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.

**REPAIR KITS ARE AVAILABLE CONSISTING OF:**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3A</td>
<td>1</td>
<td>O-Ring</td>
</tr>
<tr>
<td>4A</td>
<td>1</td>
<td>Packing or O-Rings</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Seal Ring</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Spring</td>
</tr>
<tr>
<td>8 and 8A</td>
<td>2</td>
<td>Gasket</td>
</tr>
<tr>
<td>8Q</td>
<td>1</td>
<td>Q Gasket</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Inboard Guide</td>
</tr>
<tr>
<td>10A</td>
<td>1</td>
<td>Outboard Guide</td>
</tr>
</tbody>
</table>

* Refer to Kadant Johnson assembly drawing

**REMOVAL:**

**STEP 1.**
Close the inlet and outlet valves and allow the joint to cool down. Disconnect the piping from the joint, remove the anti-rotation device.

**STEP 2.**
Remove the head (2) by removing the hex head cap screws (2A). Remove and discard gasket (8A). If optional or universal packing gland is used, loosen the locknut and remove the packing gland. See Figure 2.

**STEP 3.**
Remove hex head cap screws allowing quick release nipple flange (5) to slide away from the journal flange, exposing two tapered split wedges (55). Remove the rotary joint from the machine for rebuilding. Separate the wedges and remove quick release nipple flange. Save the split wedges and quick release nipple flange for reuse. Remove and discard metal gasket (8Q).

For threaded nipple joints, unscrew nipple (4) from journal.

**STEP 4.**
Set the rotary joint upright on a workbench as shown in Figure 1.

**STEP 5.**
Remove the two round head cap screws and lockwashers (31A and 31B) that hold the assembly plate (31) onto the body (1). Caution is advised as this item retains the internal spring force. You may have to apply some force to break the gasket (8) loose.

**STEP 6.**
Remove the internal items: inboard guide (10), spring shoulder (3), spring (7), nipple (4), and seal ring (6). Check the spring shoulder for wear on keyways and the flat sealing surface. Replace spring shoulder if damaged. Remove the o-ring (3A) from the spring shoulder. Discard all items except the nipple and spring shoulder.

**STEP 7.**
Turn body (1) over and remove retaining ring (25) and outboard guide (10A) and discard. The joint is now fully disassembled.

**STEP 8.**
Clean all parts and gasket surfaces.

**STEP 9.**
Inspect the body (1) for wear at the seal ring contact area and where both guides ride inside the body. If any area is worn, pitted, or steam cut, replace the body.

**STEP 10.**
Remove o-rings or packing (4A) from end of nipple (4) and discard them. Inspect the nipple’s seal ring contact area and guide surfaces for scratches, grooves, or pits. Inspect the keys on the nipple for wear. If there is deterioration in these areas, replace the nipple.
REASSEMBLY:

STEP 11.
Lubricate and place a new o-ring (3A) in spring shoulder (3).

STEP 12.
Place new outboard guide (10A) into body (1) and secure in place with retaining ring (25).

STEP 13.
Insert a new seal ring (6) into the body (1) convex side down.

STEP 14.
Place two new lubricated o-rings (4A) in nipple (4), unless optional or universal packing gland is used. See Figure 2. Slide spring (7) and spring shoulder (3) onto nipple, lining up keyways. Slide nipple (4) into body (1).

STEP 15.
Install inboard carbon guide (10), with its groove facing inward, over the nipple (4) and down into the body (1).

STEP 16.
Using a new gasket (8), set assembly plate (31) over the inboard guide (10) and push down, compressing the spring. Secure the assembly plate with the two round head cap screws and lockwashers (31A and 31B).

NOTE: Make sure the key slot in the spring shoulder and nipple are aligned by looking through the M (inlet) connection.

REINSTALLATION:

STEP 17.
Place a new metal gasket (8Q) into the recess of the journal.

STEP 18.
Place ‘Q’ nipple flange (5) over nipple (4) with the taper facing outward. Place the two tapered split wedges (55) into the recess of nipple and secure into position by sliding the ‘Q’ nipple flange over the wedges.

STEP 19.
Position the joint with quick release flange/nipple assembly (4, 5, and 55) pointed towards the journal flange or roll end. Slide the joint over the horizontal pipe until the pipe passes through the o-rings or packing gland area (4A). 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 head cap screws. Tighten hex head cap screws evenly.

NOTE: The ‘Q’ flange will not fit tightly against the journal flange. There should be 1/8” to 3/16” (3 mm to 5 mm) space between the flanges. Make certain this gap is equal around the circumference of the flanges.

STEP 20.
If packing gland is used, insert new packing rings into the nipple and around the horizontal pipe. Lubrication is not necessary with packing or packing gland. Tighten packing gland to 30 ft-lbs (41 Nm). Tighten locknut. The horizontal pipe should extend 3/8” (10 mm) beyond the packing gland or the end of the nipple. See Figure 2.

STEP 21.
Install head (2) using a new gasket (8A). Secure head with hex head cap screws (2A). To achieve proper gasket loading, lubricate the bolts before installation. Reconnect the piping, turn valves on and joint will be ready for service.

Dimensions 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.

Packing Gland and O-Ring Configurations

Universal Packing Gland and O-Ring Configurations

Figure 1

Figure 2

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.