Steel Liquid Drain Trap
FA450

Description

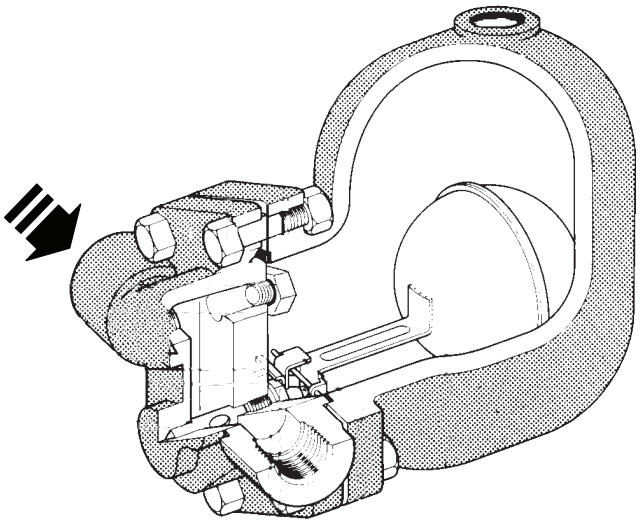
The float-operated liquid drain trap discharges continuously in direct response to variations in liquid flow rate, assuring thorough drainage of the system.

Model	FA450
PMO	465 psi g (32.1 bar g) (see Limiting operating conditons)
Sizes	¾" to 2"
Connections	NPT
Construction	Carbon Steel Body Stainless Steel Internals
Options	ANSI 150, 300 or 600 flanges SW Connections to ANSI B16.11 ½" Bottom Drain

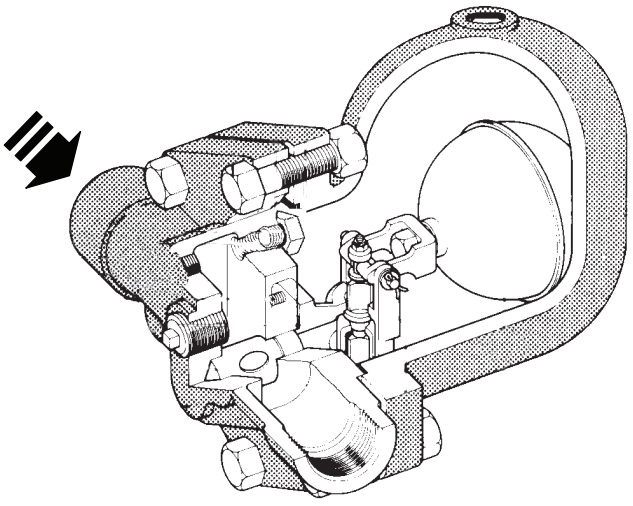
Note: 1½" and 2" valves are double-seated, and may not shut tight under no-load conditions. Normally, the liquid load will always be greater than the small residual leakage.
Liquid drain traps can be used to drain liquids from most gases. However, some applications, particularly those involving hazardous or unusual fluids, may be subject to regulation or may otherwise require special consideration.
Spirax Sarco will endeavor to provide whatever data is necessary to assist in product selection.

Typical applications

Receiver and air line drainage, draining a liquid from its vapor phase.



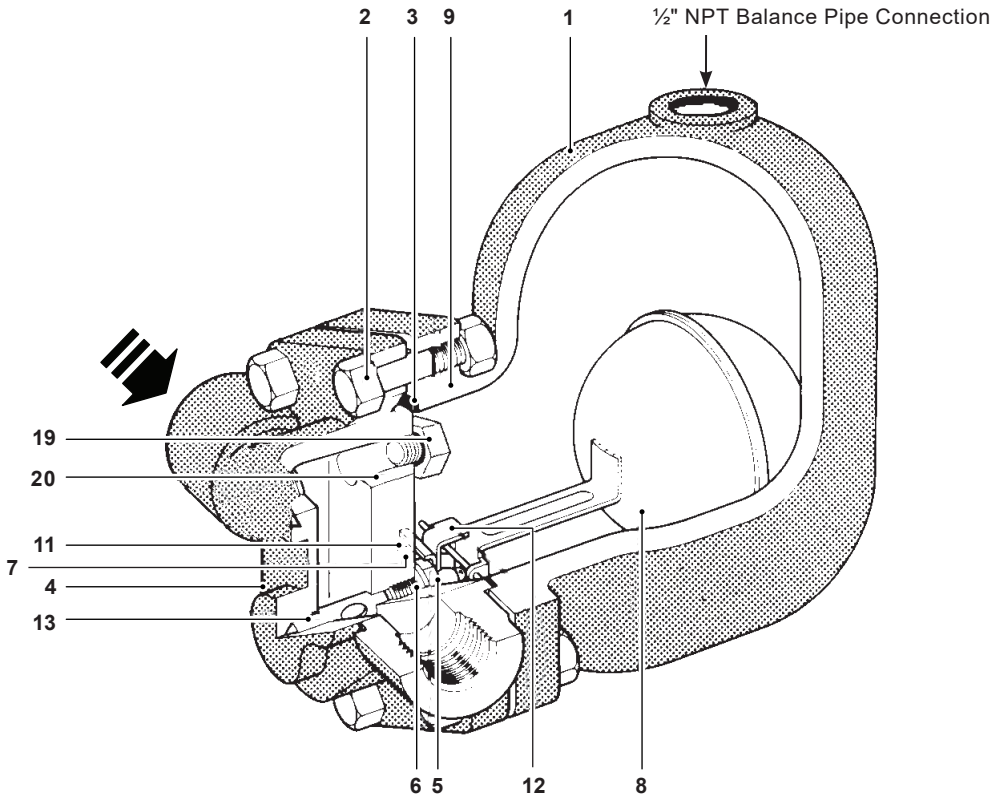
¾" and 1"



1½" and 2"

Materials

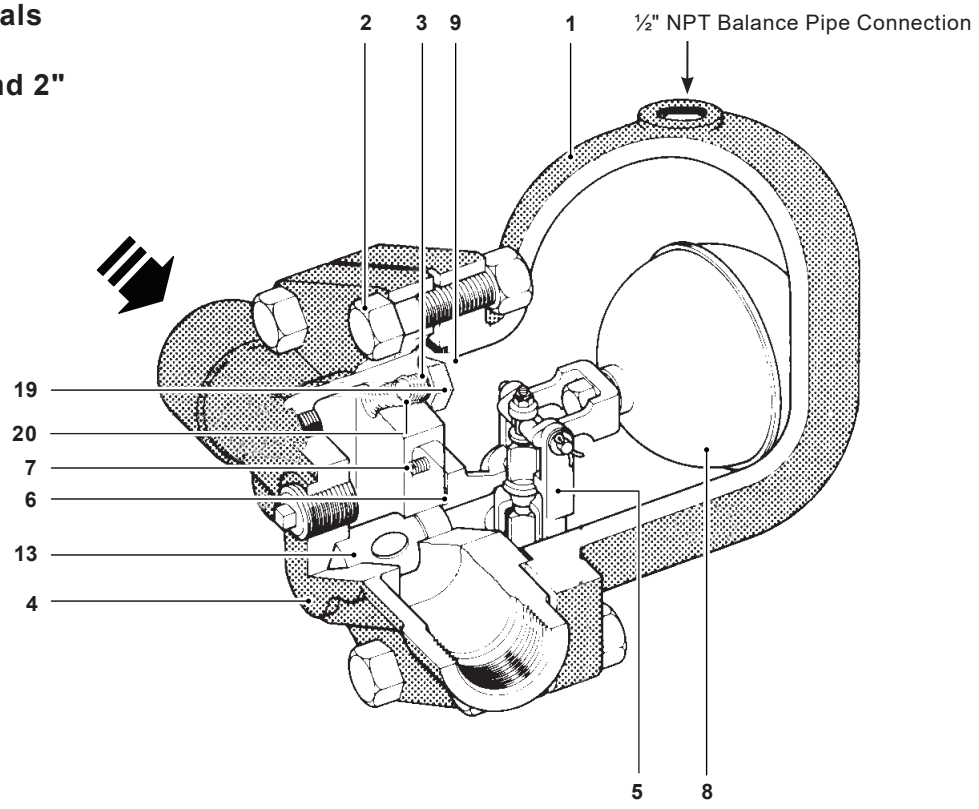
¾" and 1"



No.	Part		Material	
1	Body		Steel	ASTM A216 WCB
2	Cover Bolts		Steel	ASTM A 193 B7
	Cover Nuts	¾" and 1"	7/16 - 14 UNC-2A	ASTM A 194 2H
		1½" and 2"	5/8-11 UNC-2A	
3	Cover Gasket		Stainless Steel Reinforced Exfoliated Graphite	
4	Cover		Steel	ASTM A216 WCB
5	Valve Seat (¾" and 1")		Stainless Steel	ASTM A276 Type 420F
	Main Valve Assembly w/ erosion deflector (1½" and 2")		Stainless Steel	AISI 431
6	Valve Seat Gasket (¾" and 1")		Stainless Steel	ASTM A240 Type 301
	Main Valve Assembly Gasket 1½" and 2"		Stainless Steel Reinforced Exfoliated Graphite	
7	Pivot Frame Assembly		Stainless Steel	AISI 18-8
	Set Screws (¾" and 1")		10-24 Fillister Head	ANSI B 18.6.3
	Main Valve Assembly		Steel	
	Cap Screws (1½")		¼ - 20	ASTM 276 Type 304
	Studs and Nuts (2")		5/16 - 18	ASTM 276 Type 431 and 304
8	Ball Float and Lever		Stainless Steel	ASTM A240 Type 304
11	Support Frame		Stainless Steel	ASTM A240 Type 304
12	Pivot Frame		Stainless Steel	ASTM A240 Type 304
13	Erosion Deflector		Stainless Steel	ASTM A582 Type 303
19	Plug		Stainless Steel	
20	Plug Gasket		Stainless Steel	ASTM A240

Materials

1½" and 2"



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	Set Screws (¾" and 1")		10-24 Fillister Head	ANSI B 18.6.3
	Main Valve Assembly		Steel	
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	Studs and Nuts (2")		5/16 - 18	ASTM 276 Type 431 and 304
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13	Erosion Deflector		Stainless Steel	ASTM A582 Type 303
19	Plug		Stainless Steel	
20	Plug Gasket		Stainless Steel	ASTM A240

Limiting operating conditions*

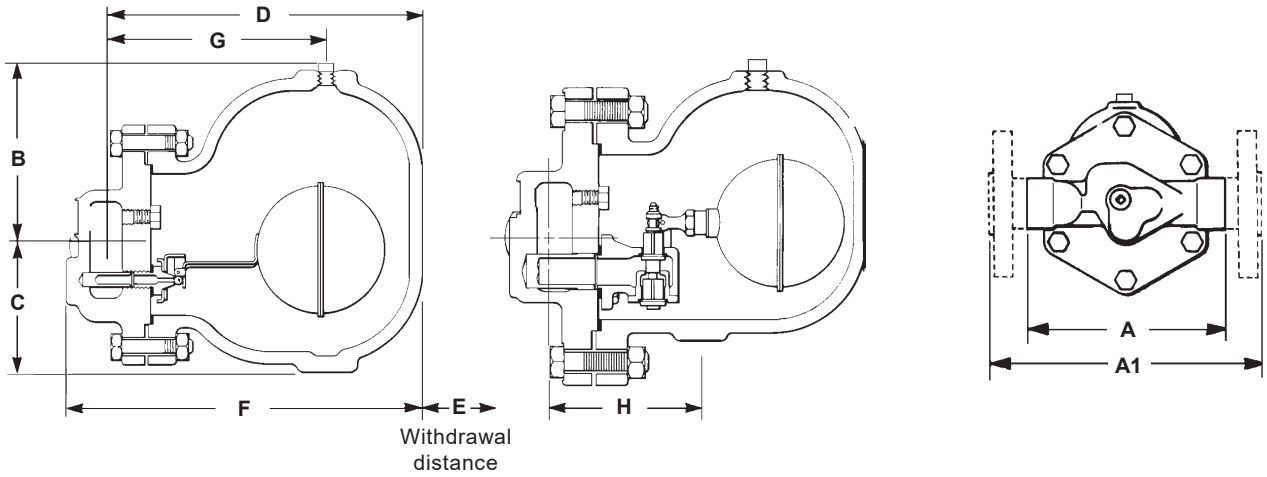
PMO	Maximum Operating Pressure (PMO)	Up to 465 psi g (32.1 bar g). The PMO depends on the model selected and the specific gravity of the liquid being drained. See TI-P102-04-US.
	Maximum Operating Temperature	750 °F (400 °C)

Pressure shell design conditions*

PMA	Maximum allowable pressure	535 psi g @ 650 °F (37 bar g @ 343 °C)
		505 psi g @ 750 °F (35 bar g @ 400 °C)
TMA	Maximum allowable temperature	750 psi g @ 505 °F (400 °C @ 35 bar g)

* The limiting operating and design conditions for ANSI 150 flanged units will be limited by the flange rating

Dimensions/weights (approximate) in inches (mm) and lbs (kg)



Size-DN	A	A1	B	C	D	E	F	G	H	Weight	
										NPT/SW	Flg
¾" DN20	6.1 (155)	10.0 (254)	2.6 (66)	2.6 (66)	6.4 (163)	4.7 (119)	7.4 (188)	4.0 (102)		18.0 lb (8.2 kg)	23.8 lb (10.8 kg)
1" DN25	6.5 (165)	10.4 (264)	4.5 (114)	3.3 (84)	8.2 (208)	6.3 (160)	9.2 (234)	5.8 (147)		28.0 lb (12.7 kg)	33.0 lb (15.0 kg)
1½" DN40	9.8 (249)	14.0 (356)	5.1 (130)	3.1 (79)	9.7 (246)	7.7 (196)	11.0 (279)	6.4 (163)	4.7 (119)	55.1 lb (25.0 kg)	64.0 lb (29.0 kg)
2" DN50	11.8 (300)	16.0* (406*)	5.5 (140)	3.6 (91)	9.9 (251)	7.7 (196)	11.5 (292)	6.5 (165)	6.0 (152)	68.0 lb (31.0 kg)	82.0 lb (37.2 kg)

***Note :** ANSI 600 16.5" (419 mm)

Capacity
The discharge capacity depends on the differential pressure (inlet pressure minus outlet pressure) and the specific gravity of the liquid being drained. See TI-P102-04-US.

Sample specification
Liquid drain traps shall be of the mechanical ball float type having steel bodies, horizontal in-line connections, and stainless steel valve heads, seats and ball floats. Internals of the trap shall be completely servicable without disturbing the piping.

Installation
The trap must be fitted in a horizontal pipe line with direction of flow as indicated and so that the float mechanism is free to rise and fall in a vertical plane. Full-flow isolating valves should be placed to permit servicing.
The high point of the body is provided with a ½" NPT tapping for a balance pipe, which is essential for satisfactory operation of this unit. The balance pipe must be connected with a continuous rise between the tapping provided on the body of the trap and the vessel being drained. The trap discharge should be piped to a safe place.

Maintenance
This product can be maintained without disturbing the piping connections. Complete isolation from both supply and return line is required before any servicing is performed.
The trap should be disassembled periodically for inspection and cleaning of the valve head and seat.
Worn or damaged parts should be replaced using a complete valve mechanism kit.
Complete installation and maintenance instructions are given in IMI 7.306, which accompanies the product.

Spare parts

Valve Mechanism Kit w/ Float (¾" and 1")	**A, B, C, D, E, F, G**
Valve Mechanism Kit (1½" and 2")	**A, B, D, P**
Gasket Kit (3 sets of cover and Mechanism Gaskets)	**B, T**
Float Kit (1½"and 2")	**C**

The erosion deflector is pressed into the body during manufacture and not available as a spare.