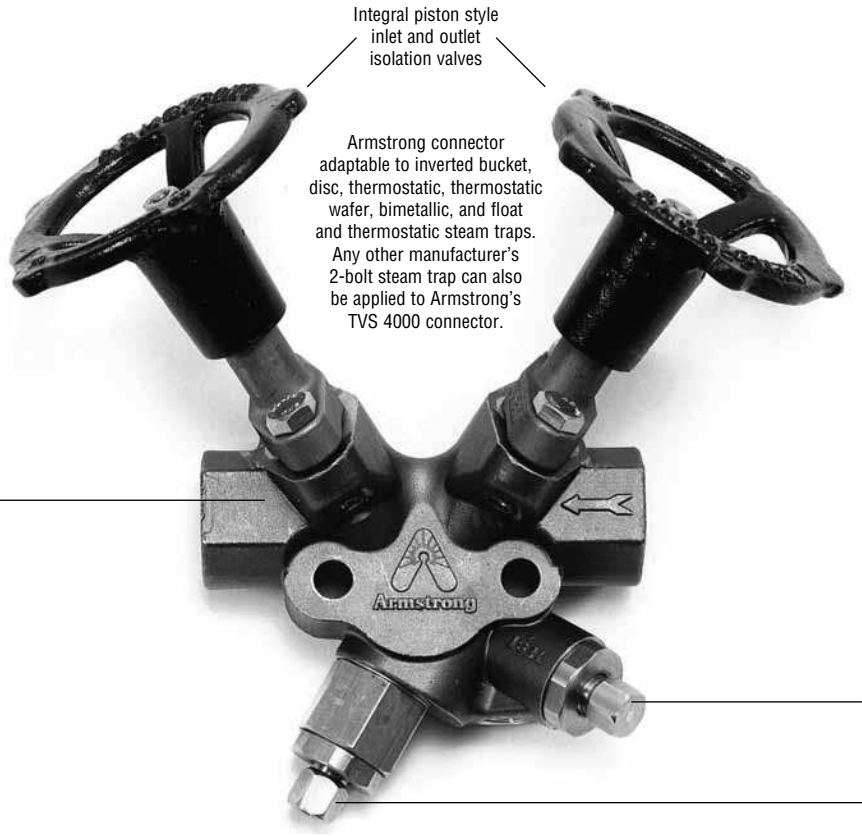
TVS-4000 Series Stainless Steel Trap Valve Station



3-years guarantee

Description

Same principle. Different package with two piston-style isolation valves, test valve and integral stainless steel strainer with blowdown valve. What you'll find new are all the benefits of a piston valve integrated into the same space-saving package.

Maximum Operating Conditions

Maximum allowable pressure:
45 bar @ 315°C

Materials—TVS 4000 Connector

Connector:	ASTM A351 Gr. CF8M
Strainer screen:	Stainless steel
Test valve:	Stainless steel
Blowdown valve:	Stainless steel

Isolation Valve Components

All wetted parts:	Stainless steel
Valve sealing rings:	Graphite and stainless steel
Handwheel:	Ductile iron

Weight

2,9 kg

Description

- **Reduced costs**. TVS saves on these fronts: reduced leak points, installation and maintenance time.
- **A full range of features.** TVS has test and strainer blowdown valves. When installed with Armstrong Model 2011 and 2022 steam traps, it will also accommodate the Armstrong pop drain as well as TrapAlert™ and SteamEye®—remote steam trap monitoring and testing devices.
- **Reduced design time.** Permits combining products with exact face-to-face dimensions.
- **Three-year guarantee.** The TVS 4000 is guaranteed for three years.
- **Easy, in-line repairability with maximum safety.** TVS allows isolation at point of service with upstream/downstream depressurization.
- **Installation versatility.** The connector design makes the TVS adaptable to any manufacturer's 2-bolt steam trap and piping configuration.
- **Simplified trap testing.** TVS enhances your capability to check trap operation and offers a built-in method to block and bleed traps.

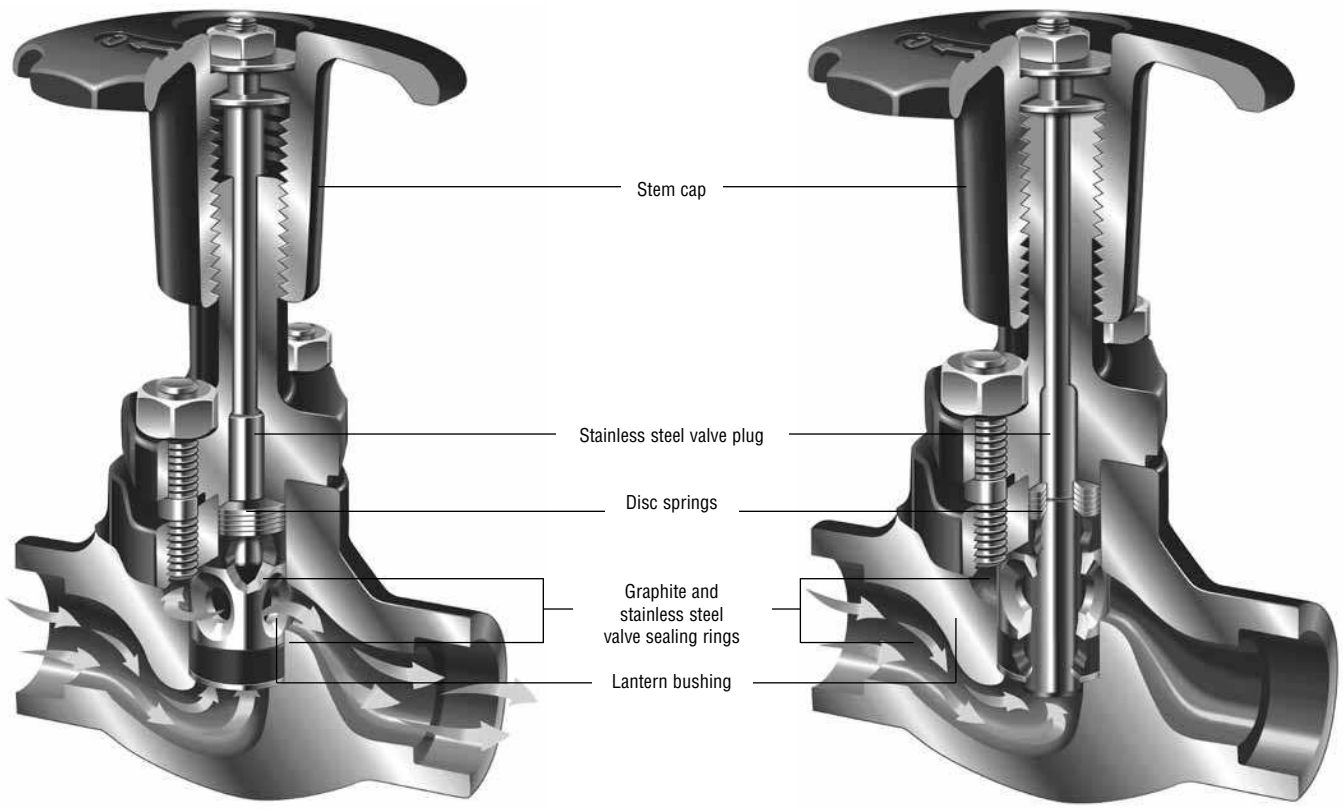
Table ST-148-1. How to Order

Model	Connection	Type of Connection Inlet/Outlet	Flow Direction	Trap Type
TVS-4000	1/2" 3/4"	NPT SW BSPT Flanged*	R = Right to Left L = Left to Right	Inverted Bucket Disc Thermostatic wafer Bimetallic Float and Thermostatic

*Consult factory.

TVS-4000 Series Stainless Steel Trap Valve Station

The Piston Valve



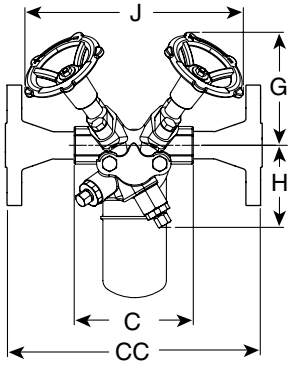
Open Position **Closed Position**

- **Dual sealing action**
  The piston valve is a seatless valve that includes two graphite and stainless steel valve sealing rings that seal the stem and function as a valve seat. This combination provides long-term protection against leaks to the atmosphere and downstream piping.
- **Self-cleaning action**
  Stainless steel piston slides without rotating between the two valve sealing rings, preventing dirt from damaging the sealing surfaces.
- **Sealing integrity**
  Flexible disc springs automatically provide leak tightness by exerting pressure which keeps the upper and lower valve sealing rings compressed at all times. Sealing tightness is assured by the compression of the sealing rings against the piston and the valve body. This combination of disc springs and dual valve seal rings protects against expansion and contraction due to heating and cooling. This assures dependable operation, even after years of service.
- **Protected valve stem**
  The valve stem and sealing surfaces are completely protected from dirt and corrosion by the stem cap, whether in an open or closed position.
- **In-line repairability**
  All valve components may be easily replaced in-line.
- **Long-term operation**
  Piston valve design assures actuation even after many years without operation.

TVS-4000 Stainless Steel Trap Valve Station

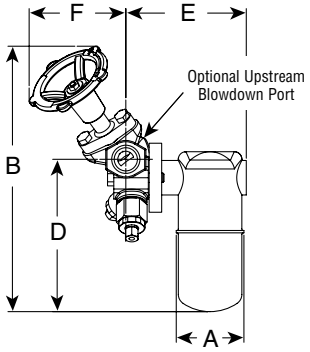
Stainless Steel with 360° Connector

For Pressures to 45 bar...Capacities to 590 kg/h (Using 2000 Series Inverted Bucket Steam Traps)



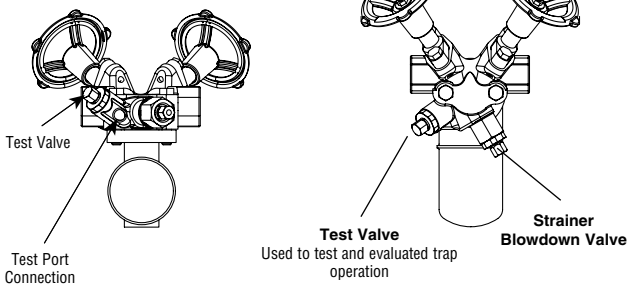
Model TVS-4000 with 2000 series SS Trap

Front View



Model TVS-4000 with 2000 series SS Trap

Side View



Model TVS-4000 with 2000 series SS Trap

Bottom View

Same principle. Different package with two piston-style isolation valves, test valve and integral stainless steel strainer with blowdown valve. Now the energy-saving performance and reliability of the inverted bucket steam trap are available in a versatile new package.

You'll still enjoy all the familiar benefits. And the same efficient condensate drainage from virtually every kind of steam-using equipment. What you'll find new are all the benefits of a piston valve integrated into the same space-saving package.

Materials – TVS-4000 Connector

Connector:	ASTM A351 Gr. CF8M
Strainer Screen:	Stainless steel
Screen Retainer:	Stainless steel
Gasket: Stainless steel	
Retainer Unit:	Stainless steel
Test Valve:	Stainless steel
Blowdown Valve:	Stainless steel

Connections

Screwed BSPT and NPT
Socketweld
Flanged DIN or ANSI (welded)

Isolation Valve Components

Handwheel:	Cast iron
Nut :	Stainless steel
Stem, Washers:	Stainless steel
Bonnet:	ASTM A351 Gr. CF8M
Bonnet, Bolts:	Stainless steel Gr. A2
Valve Plug:	Stainless steel
Disc Springs:	Stainless steel
Valve Sealing Rings:	Graphite and stainless steel
Lantern Bushing:	Stainless steel
Valve Washers:	Stainless steel

Materials – Series 2000 Traps

Body:	ASTM A240 Gr. 304L
Internals:	All stainless steel – 304
Valve and seat:	Stainless Steel 17-4PH (<35 bar) Titanium (>35 bar)

Table ST-150-1. TVS-4000 Series with 2000 Series Inverted Bucket Steam Trap (dimensions in mm)

Model No.	2010	2011	2022
Pipe Connections	15 – 20	15 – 20	15 – 20
"A" Trap Diameter	68	68	98
"B" Height Valve Open	203	268	318
"C" Face-to-Face (screwed & SW)	120	120	120
"CC" Face-to-Face (flanged PN40*)	384	384	384
"D" Connection ℄ to Bottom	120	154	203
"E" Connection ℄ to Outside of Trap	114	122	149
"F" Connection ℄ to Front of Handwheel (Valve Open)	98	98	98
"G" Connection ℄ to Top of Handwheel (Valve Open)	114	114	114
"H" Connection ℄ to Bottom of Connector	83	83	83
"J" Width Across Handwheels (Valve Open)	235	235	235
Weight in kg (screwed & SW)	4,1	4,3	5,4
Weight in kg (flanged PN40*)	5,8 – 6,4	6,0 – 6,6	7,1 – 7,7
Maximum Operating Pressure (Trap)	14 bar	28 bar	45 bar
Maximum Allowable Pressure (Trap) †	28 bar @ 399°C	28 bar @ 399°C	45 bar @ 315°C

* Standard flanges are in carbon steel, stainless steel flanges are optional. Other flange sizes, ratings and face-to-face dimensions are available on request.
All models comply with the Article 4.3 of the PED (2014/68/UE).
† May be derated depending on flange rating and type.

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

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TVS-4000 Stainless Steel Trap Valve Station

Stainless Steel with 360° Connector

For Pressures to 45 bar...Capacities to 590 kg/h (Using 2000 Series Inverted Bucket Steam Traps)

Table ST-151-1. Model 2010 Capacity

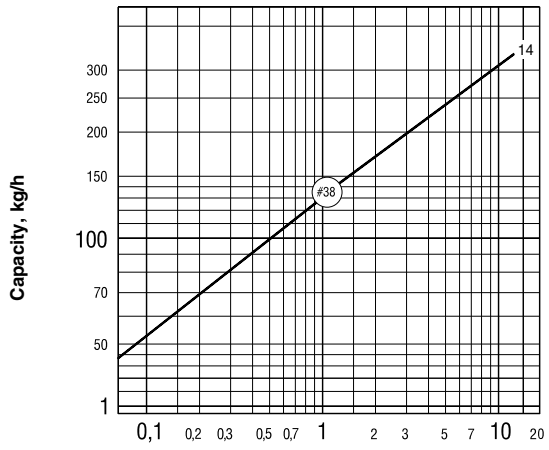


Table ST-151-2. Model 2011 Capacity

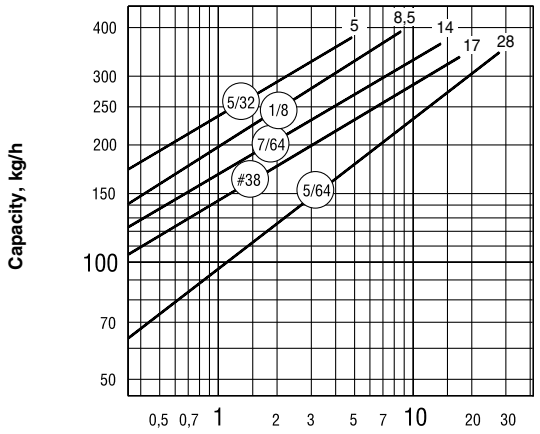
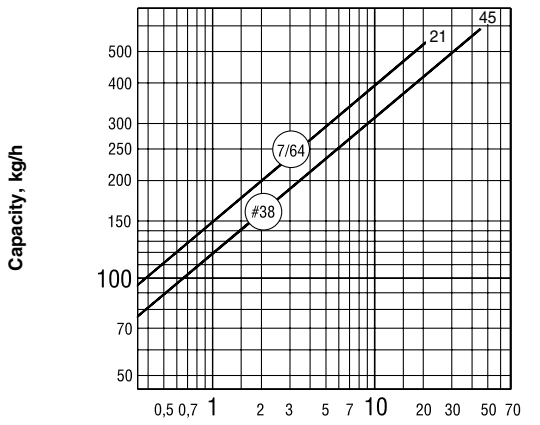


Table ST-151-3. How to Order

Model	Connection	Type of Connection Inlet/Outlet	Flow Direction	Trap Type
TVS-4000	15 20	NPT SW BSPT Flanged	R = Right to Left L = Left to Right	Inv. Bucket Disc Thermostatic Bimetallic F&T

Table ST-151-4. Model 2022 Capacity



Options

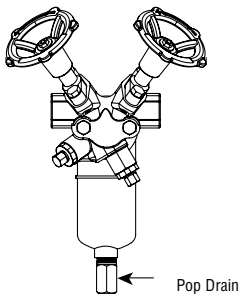
Insu-Pak™

Now you can insulate the in-line traps in your plant without complicating regular trap maintenance. Insu-Pak, a simple reusable insulation package, cuts the time and cost of in-field installation because it goes on in a snap. And it comes off just as easily. The Insu-Pak can prevent trap freeze-up when used with a properly designed condensate manifold. Designed for use with Model 2010 and Model 2011 traps.

Pop Drain

Simple but effective against freeze-up. Properly installed and maintained at low points in your system, the simple, pressure-actuated pop drain opens for condensate drainage at 0,35 barg for Models 2011 and 2022.

Probe Connections are available for trap monitoring on Models 2011 and 2022.



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