

Steam Trap Test Station

With Universal Mount



TVA Series

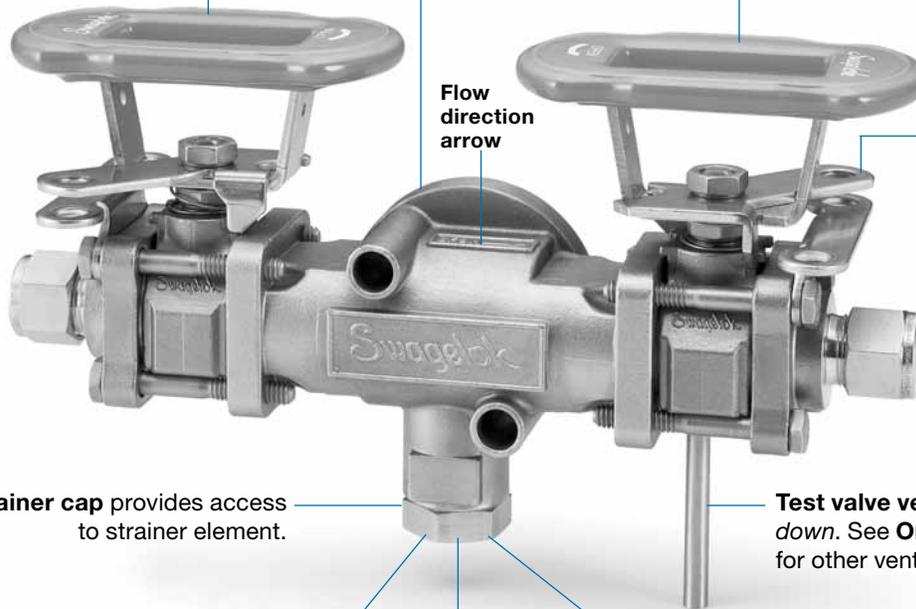
- Offers fast visual monitoring of steam trap performance
- Includes universal mount for steam trap
- Service rating: 250 psig (17.2 bar) at 417°F (213°C)
- 316 and 316L stainless steel materials
- Universal mount without test valves available separately
 - Service rating: 600 psig (41.3 bar) at 750°F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

Features

Isolation valve with oval handle provides quick, quarter-turn shut off

Universal mount allows quick, easy installation of a steam trap component

Test valve allows visual monitoring of steam trap performance with quarter-turn operation



Optional locking handle

- can lock valve *open* or *closed*
- accommodates shackle diameters smaller than 0.344 in. (8.7 mm)

Strainer cap provides access to strainer element.

Test valve vent shown facing down. See **Ordering Information** for other vent locations.

Optional strainer cap with integral Swagelok® tube adapter is available. See **Ordering Information, Blowdown Options**, for tube adapter sizes.



Optional Swagelok tube adapter strainer cap allows direct mounting of a needle or ball valve for blowdown.

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.
 - Locking handles enable compliance with OSHA Lockout/Tagout, Standard 29 CFR Part 1910.147 *Control Of Hazardous Energy*.
- 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.

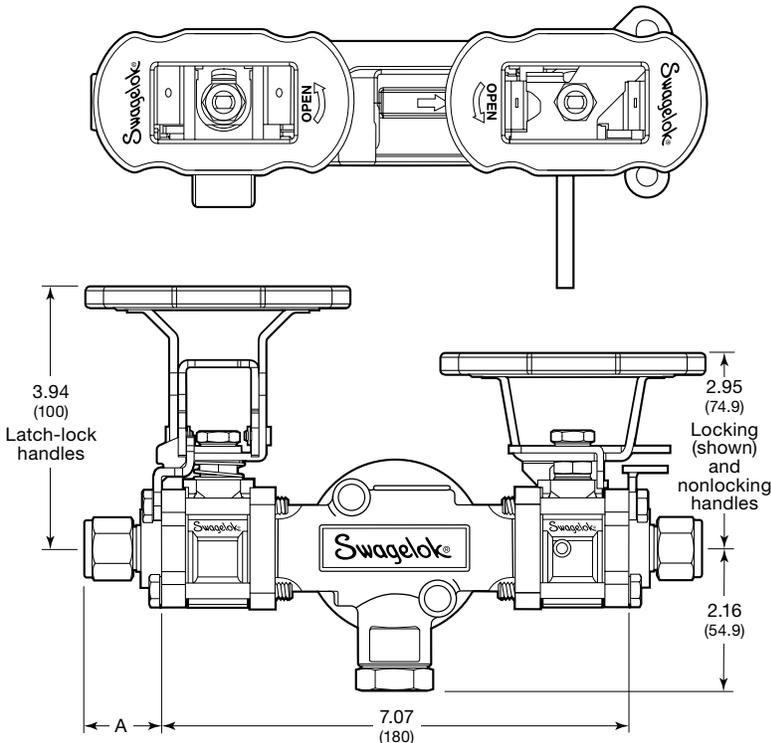
Testing

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.

Dimensions

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



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

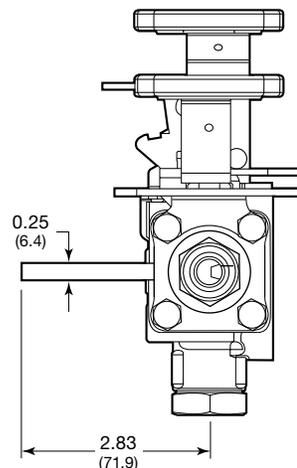
To order the universal mount component separately, see page 6.

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.

End Connection		A in. (mm)
Type	Size	
Swagelok tube fitting	1/2 in.	1.16 (29.5)
	3/4 in.	
	12 mm	
Female NPT	1/2 in.	0.49 (12.4)
Female ISO 7/1	1/2 in.	

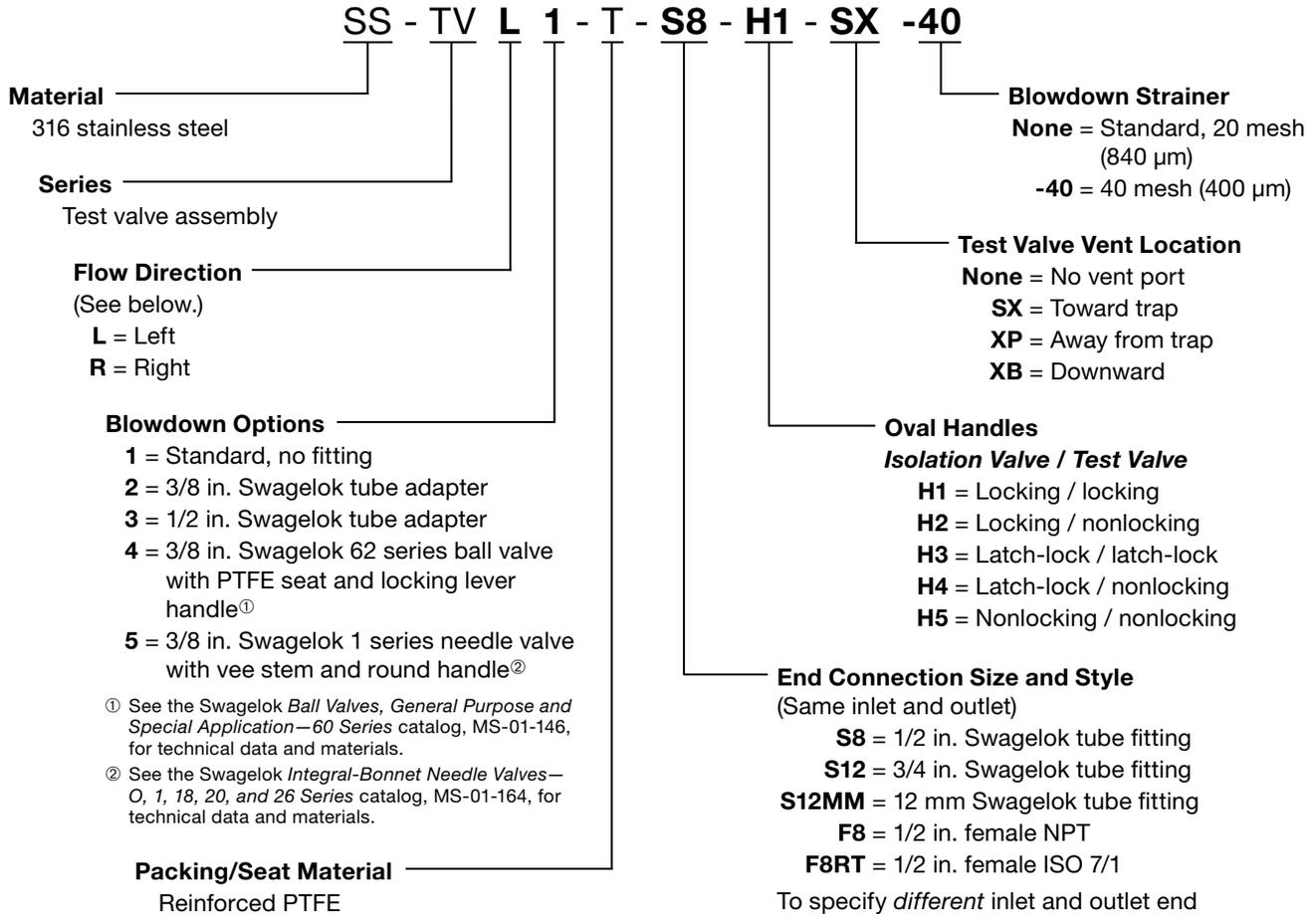
Dimensions shown with Swagelok nuts finger-tight, where applicable. See specifications ISO 7, BS 21, and JIS B0203.



Steam Trap Test Station

Ordering Information

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



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-TVL1-T-S8F8-H1-SX

See the Swagelok *Ball Valves, General Purpose and Special Application—60 Series* catalog, MS-01-146, for additional stainless steel 63 series valve end connection options.

Flow Direction Options



Flow Direction: Right
(Outlet on the right)



Flow Direction: Left
(Outlet on the left)

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



Flow Direction: Right
(Outlet on the right)

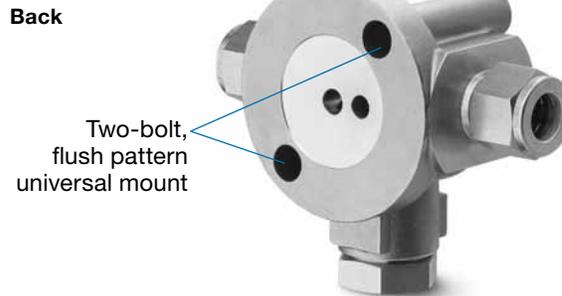
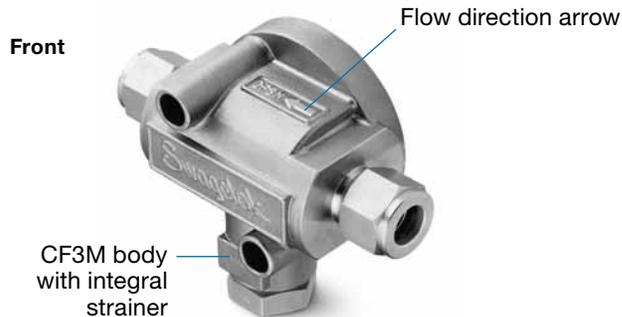
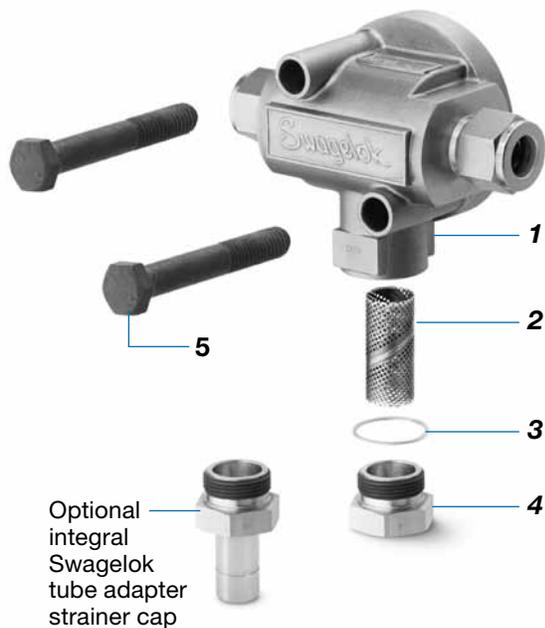


Flow Direction: Left
(Outlet on the left)

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



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

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.

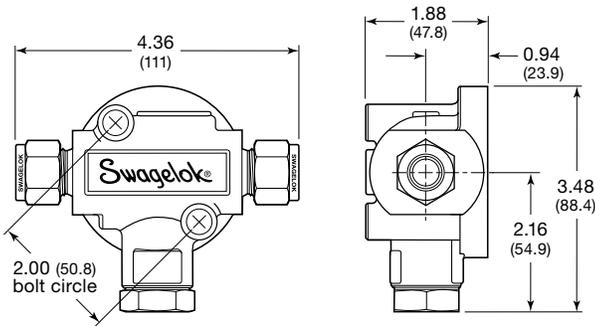
Universal Mount

Ordering Information and Dimensions

Select an ordering number.

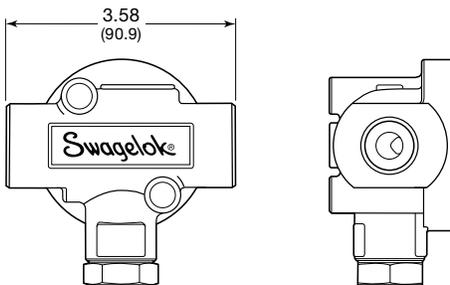
End Connection		Flow Direction	Ordering Number
Type	Size		
Swagelok tube fitting	1/2 in.	Right	SS-MB-UM-S8-R
		Left	SS-MB-UM-S8-L
	3/4 in.	Right	SS-MB-UM-S12-R
		Left	SS-MB-UM-S12-L
	12 mm	Right	SS-MB-UM-S12MM-R
		Left	SS-MB-UM-S12MM-L
Female NPT	1/2 in.	Right	SS-MB-UM-F8-R
		Left	SS-MB-UM-F8-L
	3/4 in.	Right	SS-MB-UM-F12-R
		Left	SS-MB-UM-F12-L
Female ISO 7/1	1/2 in.	Right	SS-MB-UM-F8RT-R
		Left	SS-MB-UM-F8RT-L
	3/4 in.	Right	SS-MB-UM-F12RT-R
		Left	SS-MB-UM-F12RT-L

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



Swagelok Tube Fitting Ends

Dimensions shown with Swagelok tube fitting nuts finger-tight.



Female Pipe (NPT and ISO) Ends

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.

Tube Adapter Size	Blowdown Strainer Cap Designator
3/8 in.	2
1/2 in.	3

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.

Tube Adapter Size	Kit Ordering Number
3/8 in.	SS-UM-TA6
1/2 in.	SS-UM-TA8

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**

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.