



# 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.

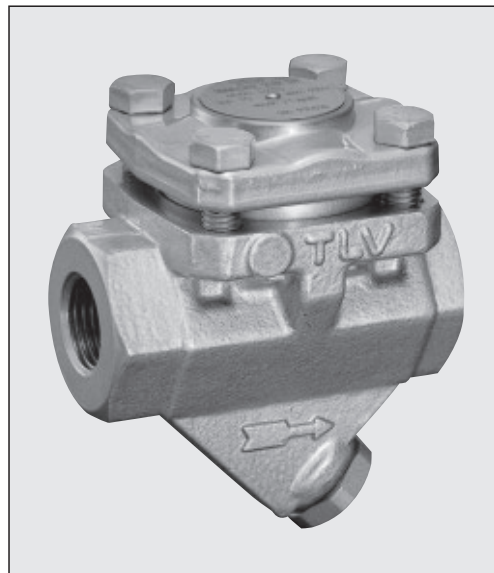
1. "Fail open" feature will not hold back condensate in the steam space.
2. Rugged, yet light construction, withstands superheat and water hammer.
3. Cyclic operation with fixed subcooling throughout the whole pressure range.
4. Outstanding air venting capability.
5. Compact, yet with high capacity.
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.

### Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size	Category	CE marking
DN 15 to DN 25	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed

\* Manufactured in accordance with sound engineering practice



### Specifications

Model	L21S					L32S				
Material	Carbon Steel			Stainless Steel		Carbon Steel		Stainless Steel		
Connection	Screwed	Socket Welded	Flanged	Screwed	Flanged	Screwed	Flanged	Screwed	Flanged	
Size	½",¾",1"	DN 15, 20, 25		½",¾",1"	DN 15, 20, 25	½",¾",1"	DN 15, 20, 25	½",¾",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	C6									

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure PMA: 32 barg 1 bar = 0.1 MPa  
Maximum Allowable Temperature TMA: 300 °C  
Minimum Allowable Temperature (°C): 0 (A105/A105M), -40 (CF8/CF8M)



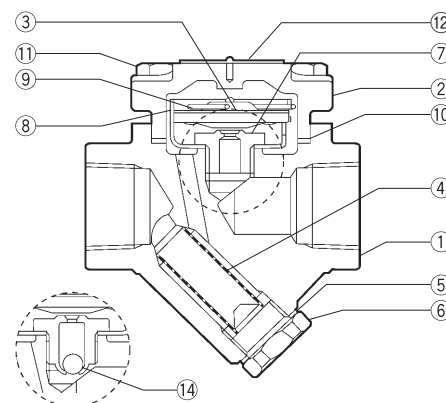
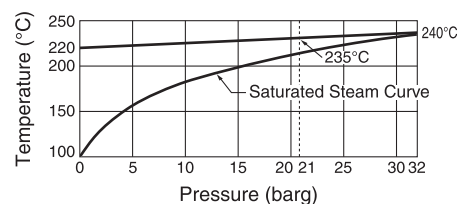
To avoid abnormal operation, accidents or serious injury, do not use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	DIN <sup>(1)</sup>	ASTM/AISI <sup>(1)</sup>
①	Body	Carbon Steel	Carbon Steel A105/A105M	1.0460
		Stainless Steel	Cast Stainless Steel A351/A351M Gr.CF8 or CF8M	1.4312 or 1.4410
②	Cover	Carbon Steel	Carbon Steel A105/A105M	1.0460
		Stainless Steel	Cast Stainless Steel A351/A351M Gr.CF8 or CF8M	1.4312 or 1.4410
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
		Stainless Steel	Stainless Steel SUS316L	1.4404
⑥	Screen Holder	Carbon Steel	Carbon Steel A105/A105M	1.0460
		Stainless Steel	Stainless Steel SUS303 or A351/A351M Gr.CF8M	1.4305 or 1.4401
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	Alloy Steel	Alloy Steel A193/A193M Gr.B7	1.7225
		Stainless Steel	Stainless Steel SUS304 or A193/A193M Gr.B8M	1.4301 or 1.4401
⑫	Nameplate	Stainless Steel SUS304/SUS316L	1.4301/1.4404	AISI304/AISI316L
⑬	Flange <sup>(2)</sup>	Carbon Steel	Carbon Steel A105/A105M <sup>(3)</sup> /Cast Steel A216/A216M Gr.WCB <sup>(3)</sup>	1.0460/1.0619
		Stainless Steel	Stainless Steel SUS304/Cast Stainless Steel A351/A351M Gr.CF8 or CF8M	1.4301/1.4312 or 1.4410
	Flange Pipe (Stainless Steel) <sup>(4)</sup>	Stainless Steel SUS304	1.4301	AISI304
⑭ <sup>R</sup>	Steel Ball (Check Valve)	Stainless Steel SUS440C	1.4125	AISI440C

<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

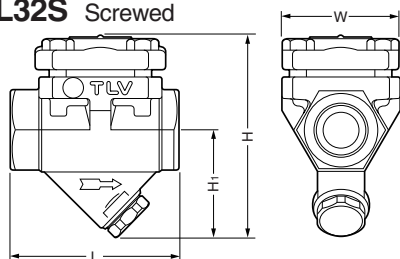


With optional Check Valve, L21SC available screwed and flanged. L32SC available flanged only.

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## Dimensions

### • L21S/L32S Screwed



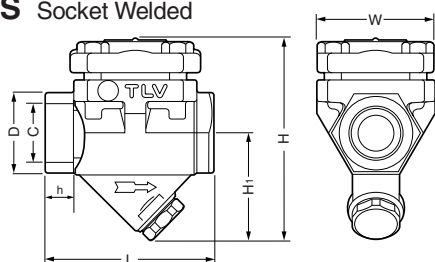
### L21S/L32S Screwed\* (mm)

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



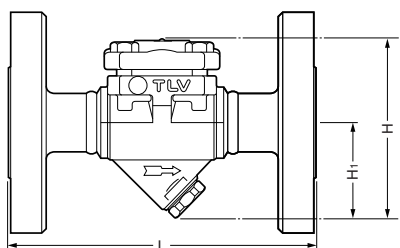
### L21S Socket Welded\* (mm)

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	14	
25	88	104	55		44	33.9		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

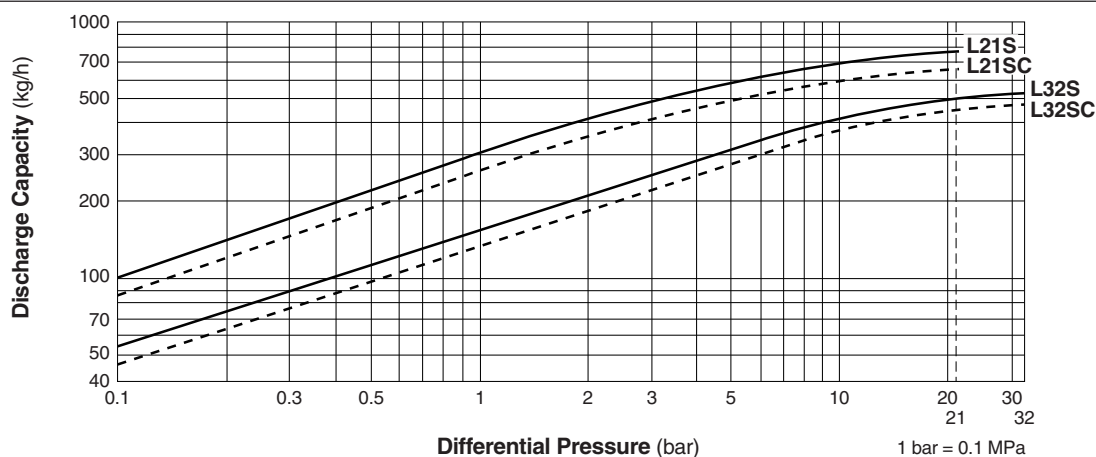
Other standards available, but length and weight may vary

\* 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

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

is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001  
ISO 14001

