

## CDS SANITARY THERMOSTATIC STEAM TRAPS

Pressures to 100 PSIG (6.9 barg)  
Temperatures to 338°F (170°C)

**Steepest Interior Surfaces** - Designed to completely drain without puddling.

**Stainless Steel Body** - Body Material is 316L Stainless Steel with 20  $\mu$  in. Ra internal finish and 32  $\mu$  in. Ra external finish. Available with electropolish polishing to 10  $\mu$  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. 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 and/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 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 fail-open operation for extra critical operations.

**Bar Stock** - Connection fittings are not welded onto inlet and outlet pieces.



### Applications

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

### Options

- EP - Electropolish
- SLR - SLR Orifice
- Tef-Steel, PTFE, E.P.D.M., & other gasket materials available
- B Bellows for low subcool

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

Canadian Registration # OE0591.9

## 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

## 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.

### 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

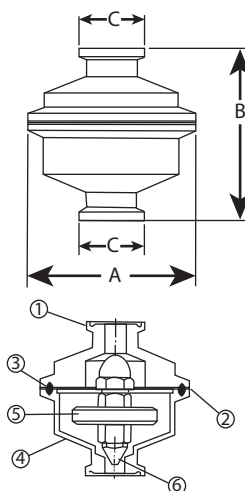
Mechanical Polishing results in 20 micro in. Ra internal, 32 micro in. Ra External is standard.  
Electropolish results in 13 micro in. Ra internal, 20 micro in. Ra External.

### Gasket approvals

FDA, USDA, USPH Class 6, 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.



Connections: 1/2" – 1 1/2" Tri-clamp

Service	Dimensions inches (mm)			Weight Lbs. (kg)
	A	B	C	
1/2", 3/4"	2 1/2	2 5/8	6 3/64	1.8
1", 1 1/2"	2 1/2	2 5/8	1 6 3/64	2.3

Materials of Construction		
Item	Part Name	Material
1	Body – Inlet	316L
3	Gasket	Viton
5	Actuator (Bellows Assy)	316L
4	Body – Outlet	316L
6	Valve	316L
2	Clamp (not shown)	304

### Polishing procedure

All surface finishes are achieved without the use of additional buffing, compounds or grit.

### 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.

### B bellow

3°F subcool for sensitive applications under 45 psi

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

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