Chart's dissimilar metal bayonet design uses the thermal contraction/expansion that low cryogenic temperature gives to metals. It provides a mechanical connection for sections of vacuum jacketed pipe that have a leak tight shrink fit seal.

When cryogenic liquid passes through the bayonet, the stainless steel nose of the female bayonet (Item A) contracts and forms a tight seal on the nose of the male bayonet (Item B). The nose piece of the male bayonet is precision machined out of INVAR 36. INVAR 36 was developed, with the help of NASA, to produce a material that does not shrink when exposed to cryogenic temperatures. A secondary o-ring seal (Item C) is used at the flange. To disassemble the system, simply drain the line of liquid and warm it to ambient temperature.

**Benefits and Features**

- Lowest heat leak in the industry
- Most reliable cryogenic connection on the market
- Back-up flange option available
- Easy to install or disassemble
- Meets ANSI B31.3 specifications
- Available in 1/2", 1", 1-1/2", and 2" pipe sizes

Specify Chart's Vacuum Insulated Piping (VIP), with Chart’s bayonet, for your next cryogenic pipe job.

NOTE: Close tolerance stainless steel bayonets are also available.
### Technical Data

<table>
<thead>
<tr>
<th>Line Size</th>
<th>Max Design Pressure</th>
<th>Weight Male</th>
<th>Weight Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; x 2&quot;</td>
<td>366 psig</td>
<td>2.03 lbs</td>
<td>1.36 lbs</td>
</tr>
<tr>
<td>1&quot; x 3&quot;</td>
<td>206 psig</td>
<td>3.23 lbs</td>
<td>2.49 lbs</td>
</tr>
<tr>
<td>1-1/2&quot; x 3-1/2&quot;</td>
<td>150 psig</td>
<td>6.48 lbs</td>
<td>4.49 lbs</td>
</tr>
<tr>
<td>2&quot; x 3-1/2&quot;</td>
<td>150 psig</td>
<td>8.29 lbs</td>
<td>4.81 lbs</td>
</tr>
</tbody>
</table>

### Inner Pipe

<table>
<thead>
<tr>
<th>Size</th>
<th>PART NUMBERS</th>
<th>DIMENSIONS</th>
<th>Outer Pipe</th>
</tr>
</thead>
</table>

**Inner Pipe Size**

**O-Ring**

**Male**

**Female**

**Clamp**

**Dimensions**

**Outer Pipe**

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**Vacuum Insulated Pipe**

**Dissimilar Metal Bayonet Connections**

**Chart Inc.**

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