

TLV®

THERMODYNE

Steam Traps

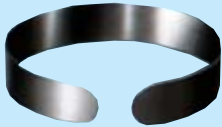


Thermodyne Steam Traps Have Winning Features to Save Steam and Money

Unique features make the Thermodyne the world's most efficient thermodynamic disc steam trap. The bimetal ring provides quick air venting at start-up and prevents air-binding without the use of bypass valves; the mirror-polished disc seals tight; the air- or steam-jacketed pressure chamber prevents no-load

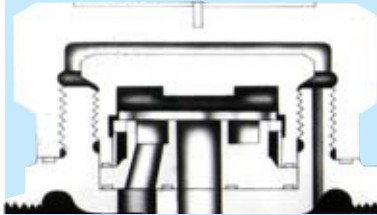
actuation and chattering by insulating the trap from ambient temperatures. Designed for top performance and durability, the Thermodyne effectively drains steam mains, branches, and tracer lines to keep your plant operating at peak efficiency.

Bimetal Air Vent Ring



To reach full operating efficiency, air and condensate must be purged from steam lines. Conventional traps must be blown down manually with bypass valves, but the bimetal ring quickly and efficiently vents traps for rapid start-up without air-binding.

Jacketed Pressure Chamber

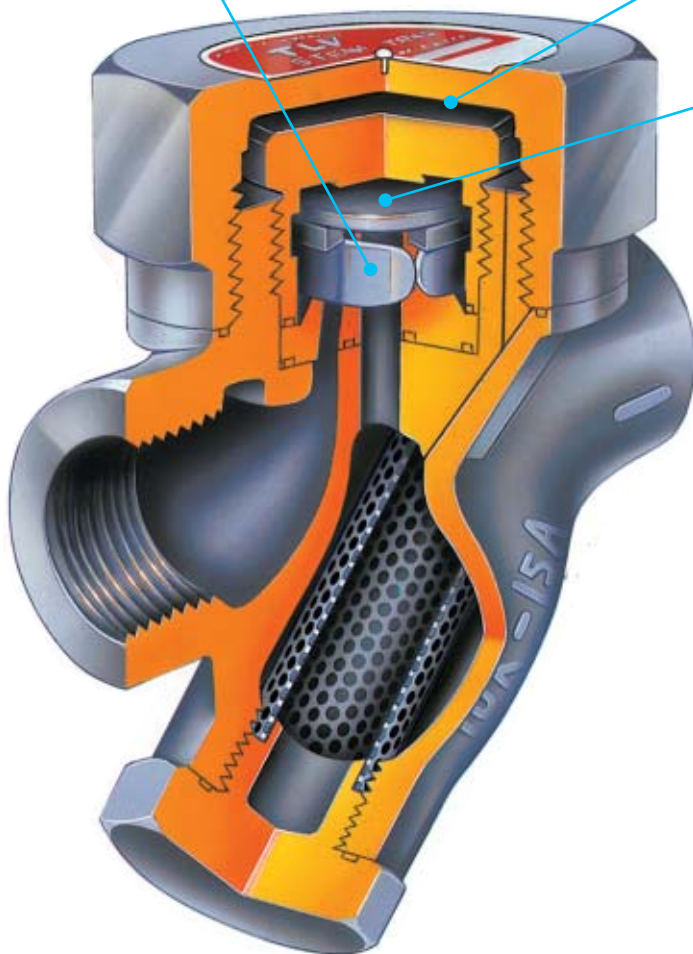


Radiant heat loss causes no-load actuation, which wastes steam and accelerates wear of both the disc and seat. Air or steam jackets insulate the pressure chamber to save steam and reduce wear.

Lapped Disc

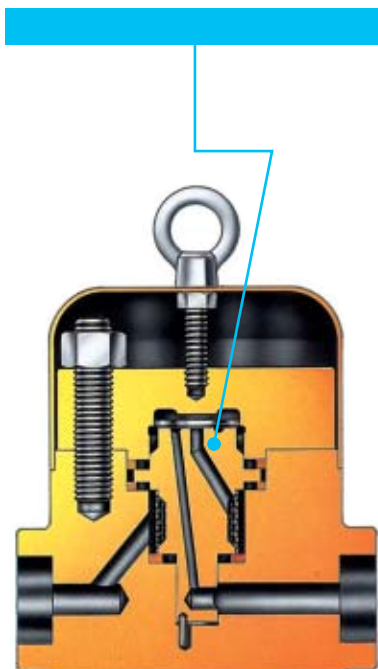


Conventional valve discs are rough ground or even slit to prevent air-binding; they waste steam by leaking and causing no-load actuation. With the bimetal ring, the valve disc can be lapped, not ground, and mirror-polished to a high tolerance. The resulting tight seal saves steam and lengthens the operation cycle for greatly extended service-life.



Replaceable Module





Many TLV traps have a replaceable module to facilitate inline replacement.

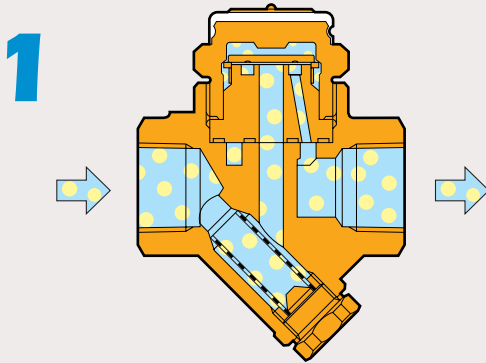


Thermodyne Principles: A Look Inside the Standard-Setters

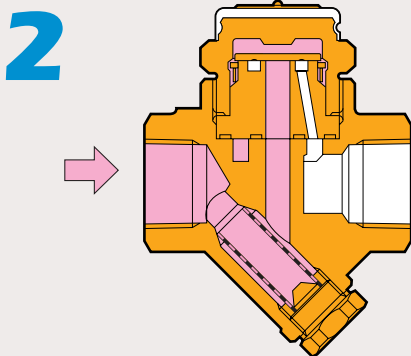
Thermodyne traps with bimetal air vent ring

How they operate

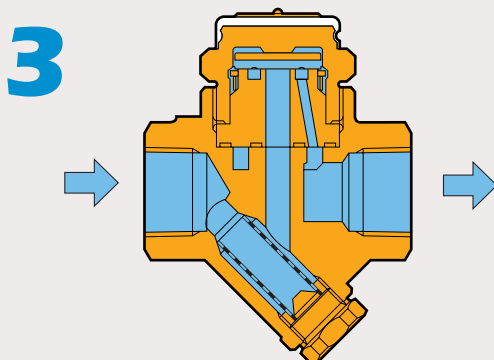
- | | | | |
|---|-----------------|---|-------|
|  | Cold condensate |  | Air |
|  | Hot condensate |  | Steam |



At start-up, the bimetal ring holds the disc up until air and cold condensate have been discharged.



Entering hot condensate expands the bimetal and frees the disc. Steam flow creates a low-pressure region under the disc, which suctions it onto the seat. Also, pressure in the pressure chamber forces the disc down, closing the valve tightly. An air or steam jacket insulates the pressure chamber from the radiant heat loss that could cause no-load actuation from the drop in pressure.

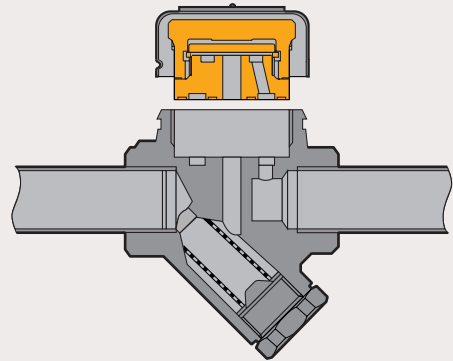


Condensate enters and lowers the steam pressure in the pressure chamber, allowing the inlet pressure to push the disc up and discharge the condensate. Entering flash steam then closes the trap, as in (2).

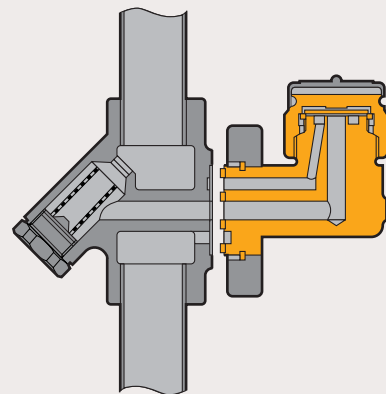
Thermodyne traps with inline-replaceable module

Different types available

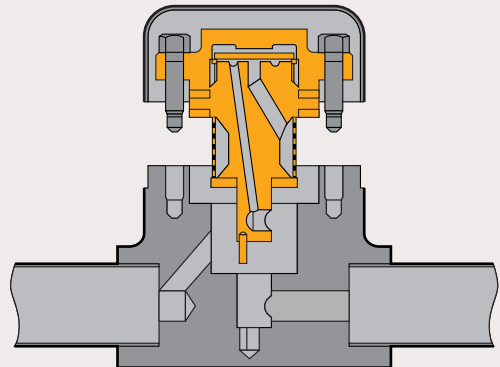
A Series and P46SRN Traps have a "drop in" module design for standard use on pressures up to 6.5 MPaG.



FP Series Traps use a "2 bolt" universal module design for standard use on pressures up to 3.2 MPaG.












HR Series Traps use a "draw bolt" module design for tightest sealing on pressures up to 26 MPaG.



Whichever design is needed, TLV's inline-repairable traps will improve profits through energy and installation savings.

Select the Correct Thermodyne Trap for Low Maintenance and High Performance

A wide variety of Thermodyne traps are available in all temperature and pressure ranges, to effectively drain condensate from steam mains and tracer lines. Choose the model that fits your needs, from low- to supercritical-pressure applications.

Thermodyne Models		Operating Press. Range MPaG	Max. Operating Temp. °C	Protection from Ambient Temperatures	Air Venting	Body Material
A3N (S, F)*	** 	0.03 - 1.57	220	Steam Jacket	Bimetal	15-25(S) Malleable Cast Iron (A47Gr.32510) 32-50(S), 15-50(F) Cast Iron (A126 CL.B)
P21S (S)*		0.025 - 2.1	425	Air Jacket		Stainless Steel (AISI420)
P46SS (S)*		0.025 - 4.6	425	Air Jacket	Bimetal	Stainless Steel (AISI420)
P46SRN (S, F, W)*	** 	0.03 - 4.6	425	Air Jacket	Bimetal	Carbon Steel (A105)
FP32 (S, F, W)*	** 	0.025 - 3.2	350	Air Jacket	Bimetal	Trap: Stainless Steel (AISI420) Connector Body: Cast Stainless Steel (A351 Gr.CF8)
A46S A46SW A65S (S, F, W)*	** 	0.03 - 4.6 0.03 - 6.5	425	Air Jacket	Bimetal	Carbon Steel (A105) A46SW: Cast Steel (A216 Gr.WCB)
HR80A (F, W)*	** 	0.8 - 8.0	475	Air Jacket	Bimetal	Cro-Mo Alloy Steel (A182 Gr.F22)
HR150A (F, W)*	** 	1.6 - 15	550	Air Jacket		Cro-Mo Alloy Steel (A182 Gr.F22)
HR260A (W)*	** 	1.6 - 26	550	Air Jacket		Cro-Mo Alloy Steel (A182 Gr.F22)

* Letters in brackets show pipe connections available: S = screwed, F = flanged, W = socket welded

** Model with replaceable module

Full details can be found on individual SDS's.

Local regulations may restrict the use of this product to below the conditions quoted. Contact your **TLV** representative or your regional **TLV** office for further details.

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is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001/ISO 14001

