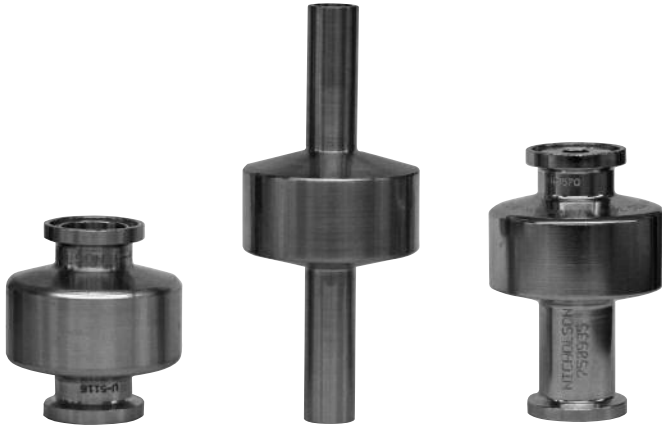


# DS100/DS110 THERMOSTATIC STEAM TRAPS

Pressures To 150 PSIG (10.3 barg)  
Temperatures to 366°F (186°C)



## APPLICATIONS

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

## APPLICABLE CODES

- ASME BPE

Canadian Registration # 0E0591.9C

**Stainless Steel Body**—Body materials of all models are Type 316L Stainless Steel.

**Self Centering Valve**—Leak tight shut off. Assembly of actuator and valve to impingement plate allows valve to self-align with center of valve seat orifice. Provides long lasting valve and seat.

**Temperature Sensitive Actuator**—316L Stainless welded actuator for maximum corrosion, thermal and hydraulic shock resistance. One moving part.

**Thermal and Hydraulic Shock Resistant**—Impingement plate plus welded construction prevents damage to actuator.

**Long Life Valve and Seat**—Stainless steel valve and seat matched together for water tight seal.

**Maintenance**—All models are sealed and maintenance free.

**Directional Discharge**—Erosion prevented by directing discharge into the center of pipe or tubing.

**Best Air Handling Capacity**—Fast start up and operation.

**Fast Response**—Quickly adjusts to condensate load or temperature changes.

**One Size Suits Most Services**—Universal hygienic clamp fits both 1/2" and 3/4" piping.

**Two Year Guarantee**—Trap guaranteed for two years against defects in material or workmanship.

## MODELS

- DS100—Hygienic Clamp end 1 $\frac{1}{8}$ " OAL
- DS100TE—Tube end
- DS110—Hygienic Clamp end 2 $\frac{5}{8}$ " OAL

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

## OPERATION

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-condensibles 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 thermal 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.

# DS100/DS110 THERMOSTATIC STEAM TRAPS

## SPECIFICATION

Steam trap shall be thermostatically actuated and maintenance free. Actuator shall be of single piece, fail open design consisting of 1.2" diameter, welded 316L stainless plates capable of releasing condensate within 5°C (10°F) of saturated pressure. Trap shall be constructed entirely of 316L stainless steel components with wetted body surfaces finished to 20 μ inch (0.5 μm) Ra or better. Trap shall be self draining when installed vertically in piping systems. Trap shall have tube or universal hygienic clamps. Ferruled connections shall be Tri-clamp compatible and designed to fit both 1/2" and 3/4" service. Trap shall be guaranteed against defects for 2 years.

### MAXIMUM OPERATING CONDITIONS

PMO: Max. Operating Pressure	150 psig	(10.3 barg)
TMO: Max. Operating Temperature	366°F	(170°C)
PMA: Max. Allowable Pressure	300 psig*	(20.7 barg)
TMA: Max. Allowable Temperature	500°F*	(260°C)

\*May be limited by rating of utilized end connection.

### MATERIALS OF CONSTRUCTION

Body– Inlet.....	A276 316L
Actuator.....	316L
Body – Outlet.....	IA276 316L
Valve.....	316L

### BODY SURFACE FINISH

Internal <20 μ in. (0.5 μm) Ra SFC1. External <32 μ in. (0.75 μm) Ra. Optional mechanical polishing to 10 μ in. (0.25 μm) Ra and/or electropolish SFC4

### SERVICE NOTES

Trap is designed to be self draining for vertical installation (discharge down). 1/2" - 3/4" ferrule service trap should be installed with 3/4" inlet gasket.

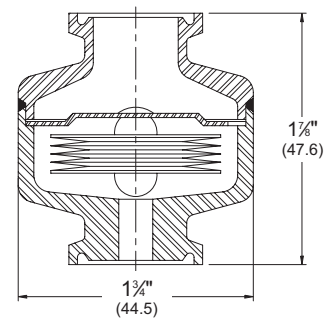
### SLR ORIFICE OPTION

Specify when immediate elimination of condensate and improved sensitivity is desired. An orifice on the valve allows for continuous discharge of condensate. Trap will nominally pass 50 lb/hr (22.7 kg/hr) of condensate at 50 psi (3.4 barg) within 0.5°C (1°F) of saturated temperature.

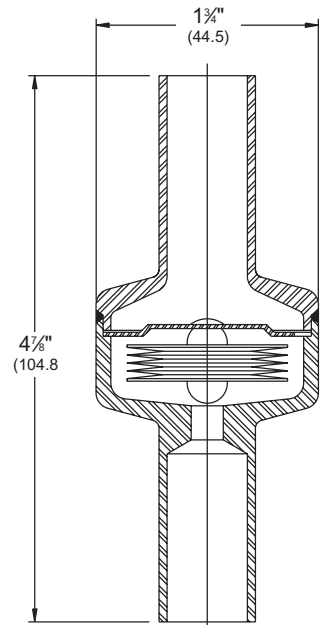
### CHECK VALVE OPTION

The DS110 can be provided with an in-line check valve, which replaces the standard tri-clamp gasket on the outlet of the trap. The body material is PTFE, the o-ring is FDA VITON and the spring is 316 SS. The cracking pressure is 0.125 PSI (+/- 15%). Contact factory for other check valve options.

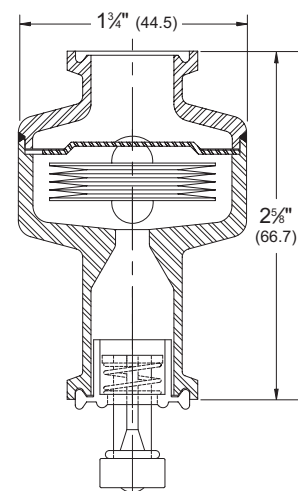
Maximum Capacity—lbs/hr 10°F Below Saturation (Kg/hr 5°C Below Saturation)		Differential PSIG (bar)												
Trap	Orifice Inches	5	10	20	30	40	50	60	70	80	90	100	125	150
		(0.34)	(0.7)	(1.4)	(2.1)	(2.8)	(3.4)	(4.2)	(4.9)	(5.6)	(6.2)	(6.9)	(8.62)	(10.3)
DS100	1/4	550 (249)	825 (374)	1210 (549)	1495 (678)	1750 (794)	1975 (896)	2175 (987)	2350 (1066)	2525 (1145)	2650 (1202)	2825 (1281)	3140 (1424)	3425 (1554)



DS100 HYGIENIC CLAMP CONNECTION  
1/2" & 3/4"  
w eight .4 lbs (0.18)



DS100TE TUBE CONNECTION  
(1/2" & 3/4")  
w eight .4 lbs (0.18)



DS110 HYGIENIC CLAMP CONNECTION (3/4")  
w eight .4 lbs (0.18)  
Shown with optional Check Valve

Connections: 1/2" – 3/4" Tube