Type 200 Series Welded or Bonded Diaphragm Seal

When isolation of the process from an instrument is required, Ashcroft offers a comprehensive line of diaphragm seals. Seal types include threaded, flanged, in-line threaded, in-line flanged, in-line socket weld, in-line butt weld, saddle and sanitary seals. Also available is a complete offering of isolation or iso-rings and isolation or iso-spools.

Applications for diaphragm seals include:
- Elevated process temperatures
- Corrosive service
- Isolation of the process for safety
- Suspended solids in the process
- Sanitary connections
- Replacement of process dead leg
- Ease of cleaning between batches

FEATURES
- A metal diaphragm is welded to the top housing. Elastomeric diaphragms are bonded to the top housing. Either provides a double positive seal.
- A fill/bleed connection is standard, which permits filling the seal and instrument simultaneously after evacuation and allows the fill to flow into the completed unit.
- A Viton O-ring, compatible with all standard fill fluids, and a Teflon back-up ring provide a seal between the diaphragm capsule and the top housing.
- A thin Teflon PTFE gasket between the diaphragm and bottom housing ensures a leak-tight corrosion resistant seal even at high pressure.
- Top housing and pressure instrument are removable.
- Continuous-duty design will prevent loss of process fluid if pressure instrument is removed or fails.

HOW TO ORDER:
1. From Table A...select TYPE NUMBER based on process connection, process connection size and diaphragm type/construction. (e.g., Threaded/1”/capsule–code-10-200)
2. From Table B...select DIAPHRAGM MATERIAL. (e.g., 316L stainless steel–code S)
3. From Table C...select BOTTOM HOUSING MATERIAL. (e.g., 316 stainless steel–code S)
4. From Table D...select INSTRUMENT CONNECTION size. (e.g., 1/4 NPT–code 02T)
5. From Table E...select FILLING FLUID, if diaphragm seal will be attached to instrument. (e.g., Glycerin–code CG)

Typical Code: 10–200SS–02T–CG

ISO 9001
REGISTERED PDM
BULLETIN DS-200

All specifications are subject to change without notice. All sales subject to standard terms and conditions. © Ashcroft Inc. 2012 07/2012

Ashcroft Inc., 250 East Main Street, Stratford, CT 06614 USA
Tel: 203-378-8281 • Fax: 203-385-0408
email: info@ashcroft.com • www.ashcroft.com
**Type 200 Series Welded or Bonded Diaphragm Seal**

**Table A – Process Connection/Type Number**

<table>
<thead>
<tr>
<th>Process Connection Size/Code—Inches</th>
<th>Type Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1⁄4, 1⁄2, 3⁄4, 1 NPT</td>
<td></td>
</tr>
<tr>
<td>Threaded—female NPT</td>
<td>200</td>
</tr>
<tr>
<td>Threaded—female NPT (with flushing conn.)</td>
<td>201</td>
</tr>
<tr>
<td>Flanged (raised face)</td>
<td>202</td>
</tr>
<tr>
<td>Flanged (with flushing conn.)</td>
<td>203</td>
</tr>
<tr>
<td>In-line—threaded NPT</td>
<td>204</td>
</tr>
<tr>
<td>Saddle</td>
<td>205</td>
</tr>
<tr>
<td>In-line—butt weld</td>
<td>206</td>
</tr>
<tr>
<td>In-line—flanged</td>
<td>207</td>
</tr>
<tr>
<td>In-line—socket weld</td>
<td></td>
</tr>
</tbody>
</table>

Pressure Ratings—All 2500 psi except flanged seals are per ASME B 16.5, temperature limit determined by diaphragm, bottom housing and/or filling fluid.

**Table B – Diaphragm Material**

<table>
<thead>
<tr>
<th>Material Code</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>316L stainless steel</td>
</tr>
<tr>
<td>C</td>
<td>304 stainless steel</td>
</tr>
<tr>
<td>P</td>
<td>Monel 400</td>
</tr>
<tr>
<td>N</td>
<td>Nickel</td>
</tr>
<tr>
<td>D</td>
<td>Carpenter 20</td>
</tr>
<tr>
<td>U</td>
<td>Tantalum</td>
</tr>
<tr>
<td>G</td>
<td>Hastelloy B</td>
</tr>
<tr>
<td>J</td>
<td>Hastelloy C 22(6)</td>
</tr>
<tr>
<td>H</td>
<td>Hastelloy C 276(6)</td>
</tr>
<tr>
<td>T</td>
<td>Teflon(4)</td>
</tr>
<tr>
<td>Y</td>
<td>Viton(5)</td>
</tr>
<tr>
<td>K</td>
<td>Kalrez(12)</td>
</tr>
<tr>
<td>H</td>
<td>Titanium(14)</td>
</tr>
</tbody>
</table>

**Table C – Bottom Housing Materials**

<table>
<thead>
<tr>
<th>Material Code</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Steel</td>
</tr>
<tr>
<td>C</td>
<td>304L stainless steel</td>
</tr>
<tr>
<td>S</td>
<td>316L stainless steel</td>
</tr>
<tr>
<td>G</td>
<td>Hastelloy B</td>
</tr>
<tr>
<td>H</td>
<td>Hastelloy C 276(6)</td>
</tr>
<tr>
<td>H</td>
<td>Hastelloy C 22(6)</td>
</tr>
<tr>
<td>D</td>
<td>Carpenter 20</td>
</tr>
<tr>
<td>N</td>
<td>Monel “400”</td>
</tr>
<tr>
<td>M</td>
<td>Inconel “600”</td>
</tr>
<tr>
<td>W</td>
<td>Halar coated SS(9)</td>
</tr>
<tr>
<td>T</td>
<td>Teflon flanged steel(10)</td>
</tr>
<tr>
<td>K</td>
<td>Kynar(13)(15)</td>
</tr>
<tr>
<td>TI</td>
<td>Titanium(14)</td>
</tr>
</tbody>
</table>

**Table E – Filling Fluid**

<table>
<thead>
<tr>
<th>Filling Service</th>
<th>Temperature Range °F</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>Direct only</td>
<td>0/400</td>
</tr>
<tr>
<td>Silicone</td>
<td>Direct or Flexible Line</td>
<td>-40/600</td>
</tr>
<tr>
<td>Halocarbon</td>
<td>Direct or Flexible Line</td>
<td>-70/300</td>
</tr>
<tr>
<td>Syltherm</td>
<td>Direct or Flexible Line</td>
<td>-40/750</td>
</tr>
</tbody>
</table>

Notes:
1. 150, 300, 600, 900, 1500 & 2500 class flanges.
2. 1” 150 thru 8” 300 class flanges only.
3. Metal diaphragms welded; Teflon, Kalrez & Viton diaphragms bonded.
4. Temp. limits: -40/400°F.
5. Max. pressure: 500 psi.
6. Use on applications where NACE standard MR-01-75 2003 is standard.
   Threaded: 200 psi/74°F, 125 psi/125°F, 80 psi/150°F.
   Flanged: 75 psi/100°F.
8. Type 203 only.
9. Temp. Limits: -40/300°F.
10. Only available in 1”, 1 1/2”, & 2” 150 class, 750 psi/150°F.
11. Max. pressure: 500 psi.
12. Maximum pressure/temperature: 200 psi and 180°F.
13. Type 202 max. press./temp. – 270 psi and 150°F.
15. Type 200 only available in 1/4 NPT or 1/2 NPT. 3/4” & 1” size available as solvent welded joint only.
Type 200 Series Welded or Bonded Diaphragm Seal

**Dimensions**

**Type 200 – Threaded**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 201 – Threaded**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202/203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202 – Flanged (raised face only)**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202/203 – Flanged (raised face only)**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202/203 – Flanged (raised face only)**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 202 – Flanged (with flushing connection)**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]

**Type 203 – Flanged**

\[
\begin{array}{ccc}
A & B & C \\
3\frac{3}{4} & 2\frac{7}{8} & 1\frac{13}{16} \\
95 & 73 & 46 \\
\end{array}
\]
Type 200 Series Welded or Bonded Diaphragm Seal

Dimensions:

**Type 203 – Flanged**

1 1/4˝, 2˝, 3˝ (raised face only)

One piece bottom housing with flushing connection

<table>
<thead>
<tr>
<th>Size</th>
<th>Flange Rating #</th>
<th>A in mm</th>
<th>B in mm</th>
<th>C in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2˝</td>
<td>300 or 600</td>
<td>6 1/16</td>
<td>3 (76)</td>
<td>2 1/16</td>
</tr>
<tr>
<td>2˝</td>
<td>300 or 600</td>
<td>6 1/16</td>
<td>3 (76)</td>
<td>2 1/16</td>
</tr>
<tr>
<td>3˝</td>
<td>300 or 600</td>
<td>6 1/16</td>
<td>3 (76)</td>
<td>2 1/16</td>
</tr>
</tbody>
</table>

**Type 204 – In-Line Threaded**

1/4, 1/2, 3/4, 1 NPT

<table>
<thead>
<tr>
<th>Process Connection</th>
<th>A in mm</th>
<th>B in mm</th>
<th>C in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>4 (102)</td>
<td>2 1/16</td>
<td>2 1/16</td>
</tr>
<tr>
<td>1/2 NPT</td>
<td>4 (102)</td>
<td>2 1/16</td>
<td>2 1/16</td>
</tr>
<tr>
<td>3/4 NPT</td>
<td>4 (102)</td>
<td>2 1/16</td>
<td>2 1/16</td>
</tr>
<tr>
<td>1 NPT</td>
<td>4 (102)</td>
<td>2 1/16</td>
<td>2 1/16</td>
</tr>
</tbody>
</table>

**Type 205 – Saddles**

3˝ Pipe only

<table>
<thead>
<tr>
<th>Size</th>
<th>Flange Rating #</th>
<th>A in mm</th>
<th>B in mm</th>
<th>C in mm</th>
<th>D in mm</th>
<th>E in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>150</td>
<td>3 (76)</td>
<td>2 1/16</td>
<td>2 1/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 NPT</td>
<td>150</td>
<td>3 (76)</td>
<td>2 7/16</td>
<td>2 1/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 NPT</td>
<td>150</td>
<td>3 (76)</td>
<td>2 1/4</td>
<td>2 1/16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type 206 – In-Line Flanged**

4, 6, 8˝ Pipe only

<table>
<thead>
<tr>
<th>Size</th>
<th>Flange Rating #</th>
<th>A in mm</th>
<th>B in mm</th>
<th>C in mm</th>
<th>D in mm</th>
<th>E in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>150</td>
<td>3 (76)</td>
<td>2 7/16</td>
<td>2 1/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 NPT</td>
<td>150</td>
<td>3 (76)</td>
<td>2 1/4</td>
<td>2 1/16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type 207 – In-Line Welded**

1/4, 1/2, 3/4, 1, 1 1/2, 2˝ Pipe only

<table>
<thead>
<tr>
<th>Size</th>
<th>A in mm</th>
<th>B in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>2 1/16</td>
<td></td>
</tr>
<tr>
<td>1/2 NPT</td>
<td>2 1/16</td>
<td></td>
</tr>
<tr>
<td>3/4 NPT</td>
<td>2 1/16</td>
<td></td>
</tr>
</tbody>
</table>

All specifications are subject to change without notice.
All sales subject to standard terms and conditions.
© Ashcroft Inc. 2012 07/2012

Ashcroft Inc., 250 East Main Street, Stratford, CT 06614 USA
Tel: 203-378-8281 • Fax: 203-385-0408
email: info@ashcroft.com • www.ashcroft.com