

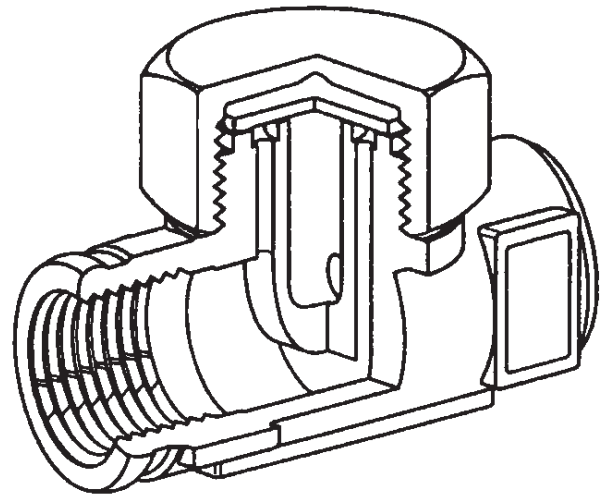


Thermodynamic Steam Trap TDC

Description

The Thermodynamic steam trap cycles periodically to discharge condensate very near to steam temperature. It is unaffected by waterhammer or superheat.

Model	TDC
PMO	600 psi g (41 bar g)
Sizes	3/8", 1/2", 3/4" and 1" (DN10, DN15, DN20, and DN25)
Connections	NPT
Construction	Stainless steel



Typical applications

Steam main drainage and tracer lines, process equipment, laundry and kitchen equipment, superheated steam applications, outdoor installations subject to freezing.

Limiting operating conditions

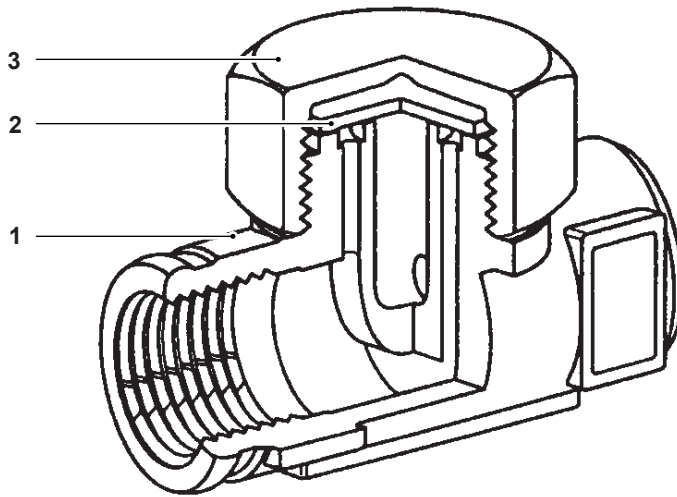
PMO Maximum Operating Pressure	600 psi g	(41 bar g)
Maximum Operating Temperature (at all operating pressures)	800 °F	(427 °C)
Minimum pressure for satisfactory operation is	3.5 psi g	(0.24 bar g)

Maximum back pressure should not exceed 80% of the inlet pressure under any conditions of operation, otherwise the trap may not shut.

Pressure shell design conditions

PMA Maximum allowable pressure	600 psi g/up to 800 °F	(41 bar g/up to 427 °C)
TMA Max. allowable temperature	800 °F/0-600 psi g	(427 °C/0-41 bar g)

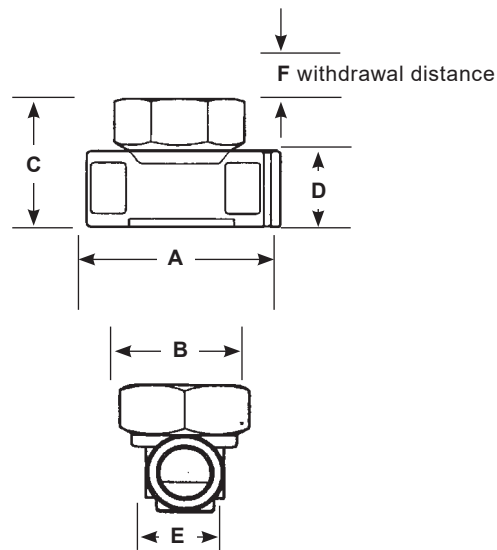
Materials



No.	Part	Material	
1	Body	Stainless steel	ASTM A743 GR. CA40
2	Cap	Stainless steel	ASTM A743 GR. CA40
3	Disc	Stainless steel	AISI 420

Dimensions/weights

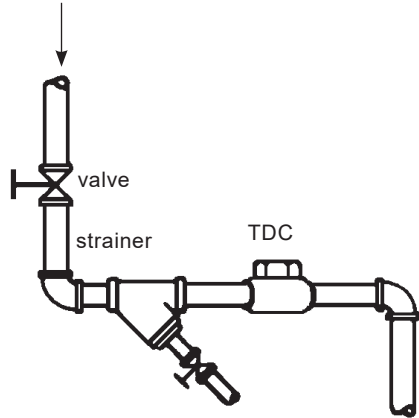
(approximate) in inches (mm) and lbs (kg)



Size	A	B	C	D	E	F	Weight
3/8" TDC	2	1.7	1.7	1	1.03	0.4	.7 lb
	(50.8)	(43.2)	(43.2)	(25.4)	(26.2)	(10.2)	(.32 kg)
1/2" TDC	2.7	1.7	2	1.2	1.24	0.4	0.9 lb
	(68.6)	(43.2)	(50.8)	(30.5)	(31.5)	(10.2)	(.41 kg)
3/4" TDC	2.8	2.1	2.4	1.5	1.56	0.4	1.8 lb
	(71.1)	(53.3)	(61.0)	(38.1)	(39.6)	(10.2)	(.82 kg)
1" TDC	3.3	2.5	2.8	1.8	1.87	0.6	2.7 lb
	(83.8)	(63.5)	(71.1)	(45.7)	(47.5)	(15.2)	(1.22 kg)

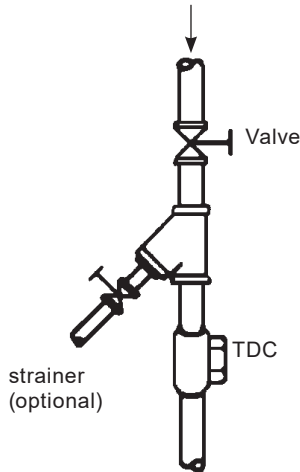
Recommended installation

From equipment being drained



Freeze resistant installation

From equipment being drained



Capacities

Pounds of condensate per hour (kg/hr) continuous discharge at saturated steam temperature to atmosphere

Inlet pressure		TDC	TDC	TDC	TDC
psi g	bar g	3/8" (DN10)	1/2" (DN15)	3/4" (DN20)	1" (DN25)
3.5	.24	180 (82)	300 (136)	405 (184)	640 (290)
5	.34	185 (84)	310 (141)	420 (191)	670 (304)
10	.69	190 (86)	345 (156)	470 (213)	725 (329)
20	1.4	200 (91)	410 (186)	560 (254)	865 (392)
30	2.1	215 (98)	465 (211)	640 (290)	980 (445)
50	3.4	245 (111)	575 (261)	810 (367)	1200 (544)
75	5.2	305 (138)	700 (317)	1000 (454)	1470 (667)
100	6.9	370 (168)	810 (367)	1160 (526)	1750 (794)
150	10.3	500 (227)	1000 (454)	1450 (658)	2200 (998)
200	13.8	610 (277)	1140 (517)	1670 (757)	2600 (1179)
250	17.2	700 (318)	1270 (576)	1900 (862)	2900 (1315)
300	20.7	790 (358)	1410 (640)	2100 (953)	3250 (1474)
350	24.1	880 (399)	1530 (694)	2250 (1021)	3500 (1588)
400	27.6	960 (435)	1630 (739)	2430 (1102)	3780 (1715)
450	31.0	1050 (476)	1730 (785)	2600 (1179)	4020 (1823)
500	34.5	1100 (499)	1830 (830)	2750 (1247)	4250 (1928)
550	37.9	1160 (526)	1910 (866)	2900 (1315)	4450 (2018)
600	41.4	1250 (567)	2000 (907)	3050 (1383)	4700 (2132)

Sample specification

Steam trap shall be all stainless steel Thermodynamic disc type with connections on a common center line, which will operate in any position. Integral seat design with hardened disc and seating surfaces. Trap to have three hole balanced discharge.

Maintenance

This product can be maintained without disturbing the piping connections. Complete isolation of the trap from both supply and return line is required before any servicing is performed.

The trap should be disassembled periodically for inspection and cleaning of the disc and seat.

The only wearing parts of the trap are the disc and seat rings, which should be inspected and cleaned periodically. Slight wear can often be corrected by resurfacing on a lapping plate.

Caution

Only perform maintenance after trap has been isolated.

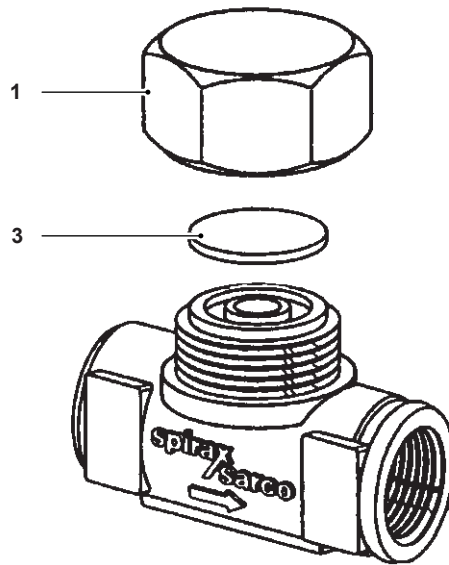
Complete installation and maintenance instructions are given in IMI 2.5162, which accompanies the product.

Installation

The preferred installation is in the horizontal position as close as possible to equipment being drained. Install strainer (20 mesh) upstream and full port isolating valves upstream and downstream of trap. Piping to and from the trap should be at least equal to or one size larger than trap connection. Do not weld pipe connection to trap. Body material is not suitable for welding.

For freeze resistant installations, all drains must be pitched toward the trap for gravity flow. Trap must be installed vertically, discharging downward. Discharge piping must be self-draining.

Spare parts



Disc	3
Cap	1