



# BALANCED PRESSURE THERMOSTATIC STEAM TRAP

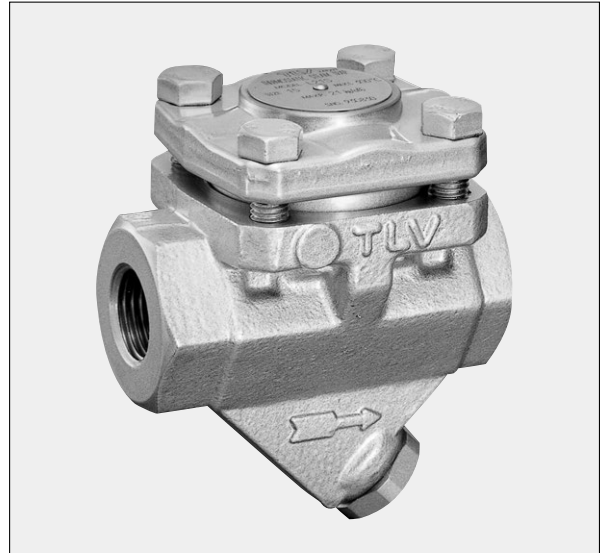
MODEL L21S/L32S CARBON STEEL STAINLESS STEEL

## BALANCED PRESSURE THERMOSTATIC STEAM TRAP WITH "FAIL OPEN" DESIGN

### Features

Thermostatic steam trap suitable for a wide range of applications, including steam mains, tracing, dryers and heaters.

1. "Fail open" feature will not hold back condensate in the steam space.
2. Rugged, yet light construction, withstands superheat and water hammer.
3. Cyclic operation with fixed subcooling throughout the whole pressure range.
4. Outstanding air venting capability.
5. Compact, yet with high capacity.
6. Easy to clean and maintain.
7. Hardened stainless steel valve seat.
8. Built-in screen with large surface area.
9. Models L21SC/L32SC with built-in check valve are available upon request.



### Specifications

Model	L21S				L32S				
	Carbon Steel		Stainless Steel		Carbon Steel		Stainless Steel		
Material									
Connection	Screwed	Socket Welded	Flanged	Screwed	Flanged	Screwed	Flanged	Screwed	Flanged
Size	1/2", 3/4", 1"		DN 15, 20, 25	1/2", 3/4", 1"		DN 15, 20, 25	1/2", 3/4", 1"		DN 15, 20, 25
Max. Operating Pressure (barg) PMO	21				32				
Min. Operating Pressure (barg)	0.1								
Max. Operating Temperature (°C) TMO	see graph below								
Maximum Back Pressure	90% of inlet pressure								
Max. Subcooling of X-element Fill (°C)	up to 6								
Type of X-element	B								

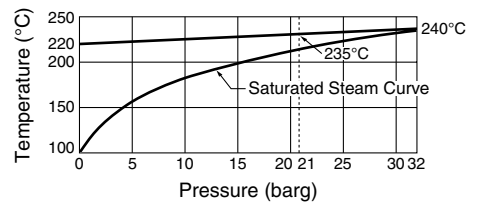
**PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):**

Maximum Allowable Pressure PMA: 32 barg  
 Maximum Allowable Temperature TMA: 300 °C

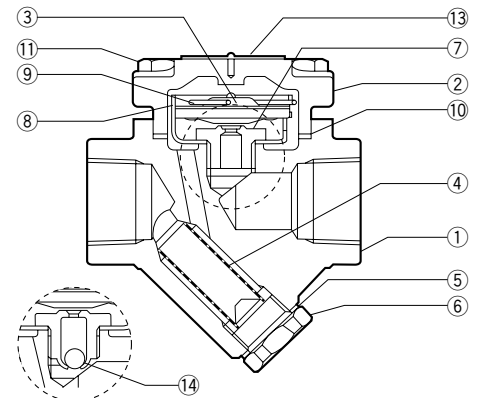
1 bar = 0.1 MPa



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 <sup>1)</sup>	ASTM/AISI <sup>1)</sup>	
①	Body	Carbon Steel	Carbon Steel C22.8	1.0460	A105
		Stainless Steel	Cast Stainless Steel A351 Gr.CF8	1.4312	—
②	Cover	Carbon Steel	Carbon Steel C22.8	1.0460	A105
		Stainless Steel	Cast Stainless Steel A351 Gr.CF8	1.4312	—
③ <sup>R</sup>	X-element	Stainless Steel	—	—	
④ <sup>R</sup>	Screen inside/outside	Stainless Steel SUS304/430	1.4301/1.4016	AISI304/430	
⑤ <sup>MR</sup>	Screen Holder Gasket	Carbon Steel	Soft Iron SUYP	1.1121	AISI1010
		Stainless Steel	Stainless Steel SUS316	1.4404	AISI316L
⑥	Screen Holder	Carbon Steel	Carbon Steel C22.8	1.0460	A105
		Stainless Steel	Stainless Steel SUS303	1.4305	AISI303
⑦ <sup>R</sup>	Valve Seat	Stainless Steel SUS420F	1.4028	AISI420F	
⑧ <sup>R</sup>	X-element Guide	Stainless Steel SUS304	1.4301	AISI304	
⑨ <sup>R</sup>	Spring Clip	Stainless Steel SUS304	1.4301	AISI304	
⑩ <sup>MR</sup>	Cover Gasket	Graphite/Stainl. Steel SUS316L	—/1.4404	—/AISI316L	
⑪	Cover Bolt	Carbon Steel	Carbon Steel S45C	1.0503	AISI1045
		Stainless Steel	Stainless Steel SUS304	1.4301	AISI304
⑫	Nameplate	Stainless Steel SUS304	1.4301	AISI304	
⑬	Flange <sup>2)</sup>	Carbon Steel	Carbon Steel C22.8/A105 <sup>3)/</sup> Cast Steel A216 Gr.WCB <sup>3)</sup>	1.0460/1.0460/ 1.0619	A105/ — /
		Stainless Steel	Stainless Steel SUS304/ Cast Stainless Steel A351 Gr.CF8	1.4301/ 1.4312	AISI304/ —
			Flange Pipe (Stainless Steel) <sup>4)</sup>	Stainless Steel SUS304	1.4301
⑭ <sup>R</sup>	Steel Ball (Check Valve)	Stainless Steel SUS440C	1.4125	AISI304	



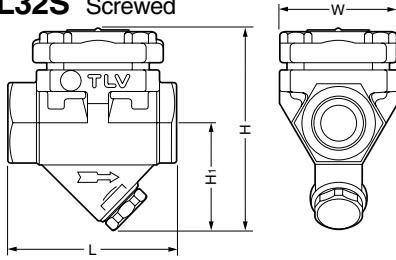
With optional Check Valve, L21SC available screwed and flanged. L32SC available flanged only.

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<sup>1)</sup> Equivalent materials <sup>2)</sup> Shown overleaf, shape and material depend on flange specifications  
<sup>3)</sup> For models with ASME flange standards <sup>4)</sup> Not shown  
 Replacement kits available for carbon steel version: (M) maintenance parts, (R) repair parts

**Dimensions**

● **L21S/L32S** Screwed

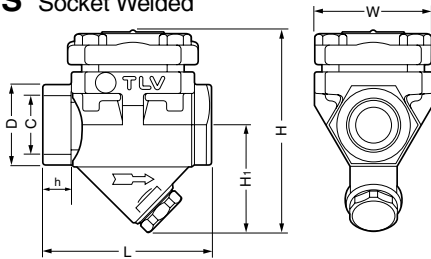


**L21S/L32S** Screwed\* (mm)

Size	L	H	H <sub>1</sub>	W	Weight (kg)
1/2"	80	97	52	56 (62)	1.3
3/4"					
1"	88	104	55		1.8

\* BSP DIN 2999, other standards available  
( ) is for Stainless Steel

● **L21S** Socket Welded

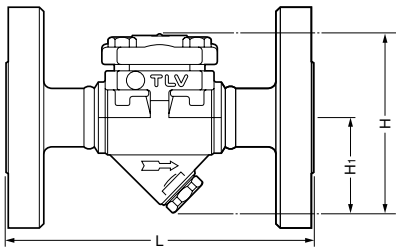


**L21S** Socket Welded\* (mm)

DN	L	H	H <sub>1</sub>	W	φD	φC	h	Weight (kg)
15	80	97	52	56 (62)	30	21.8	12	1.3
20					36	27.2		
25	88	104	55		44	33.9	14	1.8

\* ASME B16.11-2005, other standards available  
( ) is for Stainless Steel

● **L21S/L32S** Flanged



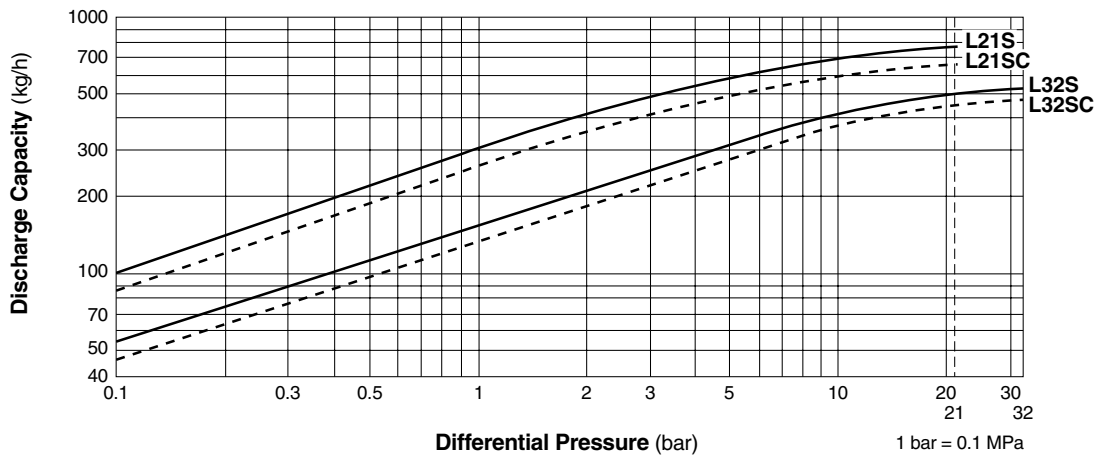
**L21S/L32S** Flanged (mm)

DN	L				H	H <sub>1</sub>	Weight* (kg)
	DIN 2501	ASME Class					
	PN25/40	150RF	300RF	600RF			
15	150	140 (160)	140 (160)	140 (160)	97	52	3.2
20		165	165	165			3.8
25	160	210	210	210	104	55	4.6

Other standards available, but length and weight may vary  
\* Weight is for DIN PN 25/40  
( ) is for Stainless Steel

The models L21SC and L32SC with internal check valves have the same dimensions and weights as models L21S and L32S

**Discharge Capacity**



1. Pressure differential is the difference between the inlet and outlet pressure of the trap.
2. Recommended safety factor: at least 2.

Manufacturer

ISO 9001/ISO 14001

**TLV** CO., LTD.  
Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

