Differential Pressure Manifolds – M45A Specifications

Product Overview

Our M45A manifold is a three-valve unit designed for mounting on differential pressure transmitters having 2 1/8-inch [54 mm] center-to-center connections.

For direct or remote mounting, the M45A permits the transmitter's futbol flanges to connect the process signal lines to the manifold directly, with either 1/2-inch pipe or tubing connections. It contains two main block valves and an equalizing valve.

Same as M4A except bonnet to accommodate 3/8-inch [9.5 mm] orifice soft seat block valves and metal seat equalizer valve.

Dimensions, inches [mm]

<table>
<thead>
<tr>
<th>Packing</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teflon®</td>
<td>11.90</td>
<td>3.40</td>
</tr>
<tr>
<td></td>
<td>[302.3]</td>
<td>[86.4]</td>
</tr>
<tr>
<td>GRAFOIL®</td>
<td>11.90</td>
<td>4.05</td>
</tr>
<tr>
<td></td>
<td>[302.3]</td>
<td>[102.9]</td>
</tr>
<tr>
<td>O-ring</td>
<td>11.36</td>
<td>3.40</td>
</tr>
<tr>
<td></td>
<td>[288.5]</td>
<td>[86.4]</td>
</tr>
</tbody>
</table>

Note

### Differential Pressure Manifolds – M45A Specifications

#### Standard Materials

<table>
<thead>
<tr>
<th>Valve</th>
<th>Body</th>
<th>Bonnet</th>
<th>Equalizer Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS(^1)</td>
<td>A105</td>
<td>A108</td>
<td>A108</td>
</tr>
<tr>
<td>CS(^2)</td>
<td>A105</td>
<td>A108</td>
<td>A105</td>
</tr>
<tr>
<td>SS</td>
<td>A479-316</td>
<td>A479-316</td>
<td>316</td>
</tr>
<tr>
<td>SS</td>
<td>A479-316</td>
<td>A479-316</td>
<td>316</td>
</tr>
<tr>
<td>SG(^5)</td>
<td>A479-316</td>
<td>A479-316</td>
<td>316</td>
</tr>
<tr>
<td>SG(^3)</td>
<td>Hastelloy® C276</td>
<td>Hastelloy® C276</td>
<td>Hastelloy® C276</td>
</tr>
</tbody>
</table>

1. **Notes**

1. Approximate valve weight: 7.1 lb [3.2 kg]. 0.375-inch [9.5 mm] diameter orifice. Valve C\(_v\) 3.0 maximum.
2. Equalizer valve utilizes free-swiveling ball ended stem. Equalizer orifice size 0.187-inch [4.8 mm].
3. PCTFE (Polychlorotrifluoroethylene is exact equivalent of Kel-F\(^{®}\)), PEEK and Teflon\(^{®}\) also available.
4. CS is zinc cobalt plated to resist corrosion.
5. SG (Sour Gas) meets the requirements of NACE MR0175-2002.
6. SG3 (Sour Gas) meets the requirements of NACE MR0175-2003.
7. 316 SS bolts lower pressure ratings to a maximum of 4500 psi [310 barg]. Consult factory for full rating with 316 SS bolts.

#### Pressure and Temperature Ratings

<table>
<thead>
<tr>
<th>Valve</th>
<th>Packing</th>
<th>Seat</th>
<th>Pressure and Temperature Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS(^4)</td>
<td>Teflon(^{®})</td>
<td>Delrin(^{®})</td>
<td>6000 psig @ 200°F [414 barg @ 93°C]</td>
</tr>
<tr>
<td>CS(^4)</td>
<td>GRAFOIL(^{®})</td>
<td>SS</td>
<td>1500 psig @ 850°F [103 barg @ 454°C]</td>
</tr>
<tr>
<td>SS</td>
<td>Teflon(^{®})</td>
<td>Delrin(^{®})</td>
<td>6000 psig @ 200°F [414 barg @ 93°C]</td>
</tr>
<tr>
<td>SS</td>
<td>GRAFOIL(^{®})</td>
<td>SS</td>
<td>1500 psig @ 1000°F [103 barg @ 538°C]</td>
</tr>
<tr>
<td>SG(^5)</td>
<td>Teflon(^{®})</td>
<td>Delrin(^{®})</td>
<td>6000 psig @ 200°F [414 barg @ 93°C]</td>
</tr>
</tbody>
</table>

#### Pressure vs. Temperature

![Pressure vs. Temperature Graph]

- **Graph Notes**
  - PCTFE
  - Teflon\(^{®}\)
  - Delrin\(^{®}\)
  - Metal seat, GRAFOIL\(^{®}\) packed
  - PEEK
  - Metal seat, Teflon\(^{®}\) packed
  - Denotes intersecting data
### Differential Pressure Manifolds – M45A Specifications

<table>
<thead>
<tr>
<th>Ordering Information – Soft Seat</th>
<th>M45A</th>
<th>V</th>
<th>D</th>
<th>S</th>
<th>– SG</th>
</tr>
</thead>
</table>

#### Valve Type

M45A – 3-Valve Manifold, Flange x Flange

#### Bonnet Packing

- V – Teflon®
- R – O-ring (Viton®) Block Valve only
- H – GRAFOIL®

#### Seat

- D – Delrin®
- E – PEEK
- K – PCTFE
- S – 316 SS
- V – Teflon®

#### Body Material

- C – CS, A576-10L18
- S – SS, A479-316
- W – SS, A479-316L
- J – Hastelloy®

#### Options

- AL Arctic Lubricant (low temperature service -70°F). Not available for CS valves.
- AM AGCO Mount Kits (CS) (for pipe stand mounting of manifold, table page 84)
- BC Accessory Bracket – Mount Conduit with -AM
- BL Bonnet Lock Device (Accessories, page 146)
- BP Accessory Bracket Mount Purge Meters with -AM
- CL Cleaned for Chlorine Service.
- HD Hydrostatic Testing (100 percent) (MSS-SP-61)
- MS Monel® Stem (standard on Monel® valves and SG valves)
- OC Cleaned for Oxygen Service.
- PHB Phenolic Black Handle
- R3V Add for use with Rosemount® Model 3051C (A193-B7 Bolts)
- SB Steam Block (CS)
- SG Sour Gas meets the requirements of NACE MR0175-2002. (SS valves only) (not available for O-ring packed valves)
- SG3 Sour Gas meets the requirements of NACE MR0175-2003.
- SSA 1/2 SS Flange Bolt (grade 18-8) - Maximum pressure rating 4500 psi [310 barg]
- SSC 3/4 316 Flange Bolt (B8M) - Maximum pressure rating 4500 psi [310 barg]
- ST Stellite Ball Ended Stem
- TB Test Ports – Bottom of Manifold (1/4-inch FNPT) (option not available for M4A with –AM)
- TR68 Add for use with Rosemount® models 1151DP6, 7, 8 and 1151HP 6, 7, 8 and any DP transmitter with bolt spacing between 2.125-inch [54 mm] and 2.281-inch [58 mm] (Metal Seat only)
- SP Special options or requirements not otherwise noted by descriptive codes.

### Note

1. 316 SS bolts lower pressure ratings to a maximum of 4500 psi [310 barg]. Consult factory for full rating with 316 SS bolts.