TLV®

TEMPERATURE CONTROL STEAM TRAP

MODEL **LEX3N**

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 (mm)	10, 15, 20, 25		15, 20, 25
Condensate Temperature Setting Range (°C)	50 - 200		
Maximum Operating Pressure (MPaG) PMO	4.6		
Minimum Operating Pressure (MPaG)	0.1		
Maximum Operating Temperature (°C) TMO	350		

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

1 MPa = 10.197 kg/cm²

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 6.3
Maximum Allowable Temperature (°C) TMA: 425

⚠ **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	JIS	ASTM/AISI*
①	Body	Carbon Steel	—	A105
②	Cover	Carbon Steel	—	A105
③	Valve Stem	Stainless Steel	SUS420J2	AISI420
④	Adjusting Screw	Stainless Steel	SUS303	AISI303
⑤	Bimetal Element	Bimetal	—	—
⑥	Plain Washer	Stainless Steel	SUS304	AISI304
⑦	Valve Seat	Stainless Steel	SUS303	AISI303
⑧	Valve Seat Gasket	Soft Iron	SUYP	AISI1010
⑨	Overexpansion Spring	Stainless Steel	SUS304	AISI304
⑩	Return Spring	Stainless Steel	SUS304	AISI304
⑪	Snap Ring	Stainless Steel	SUS304	AISI304
⑫	Snap Ring	Stainless Steel	SUS304	AISI304
⑬	Seal Ring	Fluorine Rubber	FPM	D2000HK
⑭	Screen inside/outside	Stainless Steel	SUS430/304	AISI430/304
⑮	Lock Nut	Carbon Steel	SS400	A307 Gr.B
⑯	Cap Nut	Carbon Steel	—	A105
⑰	Cover Gasket	Soft Iron	SUYP	AISI1010
⑱	Bushing	Stainless Steel	SUS303	AISI303
⑲	Spring Guide	Stainless Steel	SUS304	AISI304
⑳	Cap Nut Gasket	Soft Iron	SUYP	AISI1010
㉑	Flange (shown overleaf)	Carbon/Cast Steel**	—	A105/216 Gr. WCB

* Equivalent ** Either A105 or A216 Gr. WCB, depending upon flange specifications
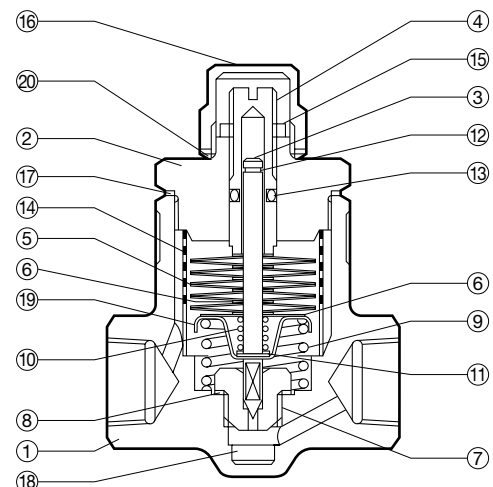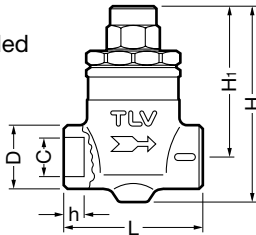
Dimensions

● **LEX3N**
Screwed
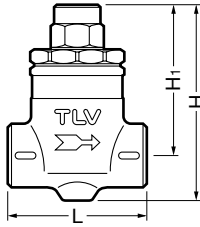
LEX3N Screwed* (mm)

Size	L	H	H₁	Weight (kg)
10	70	103	80	0.8
15				
20	80	113	90	1.3
25				1.2

* Rc(PT), other standards available

● **LEXW3N**
Socket Welded

LEXW3N Socket Welded (mm)

Size	L	H	H₁	D	C	h	Weight (kg)
10	70	103	80	32	17.8	12	0.8
15					22.2		
20	80	113	90	46	27.7	14	1.3
25					34.5		1.2

● **LEXF3N**
Flanged
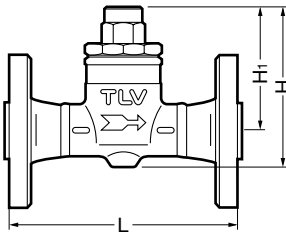
LEXF3N Flanged* (mm)

| Size	L	H	H1	Weight (kg)
15	145	103	80	3.8
20		113	90	4.0
25				4.4

* JIS 40K RF, other standards available

Sizing Charts

Estimation of discharge capacity.
Example: The flow rate of condensate discharging from 0.7MPaG to atmosphere at 90 °C from a trap set to 110 °C is determined as follows:
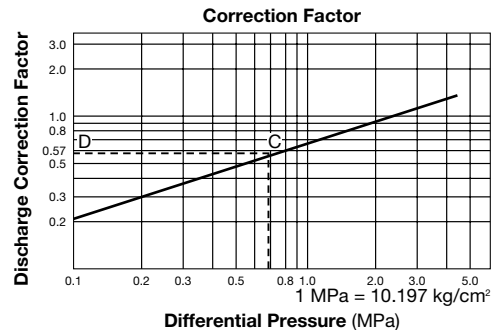
Step 1: Use the discharge capacity graph.
From the 90 °C condensate temperature on the horizontal axis, follow a vertical line until it intersects the 110 °C set temperature curve (point A).
From A, follow a horizontal line across to the vertical axis (point B), and read the discharge capacity, 220kg/h.

Condensate Discharge Capacity
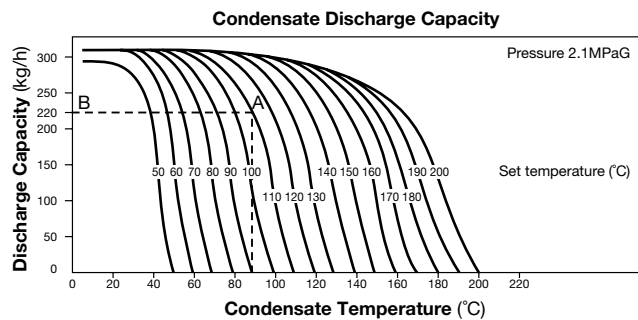
Step 2: Use the correction graph.
Because the discharge capacity graph is based on a steam pressure of 2.1 MPaG, a correction factor must be used to adjust the discharge capacity value to the actual pressure differential at the trap.
Read up from 0.7 MPaG on the horizontal axis to the diagonal line (point 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 x 0.57 = 125.4 kg/h

Correction Factor

1 MPa = 10.197 kg/cm²

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(M)

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Specifications subject to change without notice.