

# Sanitary Steam Traps

**Model: BTCS**

## SANITARY STEAM TRAPS

The BTCS Series is a bellows type, thermostatic steam trap with sanitary connections. Designed specifically for clean steam systems, it features a 20Ra internal finish, and a self-draining design, to minimize the possibility of medium entrapment and bacterial growth.

The improved configuration of the BTCS Series has been specifically designed to provide higher flow rates at low pressures and low subcooling levels. In lab testing, the BTCS has exhibited excellent flow rates at subcooling levels of only 3°F (-16°C).

Two designs are featured in the BTCS Series – the standard BTCS0 is good for differential pressures up to 65 psi (4,5 bar) and the BTCS1, for differential pressures ranging from 50 - 90 psi (3,4 - 6,2 bar).

During start-up, the bellows assembly is fully open to discharge all air, non-condensable gases and cool condensate. The heat of the entering steam causes the element to expand, closing the valve. As condensate accumulates in the body, the element cools, causing the ball stem tip to retract from the seat and allow condensate to drain.



## ORDERING SCHEMATIC

MODEL				6	7	8
B	T	C	S			

6	PRESSURE RATING
0	10 - 65 psi (0,7 - 4,5 bar)
1	50 - 90 psi (3,4 - 6,2 bar)

7	SIZE
2	1/2"
3	3/4"
4	1"

8	END CONNECTION
1	FNPT
T	Tri-Clamp
U	Tube End (inch)



**BESTOBELLSTEAM**

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## SANITARY STEAM TRAPS

### SPECIFICATIONS

Size: 1/2", 3/4", 1" (DN15, DN20, DN25)

#### End Connections

- Standard – sanitary clamp ends (Tri-Clover™)
- Optional – tube weld ends, DIN/ISO, threaded

#### Maximum Operating Conditions:

- Maximum Operating Pressure (PMO): 90 psig (6,2 bar)
- Maximum Allowable Temperature (TMA): 350°F (177°C)

#### Design Pressure/Temperature Rating:

- Maximum Allowable Pressure (PMA): 145 psig (10,0 bar)
- Maximum Allowable Temperature (TMA): 350°F (177°C)

#### Maximum Recommended Differential Pressure:

- BTCS0: 10 - 50 psi (0,7 - 3,4 bar)
- BTCS1: 50 - 90 psi (3,4 - 6,2 bar)

### MATERIALS

Body Inlet/Outlet: 316L Stainless Steel

Thermal Element: 316L Stainless Steel

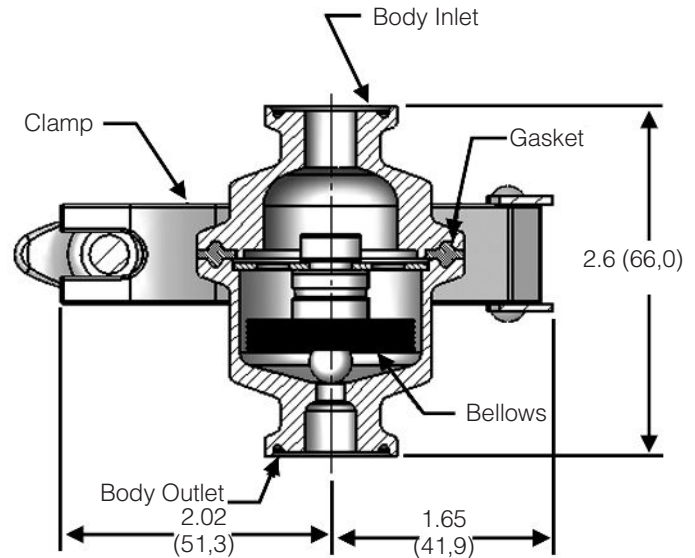
O-Ring: Viton, Teflon Encapsulated (FDA approved)

Clamp: 304 SST

### APPLICATIONS

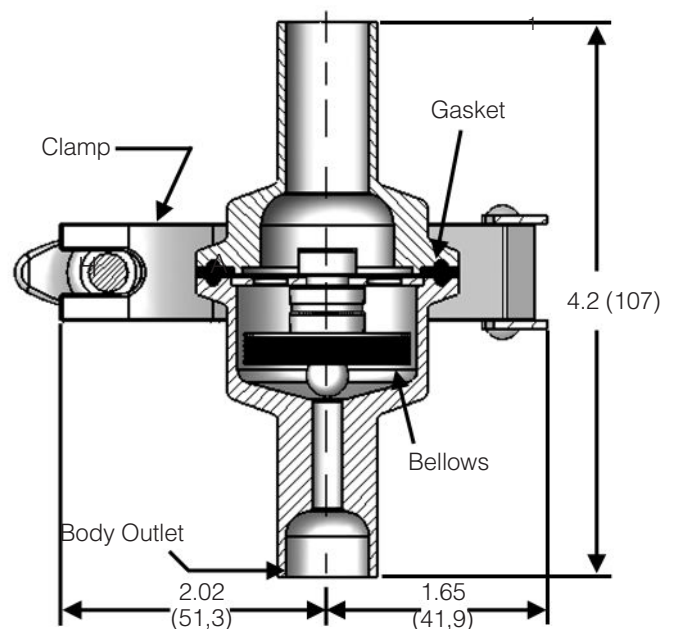
- Typical applications include: fermenters, bioreactors, sterilizers/autoclaves, SIP/CIP systems, process piping equipment and steam barriers
- Condensate drainage from clean steam distribution loops
- Condensate drainage from process systems using clean steam – fermenters, bioreactors, SIP systems and sterilizers

### TRI-CLAMP ENDS DIMENSIONS

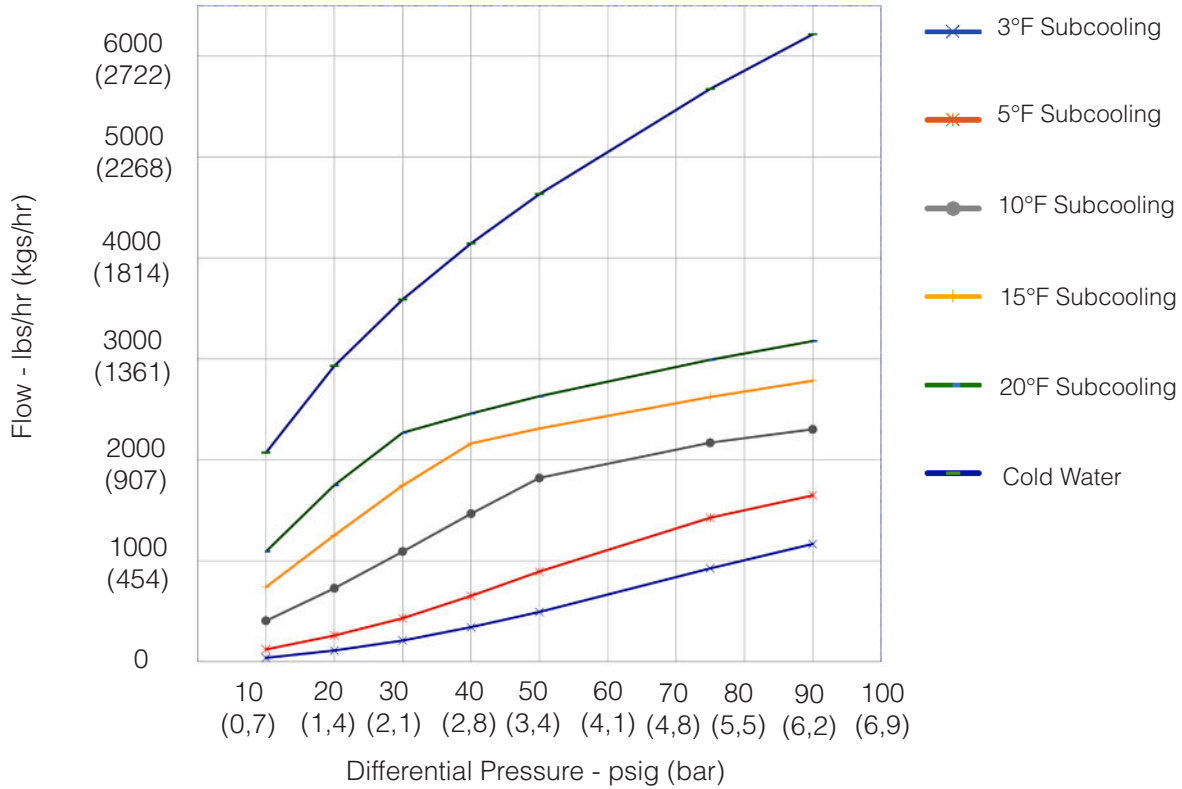


Weight 1.3 lbs (0,59 kgs)

### TUBE WELD ENDS DIMENSIONS



Weight 1.5 lbs (0,68 kgs)

**BTCS CAPACITY VS. DIFFERENTIAL PRESSURE - LBS/HR (KGS/HR)**


Capacity @ DP and degrees subcooling:

Diff. Pres. Psi	Diff. Pres. Bar	Sub-cool °F	Flow lb/hr	Flow Kgs/Hr
10	0,7	3	37.37	16,95
20	1,3	3	110.14	49,95
30	2,0	3	210.34	95,41
40	2,7	3	342.09	155,17
50	3,4	3	491.93	223,14
75	5,2	3	925.61	419,85
90	6,2	3	1165.23	528,54
10	0,7	5	122.11	55,39
20	1,3	5	259.07	117,51
30	2,0	5	431.33	195,65
40	2,7	5	650.20	294,93
50	3,4	5	893.07	405,01
75	5,2	5	1425.17	646,45
90	6,2	5	1647.50	747,29
10	0,7	10	405.86	184,10
20	1,3	10	727.90	330,17
30	2,0	10	1091.54	495,11
40	2,7	10	1465.67	664,82
50	3,4	10	1821.27	826,11
75	5,2	10	2169.49	984,10
90	6,2	10	2301.66	1044,02

Capacity @ DP and degrees subcooling:

Diff. Pres. Psi	Diff. Pres. Bar	Subcool °F	Flow lb/hr	Flow Kgs/Hr
10	0,7	15	739.76	335,55
20	1,3	15	1251.19	567,53
30	2,0	15	1746.36	792,14
40	2,7	15	2161.12	980,27
50	3,4	15	2309.29	1047,48
75	5,2	15	2623.53	1190,01
90	6,2	15	2784.86	1263,19
10	0,7	20	1091.71	495,20
20	1,3	20	1747.69	792,74
30	2,0	20	2268.00	1028,75
40	2,7	20	2459.61	1115,66
50	3,4	20	2629.82	1192,87
75	5,2	20	2991.12	1356,75
90	6,2	20	3176.75	1440,95
10	0,7	Cold Water	2071.83	939,77
20	1,3	Cold Water	2930.01	1329,03
30	2,0	Cold Water	3588.52	1627,73
40	2,7	Cold Water	4143.66	1879,53
50	3,4	Cold Water	4632.76	2101,38
75	5,2	Cold Water	5673.94	2573,66
90	6,2	Cold Water	6215.50	2819,30