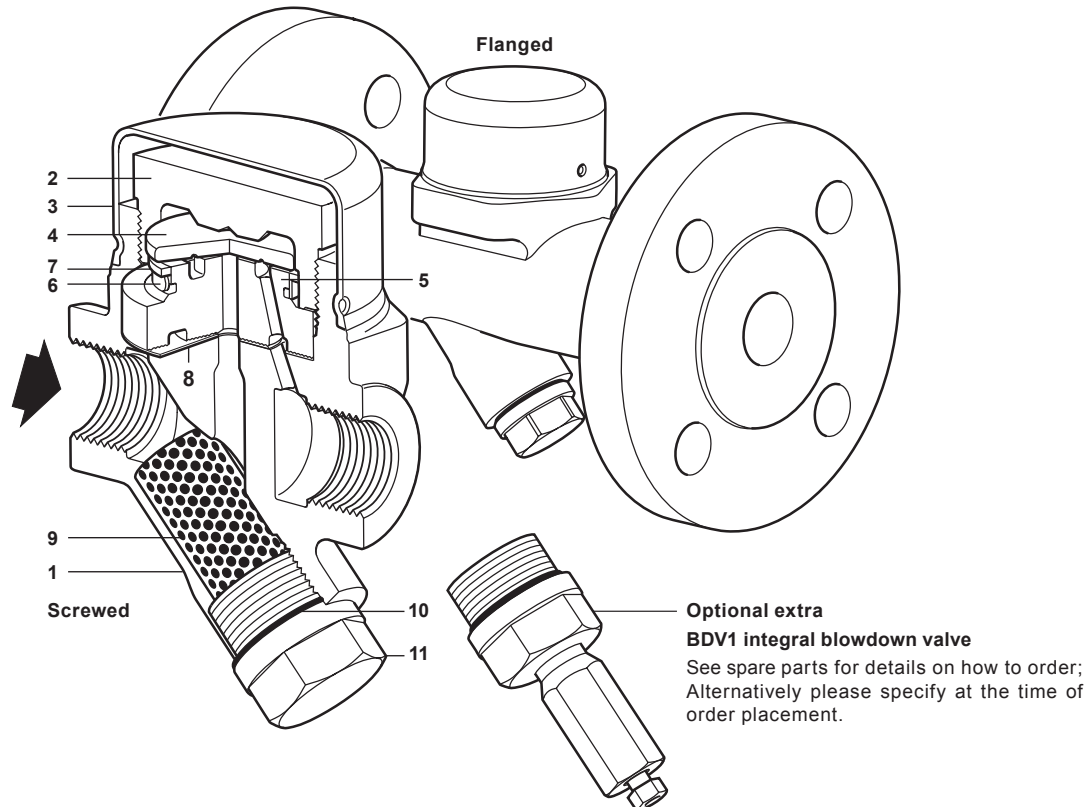


spirax sarco

TDC46M Carbon Steel Thermodynamic Steam Trap with Maintainable Seat



Description

The TDC46M is a carbon steel, thermodynamic steam trap that has been specifically designed for low capacity applications up to 667 psig (46 barg) (where pipe connections permit). As standard, the unit is available with either screwed, socket weld or flanged connections.

TDC46M benefits:

- Integral strainer.
- Integral air vent.
- Insulation cap.
- Replaceable seat for ease of maintenance.

Optional extras

At extra cost, a **BDV1** integral blowdown valve can be pre-fitted to the strainer cap, please specify at the time of order placement.

Compliance

This product fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU.

Certification

These products are available with certification to EN 10204 3.1.

Note: All certification / inspection requirements must be specified at the time of order placement.

Sizes and pipe connections

½", ¾" and 1" screwed NPT. (optional BSP)

½", ¾" and 1" socket weld ends to BS 3799 Class 3000 lb.

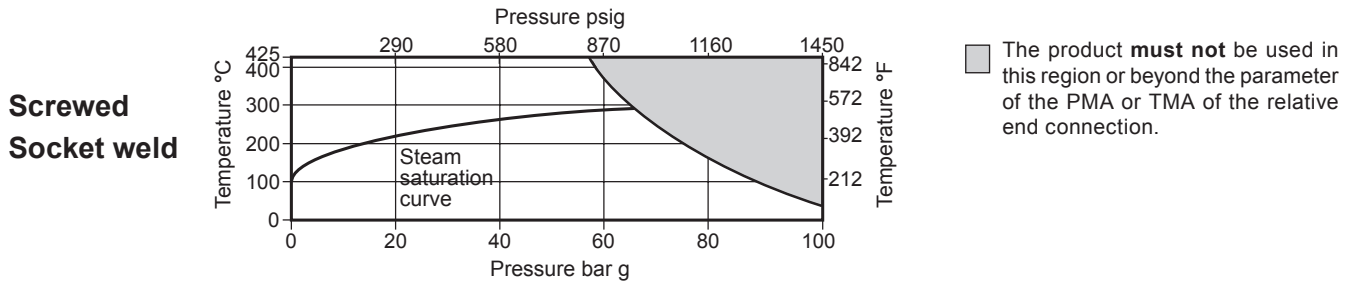
½", ¾" and 1" integrally flanged ASME Class 150, ASME Class 300 or ASME Class 600 (optional EN1092 PN40 and PN100).

Materials

No.	Part	Material	
1	Body	Carbon steel	1.0619+N/ASTM A216 WCB
2	Top cap	Stainless steel	1.4301/ASTM 479 304
3	Insulating cover	Stainless steel	EN 10088-1 1.4301
4	Disc	Hardened steel	1.2379
5	Seat	Hardened steel	1.2379
6	Bimetal ring	Bimetal	
7	Support	Stainless steel	AISI 304
8	Seat gasket	Graphite foil	
9	Strainer screen	Stainless steel	ASTM A478 316L
10	Strainer cap gasket	Stainless steel	AISI 304
11	Strainer cap	Stainless steel	1.4308/ASTM A351 CF8

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Pressure / temperature limits (ISO 6552) - Screwed and Socket weld

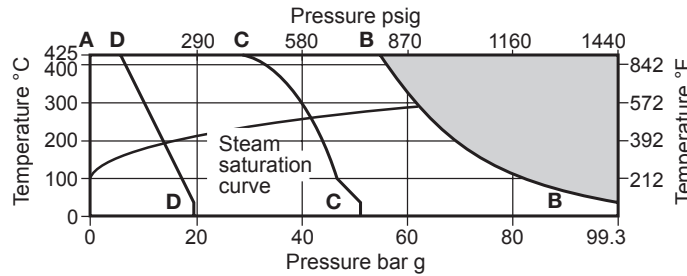


Screwed Socket weld	Body design condition	ASME Class 600 (and PN100)
	PMA Maximum allowable pressure	1450 psig @ 122°F (100 bar g @ 50°C)
	TMA Maximum allowable temperature	797°F @ 834 psig (425°C @ 57.5 bar g)
	Minimum allowable temperature	-20°F (-29°C)
	PMO Maximum operating pressure	667 psig @ 797°F (46 bar g @ 425°C)
	TMO Maximum operating temperature	797°F @ 667 psig (425°C @ 46 bar g)
	Minimum operating temperature	32°F (0°C)
	Minimum operating pressure	22 psig (1.5 bar g)
	Maximum operating backpressure	80% of upstream pressure
	Designed for a maximum cold hydraulic test pressure of:	2175 psig (150 bar g)

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Pressure / temperature limits (ISO 6552) - Flanged ASME

Flanged:
ASME Class 150
ASME Class 300
ASME Class 600



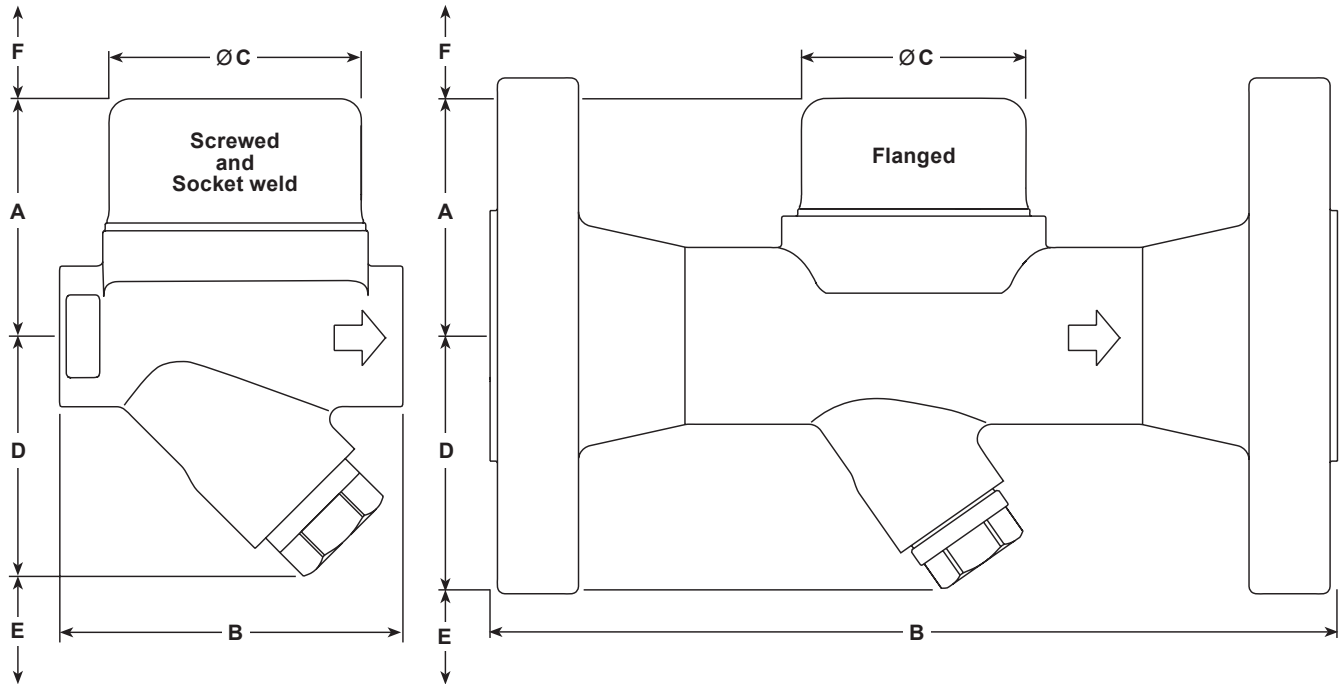
■ The product **must not** be used in this region or beyond the parameter of the PMA or TMA of the relative end connection.

	Body design condition	ASME Class 600
	PMA Maximum allowable pressure	1440 psig @ 100°F (99.3 bar g @ 38°C)
	TMA Maximum allowable temperature	797°F @ 812 psig (425°C @ 56 bar g)
	Minimum allowable temperature	-20°F (-29°C)
A - B - B ASME 600	PMO Maximum operating pressure	667 psig (46 bar g)
	TMO Maximum operating temperature	797°F @ 667 psig (425°C @ 46 bar g)
	Minimum operating temperature	32°F (0°C)
	Minimum operating temperature	22 psig (1.5 bar g)
	Maximum operating backpressure	80% of upstream pressure
	Designed for a maximum cold hydraulic test pressure of:	2161 psig (149 bar g)
	Body design condition	ASME Class 300
	PMA Maximum allowable pressure	741 psig @ 100°F (51.1 bar g @ 38°C)
	TMA Maximum allowable temperature	797°F @ 418 psig (425°C @ 28.8 g)
	Minimum allowable temperature	-20°F (-29°C)
A - C - C ASME 300	PMO Maximum operating pressure for saturated steam service	624 psig (43 bar g)
	TMO Maximum operating temperature	797°F @ 418 psig (425°C @ 28.8 bar g)
	Minimum operating temperature	32°F (0°C)
	Minimum operating temperature	22 psig (1.5 bar g)
	Maximum operating backpressure	80% of upstream pressure
	Designed for a maximum cold hydraulic test pressure of:	1111 psig (76.6 bar g)
	Body design condition	ASME Class 150
	PMA Maximum allowable pressure	284 psig @ 100°F (19.6 bar g @ 38°C)
	TMA Maximum allowable temperature	797°F @ 80 psig (425°C @ 5.5 bar g)
	Minimum allowable temperature	-20°F (-29°C)
A - D - D ASME 150	PMO Maximum operating pressure for saturated steam service	203 psig (14 bar g)
	TMO Maximum operating temperature	797°F @ 80 psig (425°C @ 5.5 bar g)
	Minimum operating temperature	32°F (0°C)
	Minimum operating temperature	22 psig (1.5 bar g)
	Maximum operating backpressure	80% of upstream pressure
	Designed for a maximum cold hydraulic test pressure of:	426 psig (29.4 bar g)

TDC46M Carbon Steel Thermodynamic Steam Trap with Maintainable Seat

Dimensions (approximate) in inches (mm)

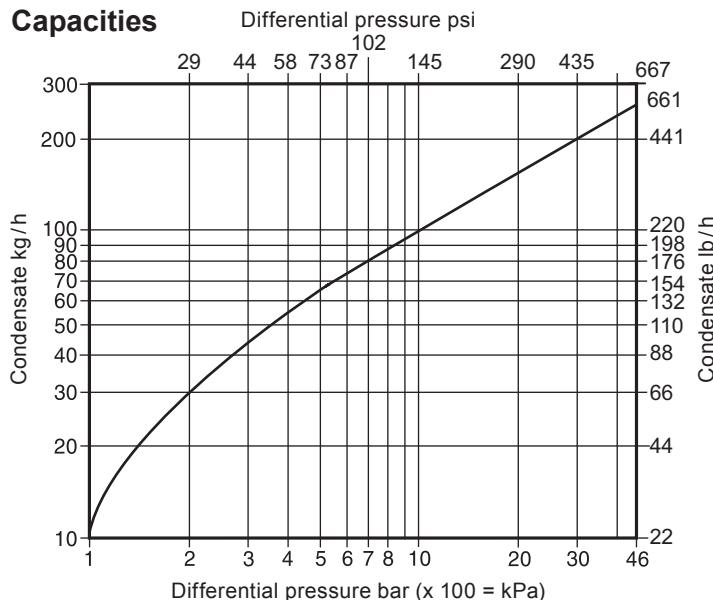
Size	A	Screwed NPT	Socket weld	B	C	D	E	F
				Flanged ASME 150, 300, 600			Withdrawal distance	Withdrawal distance
1/2"	2.3 (58)	3.1 (78)	3.1 (92)	6.0 (150)	2.4 (61)	2.3 (59)	1.6 (40)	1.2 (30)
3/4"	2.4 (61)	3.7 (95)	3.1 (92)	6.0 (150)	2.4 (61)	2.5 (63)	1.6 (40)	1.2 (30)
1"	2.6 (65)	3.7 (95)	3.1 (92)	6.0 (150)	2.4 (61)	2.6 (67)	1.6 (40)	1.2 (30)



Weights (approximate) in pounds (kg)

Size	Screwed	Socket weld	Flanged		
			ASME 150	ASME 300	ASME 600
1/2"	3.0 (1.38)	3.3 (1.49)	5.4 (2.46)	6.5 (2.96)	6.7 (3.06)
3/4"	3.6 (1.64)	3.6 (1.64)	7.0 (3.16)	9.0 (4.06)	9.4 (4.26)
1"	4.2 (1.90)	4.2 (1.90)	9.2 (4.16)	11.4 (5.16)	12.0 (5.46)

Capacities



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P187-05) supplied with the product.

Installation note:

The TDC46M is designed for installation with the disc in a horizontal plane with the insulating cover at the top.

It is recommended that a check valve is fitted when discharging condensate into return lines where backpressure is experienced.

It is recommended to install isolation valves upstream and downstream of the steam trap.

How to order

Example: 1 off Spirax Sarco 1/2" TDC46M thermodynamic steam trap having flanged ANSI 300 connections.

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Spare parts

Please note that the spares shown are the same for the screwed, socket weld and flanged versions. The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

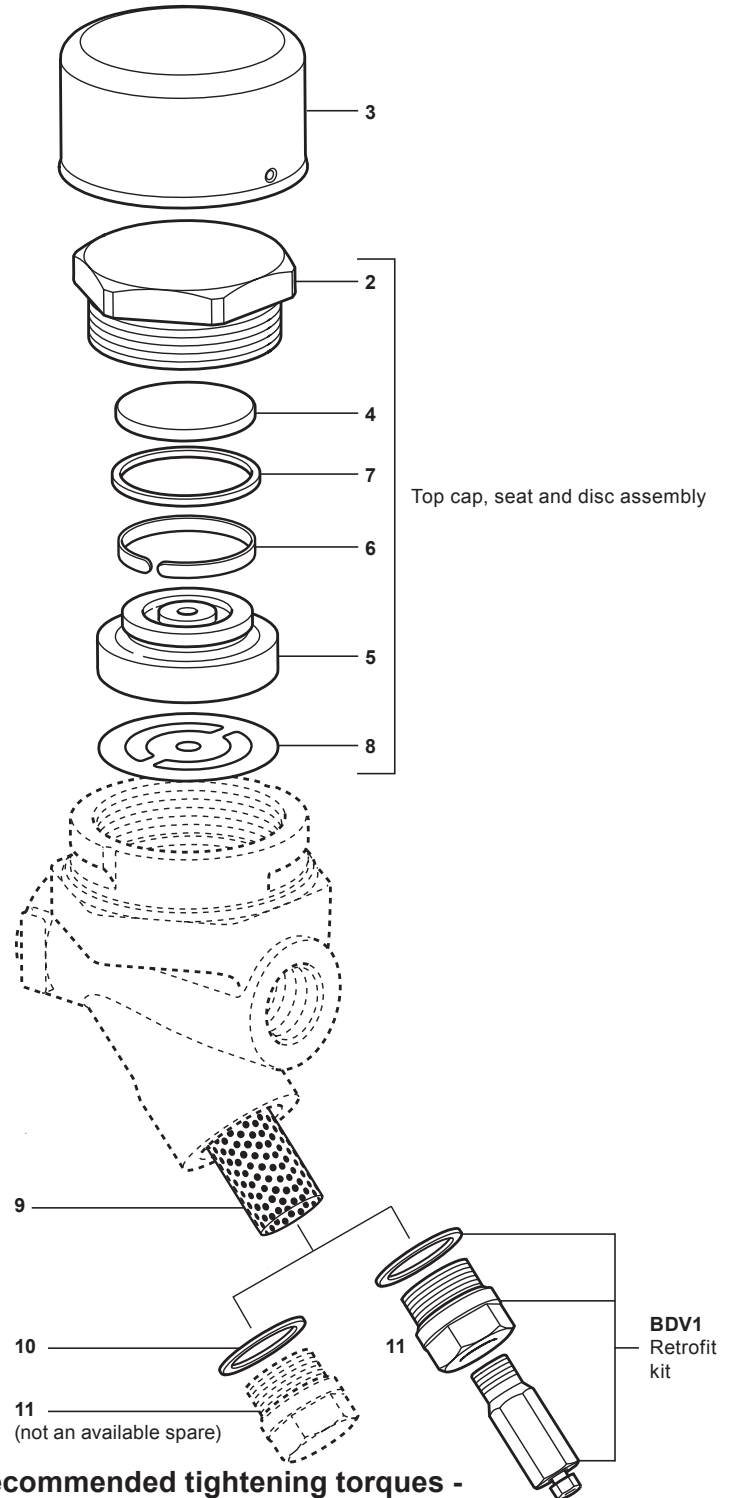
Available spares

Insulating cover	3
Top cap, seat and disc assembly	2, 4, 5, 6, 7, 8
Strainer screen and gasket	9, 10
Set of gaskets (packet of 3 sets)	8, 10
BDV1 blowdown valve retrofit kit	


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 off Top cap, seat and disc assembly for a Spirax Sarco 1/2" TDC46M thermodynamic steam trap.



Recommended tightening torques - for suitably lubricated threads

Item	Part	 in (mm)	ft - lb (N m)
2	Top cap	2.0 (50 A/F)	221 (300)
11	Strainer cap	0.94 (24 A/F)	77 - 81 (105 - 110)