary joint nipple (see Figure 1).

### STEP 2.

Reference Table 1 for joint size. As the seal ring begins to wear, the joint moves (due to pressure) away from cylinder.

### STEP 3.

When the body moves out from the shoulder to meet the dimension found in Table 1, replace the seal ring.

*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.*

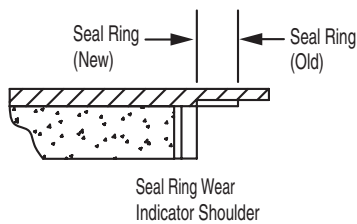
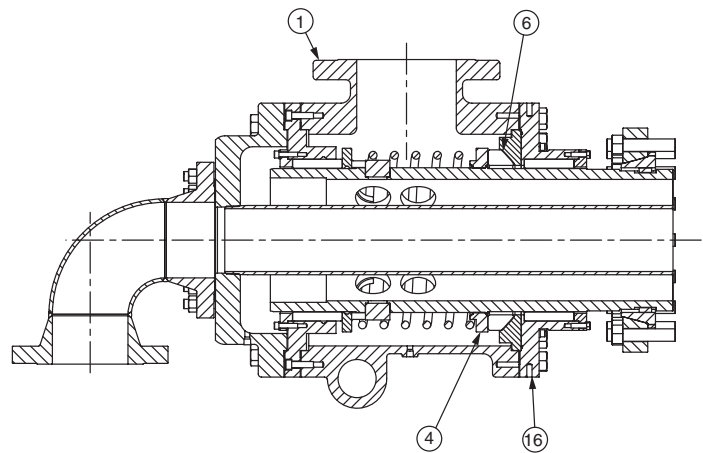


Figure 1

TABLE 1		
MAXIMUM SEAL RING WEAR		
Joint Size	Seal Wear	
6.50"	0.70"	18 mm
8.75"	0.75"	19 mm
10"	1.00"	25 mm
12"	1.00"	25 mm

TABLE 2		
RECOMMENDED MINIMUM HOSE LENGTHS		
Hose Size	Minimum Length	
4"	28"	700 mm
5"	30"	750 mm
6"	33"	850 mm
8"	36"	900 mm
10"	40"	1000 mm

TABLE 3		
RECOMMENDED SIZES FOR ANTI-ROTATION RODS		
Joint Size	Model Number	Rod Size Up To 250 psi (17 bar)
6.50"	1050	1.25" 4140 Steel Bar
8.75"	1150	2.38" 4140 Steel Bar
10"	1200	1.75" 4140 Steel Bar
12"	1400	2.50" 4140 Steel Bar



### 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