Disassembly and Repair of Type SX® Steam 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.

Please consult Kadant Johnson if you have any questions.

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>Seal Ring</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>
</tbody>
</table>

* Only 1 gasket required when not using an assembly plate.

REMOVAL:

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

STEP 2.
Remove the hex nuts from the studs at “Q” nipple flange (5).

STEP 3.
The rotary joint is now free to be removed from the machine.

STEP 4.
If equipped with a horizontal pipe, unscrew it and set aside.

STEP 5.
Set the rotary joint upright on a workbench as shown in Figure 1.

STEP 6.
Remove cap screws (2A) freeing the head (2). Set the head aside. Caution is advised as this item may retain the internal spring force.

STEP 7.
If using an assembly plate (31), remove the two round head cap screws (31A) and lockwashers (31B) which hold the assembly plate 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 loose.

STEP 8.
Remove the internal items – spring (7), inboard guide (10), nipple (4), and seal ring (6). Discard all items except the nipple.

STEP 9.
Turn body (1) over and remove retaining ring (25) and outboard guide (10A) and discard. The rotary joint is now fully disassembled.

STEP 10.
Inspect the nipple’s (4) wear surface for wear and scratches. If necessary, replace. Also check the inside of the body (1) for wear.

STEP 11.
Clean all gasket surfaces and parts to be reused.
REASSEMBLY:

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 followed by the nipple (4).

STEP 14.
Install inboard 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 inboard guide (10).

STEP 16.
Using a new gasket (8), set assembly plate (31) over the spring and fasten in place with the two round head cap screws (31A) and lockwashers (31B).

STEP 17.
Using the second gasket (8), bolt head (2) to the body (1) with fasteners (2A).

STEP 18.
Thread the syphon pipe into the head.

STEP 19.
For quick release style connections to your journal; place a new metal gasket (8Q) into the journal flange. Slide the quick release nipple flange (5) over the rotary joint nipple with its taper facing outward. Place the two split taper wedges (55) into recess of the nipple (4) and then slide the quick release flange over them. Lift the rotary joint up and slide the nipple into the journal flange recess and secure to the studs with nuts provided, tightening evenly. Note that the quick release nipple flange will not seat tightly against the face of the journal flange. When tight, there should be 1/8” to 3/16” (3 to 5 mm) space between the two flanges. If the rotary joint has a threaded nipple connection for attachment to your roll, simply thread it into the journal.

STEP 20.
Connect piping to rotary joint using Kadant Johnson flexible metal hose. The hose(s) should be long enough so there is no binding or tension tending to move the rotary joint off the journal centerline of the roll. The rotary joint must be free to move outward to compensate for carbon seal ring wear.

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

STEP 21.
Install stop rods in the anti-rotation rod holes using Schedule 80 pipe. It is recommended that no more than two rotary joints be joined with one rod. Secure the rod in the rod hole of one rotary joint using cotter pins and let the rod float in the rod hole of the second rotary joint. This will absorb the torque generated by the rotary joint, and prevent premature hose failure by reducing stresses.

STEP 22.
Reattach the piping and open the valves. 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.

![Type SXA](image1.png)

Figure 1

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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.