Disassembly and Repair of Type SX® Rotary Joints with ISSS™ Syphons

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.

REPAIR KITS ARE AVAILABLE CONSISTING OF:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>Carbon Seal</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Spring</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>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>
<tr>
<td>41</td>
<td>1</td>
<td>O-ring</td>
</tr>
</tbody>
</table>

Allow equipment to cool and disconnect piping. Please consult Kadant Johnson if you have any questions.

NOTE: Do not use anti-seize or petroleum-based products on O-rings. Only lubricate the O-rings with the silicone lubricant supplied with the Kadant Johnson repair kit. Prior to handling lubricants, consult MSDS information.

REMOVAL:

STEP 1. Close the inlet and outlet valve and release the residual pressure in the system. Allow the rotary joint to cool sufficiently and then disconnect the inlet and outlet piping from the rotary joint.

STEP 2. Remove the cap screws (2A) and remove the head (2). Remove gasket (8). Remove O-ring (41) from inside the head and discard.

STEP 3. Measure the distance from the pressure plate (43) to the end of the horizontal pipe (99). On the end of the horizontal pipe there is an indexing mark, compare its position with one of the three indexing marks on the pressure plate. Record this information; it will be used for re-assembly.

STEP 4. Loosen and remove the cap screws (45). Remove pressure plate (43) and split wedges (42).

STEP 5. Remove the hex nuts from the studs at Q nipple flange (5).

STEP 6. The rotary joint is now free to be removed from the machine.

STEP 7. Set the rotary joint upright on a workbench as shown in Figure 1.

STEP 8. Use caution while performing this step, there is internal spring force present within the rotary joint. Remove two slotted screws (31A). Remove wedge plate (40) and gasket (8). You may have to apply some force to break the gasket loose.

STEP 9. Remove the internal items – spring (7), inboard guide (10), nipple (4), and carbon seal (6). Discard all items except the nipple (4).
STEP 10.
Turn body (1) over and remove retaining ring (25) and outboard guide (10A) and discard. The rotary joint is now fully disassembled.

CLEANING AND INSPECTION:

STEP 11.
Clean and inspect the nipple's (4) guide and seal ring (6) contact areas. If any surface is worn or scratched replace the nipple. Clean and inspect the body's (1) guide and seal ring contact areas. If any surface is worn or scratched replace the body. Clean all gaskets surfaces.

Clean and inspect the wedge plated (40). Inspect the pressure plate (45) and split wedges (42). Replace any parts that are damaged.

REASSEMBLY:

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

STEP 13.
Insert a new carbon seal (6) into the body (1) convex side down followed by nipple (4).

STEP 14.
Install carbon guide (10) with its spring groove facing outward over the nipple end and down into the body (1).

STEP 15.
Place spring (7) into the machine groove in the end of the carbon guide (10).

STEP 16.
Place a new gasket (8) onto body (1). Place pressure plate (40) on body while compressing the spring (7), secure with round head screws (40A).

REINSTALLING THE ROTARY JOINT:

STEP 17.
Place a new copper gasket (8Q) into the counterbore of the journal flange. Slide the quick release nipple flange (5) over the nipple (4) with its taper facing outward. Place two split wedges (55) into the recess of the nipple and then slide the quick release flange over them. Position the rotary joint nipple back into the recess of the journal flange while passing the horizontal pipe (99) through the wedge plate (40). Align the holes in the quick release flange with the studs protruding from the journal flange and slide the quick release flange over them. Secure the quick release flange using hex nuts. Note: The quick release flange will not seat tightly against the face of the journal flange. When tight, there should be 1/8” to 3/16” (3 to 35 mm) space between the two flanges. If the rotary joint has a threaded nipple connection for attachment to the roll, thread it into the journal and tighten.

STEP 18.
Place the split wedges (42) into the wedge plate (40) and around the horizontal pipe (99). Slide the pressure plate (43), with the indexing marks pointed up, over the horizontal pipe and loosely secure with cap screws (45). Position the horizontal pipe using the information that was noted from Step 3. With the horizontal pipe in position, tighten the cap screws to 8 ft-lbs (11 Nm). Tap the pressure plate using a soft faced hammer to seat the split wedges, then tighten the cap screws to 16 ft-lbs (22 Nm).

STEP 19.
Lubricate and install a new O-ring (41) into the O-ring groove in the head (2). Place a new gasket (8) onto the head. Position the head onto the rotary joint body (1) making sure the O-ring engages the end of the horizontal pipe (99). Secure head with cap screws (2A).

STEP 20.
Reinstall the anti-rotation rod and the piping. The Kadant Johnson rotary joint is now ready to be placed back in service.

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

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

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.

Figure 1