

# CONQUEROR "C" SERIES THERMOSTATIC STEAM TRAPS

**Pressures To 300 PSIG (21 barg)  
Temperatures to 500°F (260°C)**



## APPLICATIONS

- Unit Heaters
- Pipe Coils
- Blast Coils
- Steam Mains
- Dry Kilns
- Jacketed Kettles
- Hot Water Heaters
- Dryers (all types)
- Large Heat Exchangers

## OPTIONS *See page 9*

- SLR - SLR Orifice
- SW - Socketweld
- HC - High capacity orifice

Canadian Registration #0E0591.9

**Freeze Proof** — When installed with horizontal inlet and vertical outlet.

**Renewable In-line** — Renew trap in-line with factory packaged precision matched internal parts, replacement kits.

**Compact** — Requires minimum space while providing condensate capacities equal to larger mechanical traps.

**Superior Performance** — Maximum air handling capability. Immediate response to changing pressure and condensate loads. No adjustment necessary.

**Sensitivity** — Increased when installed on side with cover perpendicular to ground.

**Temperature Sensitive Actuators** — One moving part, stainless steel, fail open or closed, welded actuator provides maximum sensitivity, corrosion and thermal & hydraulic shock resistance.

**Guaranteed** — Guaranteed against defects in materials or workmanship for 3 years.

## MODELS

- **C33**-1/2" angle pattern trap
- **C43**-3/4" angle pattern trap
- **C53**-1" angle pattern trap
- **C63**-1-1/4" angle pattern trap
- **C73**-1-1/2" angle pattern trap
- **C83**-2" angle pattern trap

CS models are the same as above in cast steel.

\*Add (-HC) to end of model number for high capacity.

## OPERATION

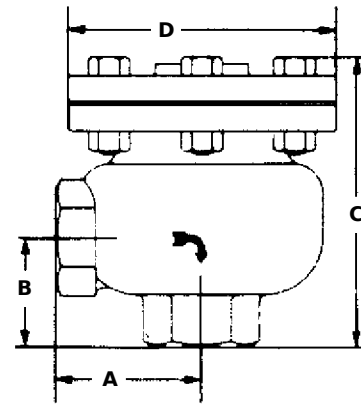
Thermal actuator is filled at its free length with a liquid having a lower boiling point than water. On start-up, valve is normally open. When steam enters trap, thermal actuator fill vaporizes to a pressure higher than line pressure. This forces valve into seat orifice to prevent any further flow.

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.

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## SPECIFICATION

Steam trap shall be of balanced pressure design with stainless steel, welded actuator capable of discharging condensate within 10°F of saturated temperature. Where greater sensitivity is required or protection from flash steam locking, a SLR orifice shall be available to allow condensate and flash steam evacuation at or near saturated temperatures. Thermostatic actuator shall employ a conical valve lapped in matched sets with the seat ring assuring tight shut off. Trap shall be cast iron or cast steel bodied suitable for pressures to 250 psig and available in 1/2" through 2" NPT.



**TYPE C & CS**

**Connections:  
1/2"-2" NPT or Socketweld**

### MAXIMUM OPERATING CONDITIONS

**Type C**  
 PMO: Max. Operating Pressure 250 psig (17.2 barg)  
 TMO: Max. Operating Temperature 450°F (232°C)  
 PMA: Max. Allowable Pressure 250 psig (17.2 barg)  
 TMA: Max. Allowable Temperature 450°F (232°C)

**Type CS**  
 PMO: Max. Operating Pressure 300 psig (20.7 barg)  
 TMO: Max. Operating Temperature 500°F (260°C)  
 PMA: Max. Allowable Pressure 300 psig (20.7 barg)  
 TMA: Max. Allowable Temperature 500°F (260°C)

### MATERIALS OF CONSTRUCTION

Body & Cover: Type C ... Cast Iron ASTM A278 Class 30  
 Type CS Cast Steel ASTM A216 Grade WCB  
 Actuator: .....Welded Stainless Steel  
 Cover Gasket: .....Graphite  
 Valve & Seat: .....Hardened 416 Stainless Steel

Dimensions							
Trap	Pipe Size inches	Inches (mm)				Weight lb (kg)	
		A	B	C	D	Type C	Type CS
C33	½	2⅞ (67)	1⅜ (46)	4⅝ (125)	4½ (114)	8.3 (3.8)	8.6 (3.9)
C43	¾	2⅞ (70)	2⅞ (52)	5⅞ (138)	5⅞ (129)	11.1 (5.0)	13 (5.9)
C53	1	3½ (89)	2⅞ (71)	6⅞ (154)	5⅜ (148)	17.8 (8.1)	19.6 (8.9)
C63	1¼	3½ (89)	2⅞ (71)	6⅞ (154)	5⅜ (148)	17.5 (8.0)	19.3 (8.8)
C73	1½	5 (127)	3¾ (95)	8¾ (213)	7¾ (197)	39.1 (17.8)	39.2 (17.8)
C83	2	5 (127)	3¾ (95)	8¾ (213)	7¾ (197)	39 (17.7)	31.1 (14.1)

Maximum Capacity—lbs/hr 10°F Below Saturation (Kg/hr 5°C Below Saturation)																
Trap	Pipe Size Orifice		Differential PSIG (barg)													
	Inch	Inches (mm)	1 (.07)	2 (.14)	5 (0.34)	10 (0.7)	20 (1.4)	50 (3.5)	100 (6.9)	125 (8.6)	150 (10.3)	175 (12.1)	200 (13.8)	225 (15.5)	250 (17.2)	300* (20.7)
C33, CS33	½	3/8 (10)	985 (448)	1390 (632)	2180 (991)	3070 (1395)	3735 (1698)	5040 (2291)	6645 (3070)	7315 (3325)	7560 (3436)	8045 (3657)	8200 (3727)	8615 (3916)	8915 (4052)	9220 (4191)
C43, CS43	¾	7/16 (11)	1460 (664)	2055 (934)	3240 (1473)	4560 (2073)	5550 (2523)	7480 (3400)	9865 (4484)	10850 (4932)	11225 (5102)	11935 (5425)	12165 (5530)	12770 (5805)	13225 (6011)	13685 (6220)
C53, CS53 C63, CS63	1, 1¼	1/2 (12)	1825 (830)	2575 (1170)	4050 (1841)	5700 (2591)	6925 (3148)	9350 (4275)	12340 (5609)	13565 (6166)	14030 (6377)	14920 (6782)	15230 (6923)	15960 (7255)	16540 (7518)	17120 (7782)
C73, CS73 C83, CS83	1½, 2	3/4 (19)	2760 (1255)	3890 (1768)	6120 (2782)	8610 (3914)	10470 (4759)	14125 (6420)	18660 (8482)	20520 (9327)	21235 (9652)	22580 (10264)	23015 (10461)	24190 (10995)	25055 (11389)	25915 (11780)
C73HC, C83HC	1½, 2	1-1/4 (32)	3555 (1616)	5030 (2286)	7950 (3614)	11240 (5109)	15900 (7227)	25140 (11427)	33000 (15000)	—	—	—	—	—	—	—

\*CS Series Only.

C available with screwed connections only. CS available with screwed or socketweld connections.