TEMPERATURE CONTROL STEAM TRAP

MODEL LEX3N CARBON STEEL

Features

Compact bimetal-operated thermostatic trap for accurate control of condensate discharge temperature. Ideal for use with steam tracers, tank heaters, space heaters and instrument tracer tubes.

1. Maintains temperature at preset levels between 50 and 200˚C by adjusting the valve closing temperature.
2. Saves energy by utilizing the sensible heat in condensate.
3. Rapid venting of initial air and fast discharge of cold condensate reduce start-up time.
4. Built-in, easy-to-clean screen guarantees trouble-free service.
5. Easy maintenance, without disconnecting the trap from the piping.
6. Can be used as an automatic non-freeze valve.
7. Overexpansion mechanism prevents damage to the bimetal element.

Specifications

Model	LEX3N	LEXW3N	LEXF3N
Connection	Screwed	Socket Welded	Flanged
Size	3/8″, 1/2″, 3/4″, 1″	DN 10, 15, 20, 25	DN 15, 20, 25
Condensate Temperature Setting Range (˚C)	50 - 200		
Maximum Operating Pressure (barg) PMO	46		
Minimum Operating Pressure (barg)	1		
Maximum Operating Temperature (˚C) TMO	350		

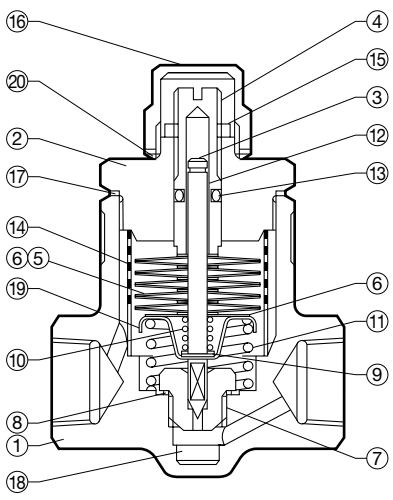
PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA : 63 1 bar = 0.1 MPa
Maximum Allowable Temperature (˚C) TMA : 400

CAUTION 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	Carbon Steel C22.8	1.0460	A105
②	Cover	Carbon Steel C22.8	1.0460	A105
③	Valve Stem	Stainless Steel SUS420J2	1.4031	AISI420
④	Adjusting Screw	Stainless Steel SUS303	1.4305	AISI303
⑤	Bimetal Element	Bimetal	—	—
⑥	Plain Washer	Stainless Steel SUS304	1.4301	AISI304
⑦	Valve Seat	Stainless Steel SUS303	1.4305	AISI303
⑧	Valve Seat Gasket	Soft Iron SUYP	1.1121	AISI1010
⑨	Overexpansion Spring	Stainless Steel SUS304	1.4301	AISI304
⑩	Return Spring	Stainless Steel SUS304	1.4301	AISI304
⑪	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
⑫	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
⑬	Seal Ring	Fluorine Rubber FPM	—	FPM
⑭	Screen inside/outside	Stainl. Stl. SUS430/304	1.4016/4301	AISI430/304
⑮	Lock Nut	Carbon Steel SS400	1.0037	A6
⑯	Cap Nut	Carbon Steel C22.8	1.0460	A105
⑰	Cover Gasket	Soft Iron SUYP	1.1121	AISI1010
⑱	Bushing	Stainless Steel SUS303	1.4305	AISI303
⑲	Spring Guide	Stainless Steel SUS304	1.4301	AISI304
⑳	Cap Nut Gasket	Soft Iron SUYP	1.1121	AISI1010
㉑	Flange**	Carbon Steel C22.8	1.0460	A105

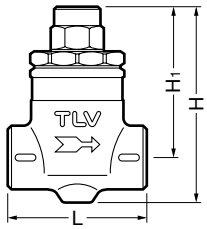
* Equivalent materials ** Shown overleaf

* Set temperature should be lower than 15˚C below the steam saturation temperature.



Dimensions

● **LEX3N**
Screwed

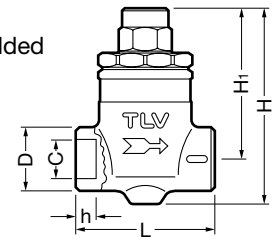


LEX3N Screwed* (mm)

Size	L	H	H1	Weight (kg)
3/8″	70	103	80	0.8
1/2″				
3/4″	80	113	90	1.3
1″				1.2

* BSP DIN 2999, other standards available

● **LEXW3N**
Socket Welded

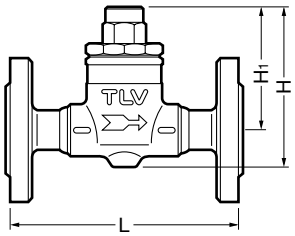


LEXW3N Socket Welded (mm)

DN	L	H	H1	φD	φC	h	Weight (kg)
10	70	103	80	32	17.55	12	0.8
15					21.70		
20	80	113	90	46	27.05	14	1.3
25					33.80		1.2

* Suitable for DIN 3239, other standards available

● **LEXF3N**
Flanged



LEXF3N Flanged* (mm)

DN	L	H	H1	Weight (kg)
15	150	103	80	2.2
20		113	90	3.1
25	160			3.7

* DIN 2501 PN 40, other standards available

Sizing Charts

Estimation of discharge capacity.

Example: The flow rate of condensate discharging from 7 barg to atmosphere at 90 ˚C from a trap set to 110 ˚C is determined as follows:

Step 1: Use the discharge capacity graph.

From the 90 ˚C condensate temperature on the horizontal axis, follow a vertical line until it intersects the 110 ˚C set temperature curve (point A).
From A, follow a horizontal line across to the vertical axis (point B), and read the discharge capacity, 220 kg/h.

Step 2: Use the correction graph.

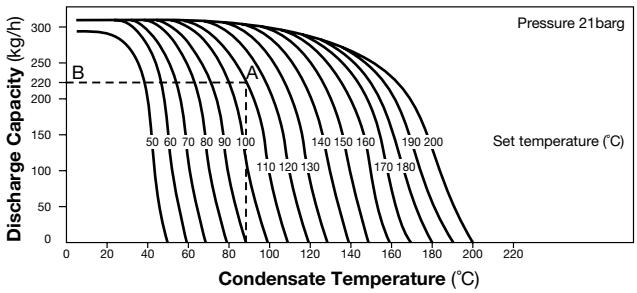
Because the discharge capacity graph is based on a steam pressure of 21 barg, a correction factor must be used to adjust the discharge capacity value to the actual differential pressure at the trap.
Read up from 7 barg on the horizontal axis to the diagonal line (point C), then across to the correction factor (point D), 0.57.

Multiply the discharge capacity obtained in step 1 by the correction factor to get the actual discharge capacity:

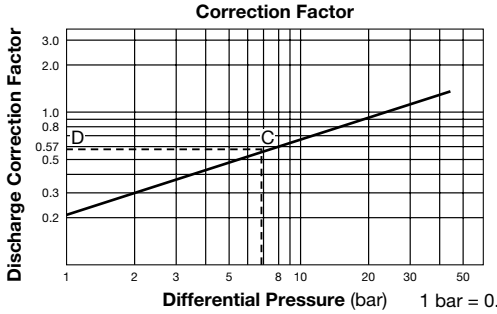
220 kg/h×0.57 = 125.4 kg/h

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

Condensate Discharge Capacity



Correction Factor



1 bar = 0.1 MPa

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

ISO 9001/ISO 14001