



# FREE FLOAT® STEAM TRAP

## MODEL SH3NL CAST STEEL

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

#### Features

**Inline repairable trap with tight shut-off for drainage of superheated or high-pressure steam mains and turbines.**

1. Self-modulating free float provides continuous, smooth, low velocity condensate discharge as loads vary.
2. Precision-ground float, constant water seal and three-point seating design ensure a steam tight seal, even under no-load conditions.
3. Only one moving part, the free float, prevents concentrated wear and provides long maintenance-free service life.
4. Thermostatic air venting with bimetal strip allows fast start-up.
5. High rating against hydraulic shock offers excellent resistance of the float to water hammer.
6. Built-in screen with large surface area ensures extended trouble-free operation.
7. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.



#### Specifications

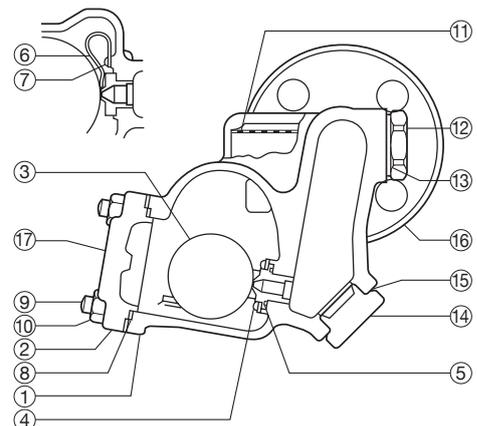
Model		SH3NL	
Connection		Socket Welded	Flanged
Size		DN 15, 20, 25	
Orifice No.		14, 32, 45	
Maximum Operating Pressure (barg)	PMO	14, 32, 45	
Maximum Differential Pressure (bar)	ΔPMX	14, 32, 45	
Maximum Operating Temperature (°C)	TMO	425	

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 45      1 bar = 0.1 MPa  
Maximum Allowable Temperature (°C) TMA: 425



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.

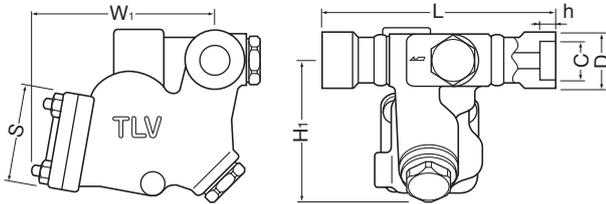
No.	Description	Material	DIN*	ASTM/AISI*
①	Body	Cast Steel A216 Gr.WCB	1.0619	—
②	Cover	Carbon Steel A105	1.0460	—
③ <sup>F</sup>	Float	Stainless Steel SUS316L	1.4404	AISI316L
④ <sup>R</sup>	Orifice	—	—	—
⑤ <sup>MR</sup>	Orifice Gasket	Graphite/Stainl. Steel SUS316L	- /1.4404	- /AISI316L
⑥ <sup>R</sup>	Air Vent Strip	Bimetal	—	—
⑦ <sup>R</sup>	Screw & Spring Washer	Stainless Steel SUS304	1.4301	AISI304
⑧ <sup>MR</sup>	Cover Gasket	Graphite/Stainl. Steel SUS316L	- /1.4404	- /AISI316L
⑨	Cover Bolt	Alloy Steel SNB7	1.7225	A193 Gr.B7
⑩	Cover Nut	Carbon Steel S45C	1.0503	AISI1045
⑪ <sup>R</sup>	Screen	Stainless Steel SUS430	1.4016	AISI430
⑫	Screen Holder	Cast Stainl. Steel A743 Gr.CA40	1.4027	—
⑬ <sup>MR</sup>	Screen Holder Gasket	Soft Iron SUYP	1.1121	AISI1010
⑭	Orifice Plug	Cast Stainl. Steel A743 Gr.CA40	1.4027	—
⑮ <sup>MR</sup>	Orifice Plug Gasket	Soft Iron SUYP	1.1121	AISI1010
⑯	Socket**	Carbon Steel S25C	1.1158	AISI1025
	Flange	Carbon Steel A105/ Cast Steel A216 Gr.WCB***	1.0460/ 1.0619	—
⑰	Nameplate	Stainless Steel SUS304	1.4301	AISI304



\* Equivalent materials \*\* Shown overleaf \*\*\* Material depends on flange specifications  
Replacement kits available: (M) maintenance parts, (R) repair parts, (F) float

**Dimensions**

● **SH3NL Socket Welded**

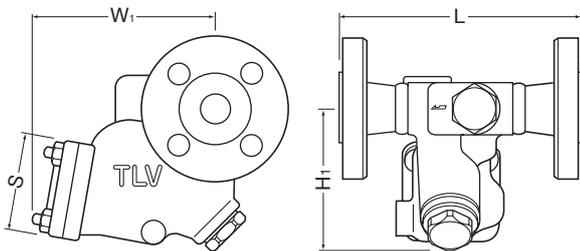


**SH3NL Socket Welded\*** (mm)

DN	L	H <sub>1</sub>	W <sub>1</sub>	S	φD	φC	h	Weight (kg)
15	200	121	157	83	34	21.8	12	8.5
20					40	27.2	14	
25					49	33.9	14	

\* ASME B16.11-2005, other standards available

● **SH3NL Flanged**

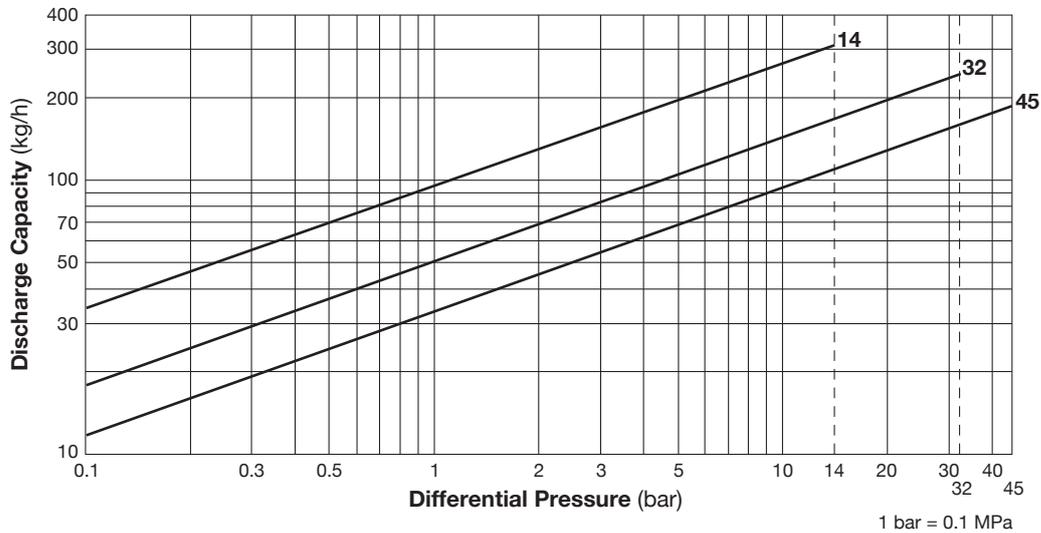


**SH3NL Flanged** (mm)

DN	L			H <sub>1</sub>	W <sub>1</sub>	S	Weight* (kg)
	ASME Class						
	150RF	300RF	600RF				
15	202	202	202	121	157	83	9.0
20							9.6
25							10

DIN and other standards available, but length and weight may vary  
\* Weight is for Class 600 RF

**Discharge Capacity**



1. Line numbers within the graph refer to orifice numbers.
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. Capacities are based on continuous discharge of condensate 6°C below saturated steam temperature.
4. Recommended safety factor: at least 1.5.



**CAUTION** DO NOT use traps under conditions that exceed maximum differential pressure, as condensate back up will occur!

Manufacturer

ISO 9001/ISO 14001

**TLV**® CO., LTD.  
Kakogawa, Japan  
is approved by LRQA Ltd. to ISO 9001/14001

