Disassembly and Repair of Type 9550PT™ Rotary Joints

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.

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.

REPAIR KITS ARE AVAILABLE CONSISTING OF:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>Seal Ring</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>Springs</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Gasket</td>
</tr>
<tr>
<td>18</td>
<td>6</td>
<td>Retaining Rings</td>
</tr>
<tr>
<td>25</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.

STEP 1. Remove the cap screws (2A) that secure the head (2) to the end cap assembly (3, 4, and 7). Remove head and syphon pipe (99) away from the rotary joint and set aside. Discard the gasket (8). Remove all excess gasket material from head and end cap assembly.

STEP 2. Remove cap screws (3A) to prepare for removal of the end cap assembly (3, 4, and 7). The end cap assembly is under a spring load. Spring load will be released when the cap screws are loosened. With assistance, capture the seal ring (6) and remove end cap assembly.

STEP 3. Inspect the spherical seal ring contact surface of the wear plate (16). Replace wear plate if worn, scratched, or steam cut. Replace the wear plate by removing cap screws (16A) and gasket (15). Clean the gasket surface on mating flange and install a new wear plate using a new gasket. The wear plate is not part of the repair kit, it is available separately.

SERVICING THE END CAP ASSEMBLY

STEP 4. Remove the nipple (4) from the end cap (3) by placing the assembly in a small press with the nipple’s flat wear surface facing up. Place a wooden block on the nipple’s flat face to protect it. Push downward on the nipple to compress the springs (7), then remove the retainer rings (18). Release the press and the nipple will slide out of the end cap. Discard springs and retaining rings.

STEP 5. Using solvent and a mild abrasive, clean the nipple’s (4) o-ring surface and seal ring contact area. Inspect for damage or wear. Replace nipple if worn, scratched, or steam cut. The nipple is not part of the repair kit, it is available separately.

STEP 6. Remove the o-rings (25) from the end cap (3) and discard. Using solvent and a mild abrasive, clean the o-ring grooves in the end cap. Inspect for damage or wear. Replace the end cap if it is worn, scratched, or steam cut. The end cap is not part of the repair kit, it is available separately.

STEP 7. Examine the spring guide pins (19) for wear and replace as necessary.
STEP 8. Lubricate and install two new o-rings (25) into the end cap (3). Lubricate the o-ring sealing surface of the nipple (4).

STEP 9. Place the end cap (3) back into the press with the spring guide pins (19) facing up. Place new springs (7) over the spring guide pins. Position the nipple (4) back into the bore of the end cap and align the holes in the nipple flange with the spring guide pins. While protecting the seal surface of the nipple, push the nipple into the end cap bore, compressing the springs and securing with new retaining rings (18). Fully release the press so the nipple flange rests against the retaining rings.

STEP 10. Position a new carbon seal ring (6) into the recess of the wear plate (16). NOTE: Wetting the seal ring will help hold the seal ring in position. With assistance, position the end cap assembly (3, 4, and 7) into the ring bracket (20) while holding on to the seal ring. Install the cap screws (3A) and tighten. This will compress the nipple (4) into the end cap (3).

Check the “X” dimension. It should match the dimension called out on the assembly drawing. Make sure the flat sealing surface of the nipple is centered on the flat sealing surface of the seal ring. It should be concentric within 0.06” (1.5 mm). If either specification is out of range, please consult the factory. See Figure 1.

STEP 11. Place gasket (8) over pilot on head (2). Following the manufacturer’s recommendations, position the horizontal pipe (99) into the roll and attach the head to the end cap assembly (3, 4, and 7) with cap screws (2A).

STEP 12. The Kadant Johnson rotary joint is now ready for piping. Connect piping to the rotary joint using Kadant Johnson flexible metal hose. The hose(s) should be long enough so there is no binding or tension to cause the rotary joint to move off the journal centerline. See recommended flexible metal hose length chart in this instruction sheet. When the piping is complete, the rotary joint can be put into service.

MONITORING SEAL RING WEAR

As the seal ring (6) wears the X dimension decreases. When the flange on the nipple (4) contacts the retaining ring (18) the rotary joint will start to leak and avoid damaging metal parts. The seal ring is considered completely worn at this time. It is advisable to repair the rotary joint just before the nipple flange contacts the retaining ring to keep it running leak free.

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.

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

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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.