



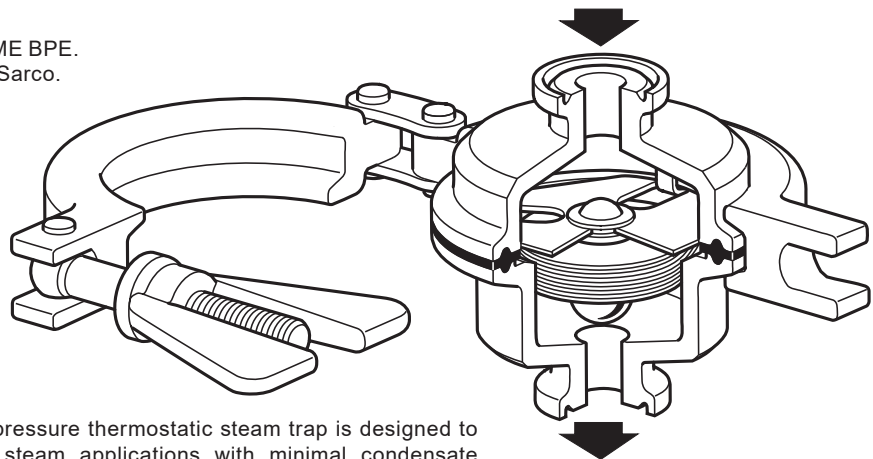
## BT6-B

### Sanitary

# Balanced Pressure Thermostatic Steam Trap

## Sizes and pipe connections

½", ¾", 1" and 1½" sanitary clamp ends to ASME BPE.  
For other connections please consult Spirax Sarco.



## Description

The Spirax Sarco BT6-B sanitary balanced pressure thermostatic steam trap is designed to remove condensate from clean 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 with a minimum of sub-cooling, less than 2 °C from steam saturation temperature at pressures below 2.5 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.

## 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 SFV2).
- 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 SFV4).
- For applications requiring closer to steam saturation temperatures, for example, critical SIP applications, please consult Spirax Sarco.

### Standards

- The BT6-B 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. 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.

## Certification

This product is available with the following certification:

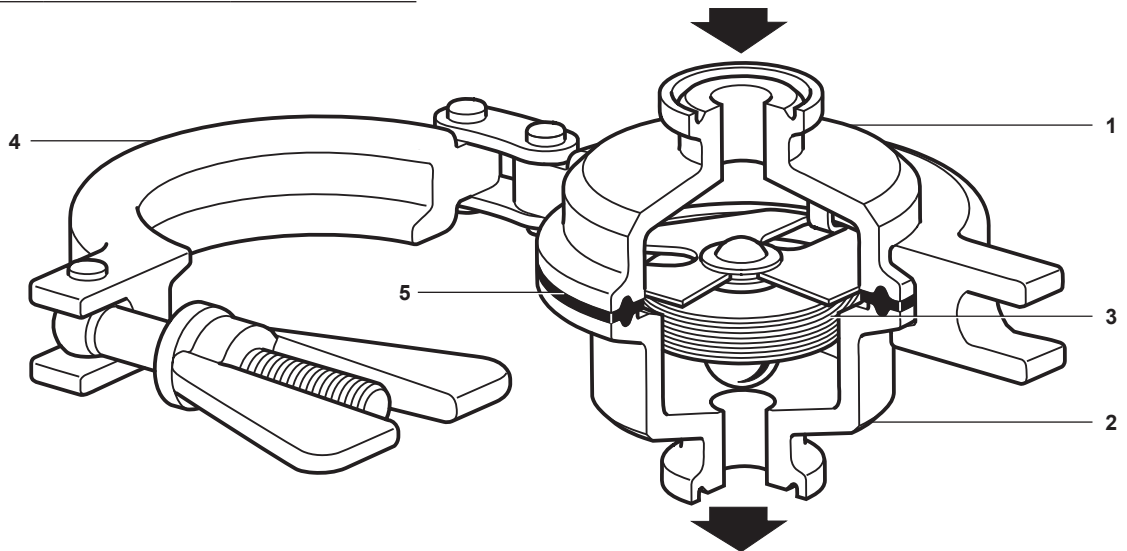
- EN 10204 3.1 material certificates (pressure containing parts)
- EN 10204 3.1 material certificates (wetted parts, including element fill) subject to additional cost.
- Typical Internal surface finish certificates.
- Specific internal surface finish certificates available at point of order request, 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.

## Materials

No.	Part	Material	
1	Body (inlet)	Stainless steel	ASTM A276 316L
2	Body (outlet)	Stainless steel	ASTM A276 316L
3	Capsule element	Stainless steel	AISI 316L

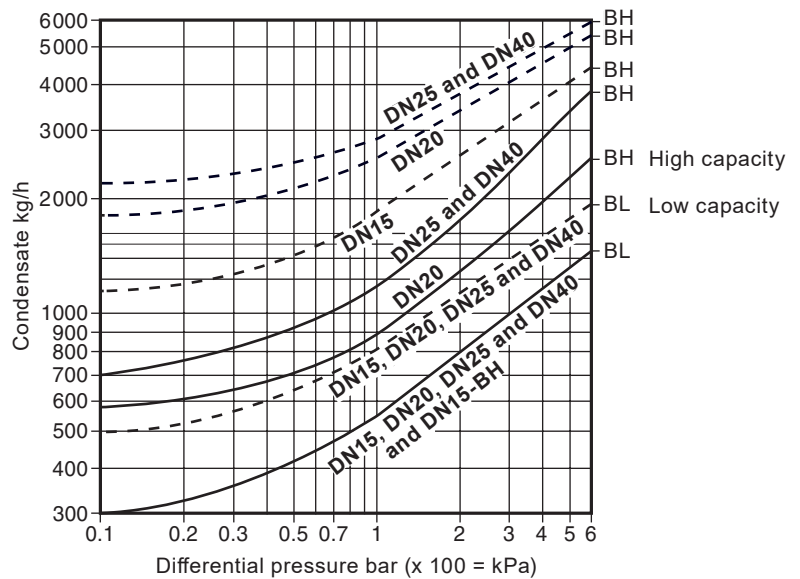
No.	Part	Material	
4	Body clamp	Stainless steel	AISI 316
5	Seal	Tuf-steel®	PTFE + AISI 316L



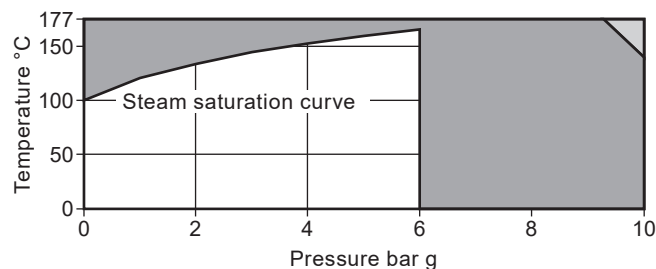
## Capacities


(in accordance with ISO 7842)


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



## 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	-254 °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.

## 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

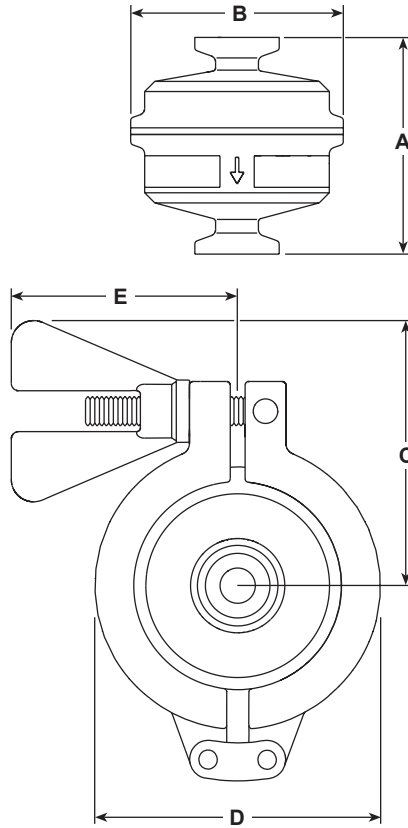
The operation relies on a stainless steel capsule that is filled with a temperature sensing fluid. During cold or start-up conditions the capsule will be fully open allowing large volumes of air, condensate and/or CIP fluid to be drained. As the system approaches steam temperature the fluid in the capsule 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 SFV4). Material certification to EN 10204 3.1 for pressure containing parts.

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

Size	A	B	C	D	E	Weight
1/2"	65	64	71.5	77	61	0.70
3/4"	65	64	71.5	77	61	0.71
1"	65	64	71.5	77	61	0.94
1 1/2"	65	64	71.5	77	61	0.86



**Spare parts**

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

**Available spares**

Capsule element assembly	<b>3, 5</b>
Seal	<b>5</b>
Body (outlet) including seat	<b>2</b>

**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 1/2" BT6-BH sanitary balanced pressure thermostatic steam trap.

