Installation Instructions
for Type LJTM Rotary Joint with Support Plate

Follow your company’s safety procedures whenever working on Kadant Johnson products. Read all of the instructions before proceeding with 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 rotary joint. This will eliminate seal ring scoring and damage to internal rotary joint parts which could cause unnecessary downtime and maintenance.

STEP 2.
Remove hex nuts (2B), head (2), and gasket (8A). Remove safety wire (44). Remove cap screws (45), pressure plate (43), and split wedges (42). Set aside. Remove socket head cap screws (47), packing gland (46), and packing (35). Set aside. Remove support plate (31B), and gasket (8B). Set aside. See Figure 1.

STEP 3.
Slide the quick release nipple flange (5) onto the nipple (4) with its taper facing outward. Place two split taper wedges (55) into the recess of the nipple and slide the quick release nipple flange over the wedges.

STEP 4.
Place a new metal gasket (8Q) into the counterbore of the journal flange.

STEP 5.
NOTE: The horizontal pipe handling tool may be required to pull the horizontal pipe (99) from the roll to obtain the set-up dimension described in this step. See Figure 2.

Position the rotary joint with quick release flange/nipple assembly (4, 5, and 55) pointed towards the journal flange or roll end. Slide the rotary joint over the horizontal pipe (99) while the pipe passes through the assembly plate (31). Insert the nipple into the journal flange counterbore. Slide the quick release nipple flange (5) over the journal flange studs and secure flange with hex nuts.

NOTE: The quick release nipple flange (5) will not seat tightly against the face of the journal flange. When tight there will approximately a 1/8” to 3/16” (3 to 5 mm) space between the flanges. Make sure this gap is equal around the circumference of the flanges.

STEP 6.
Mount the rotary joint to a suitable support arrangement. Make sure the rotary joint components are in alignment. The rotary joint body (1) should be level and square with the journal face. The nipple (4) should be centered in the wear plate (16) and centered in the assembly plate (31). See Figure 1. Refer to Table 2 for clearance specifications. Adjust the support structure as required to align the rotary joint. When the rotary joint is properly aligned, install a set of wear indicator hex nuts (A and B) on each support rod to the specified distance. See Table 3 for specification. As the seal ring (6) wears this gap will decrease.

STEP 7.
Install gasket (8B) and support plate (31B) while passing the horizontal pipe (99) through the hole in the center of the support plate. Make sure the pipe extends 1” (25 mm) past the face of the support plate and the pipe is in the correct position inside the roll. Install packing (35) around the pipe and into the pocket of the support plate. Position the packing gland (46) over the pipe and secure with socket head cap screws (47). Tighten cap screws evenly to 15 ft-lbs (20 Nm). Place two split wedges (42) into the recess in the packing gland and secure with pressure plate (43) and cap screws (45). Tighten the cap screws evenly to 15 ft-lbs (20 Nm) tapping the pressure plate occasionally with a hammer to ensure that the split wedges are seated. Thread safety wire (44) through cap screws (45) to prevent them from coming loose.

STEP 8.
Reinstall the head (2) using gasket (8A). Secure the head using hex nuts (2B).

STEP 9.
Connect piping to rotary joint using Kadant Johnson flexible metal hose. Two hoses should be installed in the inlet and two in the outlet piping. See Flexible Hose Piping Recommendations, IS-Flexible Hose. The hose(s) should be long enough to minimize any piping loads on the rotary joint. The rotary joint must be free to move outward to compensate for seal ring wear. See recommended flexible metal hose length chart in Table 1.

NOTE: Connect the hose directly to the rotary joint. Minimize the use of fittings and pipe between the rotary joint and flexible hose. This increased weight can affect the performance of the rotary joint. Provide suitable support for the pipe and fittings beyond the hose.

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

Minimize running Kadant Johnson rotary joints dry. Excessive seal wear may occur.
PROCEDURE FOR DETERMINING SEAL RING WEAR

There are two options for determining seal ring wear.

Option 1. Check the rotary joint regularly to monitor seal ring wear. As shown in Figure 3, there is a groove machined into the nipple. When the seal ring is new, the face of the wear plate will line up with the roll side edge of the groove. As seal ring wear occurs, the wear plate/rotary joint will move away from the roll. When the opposite edge of the groove is exposed and even with face of the wear plate, the seal ring is approximately 80% worn. The rotary joint should be rebuilt at this time to avoid damage to internal metal parts.

Option 2. If the wear indicator nuts were correctly set up as described in Step 6, seal ring life has been depleted when the joint body lugs contact them. When this occurs the rotary joint will start to leak because the body will no longer be able to move and compensate for seal ring wear. The rotary joint should be rebuilt at this time.

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.

<table>
<thead>
<tr>
<th>Hose Diameter</th>
<th>Minimum Length</th>
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<tbody>
<tr>
<td>4”</td>
<td>28” 711 mm</td>
</tr>
<tr>
<td>5”</td>
<td>30” 762 mm</td>
</tr>
<tr>
<td>6”</td>
<td>33” 838 mm</td>
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<table>
<thead>
<tr>
<th>Rotary Joint Size</th>
<th>Seal Wear</th>
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<tr>
<td>8”</td>
<td>13/16” 21 mm</td>
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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.

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Ann Arbor, Michigan