Steam Trap Test Station
With Universal Mount

TVA Series

- Offers fast visual monitoring of steam trap performance
- Includes universal mount for steam trap
- Service rating: 250 psig (17.2 bar) at 417°F (213°C)
- 316 and 316L stainless steel materials
- Universal mount without test valves available separately
  - Service rating: 600 psig (41.3 bar) at 750°F (400°C)
Steam Trap Test Station

- Assembly consists of two stainless steel 63 series ball valves and a universal mount; two mounting bolts to mount steam trap are included. Steam trap is not included.
- Compact design reduces space requirements; flange of universal mount bolts directly to the ball valve body.
- Choice of left or right flow direction with a flow direction arrow on the universal mount.

Universal Mount

- Two-bolt, universal design offers quick, easy installation of a steam trap.
- Cast body material is CF3M and includes an integral 20-mesh (840 µm) strainer.
- Optional strainer cap with integral Swagelok tube adapter allows direct mounting of blowdown valve.
- See page 5 for more information on the universal mount, including materials of construction.

Isolation and Test Ball Valves

- Quarter-turn handles show valve open or closed position.
- Oval handle types include locking, nonlocking, and latch-locking.
- Valve end connection options include Swagelok tube fittings (1/2 and 3/4 in., and 12 mm), female NPT (1/2 in.) and female ISO 7/1 (1/2 in.)
- Choice of test valve vent locations includes facing towards the steam trap, facing away from steam trap, and facing down.
- See the Swagelok Ball Valves, General Purpose and Special Application—60 Series catalog, MS-01-146, for stainless steel 63 series valve technical data, including materials of construction and other options.
Steam Trap Test Station

Technical Data
- Pressure rating: 600 psig (41.3 bar) at 70°F (20°C)
- Temperature rating: 450°F (232°C) at 100 psig (6.8 bar)
- Service rating: 250 psig (17.2 bar) at 417°F (213°C)
- Valve seat and seal options can affect service ratings.

Testing
Every Swagelok steam trap test station assembly is factory tested with nitrogen at 1000 psig (69 bar) or its maximum working pressure if less than 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm³/min, lower than allowable in FCI 70-2 Specification Class VI.
Shell testing with nitrogen at 1000 psig (69 bar) or the maximum rated pressure if less than 1000 psig (69 bar) is performed to a requirement of no detectable leakage with a liquid leak detector.

Cleaning and Packaging
All Swagelok integrated test valve assemblies are cleaned in accordance with Swagelok Standard Cleaning and Packaging (SC-10), MS-06-62.

Accessories
To order the universal mount component separately, see page 6.

Maintenance Kits
- For the valves, see the Swagelok Ball Valves, General Purpose and Special Application—60 Series catalog, MS-01-146.
- For the universal mount component, see page 6.

Dimensions
Dimensions, in inches (millimeters), are for reference only, and are subject to change.

<table>
<thead>
<tr>
<th>End Connection</th>
<th>Type</th>
<th>Size</th>
<th>A in. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Swagelok tube fitting</td>
<td>1/2 in.</td>
<td>1.16 (29.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3/4 in.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female NPT</td>
<td>1/2 in.</td>
<td>0.49 (12.4)</td>
</tr>
<tr>
<td></td>
<td>Female ISO 7/1</td>
<td>1/2 in.</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions shown with Swagelok nuts finger-tight, where applicable.
See specifications ISO 7, BS 21, and JIS B0203.
Steam Trap Test Station

Ordering Information
To create an ordering number, select designators in the sequence shown.

Material
316 stainless steel

Series
Test valve assembly

Flow Direction
(See below.)
L = Left
R = Right

Blowdown Options
1 = Standard, no fitting
2 = 3/8 in. Swagelok tube adapter
3 = 1/2 in. Swagelok tube adapter
4 = 3/8 in. Swagelok 62 series ball valve with PTFE seat and locking lever handle
5 = 3/8 in. Swagelok 1 series needle valve with vee stem and round handle

Blowdown Strainer
None = Standard, 20 mesh (840 µm)
-40 = 40 mesh (400 µm)

Test Valve Vent Location
None = No vent port
SX = Toward trap
XP = Away from trap
XB = Downward

Oval Handles
Isolation Valve / Test Valve
H1 = Locking / locking
H2 = Locking / nonlocking
H3 = Latch-lock / latch-lock
H4 = Latch-lock / nonlocking
H5 = Nonlocking / nonlocking

End Connection Size and Style
(Same inlet and outlet)
S8 = 1/2 in. Swagelok tube fitting
S12 = 3/4 in. Swagelok tube fitting
S12MM = 12 mm Swagelok tube fitting
F8 = 1/2 in. female NPT
F8RT = 1/2 in. female ISO 7/1

To specify different inlet and outlet end connections, insert a designator for the inlet connection followed by a designator for the outlet connection.

Example: SS-TV1-L-T-S8-H1-SX

Swagelok Custom Solutions
Although a variety of steam trap test station assemblies are available as standard, there may be those applications which require different components or configurations.

If a custom solution is required, Swagelok welcomes these requests.
Universal Mount

Features
- Two-bolt universal mount offers quick, easy installation of a steam trap
- Swagelok tube fitting end connections for tubing systems (1/2 and 3/4 in., and 12 mm)
- Female pipe thread end connections for piping systems (1/2 and 3/4 in. NPT and ISO tapered)
- Integral 20-mesh (840 µm) strainer
- Carbon steel mounting bolts (3/8-16 threads) included
- Choice of left or right flow direction options

Technical Data
- Maximum pressure rating: 600 psig (41.3 bar)
- Maximum temperature rating: 750°F (400°C)
- Service rating: 600 psig (41.3 bar) at 750°F (400°C)

Materials of Construction

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Grade/ASTM Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Body</td>
<td>CF3M/A351</td>
</tr>
<tr>
<td>2 Strainer element</td>
<td>316 SS/A240 with silver solder</td>
</tr>
<tr>
<td>3 Strainer gasket</td>
<td>Silver-plated 316 SS/A240</td>
</tr>
<tr>
<td>4 Strainer cap</td>
<td>316 SS A479</td>
</tr>
<tr>
<td>5 Bolts</td>
<td>Grade B7 carbon steel/A193</td>
</tr>
<tr>
<td>Lubricants</td>
<td>Fluorinated-based and molybdenum disulfide-based</td>
</tr>
</tbody>
</table>

Wetted components listed in italics.

Testing
Every Swagelok universal mount is factory shell tested with nitrogen at 600 psig (41.3 bar) using a liquid leak detector with a requirement of no detectable leakage.

Cleaning and Packaging
All Swagelok universal mounts are cleaned in accordance with Swagelok Standard Cleaning and Packaging (SC-10), MS-06-62.
Universal Mount

Ordering Information and Dimensions

Select an ordering number.

<table>
<thead>
<tr>
<th>End Connection</th>
<th>Flow Direction</th>
<th>Ordering Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Swagelok Tube Fitting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 in.</td>
<td>Right</td>
<td>SS-MB-UM-S8-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-S8-L</td>
</tr>
<tr>
<td>3/4 in.</td>
<td>Right</td>
<td>SS-MB-UM-S12-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-S12-L</td>
</tr>
<tr>
<td>12 mm</td>
<td>Right</td>
<td>SS-MB-UM-S12MM-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-S12MM-L</td>
</tr>
<tr>
<td><strong>Female NPT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 in.</td>
<td>Right</td>
<td>SS-MB-UM-F8-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-F8-L</td>
</tr>
<tr>
<td>3/4 in.</td>
<td>Right</td>
<td>SS-MB-UM-F12-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-F12-L</td>
</tr>
<tr>
<td><strong>Female ISO 7/1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 in.</td>
<td>Right</td>
<td>SS-MB-UM-F8RT-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-F8RT-L</td>
</tr>
<tr>
<td>3/4 in.</td>
<td>Right</td>
<td>SS-MB-UM-F12RT-R</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>SS-MB-UM-F12RT-L</td>
</tr>
</tbody>
</table>

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Options

**Swagelok Tube Adapter Strainer Cap**

To order a universal mount with factory-assembled integral Swagelok tube adapter strainer cap, add a blowdown strainer cap designator to the universal mount ordering number.

Example: SS-MB-UM-S8-R2

Strainer cap kits for field assembly are available. The kits contain an integral tube adapter strainer cap, strainer gasket, and instructions. Select a kit ordering number.

<table>
<thead>
<tr>
<th>Tube Adapter Size</th>
<th>Kit Ordering Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8 in.</td>
<td>SS-UM-TA6</td>
</tr>
<tr>
<td>1/2 in.</td>
<td>SS-UM-TA8</td>
</tr>
</tbody>
</table>

**Maintenance Kits**

**Bolt and Strainer Kit**

Kit includes two mounting bolts, a strainer, a strainer gasket, and instructions.

Kit ordering number: SS-3K-UM-4F

**Strainer Gasket Kit**

Kit includes a strainer gasket and instructions.

Kit ordering number: SS-UM-K3

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**Swagelok Tube Fitting Ends**

Dimensions shown with Swagelok tube fitting nuts finger-tight.

**Female Pipe (NPT and ISO) Ends**
Safe Product Selection
When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.

Warranty Information
Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.