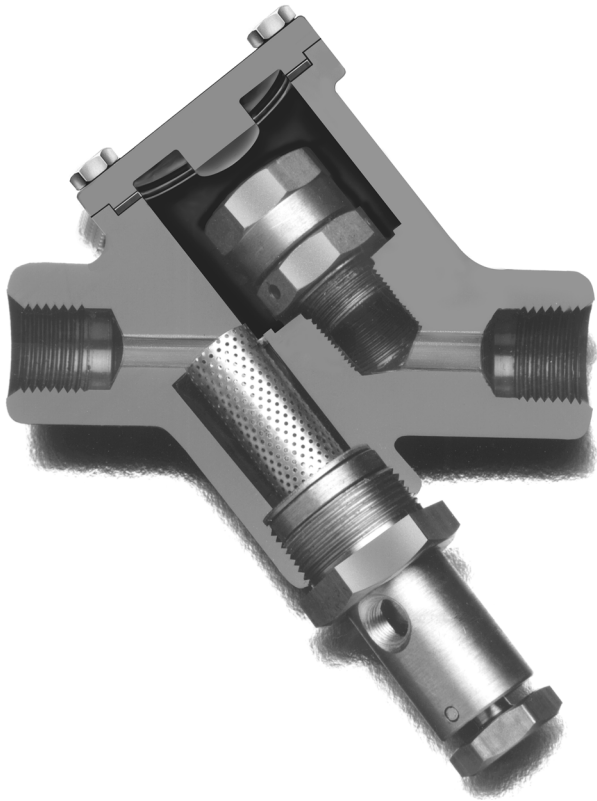


# S650 SERIES THERMO-ACTIVE STEAM TRAP

Pressures To 600 PSIG (41.3 barg)  
Temperatures to 800°F (427°C)



SHOWN WITH OPTIONAL BLOWDOWN VALVE

## Applications

- Steam Tracing
- Drips
- Heating

## Options

- B - Blowdown Valve
- SW - Socketweld Connections

Canadian Registration # 0E0591.9

**Space Saving** — Design incorporates a built-in strainer and optional blowdown valve. Eliminates four connections and four fittings.

**Improved Energy Savings** — Lowers steam waste due to steam jacketing. Trap cycling is unaffected by ambient temperatures.

**Non-violent Discharge** — Soft discharge which is unique in a steam trap of this type.

**Easily Maintained** — Completely renewable without disturbing piping connections by removing cover, unscrewing and replacing Celtron® cartridge. Celtron® replacement cartridges are packaged individually with cover and gaskets in a protective bag. Optional blowdown valve permits easy strainer cleaning while in service.

**Freeze Proof** — When mounted vertically or on its side horizontally.

**Low in Cost** — Purchase and maintenance costs are low.

## Models

- **S650**—Y pattern body with screen and blowdown port tapped and plugged
- **S650L**—Low capacity on S650

**Celtron®**  
plastic-packed  
replaceable cartridge  
for fast and simple  
replacement



## Operation

Incoming air and condensate flow through the trap body and into the Celtron® cartridge. Line pressure raises the disc off the seat allowing complete discharge. When flashing condensate enters the cartridge, flow velocity increases, creating low pressure underneath the disc. Flashing condensate at high velocity strikes the inside wall of the disc chamber and is deflected to the top of the disc causing a

pressure buildup. The disc is forced down onto the seat by this pressure imbalance. The trap remains closed as steam in the jacket prevents exposure of the Celtron® cartridge to ambient temperatures. Pressure inside the cap is not lowered until the trapped flash vapor condenses. Condensing steam lowers the pressure above the disc. Disc is then lifted and the cycle repeated.

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## Typical Specification

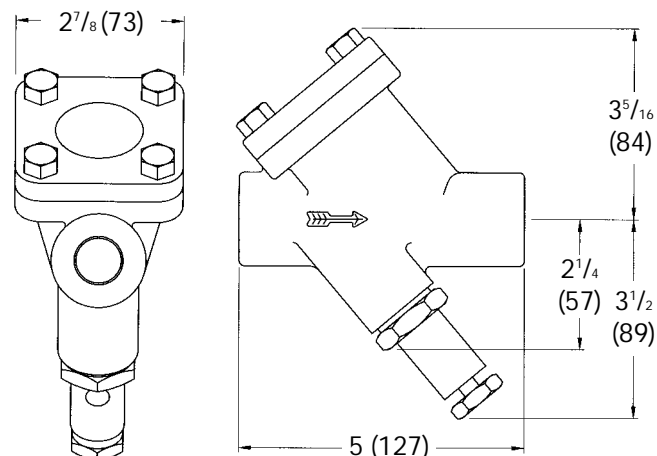
Steam trap shall be of thermodynamic capsule design. Body shall be of forged carbon steel construction housing stainless steel Celtron capsule. Celtron capsule shall contain all working components. Capsule shall be hardened throughout. Seat shall be stress relieved to eliminate warpage. Trap shall contain integral Y pattern strainer with available blow-down valve. Cover shall seal to body utilizing spiral wound graphite gasket. Trap shall be suitable for pressures through 600 psi and available in 1/2"-3/4" NPT.

## Maximum Operating Conditions

PMO: Max. Operating Pressure	600 psig	(41.3 barg)
TMO: Max. Operating Temperature	800°F	(426°C)
PMA: Max. Allowable Pressure	650 psig	(44.8 barg)
TMA: Max. Allowable Temperature	800°F	(426°C)

## Materials of Construction

Body & Cover:	ASTM A105 Forged Steel
Celtron Cartridge:	416 Stainless Steel w/hardened disc & seat.
Cover Gasket:	347 stainless spiral wound w/graphite fill
Strainer:	.033 perf. 304 Stainless Steel
Blowdown Valve:	416 Stainless Steel



**DIMENSIONS IN INCHES (MM)**  
**SHOWN WITH OPTIONAL BLOWDOWN VALVE**  
**WEIGHT: 5 LBS. (2.3 KG)**

Connections:  
 1/2" or 3/4" NPT or socketweld

Maximum Capacity—lbs/hr 10°F Below Saturation (Kg/hr 5°C Below Saturation)										
Trap	Differential PSIG (barg)									
	5 (0.34)	10 (0.7)	25 (1.7)	50 (3.5)	75 (5.2)	100 (6.9)	200 (13.8)	300 (20.7)	400 (27.6)	600 (41.3)
S650L	105	150	235	330	395	435	550	630	690	790
S650	240	265	420	590	700	770	980	1120	1240	1400

For Kg/Hr Multiply by .454