

TLV®

FREE FLOAT® STEAM TRAP

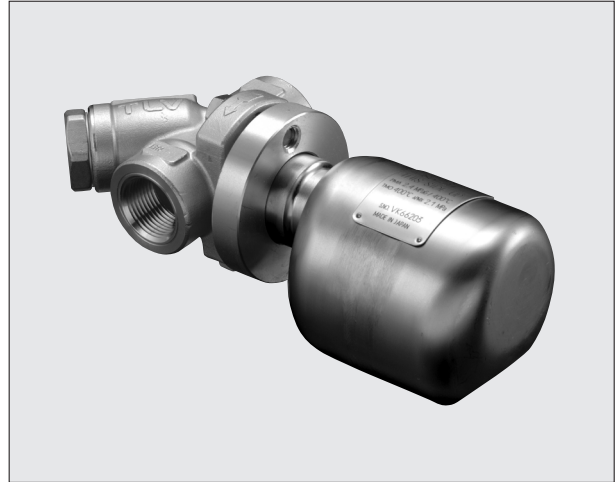
MODEL FS3/FS5 QuickTrap®

UNIVERSAL FREE FLOAT STEAM TRAP WITH THREE POINT SEATING AND THERMOSTATIC AIR VENTING

Benefits

Inline replaceable 2-bolt universal flange steam trap for steam mains, tracers and light process.

1. Two-bolt flange connector permits trap replacement in minutes without disturbing piping.
2. Universal flange allows trap to be positioned in the correct attitude, regardless of pipeline configuration.
3. Self-modulating free float provides continuous condensate discharge and three-point seating design ensures a steam tight seal.
4. Only one moving part, the free float, prevents concentrated valve wear and provides long maintenance-free service life.
5. Rugged float construction with up to 2300 psig hydraulic shock rating ensures excellent resistance to water hammer.
6. Thermostatic air venting with bimetal strip allows for fast start-up.



Specifications

Model	FS3			FS5		
	Screwed	Socket Weld	Flanged	Screwed*	Socket Weld	Flanged
Connection						
Size (in)		1/2, 3/4, 1			1/2, 3/4, 1	
Orifice No.		10, 18, 21			10, 21, 32	
Maximum Operating Pressure (psig) PMO		150, 250, 300			150, 300, 450	
Maximum Differential Pressure (psi) ΔPMX		150, 250, 300			150, 300, 450	
Minimum Operating Pressure (psig)		1.5			1.5	
Maximum Operating Temperature (°F) TMO		752			752	
Maximum Allowable Pressure (psig) PMA		345			450	
Maximum Allowable Temperature (°F) TMA		752			752	
Connector Unit		F46			F46	
Trap Unit		S3**			S5**	



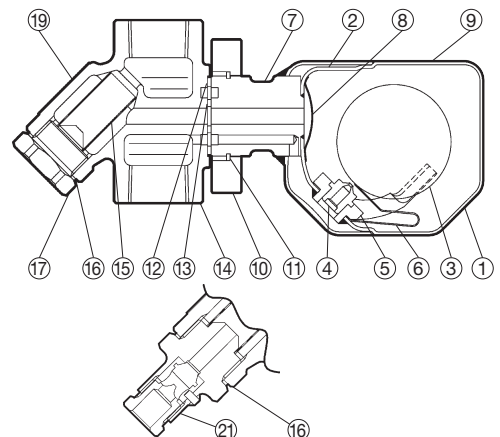
To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	ASTM/AISI*	JIS	
① ^T	Trap Body	Stainless Steel	A240 Type 316L	—	
② ^T	Inner Cover	Stainless Steel	A240 Type 316L	—	
③ ^T	Float	Stainless Steel	AISI316L	SUS316L	
④ ^T	Orifice	—	—	—	
⑤ ^T	Float Guide	Cast Stainless Steel	A351 Gr.CF3M	—	
⑥ ^T	Air Vent Strip	Bimetal	—	—	
⑦ ^T	Connector Joint	Stainless Steel	AISI304	SUS304	
⑧ ^T	Trap Screen	Stainless Steel	AISI304	SUS304	
⑨ ^T	Nameplate	Stainless Steel	AISI304	SUS304	
⑩ ^T	Connector Flange	Carbon Steel	A105	—	
⑪ ^T	Snap Ring	Carbon Steel	AISI1055	SWRH57	
⑫ ^M	Outer Connector Gasket	Graphite/Stainless Steel	-/AISI304	-/SUS304	
⑬ ^M	Inner Connector Gasket	Graphite/Stainless Steel	-/AISI304	-/SUS304	
⑭	Connector Body	Cast Stainless Steel	A351 Gr.CF8	—	
⑮	Screen	Stainless Steel	AISI430	SUS430	
⑯ ^M	Screen Holder Gasket	Stainless Steel	AISI316L	SUS316L	
⑰	Screen Holder	Cast Stainless Steel	A351 Gr.CF8	—	
⑱ ^T	Connector Bolt**	Alloy Steel	A193 Gr.B7	SNB7	
⑲	Connector Nameplate	Stainless Steel	AISI304	SUS304	
⑳	Flange**	1/2", 3/4"	Cast Stainless Steel	A351 Gr.CF8	—
		1"	Stl. Steel (Carbon Steel***)	AISI304 (A105***)	SUS304 (—***)
㉑	BD2 Blowdown Valve***	Cast Stainless Steel	A351 Gr.CF8	—	

Connections and sizes in bold are standard

* Screwed connection requires special installation procedure for horizontal piping. Consult TLV for details.

** Designed for use with F46, F32 Connector Units and V1/V2/V1P/V2P Trap Stations. Trap and Connector Units sent as separate units for flexible installation.

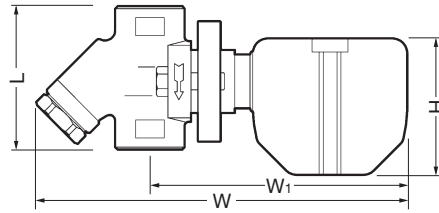


* Equivalent ** Shown on reverse *** Option
Replacement kits available:

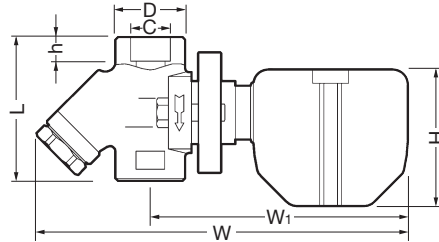
(M) maintenance parts, (T) trap unit S3/S5
Replacement parts for former F32 connector body differ from those for F46.

Dimensions

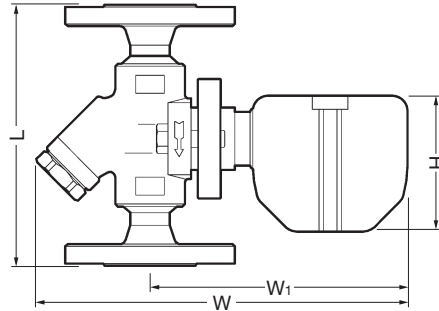
● **FS3/FS5**
Screwed



● **FS3/FS5**
Socket Weld



● **FS3/FS5**
Flanged



FS3/FS5 Screwed* (in)

Size	L	φH	W**	W ₁	Weight (lb)
1/2	3 1/8	3 (4 1/8)	8 1/32 (9 9/32)	5 1/2 (6 3/4)	3.7 (4.6)
3/4			8 1/8 (9 3/8)	5 11/16 (6 15/16)	
1	3 3/4				4.4 (5.5)

* NPT, other standards available
** With optional BD2 add approx. 11/16" to W
() FS5

FS3/FS5 Socket Weld* (in)

Size	L	φH	W**	W ₁	φD	φC	h	Weight (lb)
1/2	3 1/8	3 (4 1/8)	8 1/32 (9 9/32)	5 1/2 (6 3/4)	17/16	0.855	1/2	3.7 (4.6)
3/4						1.065		
1	3 3/4		8 1/8 (9 3/8)	5 11/16 (6 15/16)	1 3/4	1.330	9/16	4.4 (5.5)

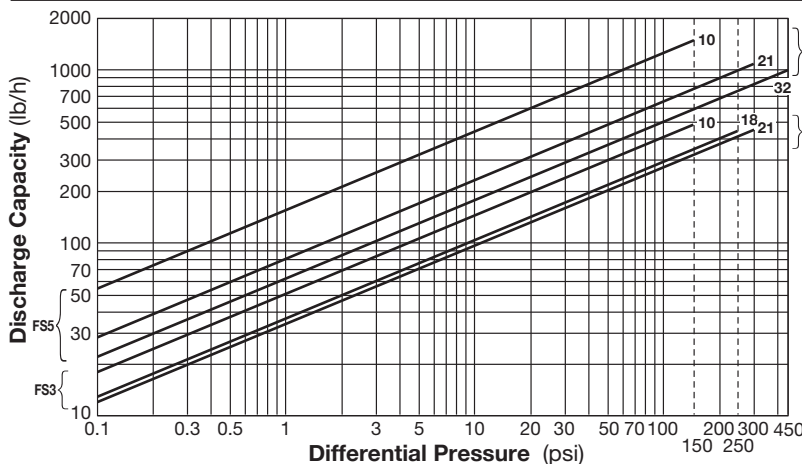
* ASME B16.11-2005, other standards available
** With optional BD2 add approx. 11/16" to W
() FS5

FS3/FS5 Flanged (in)

Size	L ¹⁾			φH	W ³⁾	W ₁	Weight ⁴⁾ (lb)
	Connects to ASME Class						
	150RF	300RF	600RF ²⁾				
1/2	SS: 5 7/8 CS: 5 1/2	SS: 5 7/8 CS: 5 1/2	SS: 7 1/16 CS: 5 1/2	3 (4 1/8)	8 1/16 (9 1/4)	5 1/2 (6 7/8)	7.0 (9.7)
3/4	SS: 5 7/8 CS: 6 1/2	SS: 5 7/8 CS: 6 1/2	SS: 7 1/16 CS: 6 1/2				10 (12)
1	SS: 6 5/16 CS: 8 1/4	SS: 6 5/16 CS: 8 1/4	SS: 7 1/2 CS: 8 1/4				10 (14)

Other standards available, but length and weight may vary, () FS5
1) SS: stainless steel, CS: carbon steel. Flange material refers only to flanges. F46 connector body material is always stainless steel.
2) Not for FS3 3) With optional BD2 add approx. 11/16" to W
4) Weight is for FS3: Class 300 RF, for FS5: Class 600 RF

Discharge Capacity



- Line numbers within the graph refer to orifice numbers.
- Differential pressure is the difference between the inlet and outlet pressure of the trap.
- Capacities are based on continuous discharge of condensate 11 °F below saturated steam temperature.
- Recommended safety factor: at least 1.5.



DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRA Ltd. to ISO 9001/14001

