TEMPERATURE CONTROL STEAM TRAP

MODEL FX1 QuickTrap®

UNIVERSAL ADJUSTABLE THERMOSTATIC TRAP TO CONTROL CONDENSATE DISCHARGE TEMPERATURE

Benefits

Stainless steel-bodied bimetal thermostatic steam trap for accurate control of condensate discharge temperature. For use with steam tracing lines, storage tanks and instrument enclosures.*

1. Two-bolt universal connector enables quick replacement and allows the trap to be positioned in the correct attitude, regardless of pipeline configuration.
2. Discharge temperatures can be set between 120 and 390 °F to utilize the sensible heat in condensate.
3. Includes a built-in auger device for removing scale and build-up from the valve seat.
4. One screen located in connector and one in trap ensure trouble-free operation.
5. Overexpansion mechanism prevents damage to the bimetal element and ensures long service life.
6. Rapid venting of initial air and fast discharge of cold condensate reduce start-up time.

* See Applications on page 2.

Specifications

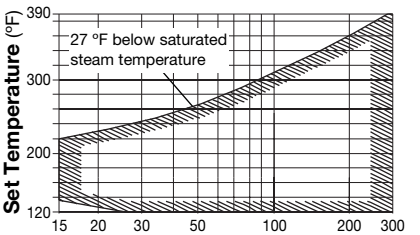
Model	FX1		
Connection	**Screwed**	**Socket Weld**	Flanged
Size (in)	**½, ¾, 1**		½, ¾, 1
Maximum Operating Pressure (psig)	300		
Minimum Operating Pressure (psig)	15		
Maximum Operating Temperature (°F)	662		
Condensate Temperature Setting Range (°F)	120 - 390* (see graph right)		
Maximum Allowable Pressure (psig)	710		
Maximum Allowable Temperature (°F)	752		
Connector Unit	F46		
Trap Unit	X1**		

Connections and sizes in bold are standard

* Set temperature should be more than 27 °F below the steam saturation temperature.

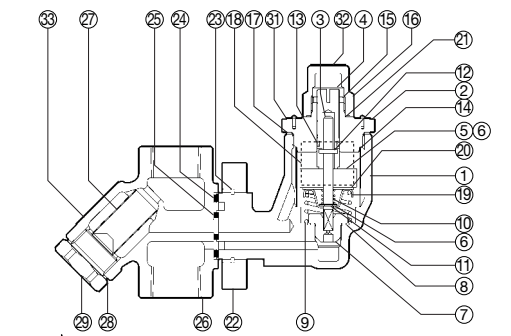
** Designed for use with F46, F32 Connector Units and V1/V2 Trap Station.

● **Temperature Setting Range**



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	ASTM/AISI*	JIS
① T	Trap Body	Cast Stainless Steel	A351 Gr.CF8	—
② T	Cover	Stainless Steel	AISI303	SUS303
③ TR	Valve Stem	Stainless Steel	AISI420	SUS420J2
④ T	Adjusting Screw	Stainless Steel	AISI303	SUS303
⑤ TR	Bimetal Element	Bimetal	—	—
⑥ TR	Washer	Stainless Steel	AISI304	SUS304
⑦ TR	Valve Seat	Stainless Steel	AISI303	SUS303
⑧ TMR	Valve Seat Gasket	Stainless Steel	AISI316L	SUS316L
⑨ TR	Overexpansion Spring	Stainless Steel	AISI304	SUS304
⑩ TR	Return Spring	Stainless Steel	AISI304	SUS304
⑪ TR	Snap Ring	Stainless Steel	AISI304	SUS304
⑫ T	Spring Pin	Stainless Steel	AISI304	SUS304
⑬ TMR	Seal Ring	Fluorine Rubber	D2000HK	FPM
⑭ TR	Screen inside/outside	Stainless Steel	AISI430/304	SUS430/304
⑮ T	Lock Nut	Stainless Steel	AISI303	SUS303
⑯ T	Cap Nut	Cast Stainless Steel	A351 Gr.CF8	—
⑰ TMR	Cover Gasket	Stainless Steel	AISI316L	SUS316L
⑱ T	Nameplate	Stainless Steel	AISI304	SUS304
⑲ TR	Spring Guide	Stainless Steel	AISI304	SUS304
⑳ TR	Thrust Plate	Stainless Steel	AISI304	SUS304
㉑ TMR	Cap Nut Gasket	Graphite	—	—
㉒ T	Connector Flange	Carbon Steel	A105	—
㉓ T	Snap Ring	Carbon Steel	SWRH57	SWRH57
㉔ T	Outer Connector Gasket	Graphite/Stainless Steel	- /AISI304	- /SUS304
㉕ T	Inner Connector Gasket	Graphite/Stainless Steel	- /AISI304	- /SUS304
㉖	Connector Body	Cast Stainless Steel	A351 Gr.CF8	—
㉗	Screen	Stainless Steel	AISI430	SUS430
㉘ MR	Screen Holder Gasket	Stainless Steel	AISI316L	SUS316L
㉙	Screen Holder	Cast Stainless Steel	A351 Gr.CF8	—
㉚ T	Connector Bolt**	Alloy Steel	SNB7	SNB7
㉛ T	Caution Plate A	Stainless Steel	AISI304	SUS304
㉜ T	Caution Plate B	Stainless Steel	AISI304	SUS304
㉝	Connector Nameplate	Stainless Steel	AISI304	SUS304
㉞	Flange** ½″, ¾″	Cast Stainless Steel	A351 Gr.CF8	—
	Flange** 1″	Stainless Steel	AISI304	SUS304
㉟	BD2 Blowdown Valve***	Cast Stainless Steel	A351 Gr.CF8	—

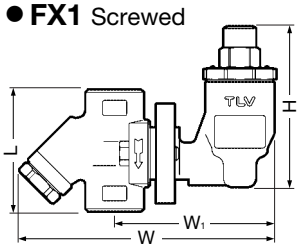


* Equivalent ** Shown on reverse *** Option

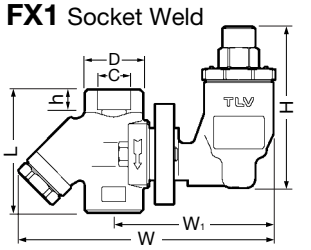
Replacement kits available:
(M) maintenance parts, (R) repair parts,(T) trap unit X1
Replacement parts for former connector body F32 differ from those for F46

Dimensions

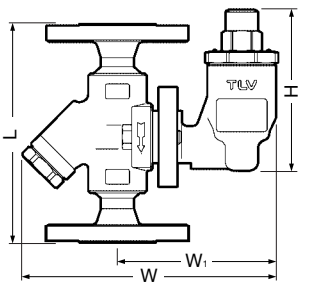
● **FX1** Screwed



● **FX1** Socket Weld



● **FX1** Flanged



FX1 Screwed*/Socket Weld** (in)

Size	L	H	W***	W1	ϕD	ϕC	h	Weight (lb)
1/2	3 1/8	4 1/4	6 5/8	4 1/8	1 7/16	0.855	1/2	4.2
3/4						1.065	9/16	
1	3 3/4		6 23/32	4 5/16	1 3/4	1.330		4.8

* NPT, other standards available
** ASME B16.11-2005, other standards available
*** With optional BD2 add approx. 9/16" to W

FX1 Flanged (in)

Size	L Connects to ASME Class 150RF	L Connects to ASME Class 300RF	H	W**	W1	Weight* (lb)
1/2	5 7/8	5 7/8	4 1/4	6 5/8	4 1/8	7.0
3/4						9.2
1	6 5/16	6 5/16				11

Other standards available, but length and weight may vary
* Weight is for Class 300 RF
** With optional BD2 add approx. 9/16" to W

Sizing Charts

The set temperature of the trap determines the temperature at which the valve opens or closes. As the temperature drops further below the set temperature, the valve opens to allow the discharge of a greater amount of condensate. The set temperature should be set by the highest setting that is acceptable for the product being heated and the discharge capacity should be checked at the lowest allowable condensate temperature to ensure sufficient discharge capacity.

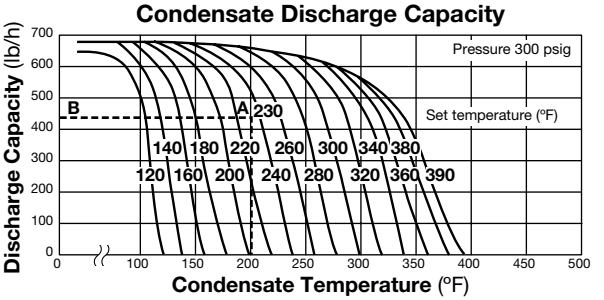
Estimation of Discharge Capacity

Example: A discharge temperature of 230 °F is the highest set temperature for acceptable product heating, and 200 °F is the lowest allowable discharge temperature for maintaining acceptable product heating. The pressure is 100 psig discharging to atmosphere.

Step 1: Use the discharge capacity graph

From the 200 °F condensate temperature on the horizontal axis, follow a vertical line until it intersects the 230 °F set temperature curve (point A). From A, follow a horizontal line across to the vertical axis (point B), and read the discharge capacity, 440 lb/h.

Condensate Discharge Capacity

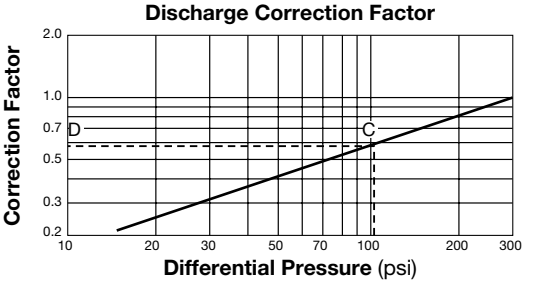


Recommended safety factor: at least 2.

Step 2: Use the correction graph

Because the discharge capacity graph is based on a steam pressure of 300 psig, a correction factor must be used to adjust the discharge capacity value to the actual differential pressure at the trap. Read up from 100 psi 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: 440 lb/h x 0.57 = 250 lb/h.

Discharge Correction Factor



Differential pressure is the difference between the inlet and outlet pressure of the trap.

Applications

DO NOT USE on any application **except** steam tracing lines, storage tank coils and instrument enclosures. **SUITABLE** for steam tracing lines or storage tank coils **ONLY IF** the required product viscosity will be maintained when the condensate is subcooled at least 27 °F, even to the point of the condensate having a lower temperature than the product temperature. **SUITABLE** for use on instrument enclosures **ONLY IF** the steam or condensate temperature in the enclosures will **NOT** damage the instrument.

CAUTION DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT OR USE THE SCALE REMOVAL FUNCTION WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling, removing or using the scale removal feature. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Member of FCI Fluid Controls Institute, Inc. Technical Resource for Instrumentation and Fluid Control

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

ISO 9001/ISO 14001