

Thermodynamic Steam trap

Type
BTD



Description

The thermodynamic steam trap is one of the most popular steam trap design. It's popularity is mainly based on an efficient, robust and high performance design in relation to it's extremely small physical size.

Composed only 5 parts, the BTD type is simple to maintain with a very low purchase cost.

This steam trap is highly recommended for applications such as tracing, main distribution drains, small process loads or as part of OEM packages.

Characteristics

Size ½ to 1"

Screwed BSP or flanges PN25/40 (other connection on request)

Body and cover are in stainless steel in ASTM A-743 Gr CA40

Disc in AISI 420

Design PN 63

Maximum Operating Pressure : 42 bar (600 PSI)

Maximum Operating Temperature : 427°C (800°F)

How to order ?

Thermodynamic Steam trap type BTD ½ BSP

Specific features

This steam trap is designed for easy and economical maintenance. By simply replacing the disc, this steam trap is again ready to do his job. Protected by a Y strainer, the BTD is very robust and if installed horizontally, will have a very good life time. The BTD is highly resistant to super heated steam and should not be affected by water hammer.

Operating principle

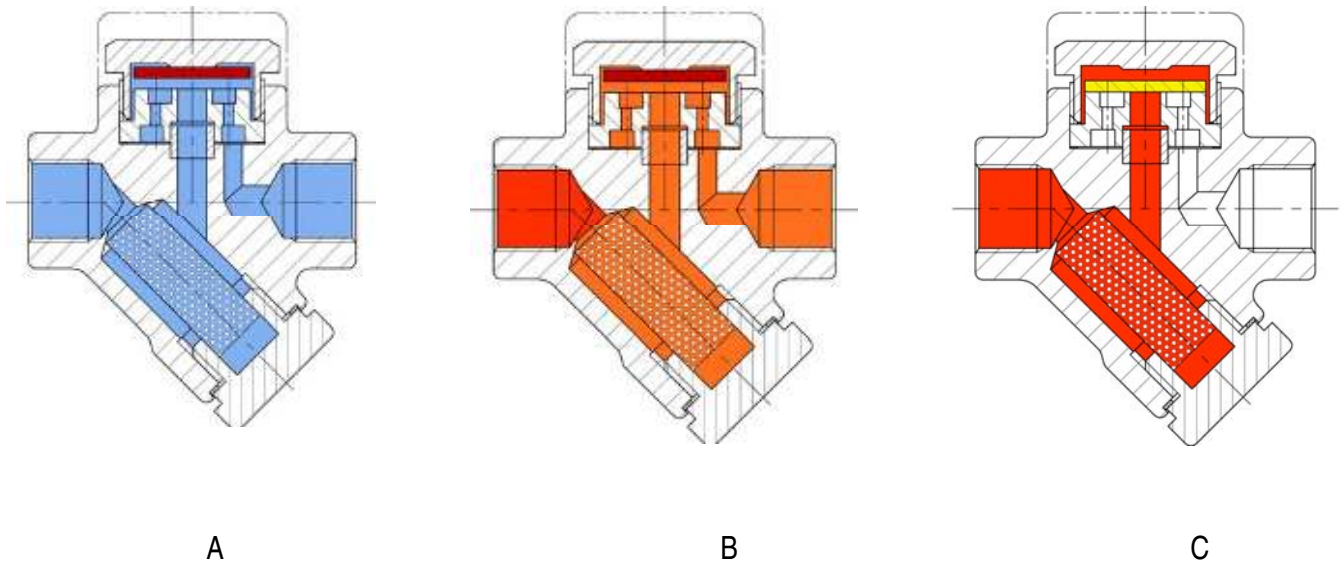
Essentially, a thermodynamic steam trap is a cyclic device which responds to imbalances of pressure applied to a valving device, which we call the disc.

During the start up, the pressure caused by air or condensate lifts the disc permitting flow through the trap (A).

This trap discharges air, condensate and all other non condensable gases. When the seat and disc see saturated steam or flashing condensate the steam velocity will pull the disc onto the seat (B).

The flashing velocity creates an unpressurised area under the disc which will pull the disc onto the seat. At the same time, the pressure above the disc, created by the increased volume, from the flash steam, increases and will push the disc onto the seat. These two forces together close the trap and keeps him close (C).

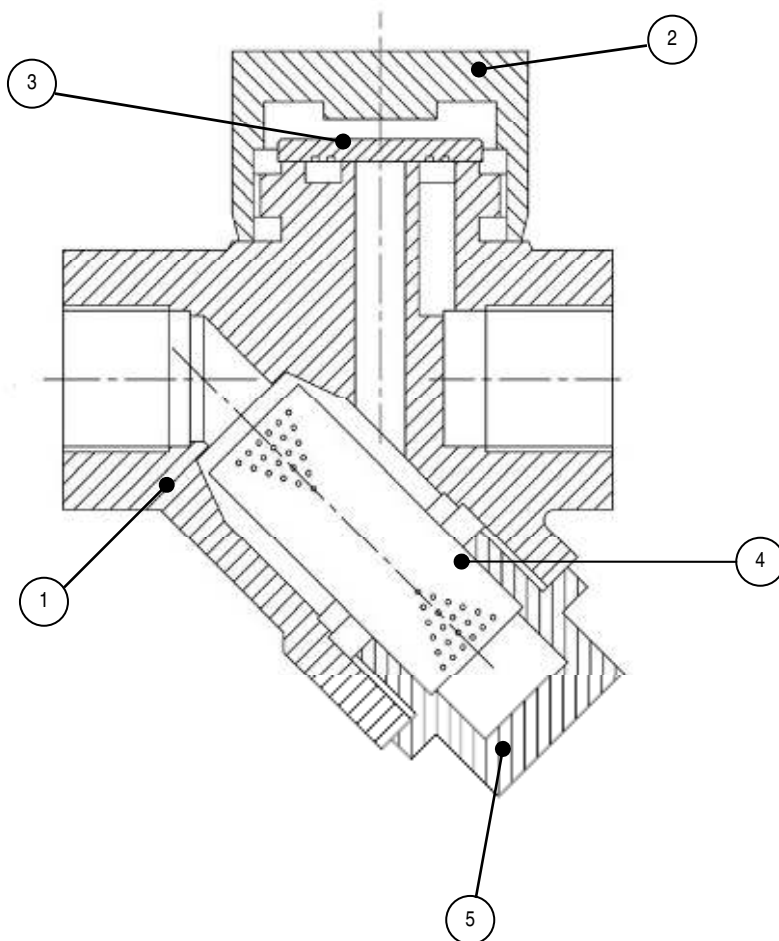
When the flash steam above the disc starts to condense, the back pressure start to decrease and when the condensate pressure is applied under the disc, is enough to lift the disc, the trap opens again and the cycle can restart.



Due to the thermodynamic traps design, the chamber may be prematurely cooled by the extremes, causing improper or frequent cycling which could result in steam loss and increased wear.

BTD design can be supplied a steam jacket which surrounds the chamber and prevents ambient conditions affecting the operation of the disc.

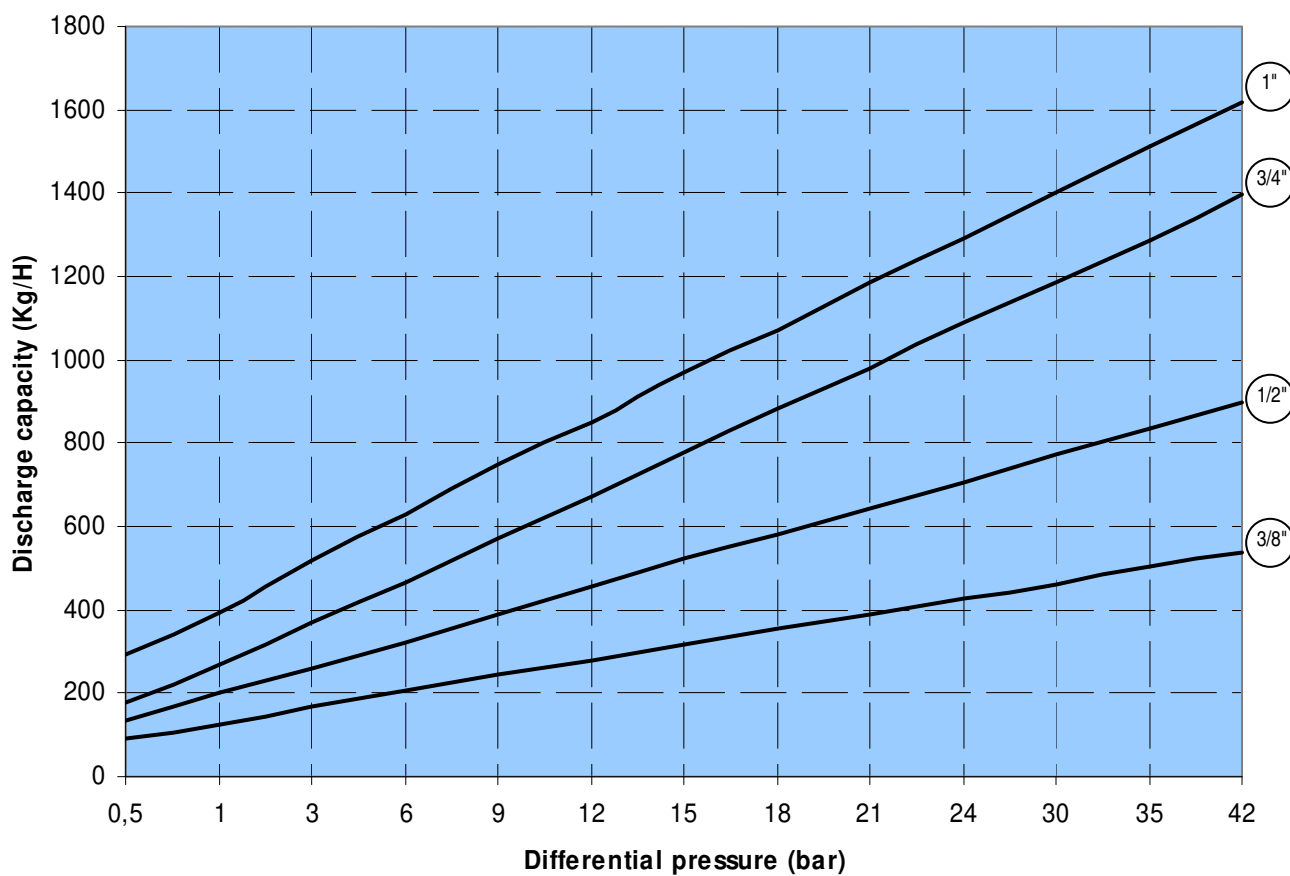
Description



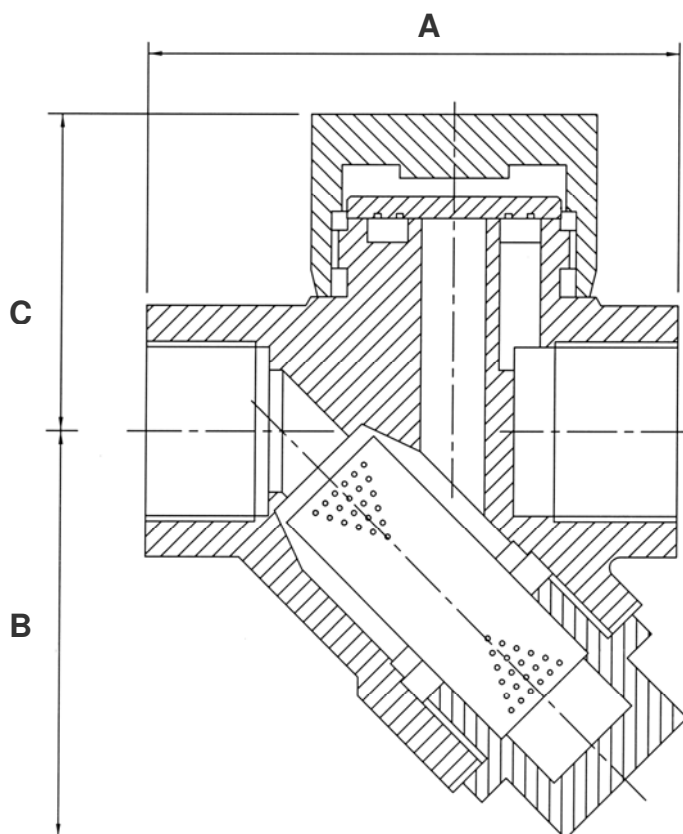
Rep.	Designation	Matérials
1	Body	ASTM A743 CA40F (420F)
2	Cover	ASTM A743 CA40F (420F)
3*	Disc	AISI 420
4*	Strainer screen	AISI 304
5	Plug	ASTM A743 CA 40F (420F)

* Spares available in Kit

Flow chart



Dimensions



DN	A		B	C	Weight (Kg)	
	Screwed	Flanged			Screwed	Flanged
½" ou 15	80	150	60	47	1	2.5
¾" ou 20	80	150	60	47	1.2	3.3
1" ou 25	100	160	65	51	1.8	4.4