



## BTM7 Stainless Steel Thermostatic Clean Steam Trap

### Description

The Spirax Sarco BTM7 is a maintainable thermostatic steam trap designed to remove condensate from clean steam systems with minimal backing up. Applications include sterile steam barriers, process vessels and CIP/SIP systems. Manufactured in 316L stainless steel with minimal crevices and a typical internal surface finish of 1.6 - 3.2  $\mu\text{m Ra}$ , it is self-draining and operates close to steam temperature. Traps are individually packaged within an "ISO CLASS 7" clean environment with protective end caps and sealed in a protective plastic bag.

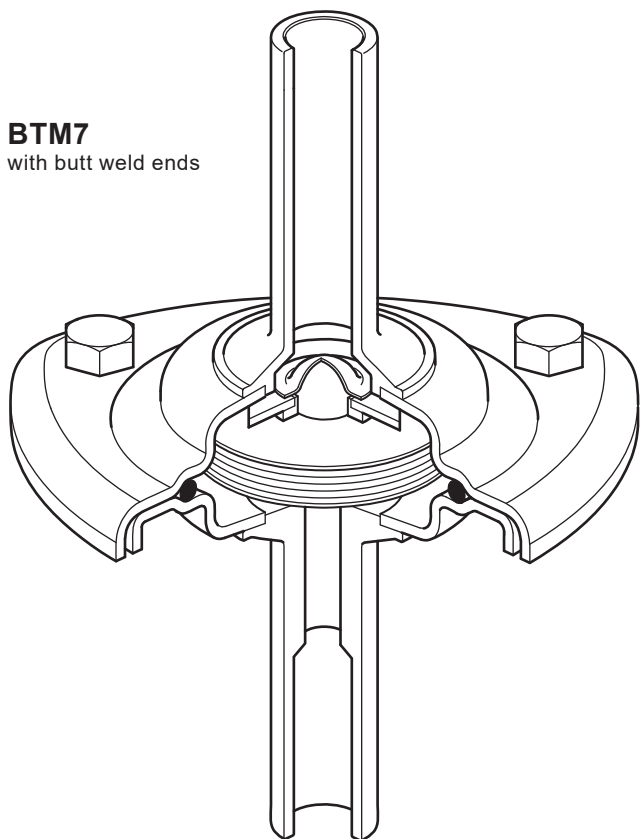
### Options available at extra cost

Contact Spirax Sarco for further information

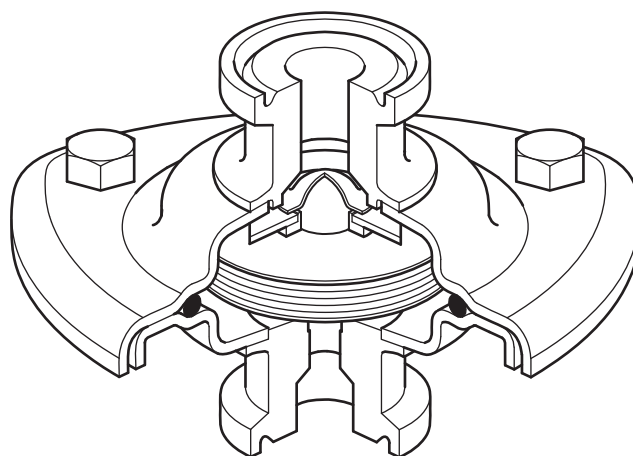
**Fixed bleed** to ensure fail open operation.

**Special connections** to suit most piping systems.

**BTM7**  
with butt weld ends



**BTM7**  
with sanitary clamp compatible hygienic connections



## Standards

- The BTM7 has been designed and built in general accordance with ASME BPE.
- The unit also complies with the requirements of the Pressure Equipment Directive (PED).

The seal part is compliant with:-

- FDA CFR Title 21. Paragraph 177. 2600.
- USP Class VI Biological Reactivity Cytotoxicity Testing In-Vivo <88> extracted at 121°C for 1 hour.
- ADI Free (Animal Derived Ingredients) for materials used, manufacturing processes involved in producing the part.

## Certification

This product is available with the following certification:

- EN 10204 3.1 material certificates (pressure containing parts)
- EN 10204 3.1 material certificates (wetted parts, including element fill) subject to additional cost.
- Typical Internal surface finish certificates.
- Specific internal surface finish certificates available at point of order request, and may be subject to additional cost.
- Certificate of compliance for FDA, USP and ADI free.
- TSE/BSE Free Statement.
- Certificate of compliance EC1935:2004 Food Contact Materials.
- Declaration of conformity BS EN ISO 14644-1:2015 Class 7 Clean Room.

**Note:** All certification/inspection requirements must be stated at the time of order placement, and may be subject to additional cost.

## Sizes and pipe connections

¼", ½", ¾", 1" screwed BSP or NPT.

½", ¾", 1" O/D x 16 swg (0.065") wall thickness tube butt weld.

½", ¾", 1" sanitary clamp compatible hygienic connection.

### DIN 11850 (Series 1) tube butt weld ends

12 mm O/D x 1.0 mm wall thickness tube butt weld (DN10-D).

18 mm O/D x 1.0 mm wall thickness tube butt weld (DN15-D).

### ISO 1127 (Series 1) tube butt weld ends

13.5 mm O/D x 1.6 mm wall thickness tube butt weld (DN8-I).

17.2 mm O/D x 1.6 mm wall thickness tube butt weld (DN10-I).

21.3 mm O/D x 1.6 mm wall thickness tube butt weld (DN15-I).

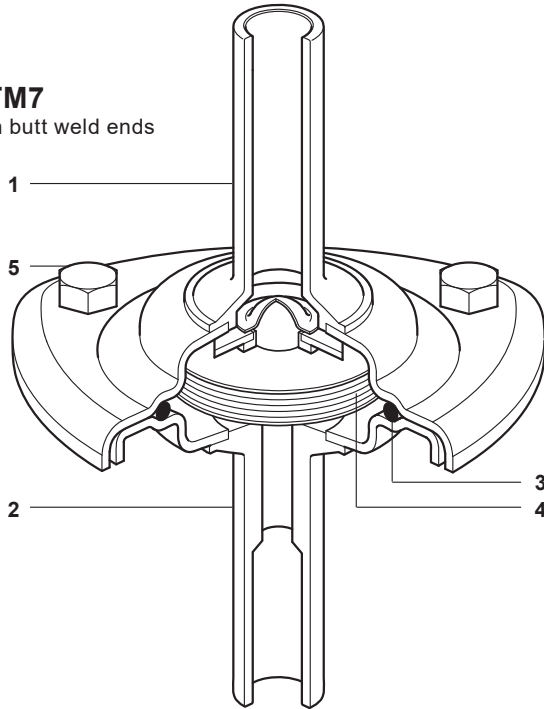
**Note:** On request other connection options are available at extra cost. Please note that seat end spares for specially requested connections will require a minimum order quantity - Please consult Spirax Sarco for further information.

## Materials

No. Part	Material	
1 Body (inlet)	Stainless steel	AISI 316L (1.4404)
2 Body with seal (outlet)	Stainless steel	AISI 316L (1.4404)
3 'O' ring	FKM	
4 Element	Stainless steel	AISI 316L (1.4404)
5 Nuts and bolts	Stainless steel	BS 6105 Gr. A4 80
Washers	Austenitic stainless steel	

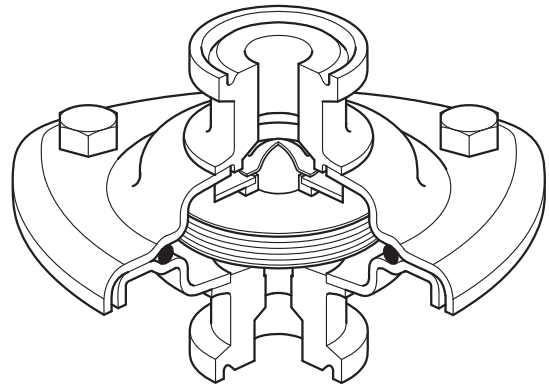
### BTM7

with butt weld ends

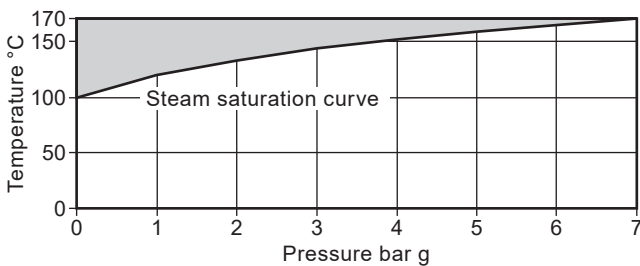


### BTM7

with sanitary clamp compatible hygienic connections



## Pressure/temperature limits



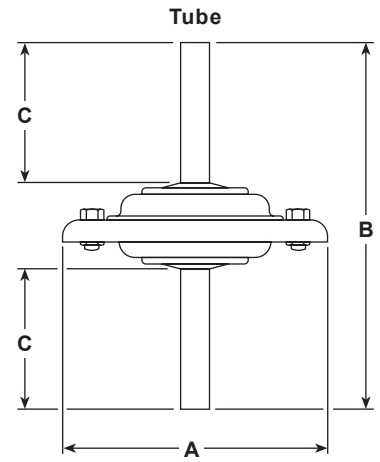
The product should not be used in this region as damage to the internals may occur.

### Body design conditions

PMA	Maximum allowable pressure	7 bar g @ 170 °C
TMA	Maximum allowable temperature	170 °C @ 7 bar g
	Minimum allowable temperature	-10 °C
PMO	Maximum operating pressure for saturated steam service	7 bar g
TMO	Maximum operating temperature	170 °C
	Minimum operating temperature	0 °C
	Designed for a maximum cold hydraulic test pressure of:	10.7 bar g

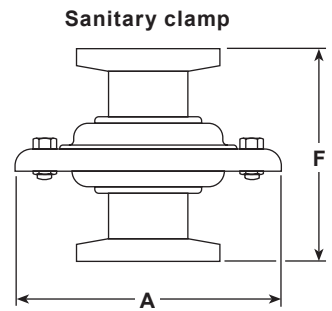
## Dimensions (approximate) in mm

Size	Tube			Screwed	Screwed	Sanitary clamp
	A	B	C	D	E	F
1/4"	70	-	-	27	58	-
1/2"	70	106	40	27	74	49
3/4"	70	106	40	32	81	49
1"	70	106	40	41	95	53
DN8*	70	106	40	-	-	-
DN10	70	106	40	-	-	-
DN15	70	106	40	-	-	-



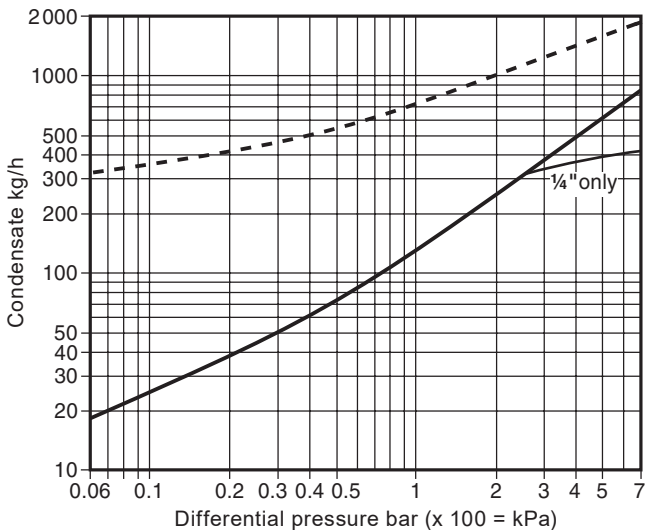
## Weights (approximate) in kg

Size	Weight		
	Tube	Screwed	Sanitary clamp
1/4"	-	0.53	-
1/2"	0.62	0.66	0.62
3/4"	0.68	0.77	0.62
1"	0.77	0.90	0.90
DN8*	0.53	-	-
DN10	0.53	-	-
DN15	0.62	-	-

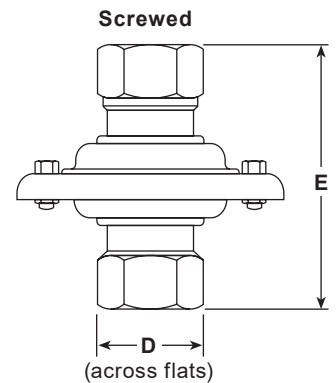


\*DN8 only available for ISO 1127 tube ends.

## Capacities



Cold water capacity - - - - Hot water capacity —————



## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P180-05) supplied with the product.

### Installation note:

The trap is designed for installation in vertical lines with the flow downward to ensure self-draining operation. Do not expose element to superheat conditions since over-expansion may result.

Suitable isolation valves must be installed to allow for safe maintenance/replacement.

## How to order

**Example:** 1 off Spirax Sarco DN15 BTM7 maintainable thermostatic clean steam trap with tube ends to ISO 1127, Series 1. (21.3 mm O/D x 1.6 mm wall thickness). Tangent length of tube ends to be 40 mm for ease of orbital welding. Body to be self-draining. Suitable for pressures up to 7 bar g.

## Spare parts

Available parts are shown in solid outline. Parts drawn in a grey line are not available as spares.

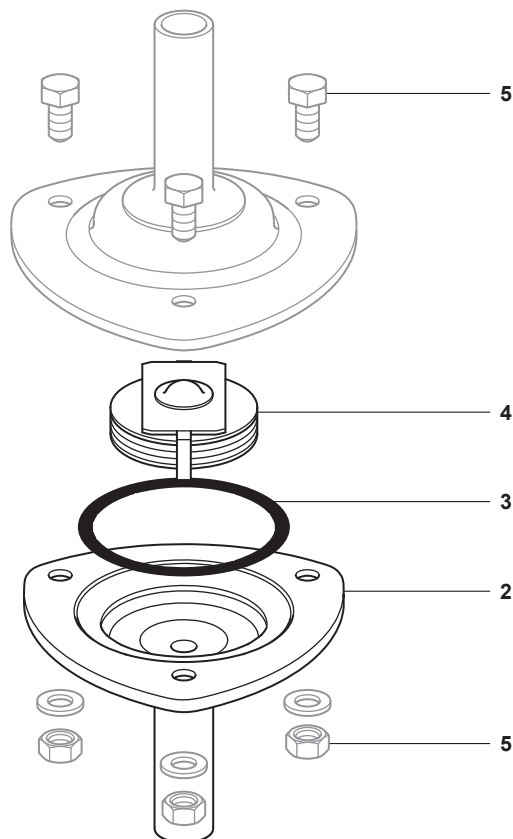
### Available spares

Element assembly	4
'O' ring (packet of 3)	3
Body with seat (outlet) - state connections	2



### How to order spares

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

**Example:** 1 off Element assembly for a Spirax Sarco ½" BTM7 thermostatic clean steam trap having screwed NPT connections.



## Recommended tightening torques

Item	Part	 or mm		N m
5	Nuts and bolts	8 A/F	M5	3-4