



## BTM7 and BTM7 Food+ Balanced Pressure Thermostatic Clean Steam Trap

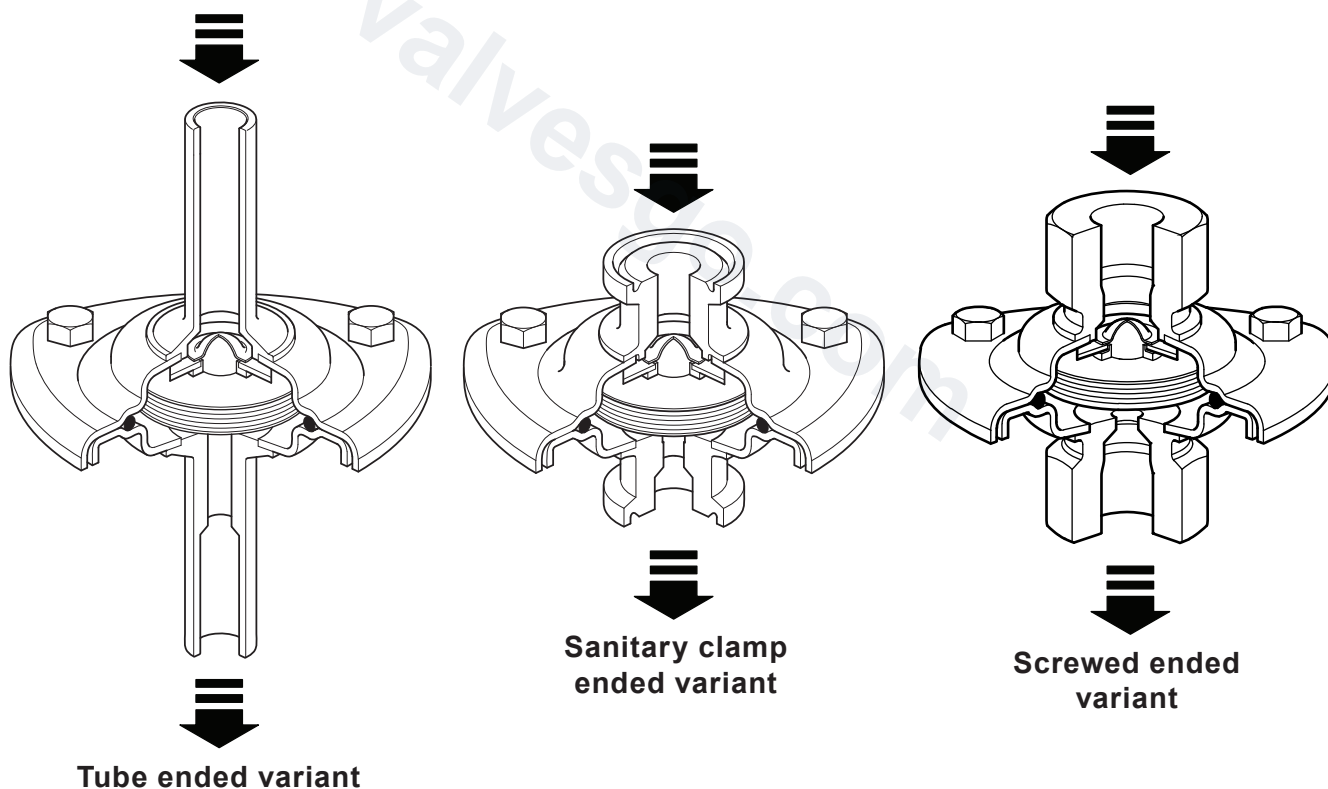
### Description

#### BTM7

The Spirax Sarco BTM7 is a maintainable thermostatic steam trap designed to remove condensate from clean (chemical free) steam systems with minimal condensate retention. Applications include steam barriers, block and bleed installations, mains drainage and CIP/SIP of vessels and reactors and process lines. 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. Each trap is individually packaged within an "ISO CLASS 7" clean environment with protective end caps and sealed in a protective plastic bag.

#### BTM7 Food+

Designed, manufactured and approved for Steam and Condensate applications. The BTM7 Food+ range complies with EC1935:2004 Food Contact Materials. It also complies with regulation EC2023:2006 on good manufacturing practice for materials and articles intended to come into contact with food. A list of the materials that could come directly or indirectly into contact with foodstuffs can be found in the Declaration of Compliance available for this product.



### Options and available types

Contact Spirax Sarco for further information

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

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

## Standards

- The BTM7 has been designed and manufactured in general accordance with ASME BPE standards.
- The unit also complies with the requirements of the European Pressure Equipment Directive 2014/68/EU.
- 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.
- TSE/BSE Free as Certified.
- Full material lot number product traceability.

## Sizes and pipe connections

	Standard	Issue	Type	Sizes						
						1/2"	3/4"			
Sanitary clamp ended variants	ASME BPE		Type A			1/2"	3/4"			
			Type B					1"		
	DIN32676	2001-02	Series 2			DN15				
			Series A			DN15				
		2009-05	Series B	DN8	DN10	DN15	DN20	DN25	DN32	DN40
Series C				1/2"	3/4"	1"				
Tube ended variants	DIN11866	2016-11	Series A			DN15				
			Series C			DN15	DN20	DN25		
	DIN11850	1999-01	Series 1		DN10	DN15				
			Series 2			DN15				
	ISO1127	1997	Series 1	DN8	DN10	DN15				
Screw ended variants	Socket BSP T Rp (ISO 7-1) Socket NPT				1/4"	1/2"	3/4"	1"		

### Notes:

1. 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.
2. BTM7 Food+ available as tabulated above for ASME BPE and BSP connections. NPT available in 1/4" ONLY.

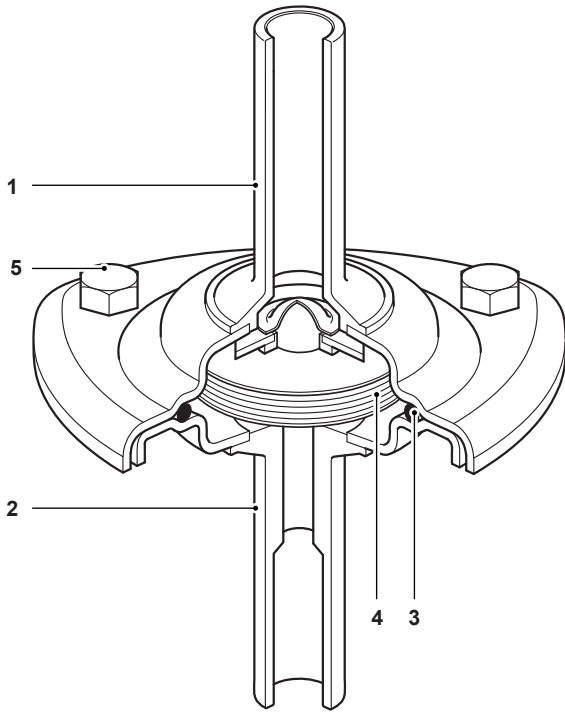
## Certification

This product is available with the following certification:

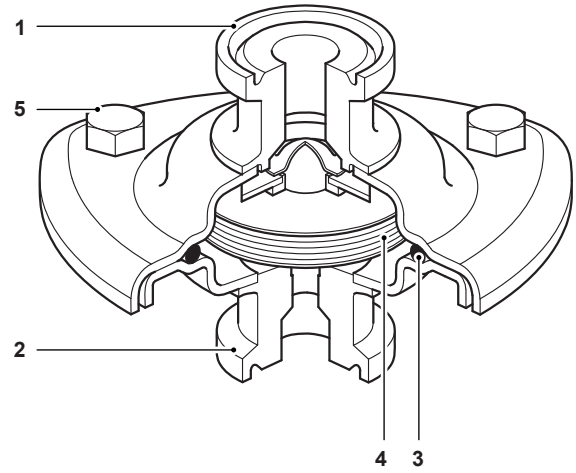
- EN 10204 3.1 Material Certification Pressure Retaining Parts - Chargeable
- EN 10204 3.1 Material Certification for Wetted Parts including the WFI element fill (also available for element spares) - Chargeable.
- Typical Internal Surface Finish - F.O.C.
- Certificate of Compliance for FDA, USP Class VI Testing Statement, and ADI Free Statement - F.O.C.
- TSE-BSE Statement - F.O.C.
- EC1935:2004 Declaration of Compliance F.O.C. (Food+ range only)
- (EC)2023:2006 Good Manufacturing Practice for Materials and Articles Intended to come into Contact with Food.
- Declaration of Conformity BS EN ISO 14644-1:2015 Class 7 Clean Room - F.O.C.
- Typical Test Report - F.O.C.

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

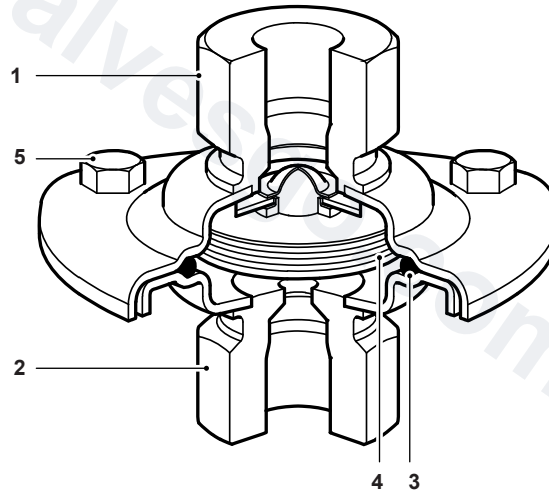
## Materials



**Tube ended variant**



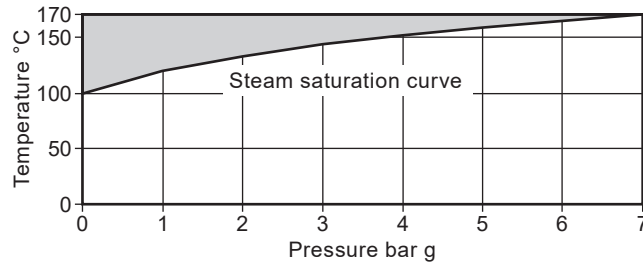
**Sanitary clamp ended variant**



**Screwed ended variant**

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

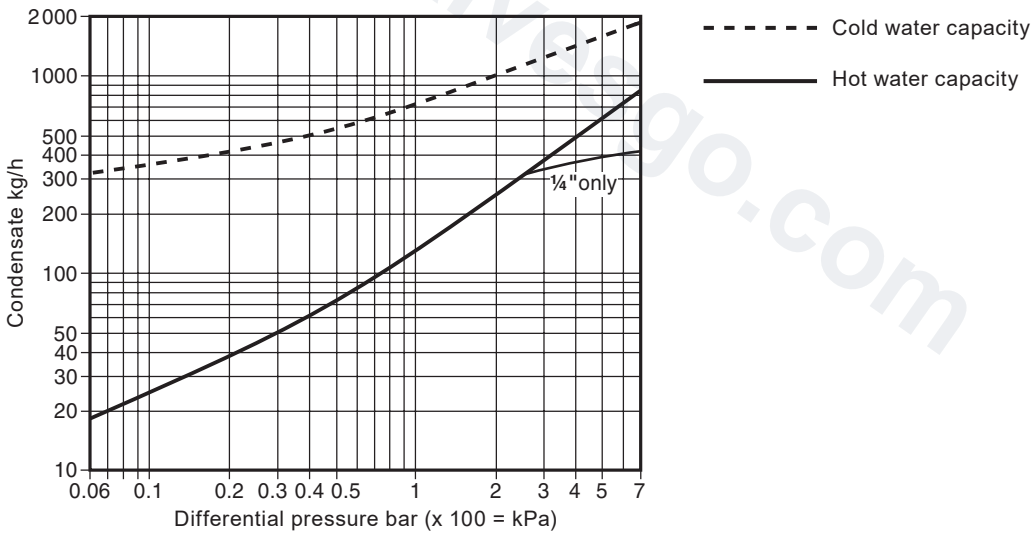
## Pressure/temperature limits



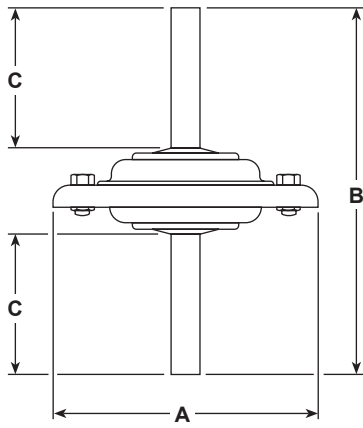
The product should not be used in this region as damage to the internals may occur.

Body design conditions	PN7
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

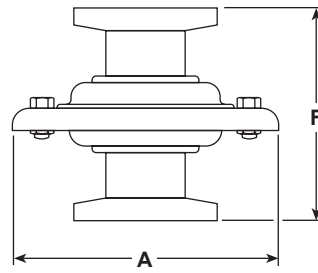
## Capacities



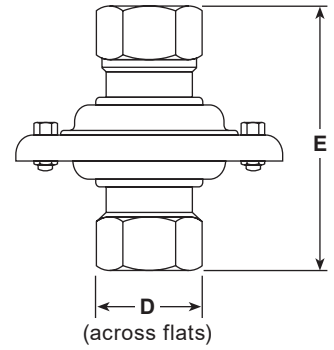
**Dimensions/weights** (approximate) in mm and kg.



**Tube ended variant**



**Sanitary clamp ended variant**



**Screwed ended variant**

Products each weigh 1 kg maximum \*

Standard	Sizes	A	B Tube	C	D Screwed	E Screwed	F Sanitary Clamp	Weight
<b>Sanitary Clamp ended variants</b>								
ASME BPE Types A and B, DIN32676 Series 2 + A, B, and C Variants	DN8, DN10 (1/4"), DN15 (1/2") DN20 (3/4") DN25 (1") DN32, DN40.	70					49 for DN8 to DN15,  and  53 for DN25 and DN40	1 kg *
<b>Tube ended variants</b>								
DIN11866 Series A and C, DIN11850 Series 1 and 2, ISO1127 Series 1	DN8, DN10, DN15, DN20, DN25	70	106	40				1 kg *
<b>Screw ended variants</b>								
Socket BSP + NPT	1/4", 1/2", 3/4", 1"	70			27, 27, 32, 41	58, 74, 81, 95		1 kg *

## 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.

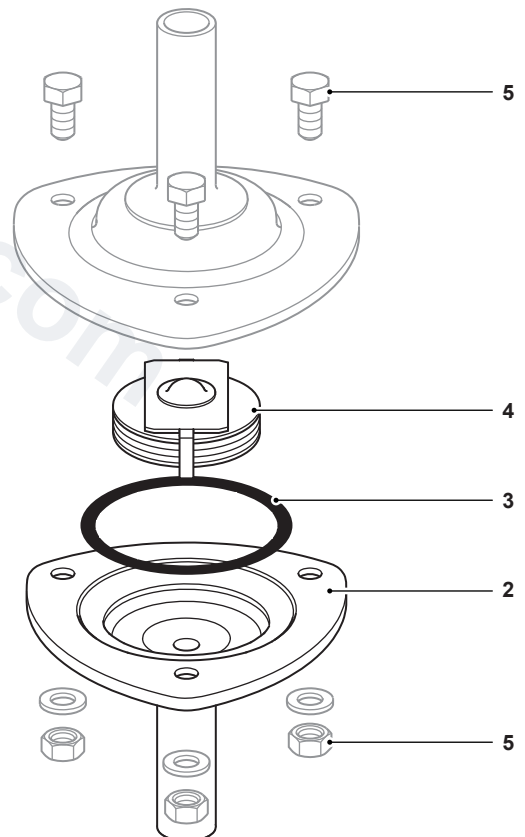
#### Available spares

Capsule 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