

CDS SANITARY THERMOSTATIC STEAM TRAPS

Pressures to 100 PSIG (6.7 barg)
Temperatures to 338°F (170°C)



Applications

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

Options

- MP - Mechanical Polish to 10 Ra
- EP - Electropolish
- SLR - SLR Orifice

Canadian Registration # 0E0591.9

Steepest Interior Surfaces—Designed to completely drain without puddling, even in screwed lines.

Stainless Steel Body—Body Material is 316L Stainless Steel with 20 µ in. Ra internal finish and 32 µ in. Ra external finish. Available with mechanical polishing to 10 µ in. Ra and/or electropolish.

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. Inconel, 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 and/or repair.

Three Year Guarantee—Guaranteed for three years against defects in material or workmanship.

Food Grade Gasket—White Viton food grade gasket offers superior performance for higher pressure steam applications.

Large Orifice Selection—Broad selection of orifice sizes provide 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.

Models

- CDS202—Low capacity
- CDS203—Medium capacity
- CDS204—High capacity

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 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.

CDS SANITARY THERMOSTATIC STEAM TRAPS

Typical Specification

Steam trap shall be of balanced pressure design with inconel welded bellows capable of releasing condensate within 10°F of saturated pressure. All other interior wetted components shall be of 316L stainless. It shall have interior body finish of at least 20 μ in. Ra and exterior body finish of at least 32 μ in. Ra. 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. Traps shall be guaranteed against defects for 3 years.

Maximum Operating Conditions

PMO: Max. Operating Pressure 100 psig (6.9 barg)
TMO: Max. Operating Temperature 338°F (170°C)
PMA: Max. Allowable Pressure 150 psig (10.3 barg)
TMA: Max. Allowable Temperature 366°F (186°C)

Body Surface Finish

<20 μ in. Ra internal
<32 μ in. Ra external
optional mechanical polishing to 10 μ in. Ra and/or electropolish

Gasket Approvals

FDA, USDA, USPH,
3A Sanitary Standard, NSF

Service Notes

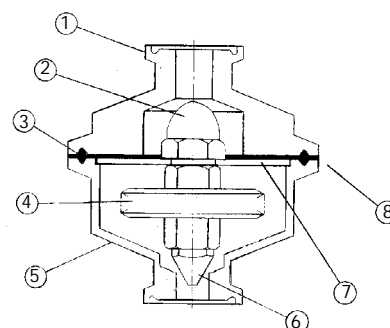
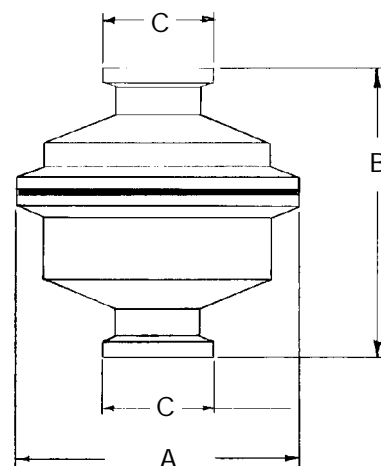
Trap is designed to be self draining for vertical installation (discharge down).

1/2" - 3/4" service trap should be installed with 3/4" inlet gasket.

1" - 1 1/2" service trap should be installed with 1 1/2" 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 of condensate at 50 psi within 2°F of saturated temperature.



Connections: 1/2" - 1 1/2" Tri-clamp

Dimensions

Service	inches (mm)			Weight Lbs. (kg)
	A	B	C	
1/2", 3/4"	2 1/2	2 5/8	63/64	1.8
1", 1 1/2"	2 1/2	2 5/8	1 63/64	2.3

Materials of Construction

Item	Part Name	Material
1	Body - Inlet	316L
2	Actuator Nut	316L
3	Gasket	Viton
4	Actuator	Inconel
5	Body - Outlet	316L
6	Valve	316L
7	Clamp (not shown)	304
8	Centering Plate	316L

Maximum Capacity—lbs/hr 10°F Below Saturation (Kg/hr 5°C Below Saturation)

Trap	Orifice Inches	Differential PSIG (bar)										
		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)
CDS 202	5/32	291 (132)	411 (186)	581 (264)	719 (326)	831 (377)	919 (417)	1000 (454)	1075 (488)	1130 (513)	1174 (533)	1207 (547)
CDS 203	1/4	550 (249)	825 (374)	1210 (549)	1495 (678)	1750 (794)	1975 (896)	2175 (987)	2350 (1066)	2525 (1145)	2650 (1202)	2825 (1281)
CDS 204	5/16	861 (391)	1217 (552)	1722 (781)	2150 (975)	2475 (1123)	2722 (1235)	2940 (1334)	3125 (1417)	3290 (1492)	3450 (1565)	3575 (1622)

For Kg/Hr Multiply by .454