TVS 4000 Series Stainless Steel Trap Valve Station



Steam Tracing Equipment Steam Trapping and



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: 830 psig (57.2 barg) @ 800°F (427°C)

Materials—TVS 4000 Connector

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

Isolation Valve Components

All wetted parts: Valve sealing rings: Handwheel:

Stainless steel Graphite and stainless steel

Ductile iron

Features

- 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 AIM® 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.

Weight 6-1/2 lb (2.9 kg)

How to Order

*Consult factory.

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

U.S. Patent 6,467,503

TVS 4000 Series Stainless Steel Trap Valve Station



Steam Tracing Equipment

Steam Trapping and

For Pressures to 830 psig (57.2 barg)...Capacities to 1 300 lb/hr (590 kg/hr) (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



Connection

Model TVS 4000 With 2000 Series SS Trap Bottom View



Strainer Blowdown Valve

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: Strainer screen: Screen retainer: Gasket: Retainer unit: Test valve: Blowdown valve: ASTM A351 Gr. CF8M Stainless steel Stainless steel Stainless steel Stainless steel Stainless steel Stainless steel

Isolation Valve Components Handwheel: Ductile iron

Nut: Stem, washers: Bonnet: Bonnet, bolts: Valve plug: Disc springs: Valve sealing rings: Lantern bushing: Valve washers: Ductile iron Stainless steel Stainless steel ASTM A351 Gr. CF8M DIN 933, Gr. A2 Class 70 per DIN 267 Stainless steel Stainless steel Graphite and stainless steel Stainless steel Stainless steel Stainless steel

Materials—Series 2000 Traps

Body: Internals: Valve and seat: ASTM A240 Gr. 304L All stainless steel—304 Stainless steel—17-4PH

Used to test and

evaluate trap

operation

Model No.	20	10	20	2011		2022	
Dina Causa atiana	in	mm	in	mm	in	mm	
Pipe Connections	3/8, 1/2, 3/4	10, 15, 20	1/2, 3/4	15, 20	1/2, 3/4	15, 20	
"A" Trap Diameter	2-11/16	68	2-11/16	68	3-7/8	98	
"B" Height (Valve Open)	8	203	10-1/2	268	12-1/2	318	
"C" Face to Face	4-3/4	120	4-3/4	120	4-3/4	120	
"D" Connection ♀ to Bottom	4-3/4	120	6	154	8	203	
"E" Connection & to Outside of Trap	4-1/2	114	4-13/16	122	5-7/8	149	
"F" Connection & to Front of Handwheel (Valve Open)	3-1/2	89	3-7/8	98	3-7/8	98	
"G" Connection & to Top of Handwheel (Valve Open)	3-1/4	83	4-1/2	114	4-1/2	114	
"H" Connection & to Bottom of Connector	1-7/8	47	3-1/4	83	3-1/4	83	
"J" Width Across Handwheels (Valve Open)	9-1/4	235	8-3/4	222	8-3/4	222	
Test Port Connection	1/4 NPT	6	1/4 NPT	6	1/4 NPT	6	
Weight lb (kg)	9	4	9-1/2	4.3	12	5.4	
Maximum Operating Pressure (Trap)	200 psig	200 psig (14 barg) 400 psig (28 barg) 650 psig (4			(45 barg)		
Maximum Operating Conditions (Connector)		830 psig (57.2 barg) @ 800°F (427°C) 1400 psig (96.5 barg) @ 100°F (38°C)					
Maximum Allowable Pressure (Trap)	400	400 psig (28 barg) @ 750°F (399°C) 650 psig @ 600°F (45 barg @ 315°C)					

U.S. Patent 6,467,503

TVS 4000F Series Stainless Steel Trap Valve Station

For Pressures to 830 psig (57.2 barg)...Capacities to 1 300 lb/hr (590 kg/hr) (Using 2000 Series Inverted Bucket Steam Traps)



Steam Trapping and Steam Tracing Equipment



Description

A complete package featuring two piston-style isolation valves, test valve and integral stainless steel strainer with blowdown valve. You'll realize all the benefits of a piston valve integrated into the same space-saving package.

Maximum Operating Conditions

Maximum allowable pressure: 830 psig (57.2 barg) @ 800°F (427°C)

Materials—TVS 4000F 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 stee
Handwheel	Ductile iron

Weight 14 lb (6.4 kg)

How to Order

Features

- 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 4000F 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.
- Integral Flanges. The body and connections are of one piece construction, free of welds and other potential leak paths.

Model	Connection	Type of Connection Inlet/Outlet	Flow Direction	Тгар Туре
TVS 4000F	3/4"	Flanged ASME B16.5 Class 150, 300, 600	R = Right to Left L = Left to Right	Inverted Bucket • Disc • Thermostatic wafer Bimetallic • Float and Thermostatic
	1"	Flanged ASME B16.5 Class 150, 300		

U.S. Patent 6,467,503

TVS 4000F Series Stainless Steel Trap Valve Station



For Pressures to 830 psig (57.2 barg)...Capacities to 1 300 lb/hr (590 kg/hr) (Using 2000 Series Inverted Bucket Steam Traps)





Model TVS 4000F with 2000 Series SS Trap Front View Model TVS 4000F with 2000 Series SS Trap Side 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 4000F 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



Model TVS 4000F with 2000 Series SS Trap Bottom View

Strainer Blowdown Valve

Isolation Valve Components

Handwheel	Ductile iron
Nut	Stainless steel
Stem, washers	Stainless steel
Bonnet	ASTM A351 Gr. CF8M
Bonnet, bolts	DIN 933, Gr. 8.8 per DIN 267
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

TVS 4000 Series With 2000 Series Inverted Bucket Steam Trap						
Model No.	20	2010 2011		2022		
Dine Connections	in	mm	in	mm	in	mm
Pipe Connections	3/4, 1	20, 25	3/4, 1	20, 25	3/4, 1	20, 25
"A" Trap Diameter	2-11/16	68	2-11/16	68	3-7/8	98
"B" Height (Valve Open)	8	203	10-1/2	268	12-1/2	318
"C" Face to Face	12	305	12	305	12	305
"D" Connection & to Bottom	4-3/4	120	6	154	8	203
"E" Connection Q to Outside of Trap	4-1/2	114	4-13/16	122	5-7/8	149
"F" Connection Q to Front of Handwheel (Valve Open)	3-1/2	89	3-7/8	98	3-7/8	98
"G" Connection ♀ to Top of Handwheel (Valve Open)	3-1/4	83	4-1/2	114	4-1/2	114
"H" Connection & to Bottom of Connector	1-7/8	47	3-1/4	83	3-1/4	83
"J" Width Across Handwheels (Valve Open)	9-1/4	235	8-3/4	222	8-3/4	222
Test Port Connection	1/4 NPT	6	1/4 NPT	6	1/4 NPT	6
Weight Ib (kg)	16	7.3	16.5	7.5	19	8.6
Maximum Operating Pressure (Trap)	200 psig (14 barg) 400 psig (28 barg) 650 psig (45		(45 barg)			
Maximum Operating Conditions (Connector)	830 psig (57.2 barg) @ 800°F (427°C) 1400 psig (96.5 barg) @ 100°F (38°C)					
Maximum Allowable Pressure (Trap)	400 psig (28 barg) @ 800°F (427°C) 650 psig @ 600°F (427°C) (45 barg @ 315°C)				@ 600°F @ 315°C)	