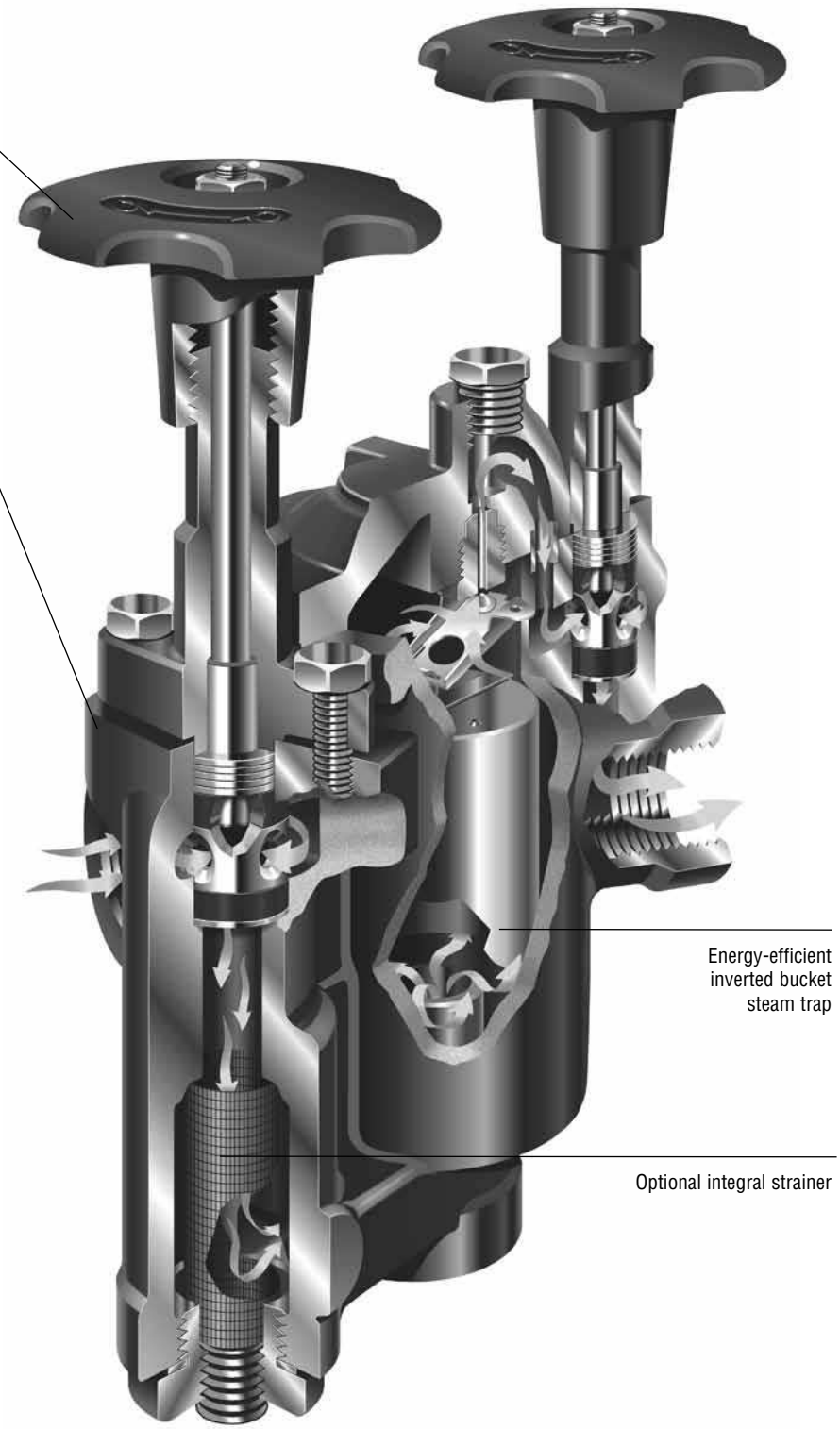
TVS-800 Series Cast Iron Trap Valve Station

Put the principle of the inverted bucket to work in a tough cast iron package and you have the best of both worlds – energy efficiency and long-lasting reliability. Add the advantages of valves integrated into one compact trap/valve casting, and you extend the benefits into installation, trap testing and maintenance.

All the components are concentrated in a single, accessible package and can be dealt with in-line. And if you have existing Armstrong cast iron traps in-line, identical face-to-face dimensions will make retrofitting with a new, patented* Armstrong Trap Valve Station (TVS) a snap. You'll also reduce your inventory requirements. So you'll eliminate what you're paying just to keep parts on hand.



Reduced costs
TVS saves on these fronts: energy, installation and maintenance.

Integration of trap and valves
Inverted bucket long life and energy efficiency, plus the savings and convenience of components merged into one space-saving package.

A full range of options
TVS will accommodate a test valve, strainer, internal check valve, thermic vent bucket, TrapAlert™ and SteamEye™ – remote steam trap monitoring system for steam traps.

Easy, in-line repairability

Elimination of potential leak points

Reduced design time
Permits combining products with exact face-to-face dimensions.

*U.S. Patent 5 947 145

Armstrong International SA • Parc Industriel des Hauts-Sarts (2e Avenue) • 4040 Herstal • Belgium
Tel.: +32 (0)4 240 90 90 • Fax: +32 (0)4 240 40 33
www.**armstrong**international.eu • info@**armstrong**international.eu

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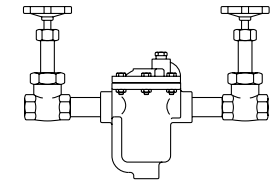
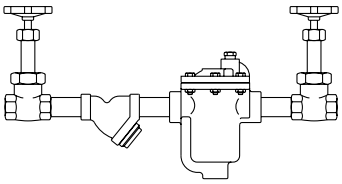
TVS makes a long story…short.

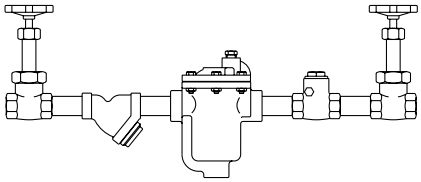
Typical Installation



Inverted bucket trap with two isolation valves



Inverted bucket trap with two isolation valves, strainer



Inverted bucket trap with two isolation valves, strainer and check valve

Trap Valve Station

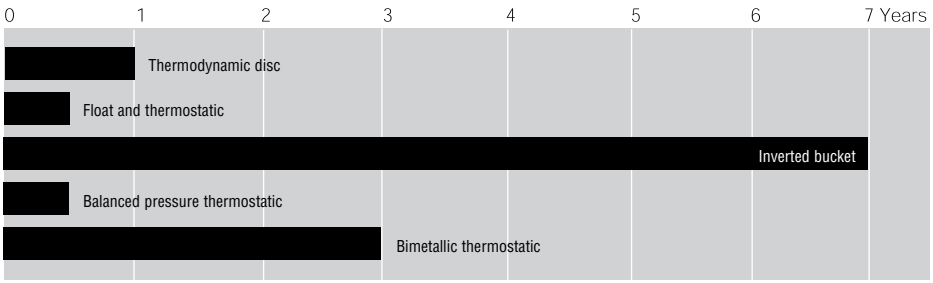
The Innovation Is Integration

The Armstrong TVS makes what used to be long, complicated steam installation stories simple and compact. It shortens installations by integrating components – specifically an inverted bucket steam trap with two or more valves.

For example, here's an old description for a typical installation: *valve-nipple-strainer-nipple-trap-nipple-valve*. It's a long tale, even for this simple piping arrangement. The Trap Valve Station rewrites this steam story: *pipe-TVS-pipe*. In other words, the TVS makes it all one, delivering the functions of multiple components in a dramatically smaller unit. It integrates two high-value products in a package of revolutionary versatility.

Look above to see how the Armstrong cast iron Trap Valve Station has rewritten these typical steam installations.

Average Service Life for Different Trap Types 14 bar Steam Pressure

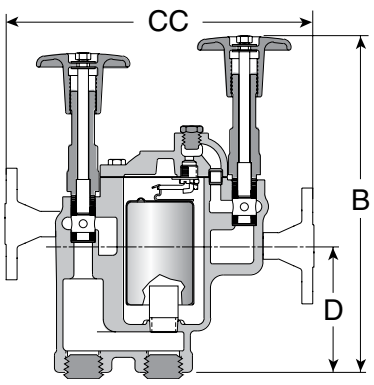


Above data from "ICI Engineer" January 1993 special issue with permission from ICI Engineering.

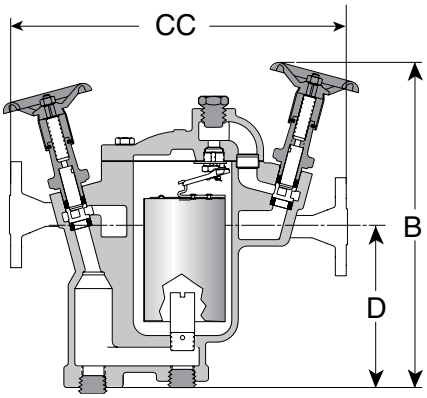
TVS-800 Series Trap Valve Stations

Cast Iron for Horizontal Installation, with Integral Piston Valves

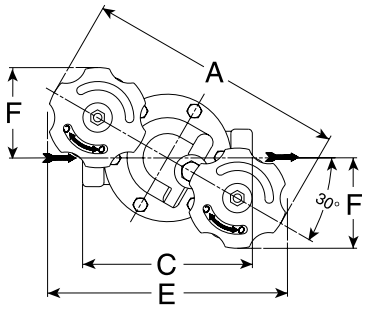
For Pressures to 17 bar...Capacities to 2 000 kg/h



Model TVS-811



Series TVS-812/813



Series TVS-811/812/813 - Top View

Same principle. Different package. 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. But 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 (vessel design)†:	17 bar @ 232°C
Maximum operating pressure:	17 bar
Maximum back pressure:	99% of inlet pressure

Connections

Screwed BSPT and NPT
Flanged DIN or ANSI (screw on)

Materials

Cap and Body:	ASTM A48 Class 30
Internals:	All stainless steel – 304
Valve and seat:	Stainless Steel 17-4PH
Piston Valve Handle :	Cast Iron ASTM A47
Internals:	Stainless Steel
Valve Sealing Rings:	Graphite and Stainless Steel
Blowdown valve:	Stainless Steel

Options

- Stainless steel internal check valve
- Thermic vent bucket
- Stainless steel pop drain
- Integral strainer
- Scrub wire
- Probe connection
- Blowdown valve (TVS-811 and TVS-812 only)

Specification

Inverted bucket steam trap, type ... in cast iron, with continuous air venting at steam temperature, free-floating stainless steel mechanism, and discharge orifice at the top of the trap. Integral upstream and downstream shutoff piston style valves in same dimensional space as standard bucket trap. Maximum allowable back pressure 99% of inlet pressure.

How to Order

Specify:

- Model number
- Size and type of pipe connection
- Maximum working pressure that will be encountered or orifice size
- Any options required

Table ST-146-1. TVS-800 Series Trap Valve Station (dimensions in mm)

Model No.	TVS-811	TVS-812	TVS-813
Pipe Connections	15 – 20	15 – 20	20 – 25
Test Plug	1/4"	1/2"	3/4"
"A" Width Across Handwheels	197	349	384
"B" Height Valve Open	254	298	362
"C" Face-to-Face (screwed)	127	165	197
"CC" Face-to-Face (flanged PN40*)	247 – 257	285 – 295	327 – 359
"D" Bottom to ℄ Inlet	94	121	184
"E" Width	179	330	365
"F"	68	114	124
Number of Bolts	6	6	6
Weight in kg (screwed)	5,4	11,3	24,0
Weight in kg (flanged PN40*)	6,8 – 7,0	12,7 – 13,5	25,8 – 26,3

* 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.

Armstrong International SA • Parc Industriel des Hauts-Sarts (2e Avenue) • 4040 Herstal • Belgium
Tel.: +32 (0)4 240 90 90 • Fax: +32 (0)4 240 40 33
www.**armstrong**international.eu • info@**armstrong**international.eu

TVS-800 Series Trap Valve Stations

Cast Iron for Horizontal Installation, with Integral Piston Valves

For Pressures to 17 bar...Capacities to 2 000 kg/h

Table ST-147-1. Model TVS-811 Capacity

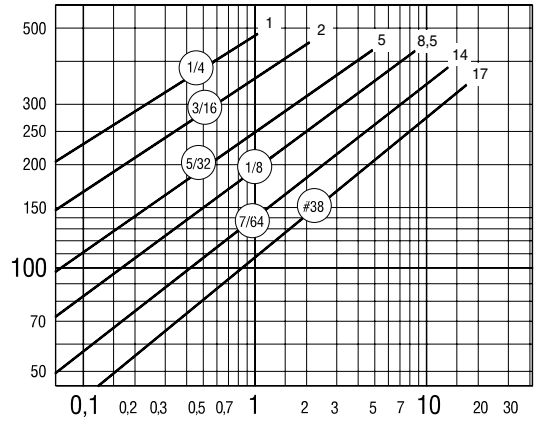


Table ST-147-2. Model TVS-812 Capacity

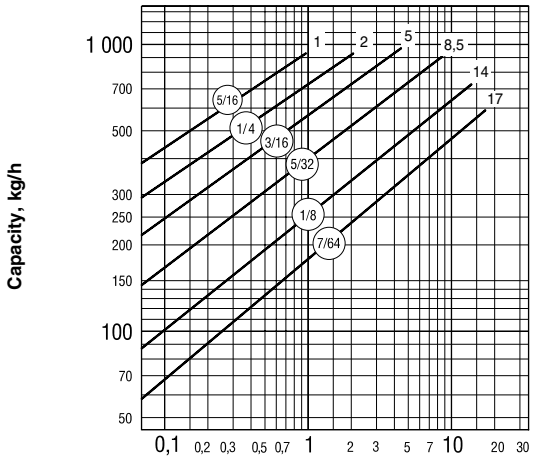
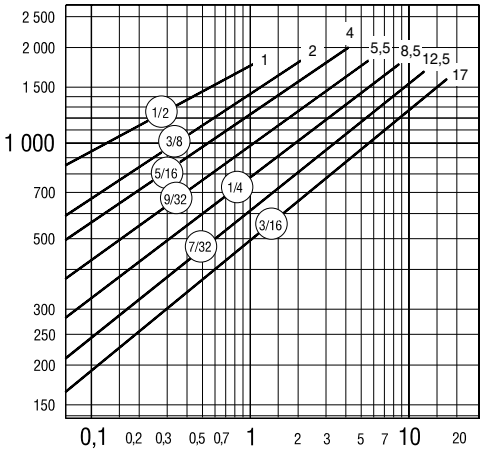


Table ST-147-3. Model TVS-813 Capacity



Options

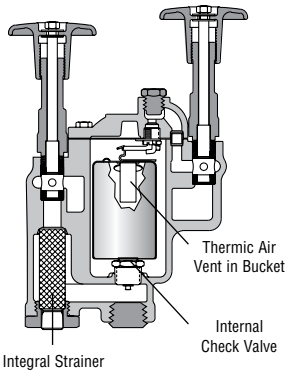
Internal Check Valves are spring-loaded stainless steel and screw directly into the trap inlet or into an extended inlet tube having a pipe coupling at the top to save fittings, labor and money.

Thermic Vent Buckets have a bimetal controlled auxiliary air vent for discharging large amounts of air on start-up.

Integral Strainer is made from 20 x 20 stainless steel screen.

Probe Connections are available for trap monitoring.

Blowdown Valve for clearing strainer of dirt and debris.



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