



Cert. No. LRQ 0963008

ISO 9001

spirax/sarco

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ST Issue 2

TD45 Thermodynamic Steam Trap

Description

The TD45 is an integrally flanged maintainable medium pressure thermodynamic steam trap complete with integral strainer - 100 mesh. An insulating cover is fitted as standard to prevent the trap being unduly influenced by excessive heat loss when subjected to low outside temperatures, wind, rain etc.

Sizes and pipe connections

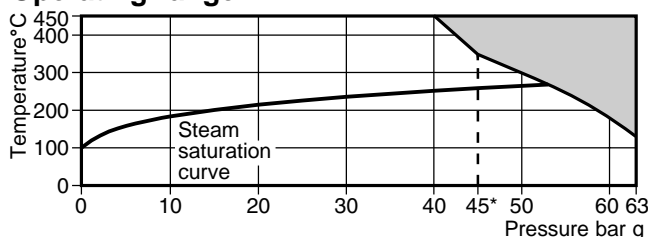
DN15 and DN20

Standard flange:- DIN 2546 PN64 and DIN 2547 PN100, ANSI 300 and ANSI 600.

Limiting conditions

Body design conditions	PN63
PMA - Maximum allowable pressure	63 bar g
TMA - Maximum allowable temperature	450°C
PMO - Maximum operating pressure	45 bar g
TMO - Maximum operating temperature	450°C
PMOB - Maximum operating back pressure 80% of upstream pressure	
Designed for a maximum cold hydraulic test pressure of 95 bar g	

Operating range



The product must not be used in this region.

* PMO Maximum operating pressure recommended for saturated steam.

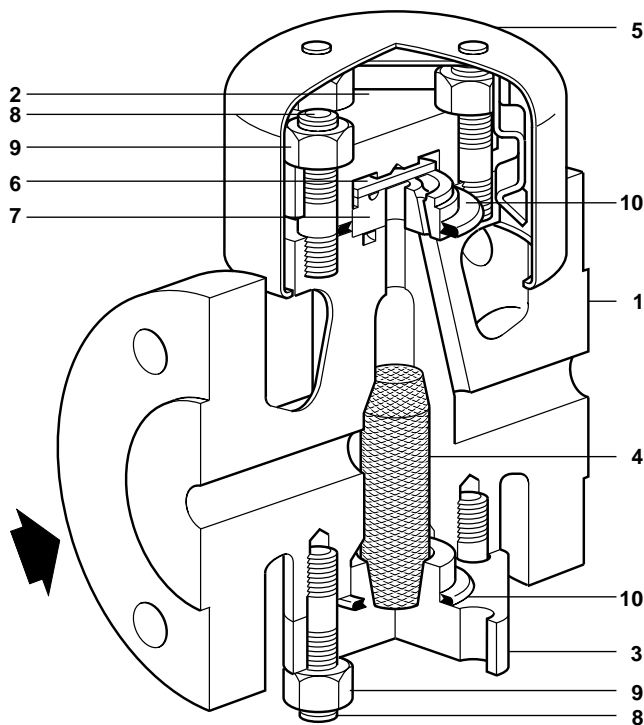
PMOB Maximum operating back pressure 80% of upstream pressure.

Note: Minimum pressure for satisfactory operation is 1.4 bar g.

Materials

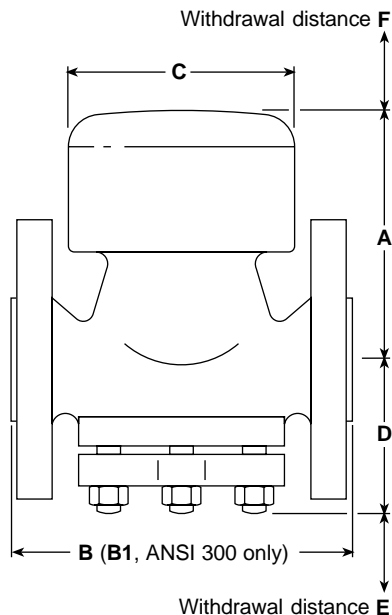
No. Part	Material	
† 1 Body	Stainless steel	ASTM A 743 CF 16 Fa
2 Top cover	Stainless steel	ASTM A 743 CF 16 Fa
3 Bottom cover	Stainless steel	ASTM A 351 CF 8
4 Strainer screen	Stainless steel 100 mesh	BS 1449 316 S11
5 Insulating cover	Stainless steel	BS 1449 304 S16
6 Disc	Chromium steel	BS 4659 Gr BD2
† 7 Seat	Chromium steel	BS 4659 Gr. BD2
8 Cover studs	Steel M10 x 35mm	BS 1506 631 850
9 Cover nuts	Steel M10	BS 1506 162
10 Cover gasket	Spirally wound stainless steel with exfoliated graphite filler	BS 1449 304 S16

† **Note:** Item 7 (seat) is vacuum brazed into item 1 (body).

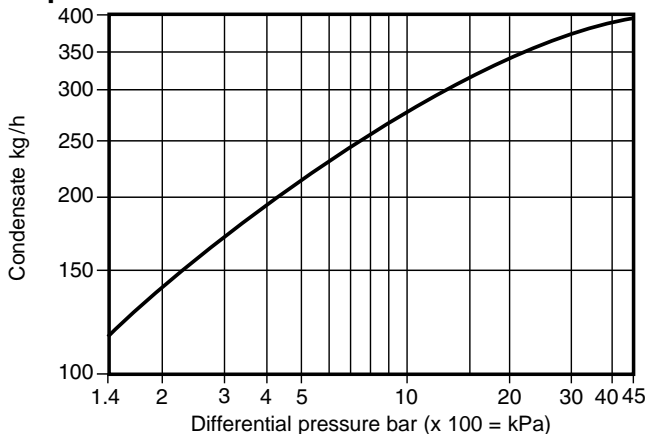


Dimensions/weights (approximate) in mm and kg

Size	ANSI 300							Weight
	A	B	B1	C	D	E	F	
DN15	112	150	135	91	69	51	52	7.6
DN20	112	150	135	91	69	51	52	7.6



Capacities



Installation

Preferably fitted in a horizontal pipe with insulating cover uppermost, but can be fitted in other positions.

After 24 hours in service the cover nuts should be checked for tightness. Separate Installation and Maintenance Instructions are supplied with each unit which give full details.

Maintenance

Before undertaking any maintenance on the trap it must be isolated from both the supply and return lines and any pressure allowed to safely normalise to atmosphere. The trap assembly should then be allowed to cool.

Warning: The body/cover gasket contains a thin stainless steel support ring which may cause physical injury if it is not handled and disposed of carefully.

How to fit the disc

Spring off the insulating cover (5), unscrew the four nuts (9A) and remove the top cover (2). Lift off the disc (6). Fit a new disc (6) making sure that the body seating surface is not unduly worn. If the body seating surface is slightly worn it can be refaced by lapping individually on a flat surface such as a surface plate. A figure of eight motion and a little grinding compound such as the Carborundum Co's compound I.F. gives the best results.

If the wear is too great to be rectified by simple lapping the seating faces on the body must be ground flat and then lapped. The total amount of metal removed in this way should not exceed 0.25 mm. Reassemble the cover using a new gasket (10) making sure that gasket faces are perfectly clean. Ensure name-plate is placed over studs prior to reassembling nuts. Spring on the insulating cover. After 24 hours in service and when reassembling, the nuts should be tightened to the recommended torque in a diagonally opposite sequence.

How to clean or replace the strainer

Access to the strainer screen can be obtained by undoing the nuts (9B) and removing the bottom cover (3). Remove strainer screen (4). Fit the new or cleaned strainer screen into the recess in the cover. A new gasket (10) should be fitted and the cover refitted. After 24 hours in service, and when reassembling, the nuts should be tightened in a diagonally opposite sequence to the recommended torque.

How to replace the cover studs

After removing the old cover studs, fit the new cover studs until the studs bottom out. The use of a thread lubricant is recommended.

How to order

Example: 1 off Spirax Sarco DN20 TD45 thermodynamic steam trap flanged to DIN 2547 PN100 with integral strainer.

Spare parts

The spare parts available are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

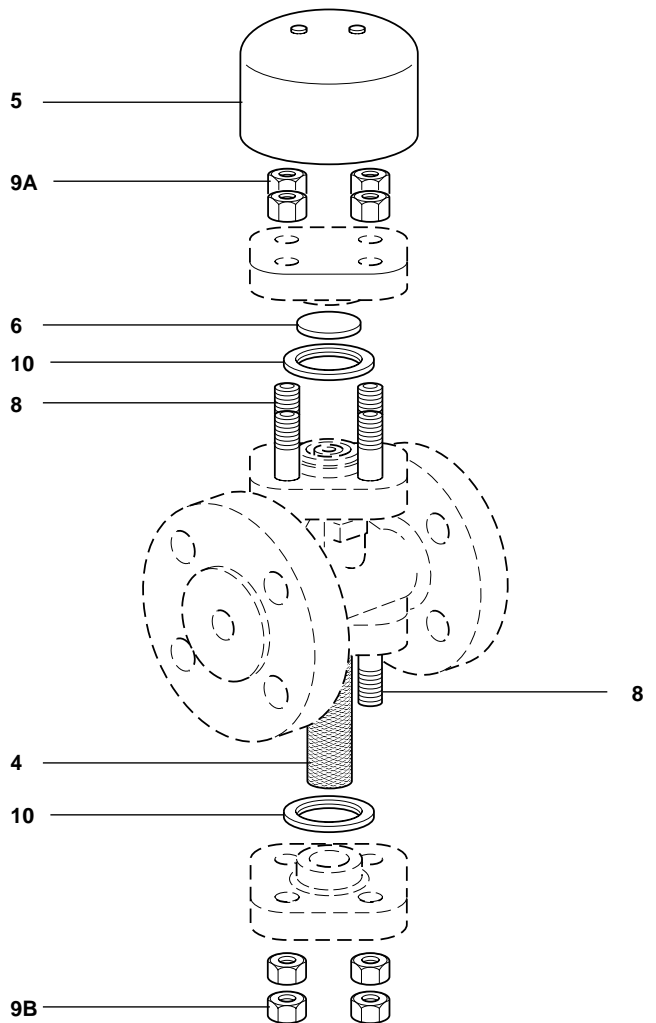
Available spares

Disc (packet of 3)	6
Strainer screen	4
Cover gaskets (2 off)	10
Set of cover studs and nuts (set of 8)	8, 9A, 9B
Insulating cover	5

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of trap.

Example: 1 - Strainer screen for a Spirax Sarco DN15 TD45 thermodynamic steam trap.



Recommended tightening torques

Item No.	or mm	N m
8	M10 x 1.5	20 - 25
9A, 9B	17	45 - 50