Gravity Lock Elbow

**Applications**

The Pivot Body™ syphon elbow allows a syphon pipe to be inserted into a dryer through the dryer journal, without the need for a hand hole or manhole. Unlike conventional syphon elbows, the Pivot Body syphon elbow does not rely on a hinge pin to hold vertical and horizontal bodies together. Its unique pinless design provides improved performance, increased reliability, and easier installation.

**Features**

- Unique pivot body design
- Stainless steel construction
- Sealed pipe connections
- Shorter length syphon pipe

**Benefits**

- Longer operating life
- Corrosion resistant materials
- Eliminates leakage, reduced dryer flooding
- Reduced load on rotary joint supports
The Pivot Body syphon elbow consists of three parts: horizontal body, pivot body, and o-ring. Both body components are made of stainless steel for corrosion-resistance. There are three sizes available including ½", ¾", and 1" as measured by the size of the horizontal pipe.

<table>
<thead>
<tr>
<th>Part ID</th>
<th>Vertical Pipe ISO 7-1</th>
<th>Horizontal Pipe ISO 7-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>990.402</td>
<td>Rc ½&quot; – RH</td>
<td>Rc 1/2&quot; – RH</td>
</tr>
<tr>
<td>990.410</td>
<td>Rc ¾&quot; – RH</td>
<td>Rc ¾&quot; – LH</td>
</tr>
<tr>
<td>990.404</td>
<td>Rc 1/2&quot; – RH</td>
<td>Rc ¾&quot; – RH</td>
</tr>
<tr>
<td>990.411</td>
<td>Rc 1/2&quot; – RH</td>
<td>Rc ¾&quot; – LH</td>
</tr>
<tr>
<td>990.406</td>
<td>Rc ¾&quot; – RH</td>
<td>Rc 1&quot; – RH</td>
</tr>
<tr>
<td>990.412</td>
<td>Rc ¾&quot; – RH</td>
<td>Rc 1&quot; – LH</td>
</tr>
</tbody>
</table>

Note that the horizontal pipe and vertical pipe are not the same size. The vertical pipe is one pipe size smaller. The smaller vertical leg reduces blow-through steam and the cantilevered weight of the syphon assembly. As a result, the stress on the pipe threads securing the horizontal pipe into the head of the rotary joint is reduced.

**Installation overview**

If the Pivot Body syphon elbow fits through the rotary joint nipple (typically 1½" rotary joint size and larger), then the rotary joint can be attached to the roll before installing the syphon assembly. The horizontal pipe is threaded into the head of the rotary joint and secured with the pressure plate and split collar. The syphon assembly is inserted into the roll and the head is attached to the body of the rotary joint. This is the same procedure used when installing conventional hinged syphon elbows.

The Pivot Body syphon elbow can also be used on rolls with rotary joints smaller than 1½" but the installation is slightly different. Refer to the detailed installation instruction sheet available online or from Kadant Johnson Marketing.

To improve condensate removal and the operation of the syphon, the end of the vertical pipe should be cut square and not at an angle. This permits condensate to drain from the dryer, even in the unlikely event that the vertical pipe contacts the roll.

**Determining the length (C) of the vertical pipe**

Note: Keep horizontal pipe length to a minimum. Please consult Kadant Johnson if further assistance is required.

1. Calculate dimension “A” by dividing the internal roll diameter by 2.
2. Subtract the desired syphon clearance (dimension “B”) from “A” and multiply this result by 1,414 to find dimension “C”. The nominal recommended syphon clearance is 35 mm. Please contact Kadant Johnson for a specific recommendation based on your equipment and process requirements.
3. For 1” elbow, subtract 6 mm from dimension “C” to determine the length of the ¾” vertical pipe.