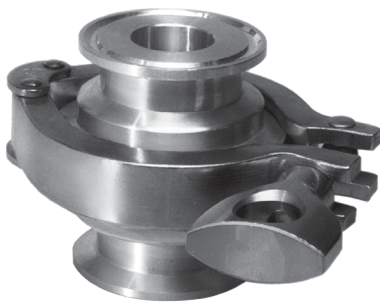




## YARWAY SANITARY THERMOSTATIC STEAM TRAPS ST600 SERIES



### APPLICATIONS

- CIP/SIP System Condensate Drainage
- Sterilization of Process Vessels
- Culinary Steam
- Humidifiers
- WFI System Sterilization
- Fermenter Sterilization

### TECHNICAL DATA

Maximum Operating Pressure (PMO): 100 psig (6.9 barg)

Maximum Operating Temperature (TMO): 338°F (170°C)

Maximum Allowable Pressure (PMA): 150 psig (10.3 barg)

Maximum Allowable Temperature (TMA): 366°F (186°C)

Mechanical Surface Finish (standard): <20 μ in. Ra internal <32 μ in. Ra external

Electropolish Surface Finish (optional): 13 μ in. Ra internal 20 μ in. Ra external

Gasket approvals: FDA  
USDA  
USP Class VI  
3A Sanitary Standard  
NSF

Options: Electropolish Finish  
SLR Orifice  
PTFE-steel, PTFE,  
EPDM and other gasket materials available  
Sensitive bellows for low subcool

### FEATURES

- **Steepest Interior Surfaces** - Designed to completely drain without puddling.
- **Stainless Steel Body** - Body material is 316L Stainless steel with 20 μ in. Ra internal and 32 μ in. Ra external. Electropolish option available.
- **Self-Centering Valve** - Leak-tight shut off. Assembly of actuator and valve to impingement plate allows the valve to self align with center of the orifice.
- **Temperature-Sensitive Actuator** - One moving part. 316L Stainless steel, fail open, welded actuator for maximum corrosion, thermal and hydraulic shock resistance.
- **Directional Discharge** - Erosion prevented by directing discharge to center of piping.
- **Maintenance** - Can be easily removed and disassembled for sterilization or repair.
- **Industry Standard Food Grade Gasket** - White Viton® food grade gasket offers superior performance for higher pressure steam applications.
- **Large Orifice Selection** - Broad selection of orifice sizes provides greatest sizing and selection flexibility.
- **Superior Air Handling** - Best air handling capability provides for fast startup.
- **Unique SLR Orifice Option** - Provides drainage at saturated temperatures, instant reaction to load changes and guaranteed fail-open operation for extra critical operations.
- **Bar Stock** - Connection fittings are not welded onto inlet and outlet pieces.

# YARWAY SANITARY THERMOSTATIC STEAM TRAPS

## ST600 SERIES

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### SPECIFICATION

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Steam trap shall be of balanced pressure design with Inconel® welded bellows capable of releasing condensate within 10°F (5.5°C) of saturated temperature. Trap shall utilize sanitary body clamp allowing disassembly for inspection or cleaning, and be entirely self-draining when installed in vertical configuration. Trap end connections shall be standard tri-clamp. Thermostatic actuator shall employ a conical valve lapped to the seat. A minimum of three orifices shall be available. Traps shall have SLR orifice where drainage at saturated temperatures is required.

#### Service Notes

Trap is designed to be self-draining for vertical installation (discharge down).

- ½ to ¾" service trap should be installed with ¾" inlet gasket.
- 1 to 1½" service trap should be installed with 1½" inlet gasket.

#### SLR Orifice Option

Specify when immediate elimination of condensate and improved sensitivity is desired. A 1/32" orifice at the apex of the valve allows for continuous discharge of condensate. Trap will nominally pass 50 lb/hr (22.7 kg/h) of condensate at 50 psi (3.4 bar) within 2°F (1.1°C) of saturated temperature.

#### Bellow Options

A - Standard

B - Sensitive - 3°F (1.7°C) subcool for sensitive applications under 45 psi (3.1 bar).

### OPERATION

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Thermal actuator is filled at its free length with a liquid having a lower boiling point than water. On start-up, valve is normally open to discharge air, non-condensables and condensate. When steam enters trap, thermal actuator fill vaporizes to a pressure higher than line pressure. This forces valve into seat orifice to prevent any further flow. As condensate collects, it takes heat from the actuator, lowering internal pressure. Line pressure will then compress thermal actuator to open valve and discharge condensate. Valve opening automatically adjusts to load conditions from minimum on very light loads to full lift at maximum load.

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## ST600 SERIES

### MAXIMUM CAPACITY—LBS/HR AT 10°F BELOW SATURATION (KG/HR AT 5.5°C BELOW SATURATION)

Trap	Orifice (In.)	Differential Pressure, psig (barg)										
		5 (0.34)	10 (0.7)	20 (1.4)	30 (2.1)	40 (2.8)	50 (3.4)	60 (4.2)	70 (4.9)	80 (5.6)	90 (6.2)	100 (6.9)
ST620	5/32	291 (132)	411 (186)	581 (264)	719 (326)	831 (377)	919 (417)	1000 (454)	1075 (488)	1130 (513)	1174 (533)	1207 (547)
ST630	1/4	550 (249)	825 (374)	1210 (549)	1495 (678)	1750 (794)	1975 (896)	2175 (987)	2350 (1066)	2525 (1145)	2650 (1202)	2825 (1281)
ST640	5/16	861 (391)	1217 (552)	1722 (781)	2150 (975)	2475 (1123)	2722 (1235)	2940 (1334)	3125 (1417)	3290 (1492)	3450 (1565)	3575 (1622)

### DIMENSIONS

Service	Dimensions, In. (mm)			Weight, Lbs (kg)
	A	B	C	
1/2" - 3/4"	2 1/2 (63.5)	2 5/8 (66.7)	63/64 (25)	1.8 (0.8)
1" - 1 1/2"	2 1/2 (63.5)	2 5/8 (66.7)	1 63/64 (50.4)	2.3 (1.0)

### MATERIALS OF CONSTRUCTION

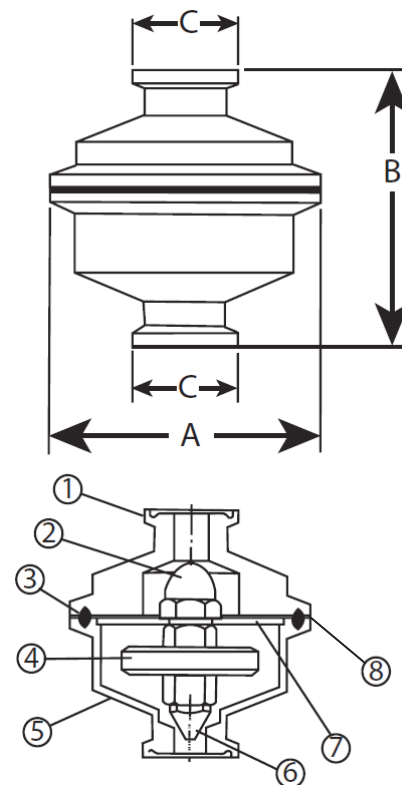
Item	Part Name	Material
1	Body - Inlet	316L Stainless steel
2	Actuator Nut	316L Stainless steel
3	Gasket	EPDM, Viton®, PTFE or PTFE-steel
4	Actuator	316L Stainless steel
5	Body - Outlet	316L Stainless steel
6	Valve	316L Stainless steel
7	Clamp (not shown)	304 Stainless steel
8	Centering Plate	316L Stainless steel

### HOW TO ORDER

- Select Orifice Size:  
5/32", 1/4" or 5/16"
- Select Service Size:  
1/2"-3/4" or 1"-1 1/2"
- Select Bellows Type:  
Standard (A), Sensitive (B), Standard SLR, Sensitive SLR
- Select Gasket Type:  
EPDM, Viton®, PTFE or PTFE-steel
- Select Finish:  
Mechanical, Electropolish (EP)

### NOTE

Please specify if Material Test Reports (MTR) or Certificates of Conformance (COC) are required.



CONNECTIONS: TRI-CLAMP

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