



## BT6-B

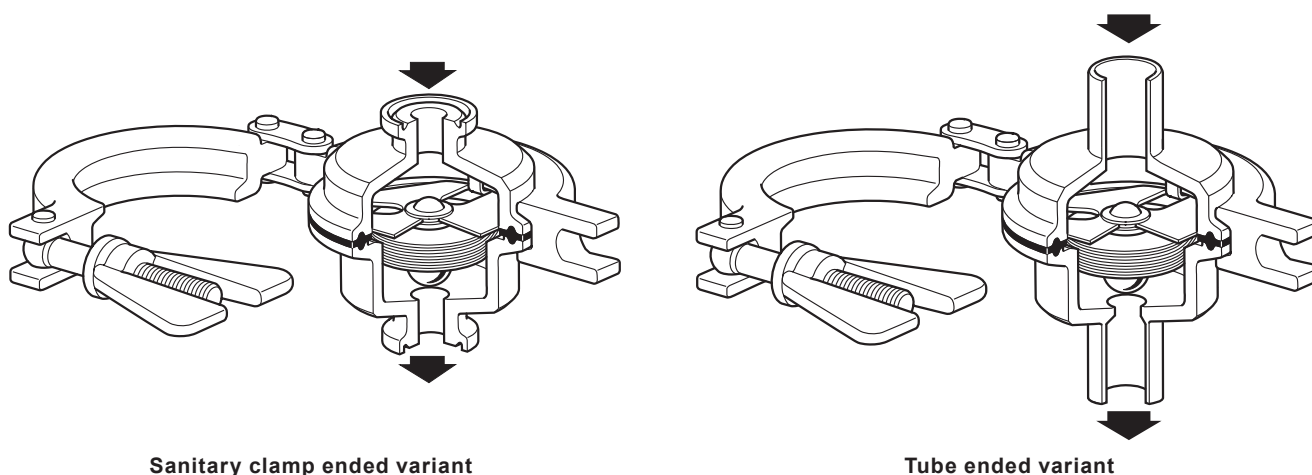
# Sanitary Balanced Pressure Thermostatic Steam Trap

### Description

The Spirax Sarco BT6-B sanitary balanced pressure thermostatic steam trap is designed to remove condensate from clean (Chemical-Free) and pure steam applications with minimal condensate retention. Applications include sterile steam barriers, block and bleed installations, mains drainage and CIP/SIP of vessels and reactors and process lines. Manufactured in 316L, the crevice free body design of the BT6-B incorporates a 15° angled seat to ensure full drainability.

The standard element is extremely sensitive to changes in condensate temperature and is designed to open within 2 °C nominal sub-cooling of steam saturation temperature at 50 mm above the trap and at pressures below 2.4 bar g for typical operating conditions. Exact operating performance may be affected by operating pressure, installation and ambient conditions. Each trap is individually packaged within an ISO CLASS 7 'clean' environment with protective end caps and sealed in a protective plastic bag.

Designed, manufactured and approved for Steam and Condensate applications. This product 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.



Sanitary clamp ended variant

Tube ended variant

### Available types

**BT6-BL** Low capacity and **BT6-BH** High capacity. **Body surface finish (measured to ISO 4287-1997 and ISO 4288-1997):**

- Internal surfaces have a finish of 0.6 µm Ra (25 micro-inch Ra, ASME BPE SF2).
- External surfaces have a finish of 1.0 µm Ra (40 micro-inch Ra).

### Options

- Fixed bleed to ensure 'FAIL OPEN' operation.
- Mechanical and electropolishing to 0.375 µm Ra (15 micro-inch Ra, ASME BPE SF4).

## Standards

- The BT6-B has been designed and built in general accordance with ASME BPE.
- The unit also complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.

The seal part is compliant with:

- FDA CFR Title 21. Paragraph 177. 1550.
- USP Class VI Biological Reactivity Cytotoxicity Testing In-Vitro <87> & 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
- EC1935 : 2004
- Designed and manufactured in accordance with ASME-BPE standards
- Full material lot number product traceability

## Certification

This product is available with the following certification:

- EN 10204 3.1 Full Validation Pack - Chargeable
- EN 10204 3.1 Material Certification Pressure Retaining Parts - Chargeable
- EN 10204 3.1 Material Certification Wetted Parts (including a WFI element fill) available for element spares (included in Full Validation Pack) - Chargeable
- Specific Internal Surface Finish - 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
- Declaration of Conformity BS EN ISO 14644-1:2015 Class 7 Clean Room
- Passivation Certificate - F.O.C
- Typical Test Report - F.O.C

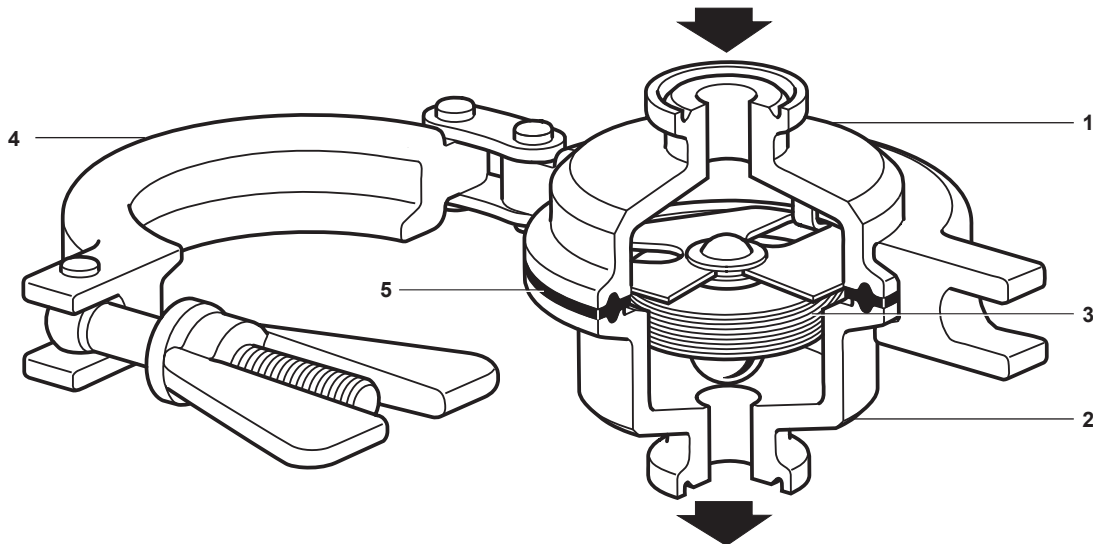
**Note:** All certification/inspection requirements must be stated at the time of order placement, and may be subject to additional cost as detailed above.

## Sizes and pipe connections

	Standard	Issue	Type	Sizes						
Sanitary clamp ended variants	ASME BPE		Type A			½"	¾"			
			Type B					1"		1½"
	ISO1127	1997	Series 1					DN25		DN40
	ISO1127	1997	Variations			DN15	DN20			
	DIN32676	2001-02	Series 2			DN15	DN20	DN25		DN40
	DIN32676	2009-05	Series A			DN15	DN20	DN25		DN40
	DIN32676	2009-05	Series B	DN8	DN10	DN15	DN20	DN25	DN32	DN40
	DIN32676	2009-05	Series C			½"	¾"	1"		1½"
Tube ended variants	DIN11866	2016-11	Series A			DN15	DN20	DN25		DN40
	DIN11850	1999-01	Series-2			DN15	DN20	DN25		DN40
	ISO1127	1997	Series 1			DN15	DN20	DN25		DN40

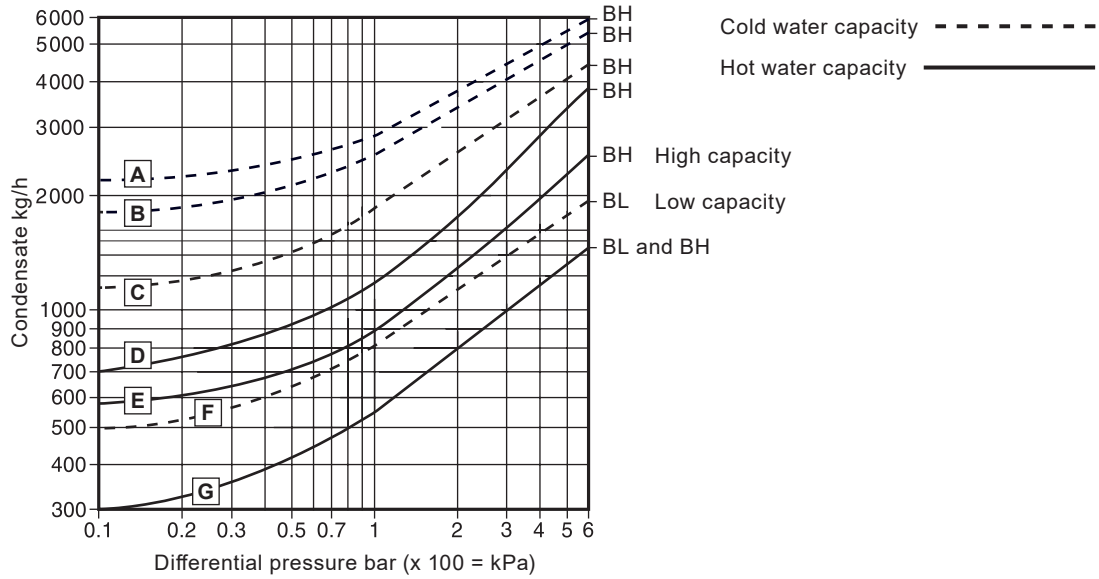
**Note:** Consult SSP list for available types. For other connections please consult Spirax Sarco."

## Materials



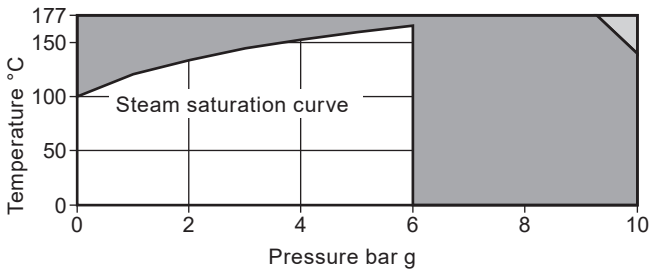
No.	Part	Material	
1	Body (inlet)	Stainless steel	
2	Body (outlet)	Stainless steel	
3	Capsule element	Stainless steel	316L (1.4404)
4	Safety clamp	Stainless steel	
5	Seal	PTFE/Stainless Steel Composite gasket	PTFE + 316L (1.4404)

## Capacities (in accordance with ISO 7842)



- A DN25, DN32 and DN40
- B DN20
- C DN8, DN10 and DN15
- D DN25, DN32 and DN40
- E DN20
- F DN8, DN10, DN15, DN20, DN25, DN32 and DN40
- G DN8-BL, DN10-BL, DN15-BL, DN20-BL, DN25-BL, DN32-BL, DN40-BL, DN8-BH and DN10-BH DN15-BH

## Pressure/temperature limits (ISO 6552)



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

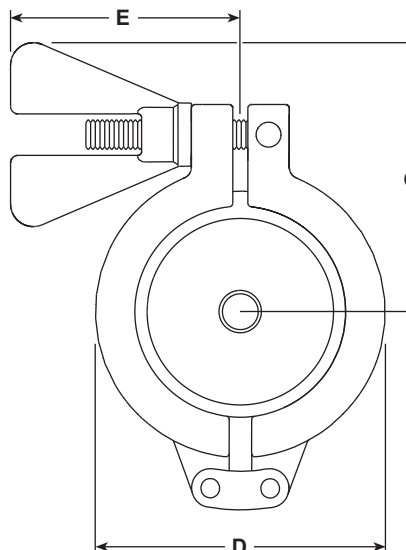
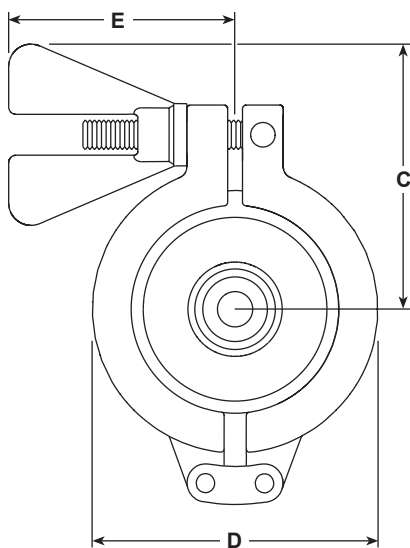
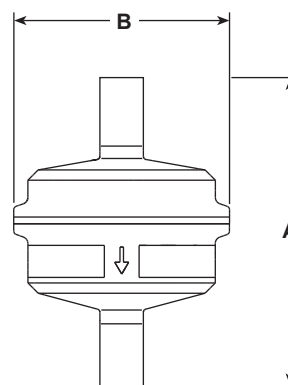
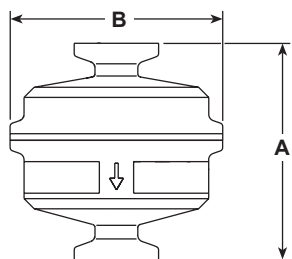
**Note:** For hygienic/sanitary clamp ends the maximum pressure/temperature may be restricted by the gasket or sanitary clamp used. Please consult Spirax Sarco.

Body design condition	PN10
PMA Maximum allowable pressure	10 bar g @ 140 °C
TMA Maximum allowable temperature	177 °C @ 9.2 bar g
Minimum allowable temperature	-10 °C
PMO Maximum operating pressure for saturated steam service	6 bar g
TMO Maximum operating temperature	165 °C @ 6 bar g
Minimum operating temperature	0 °C
Designed for a maximum cold hydraulic test pressure of:	15 bar g

**Note:** Refer to IM-P180-31 for instruction on how to perform hydraulic testing.

**Dimensions** (approximate) in mm. Products each weigh 1 kg maximum.

Standard		Sizes	A	B	C	D	E	Weight
<b>Sanitary clamp ended variants</b>	ASME BPE Types A & B, ISO1127, DIN32676 Series 2 + A & C Variants	½" (DN15) + ¾" (DN20) + 1" (DN25) + 1½" (DN40)	65	64	71.5	77	61	1 kg maximum
	DIN32676 Series B	DN8 + DN10 + DN15 + DN20 + DN25 + DN32 + DN40	65	64	71.5	77	61	
<b>Tube ended variants</b>	DIN11866 Series A, DIN11850 Series 2, ISO1127 Series 1	DN15 + DN20 + DN25 + DN40	92	64	71.5	77	61	



**Sanitary clamp ended variants**  
in ASME BPE, ISO 1127 and DIN32676 standards

**Tube ended variants**  
in DIN11866, DIN11850 and ISO1127 standards

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P180-31) supplied with the product.

### Installation note

The BT6-B is designed to be installed in vertical lines with the flow downwards so that the body is self-draining. Check the flow arrow on the body for correct orientation. Fittings and pipe clamps are not supplied.

Installation should include a suitable cooling leg to avoid condensate back-up into process equipment under normal operating conditions.

Do not expose the capsule element to superheat conditions. Handle all components carefully to avoid damage to surfaces.

### Operation

The operation relies on a stainless steel capsule that is filled with a WFI temperature sensing fluid. During cold or start-up conditions the capsule will be fully open allowing large volumes of air, condensate and/or CIP fluid to be drained. As the system approaches steam temperature the fluid in the capsule expands and the valve closes the trap to prevent live steam loss. This closure occurs very close to steam temperature to ensure efficient drainage of the system.

### How to order

**Example:** 1 off Spirax Sarco ½" BT6-BH sanitary balanced pressure thermostatic steam trap with self-draining body. Connections to be sanitary clamp ends to meet the requirements of ASME BPE. Suitable for pressure up to 6 bar g. Internal surface finish to be electropolished to 0.375 µm (15 micro-inch Ra, ASME BPE SF4). Material certification to EN 10204 3.1 for pressure containing parts.

### Spare parts

The available spare parts are detailed below. No other parts are supplied as spares.

#### Available spares

Capsule element assembly	3, 5
Seal	5
Body (outlet) including seat	2

#### 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 - Capsule element assembly for a ½" BT6-BH sanitary balanced pressure thermostatic steam trap.

