**Style 1103 Rubber Expansion Joint**

12” ID x 16” F/F (DN300mm x 406.4mm) - 150-lb Drilling | 1103-0012-3.16

**Section Detail**

- **Retaining Ring**
- **Gusset**
- **Rods**
- **Nuts**
- **Spherical Washers**
- **Textile Reinforcement**
- **Metal Reinforcement**
- **Cover**
- **Reinforcement Tube**

**Bill of Materials**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MATERIAL</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retaining Ring</td>
<td>Carbon Steel</td>
<td>Hot Dipped Galvanized</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Plain</td>
</tr>
<tr>
<td>Gusset</td>
<td>Carbon Steel</td>
<td>Hot Dipped Galvanized</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Plain</td>
</tr>
<tr>
<td>Rods</td>
<td>ASTM A193 B7 Alloy Steel</td>
<td>Hot Dipped Galvanized</td>
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<td>ASTM A193 B8M 316 SS</td>
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<tr>
<td>Nuts</td>
<td>ASTM A194 2H Steel</td>
<td>Hot Dipped Galvanized</td>
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<td>ASTM A194 8M 316 SS</td>
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<tr>
<td>Spherical Washers</td>
<td>Stainless Steel</td>
<td>Plain</td>
</tr>
<tr>
<td>Spherical Washer</td>
<td>Stainless Steel</td>
<td>Rubber Embedded</td>
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<tr>
<td>Textile Reinforcement</td>
<td>High Tensile Steel</td>
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</tr>
<tr>
<td>Metal Reinforcement</td>
<td>RFL Coating</td>
<td></td>
</tr>
</tbody>
</table>

**Optional Control Units**

- **No Control Units**
- **Outer Washer / Grommet**
- **Inner Bare** (GR/B) *(shown above)*

- **Integral Ring** (INT-W/B)
- **Integral Ring** (INT-W/W)
- **Integral Ring, Spherical Washer** *(INT-SW/SW)*

- **Inner Nuts (GR/W)**
- **Spherical Washer (GR-SW/B)**
- **Spherical Washer (GR-SW/SW)**

**MOVEMENT** (non-concurrent)

<table>
<thead>
<tr>
<th>Comp. in [mm]</th>
<th>Ext. in [mm]</th>
<th>Lateral in [mm]</th>
<th>Angular deg.</th>
<th>Torsional deg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 [152]</td>
<td>3 [76]</td>
<td>3 3/4 [95]</td>
<td>42</td>
<td>8.7</td>
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</tbody>
</table>

**SPRING RATE**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>337 [59]</td>
<td>417 [73]</td>
<td>10 [13.6]</td>
<td>25.1 [34]</td>
<td></td>
</tr>
</tbody>
</table>

**PRESSURE**

<table>
<thead>
<tr>
<th>Pressure psig [barg]</th>
<th>Vacuum in-Hg [barg]</th>
<th>RBJ with Rings lbs [kg]</th>
<th>Control Unit lbs [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>225 [15.5]</td>
<td>15 [-0.5]</td>
<td>90 [40.9]</td>
<td>27 [12.2]</td>
</tr>
</tbody>
</table>

**WEIGHT**

<table>
<thead>
<tr>
<th>Control Unit lbs [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 [12.2]</td>
</tr>
</tbody>
</table>

*Gusset thickness and pressure listed above are for carbon steel gussets and ASTM A193 B7 rods. Contact General Rubber for stainless steel pressures and thicknesses.

*Optional Control Units: 2 Rods / 199 psig 3 Rods / 225 psig

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