SPENCE FTE Series Float and Thermostatic Steam Trap Installation Guide

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Introduction

This installation sheet covers the installation and maintenance of FTE Series Float and Thermostatic Steam Trap.

Product Description

The FTE Series ball float traps are fitted with an integral balanced pressure type thermostatic air went.
The FTE Series is available with horizontal in line connections. However, in case of FTE-14 sizes NPS 1/2 and 3/4 / DN 15 and 20, the position of body can be changed to suit different flow directions like left to right, top to bottom or right to left. A steam lock
release (SLR) option is available to FTE Series Traps.

Specifications

- **Available Configurations**
  See Table 1
- **End Connection Styles**
  NPT, CL125, CL150, CL300, CL600,
  DIN 10, 16, 25 or 40 and BS10 – F, H, J, K or R Maximum Operating Pressure(1)
  See Table 2
- **Maximum Operating Temperature(1)**
  Saturated at pressure
- **Maximum Allowable Pressure(1)**
  Cast iron and Ductile iron: 232 psig / 16 bar Cast steel: 465 psig / 32 bar
- **Maximum Allowable Temperature(1)**
  Cast iron and Ductile iron: 450ºF / 232ºC Cast steel: 850ºF / 454ºC
- **Materials of Construction**
  Body and Cover: Cast iron, Ductile iron and Cast steel

Valve, Valve Seat, Float, Lever Assembly,

Thermostatic Airvent and Housing:

Stainless steel

Cover Bolts: Carbon steel

Installation

WARNING
Personal injury, property damage, equipment damage or leakage due to escaping steam or bursting of pressure containing parts may result if this equipment is over pressured or is installed where service conditions could exceed the limits given in the specifications or where conditions exceed any ratings of the adjacent piping or piping connections. To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices (as required by the appropriate code, regulation, or standard) to prevent service conditions from exceeding those limits.
The maximum differential pressure (ΔP) stamped on product name plate must be greater than the maximum pressure differential across the trap.

Table 1. FTE Series Available Configurations

BODY MATERIAL	TYPE(1)	OPERATING PRESSURE	END CONNECTION
Cast iron	FTE-10	To 200 psig / 14.0 bar	Threaded
	FTE-43	To 200 psig / 14.0 bar	Flanged
Ductile iron	FTE-14	To 200 psig / 14.0 bar	Threaded
	FTE-43	To 200 psig / 14.0 bar	Flanged
Cast steel	FTE-44	To 465 psig / 32 bar	Threaded or Socket Weld
	FTE-44F	To 465 psig / 32 bar	Flanged
1. Add “S” to end of Type for SLR.			

Table 2. FTE Series Maximum Operating Pressure

TYPE	INLET SIZE		MAXIMUM OPERATING PRESSURE, psig / bar									
			65 / 4.5		145 / 10		200 / 14		300 / 21		465 / 32	
	NPS	DN	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
	1/2 and 3/4	15 and 20	0.141	3.57	0.094	2.38	0.079	2	– – – –	– – – –	– – – –	– – – –

FTE-10 and FTE-43	1	25	0.256	6.5	0.197	5	0.157	4	____	____	____	____
	1-1/2	40	0.689	17.5	0.65	16.5	0.531	13.5	____	____	____	____
	2	50	1.063	27	0.811	20.6	0.657	16.7	____	____	____	____
FTE-14	1/2 and 3/4	15 and 20	0.141	3.57	0.094	2.38	0.079	2	____	____	____	____
	1	25	0.185	4.7	0.126	3.2	0.106	2.7	____	____	____	____
FTE-44 and FTE-44F	1/2 and 3/4	15 and 20	0.16	4.07	0.107	2.73	0.091	2.3	0.075	1.9	0.059	1.5
	1	25	0.256	6.5	0.197	5	0.157	4	0.13	3.3	0.118	3
	1-1/2	40	0.689	17.5	0.65	16.5	0.531	13.5	0.531	13.5	0.531	13.5
	2	50	1.063	27	0.811	20.6	0.657	16.7	0.657	16.7	0.657	16.7

1. Install trap in an accessible position and location for easy servicing.
2. Ensure that the float direction of the trap is positioned downward during installation. Install trap straight, plumb

and in a level position to ensure proper orientation.

Note

Arrow cast on the trap indicates the flow direction while the arrow on the nameplate indicates the float direction while closing the trap. See Figure 2.

3. Install below and close to equipment being drained. Avoid long lengths of horizontal piping ahead of trap.
4. Pitch all horizontal inlet lines towards the stream trap to help eliminate potential water hammer problems.
5. Provide a dirt pocket and strainer (with blow down) ahead of trap.
6. Install union fittings and shut off valves on both sides of trap for ease of servicing and trap testing.
7. Install a test valve in outlet pipe and cap it. This allows trap to be tested. Cap is used as safety precaution when unit is not being tested.
8. Blowdown piping using full steam pressure for (5) five minutes prior to service. This cleaning process removes debris from piping.
9. Perform maintenance and cleaning 2 to 3days after startup until system is clean. Then perform maintenance 6 to 12 months once in normal operation.

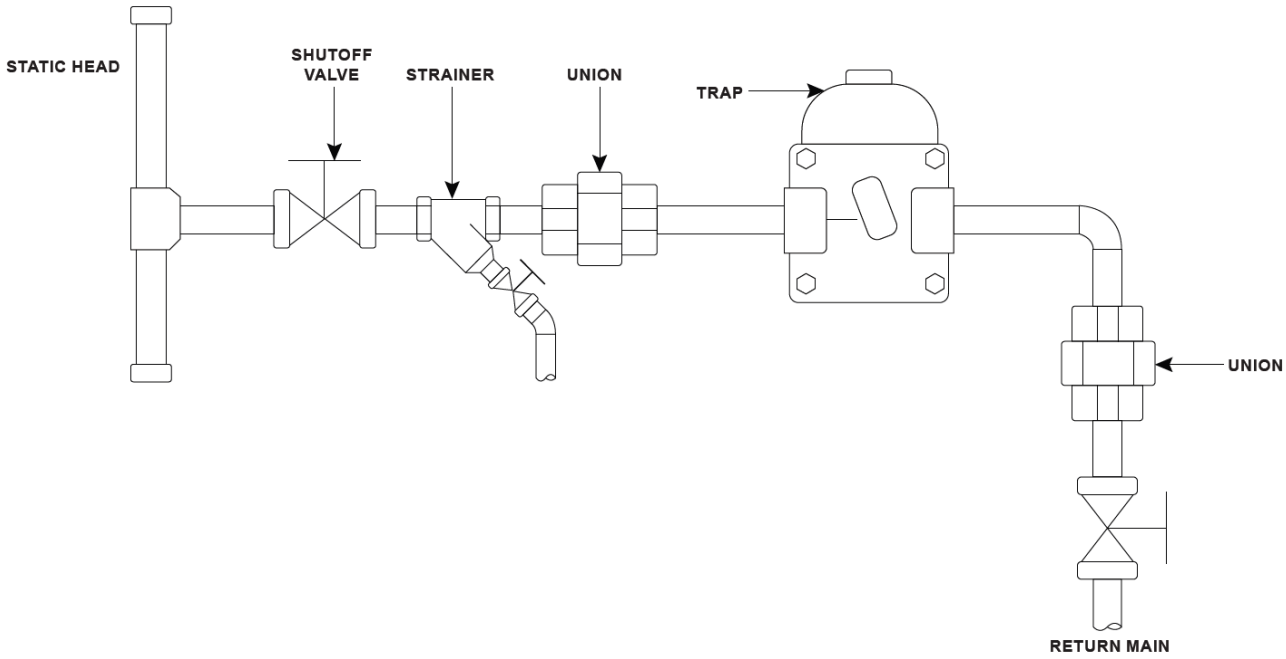

Figure 1. FTE Series Installation Schematic

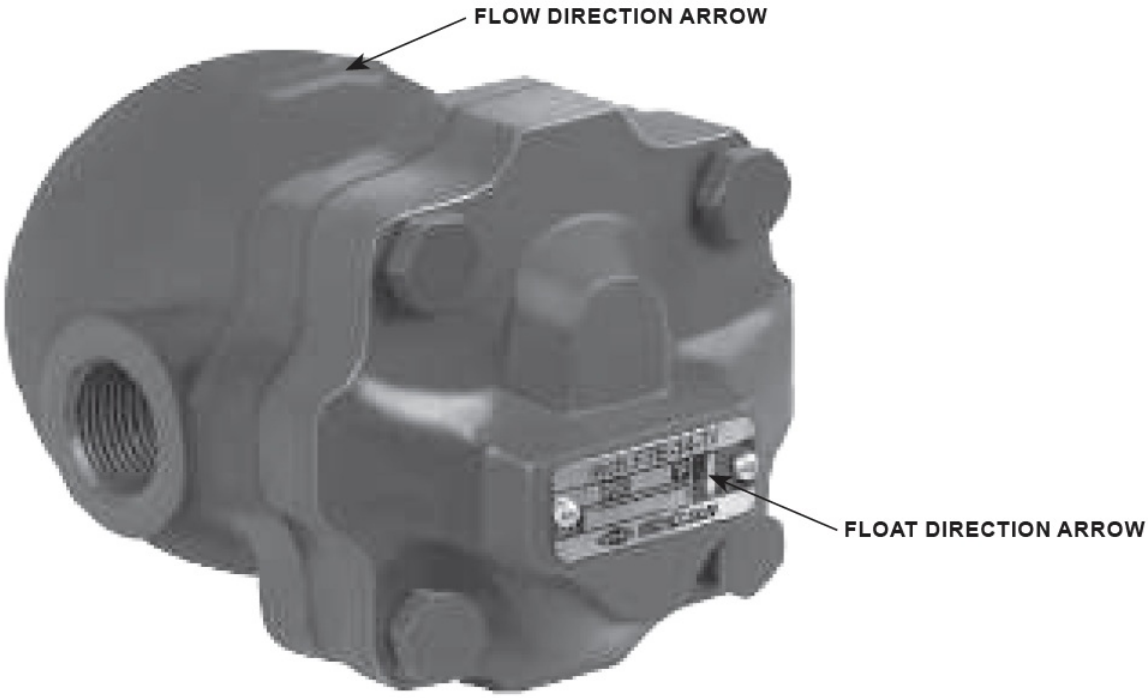

Figure 2. FTE Series with Flow Direction Arrow and Float Direction Arrow

Maintenance

WARNING
To avoid personal injury, property damage or equipment damage caused by sudden release of pressure or explosion of accumulated gas, do not attempt any maintenance or disassembly without first isolating the equipment from system pressure and relieving all internal pressure from the equipment.
While working on steam traps consider the risk of getting burned, Therefore remember the following:

- The piping parts before and after the steam trap must be atmospheric. Therefore, switch off the steam installation and / or close the necessary valves.
- Secure the necessary valves and / or switches so that the piping parts stay atmospheric during work.
- When unscrewing pressurized piping parts hot condensate in the steam trap and steam installation can spontaneously start to boil and be given off as steam. In general the steam trap must be ‘’cold’’.
- When checked regularly and properly maintained, FTE Series Float and Thermostatic Traps provides optimum performance and long life.
- The internals of FTE Series can be replaced leaving the trap in place.
- Inspect the trap mechanism periodically and remove all dirt from working parts.
- Replace worn parts.
- The safety measures for replacing a steam trap also apply for opening the cover or body of the steam trap. Always renew the gasket after opening the steam trap.

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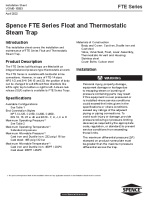
Documents / Resources

	SPENCE FTE Series Float and Thermostatic Steam Trap [pdf] Installation Guide FTE Series, Float and Thermostatic Steam Trap, Thermostatic Steam Trap, Float Steam Trap, Steam Trap, Trap