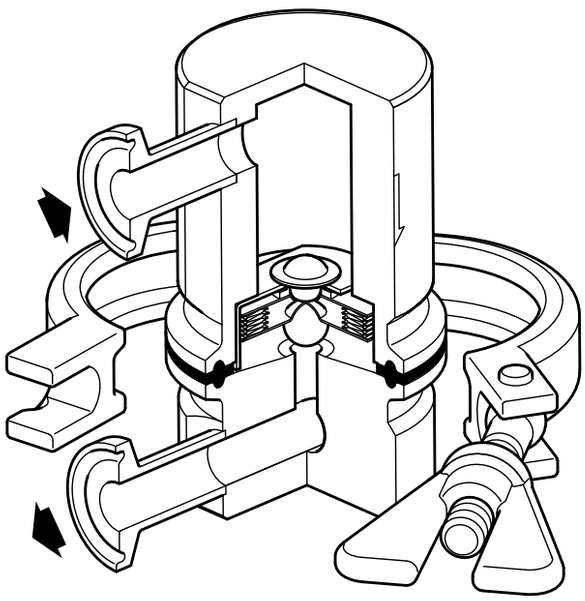
TI-P061-03
CMGT Issue 4

BT6
Horizontal Sanitary
Balanced Pressure Thermostatic Steam Trap

Description

The Spirax Sarco BT6 Horizontal Sanitary balanced pressure 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, CIP/SIP of vessels and reactors and process lines.
Manufactured in 316L, the crevice free body design of the BT6-Horizontal incorporates an angled seat to ensure its 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.



Body surface finish

(measured to ISO-4287-1997 and ISO 4288-1997)
Internal surfaces to have a finish of 0.5 µm Ra, (20 micro-inch Ra,).
External surfaces to have a finish of 1.2 µm Ra, (48 micro-inch Ra).

Options

Fixed bleed to ensure 'FAIL OPEN' operation.

Standards

The BT6 HORIZONTAL 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 (trap & element fill) for FDA 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.

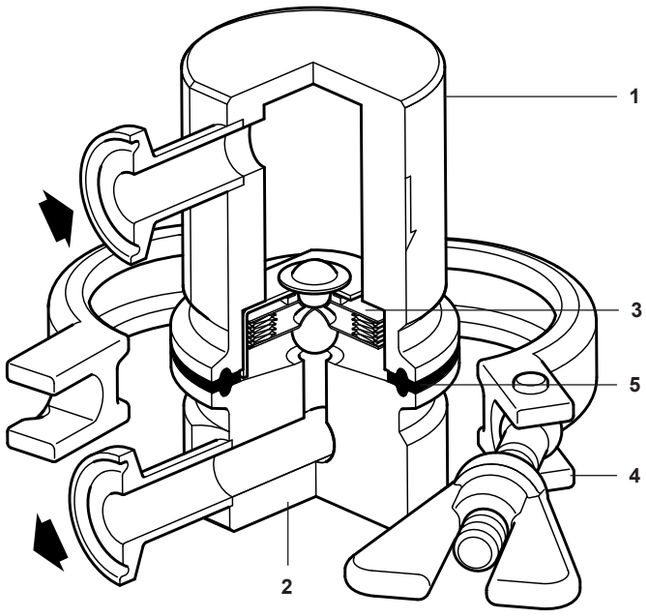
8

Steam traps
Balanced pressure

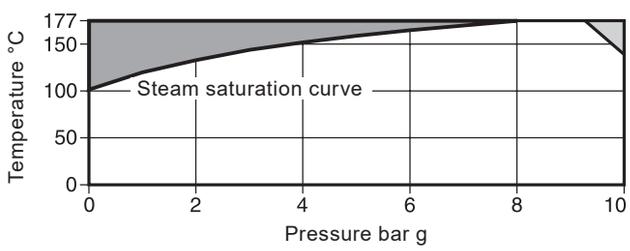
Sizes and pipe connections
½" sanitary clamp ends to ASME BPE.

Materials

No.	Part	Material	
1	Body (inlet)	Stainless steel	ASTM A 276 316L
2	Body (outlet)	Stainless steel	ASTM A276 316L
3	Capsule element	Stainless steel	AISI 316L
4	Body clamp	Stainless steel	AISI 316
5	Seal	Tuf - steel	PTFE + AISI 316L



Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range 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.

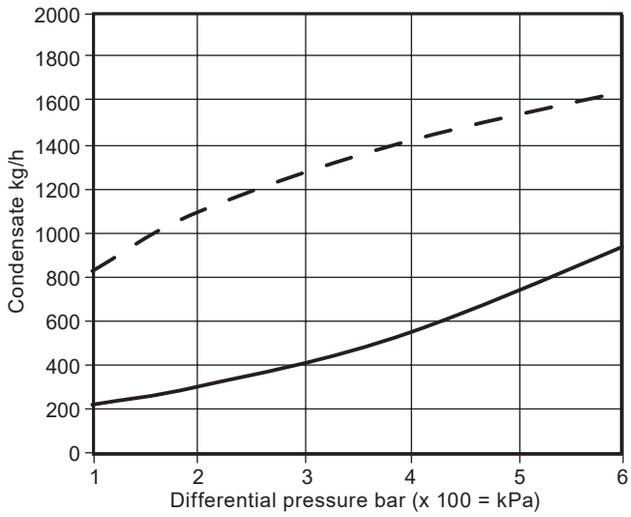
Body design conditions		PN10
PMA	Maximum allowable pressure	10 bar g @ 140 °C
TMA	Maximum allowable temperature	177 °C @ 9.2 bar g
Minimum allowable temperature		-254 °C
PMO	Maximum operating pressure for saturated steam service	6 bar g
TMO	Maximum operating temperature	165 °C @ 6 bar g
Minimum operating temperature		0 °C
Designed for a maximum cold hydraulic test pressure of		15 bar g

8.2

2

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

Capacities (in accordance with ISO 7842)

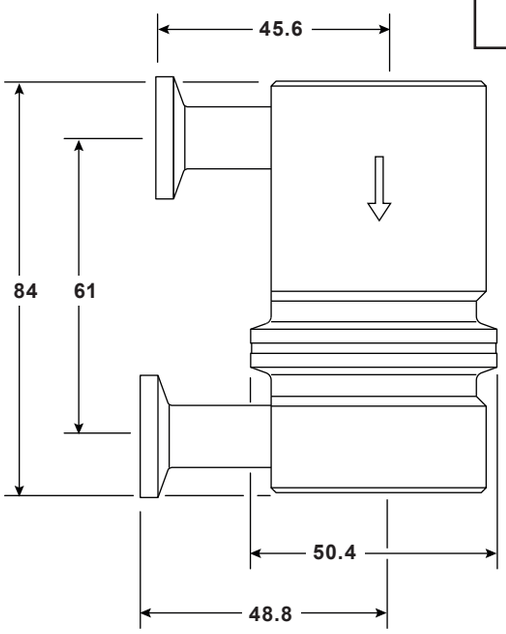


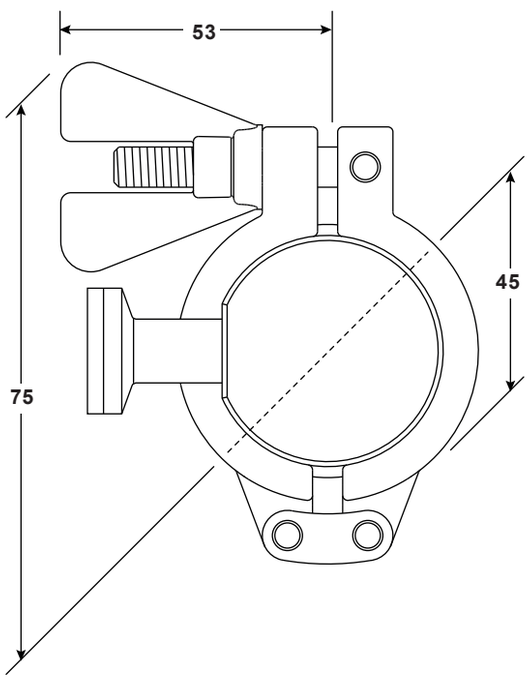
— — — Cold capacities

——— Hot capacities

Dimensions
(approximate) in mm

Weight
0.95 kg





Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P180-04) supplied with the product.

Installation note

The trap is designed to be fitted in horizontal lines with the flow downwards so that it can be completely self-draining. Check flow arrow for correct orientation. Fittings, clamps and gaskets for pipe end connections are not supplied.
Do not expose the element to superheat conditions as over expansion may result.
Note: Handle all components carefully to avoid damage to surfaces.

How to order

Example: 1 off Spirax Sarco ½" BT6 horizontal sanitary balanced pressure thermostatic steam trap with self-draining body. Connection to be sanitary clamp. Suitable for pressures up to 6.0 bar g.
Internal surface finish to be electro-polished to 0.8 µm.
Material certification to be EN 10204 3.1.B for pressure containing parts.

8

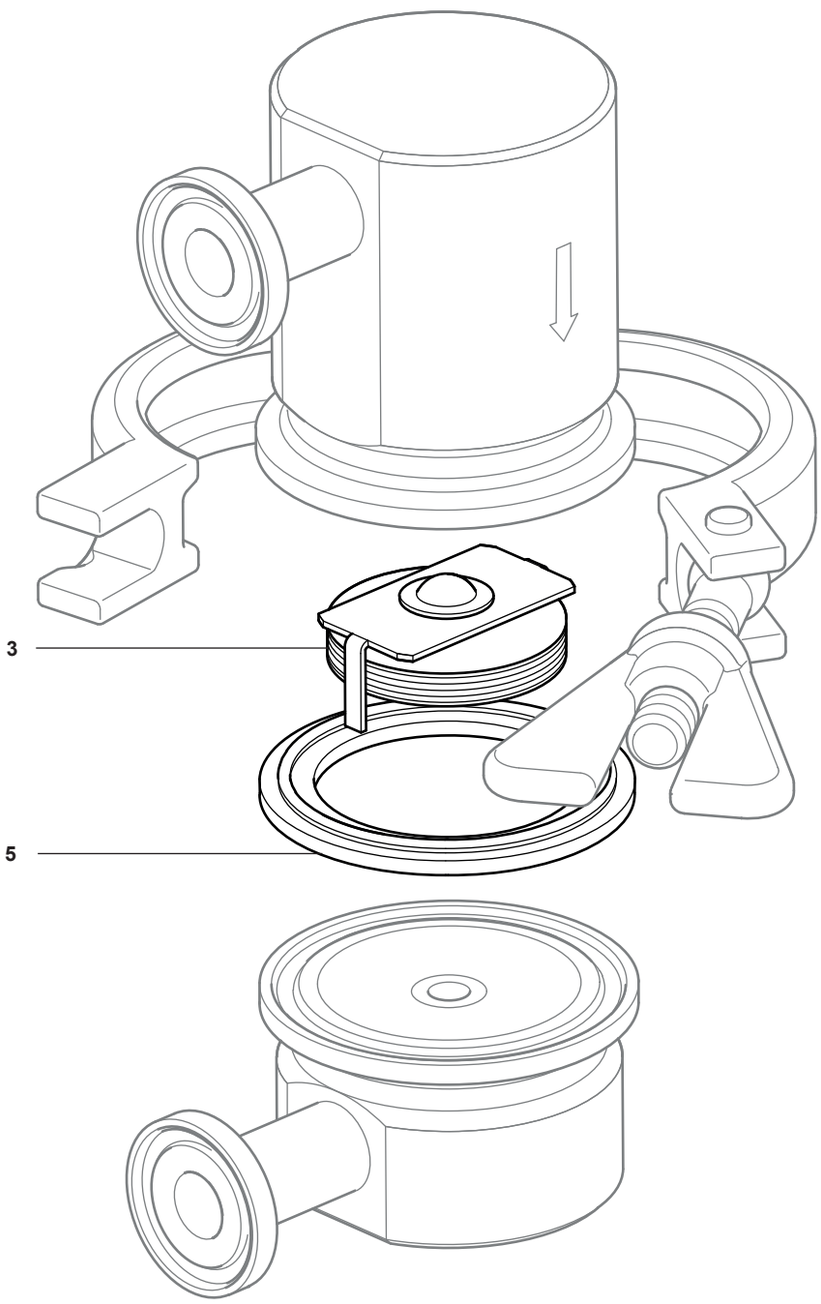
Steam traps
Balanced pressure

Spare parts
The spare parts are shown in heavy outline. Parts drawn in a grey line are not supplied as spares.

Available spares

Element assembly	**3**
Gasket (set of 3)	**5**

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 - Element assembly for a BT6 Horizontal sanitary balanced pressure thermostatic steam trap.



8.2
4

spirax sarco

TI-P122-01
ST Issue 6

BPT13
Brass
Balanced Pressure Thermostatic Steam Trap

Description

The BPT13 is a readily maintainable brass bodied, balanced pressure thermostatic steam trap.
The standard trap is designated BPT13A and has angled connections.

Available types

BPT13A	Angled connections (standard trap)
BPT13AX	Angled connections with strainer screen
BPT13S	Straight connections
BPT13SX	Straight connections with strainer screen
BPT13UA	Angled connections, union inlet
BPT13UAX	Angled connections, union inlet with strainer screen
BPT13US	Straight connections, union inlet
BPT13USX	Straight connections, union inlet with strainer screen

Capsule fill and operation - When placing an order always state the capsule fill:
Standard capsule - Is marked with '**STD**' for operation at approximately 12°C below steam saturation temperature.
Optionally - The capsule can be supplied for sub-cooled '**SUB**' operation at approximately 24°C below steam saturation temperature.
For critical applications the '**NTS**' fill capsule should be selected which operates at approximately 4°C below steam saturation temperature.

Standards
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

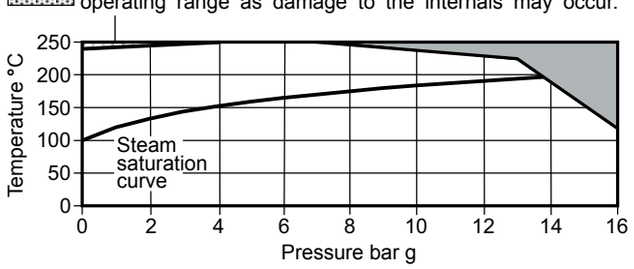
Certification
This product is available with a manufacturers' Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

⅜", ½" and ¾" screwed BSP (BS 21 parallel) or NPT.

Pressure/temperature limits (ISO 6552)

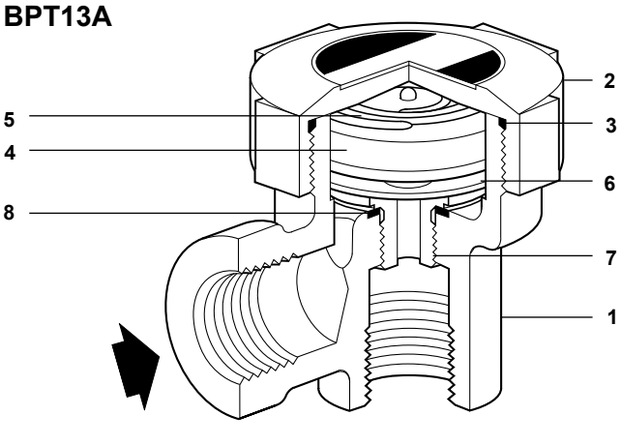
The product should not be used in this region or beyond its operating range as damage to the internals may occur.



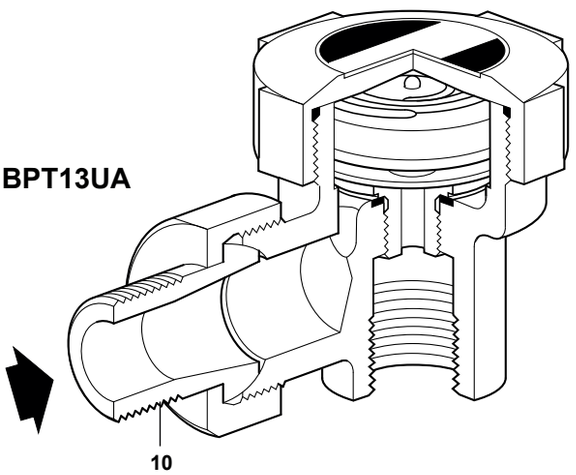
The product **must not** be used in this region.

Body design conditions		PN16
PMA	Maximum allowable pressure	16 bar g @ 120°C
TMA	Maximum allowable temperature	250°C @ 7 bar g
Minimum allowable temperature		-20°C
PMO	Maximum operating pressure	13 bar g @ 220°C
TMO	Maximum operating temperature	250°C @ 7 bar g
Minimum operating temperature		0°C
Designed for a maximum cold hydraulic test pressure of 24 bar g		

BPT13A



BPT13UA



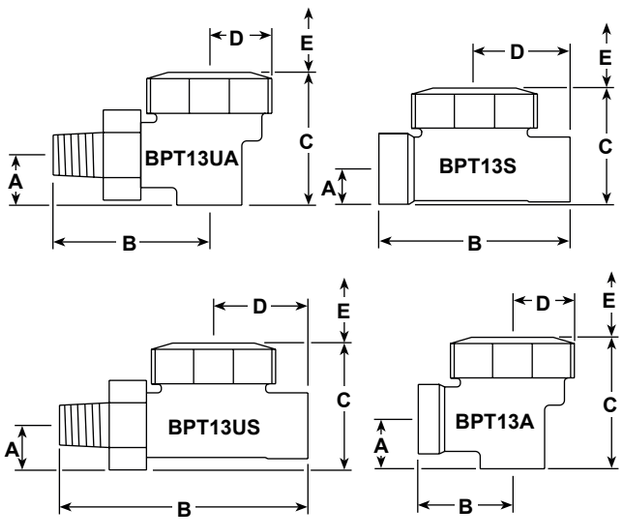
Materials

No.	Part	Material	
1	Body	Brass	BS EN 12165 CW 617N
2	Cap	Brass	BS EN 12165 CW 617N
3	'O' ring	Synthetic rubber high fluorine fluorocarbon	
4	Capsule	Stainless steel	
5	Spring	Stainless steel	BS 2056 302 S26
6	Spacer plate	Stainless steel	BS 1449 304 S16
7	Valve seat	Stainless steel	BS 970 431 S29
8	Valve seat gasket	Stainless steel	BS 1449 304 S11
* 9	Strainer screen	Stainless steel	ASTM A240 316L
10	Union nut and tailpiece	Brass	BS EN 12165 CW 617N

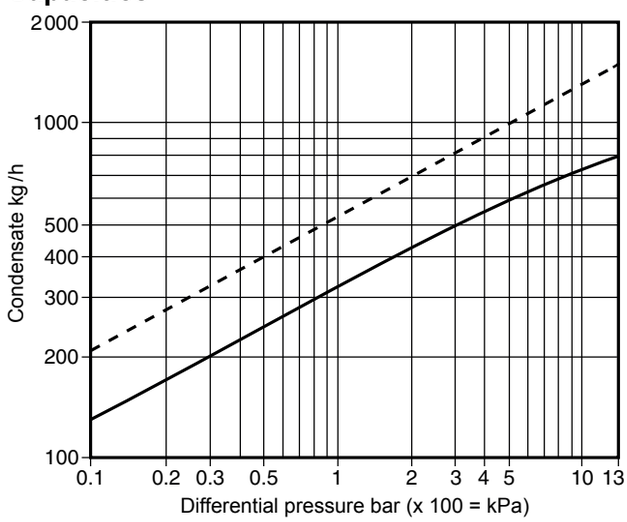
* **Note:** Item **9** is shown clearly overleaf.

Dimensions/weights (approximate) in mm and kg

Type	Size	A	B	C	D	E	Weight
BPT13A	½"	20	38	53	25	55	0.40
	¾"	27	40	62	25	55	0.45
BPT13S	½"	14	76	47	38	55	0.45
	¾"	20	80	53	40	55	0.50
BPT13UA	½"	20	67	53	25	55	0.50
	¾"	27	75	62	25	55	0.55
BPT13US	½"	19	105	52	38	55	0.55
	¾"	22	115	57	40	55	0.60



Capacities



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

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P122-02) which is supplied with the product.

Installation note:
The trap is designed for installation with the capsule in a horizontal plane with the cap at the top, preferably with a drop leg immediately proceding the trap.

Disposal
This product is recyclable. No ecological hazard is anticipated with the disposal of this product provided due care is taken. However, if the recycling process involves a temperature approaching 315°C, caution is advised regarding decomposition of the fluorocarbon rubber component.

How to order

Example: 1 off Spirax Sarco ½" BPT13AX balanced pressure thermostatic steam trap with screwed BSP connections. Brass body with internal strainer screen and '**STD**' fill capsule for operation approximately 12°C below steam saturation temperature.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

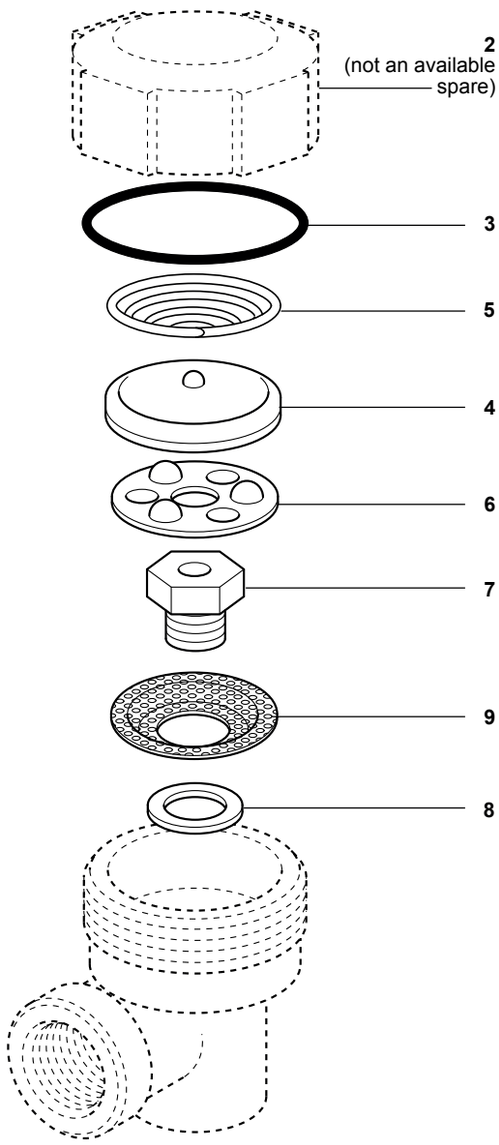
Available spares

Maintenance kit			**3**, **4**, **5**, **6**, **7**, **8**, **9**
Cap gasket	Earlier models	(packet of 3)	**3**
	Current models	(packet of 3 'O' rings)	**3**

Note: Earlier models were fitted with conventional gaskets. Current models are fitted with an 'O' ring to seal the cap.

Screen	(packet of 3)	**3**, **9**

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.
Example: 1 - Capsule and seat assembly for a Spirax Sarco ½" BPT13S balanced pressure thermostatic steam trap with screwed BSP connections. Brass body with internal strainer screen and '**STD**' fill capsule for operation approximately 12°C below steam saturation temperature.



Recommended tightening torques

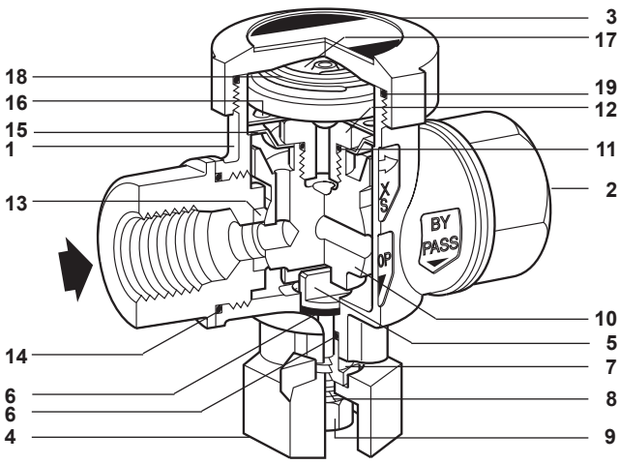
Item	Part		or mm	N m
2	Cap	'O' ring	50 A/F	50 - 60
		Gasket	50 A/F	90 - 110
7	Seat		17 A/F	35 - 40

spirax sarco

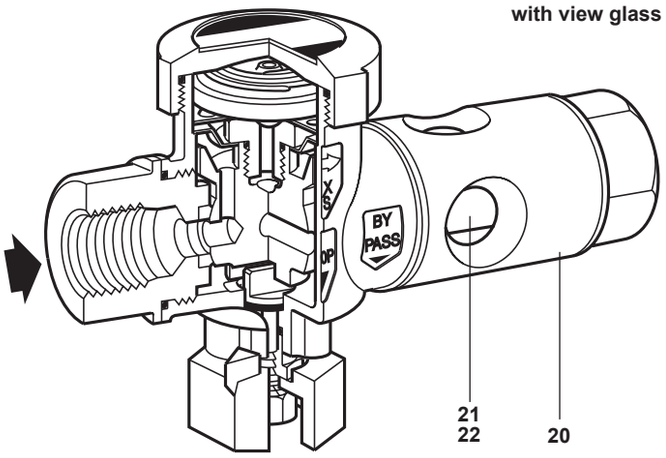
TI-P126-03
ST Issue 6

BPT13T and BPT13TGX Thermostatic Steam Traps

BPT13T



BPT13TGX
with view glass



Description

The BPT13T is a brass bodied maintainable balanced pressure steam trap with horizontal in-line connections. It has a unique bypass and stop valve feature built into the trap which simplifies and reduces the cost of installation. The bypass can be used simply to handle high start-up loads or to avoid debris collecting in the steam trap, on the commissioning of new systems. The BPT13TGX has an integral sight tube for indication of operation.
Note: When placing an order always state capsule fill.

Capsule fill and operation

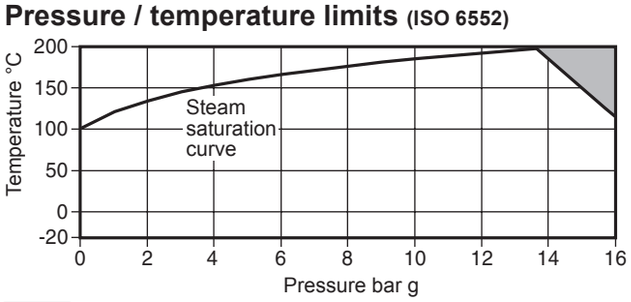
Standard capsules are marked with the letter '**STD**' for operation at approximately 10°C below steam saturation temperature.

Optionally the capsule can be supplied for sub-cooled '**SUB**' operation at approximately 22°C below steam saturation temperature or a '**NTS**' fill capsule for near-to-steam operation at approximately 4°C below steam saturation temperature.

Sizes and pipe connections

½", ¾" and 1" screwed BSP

Pressure / temperature limits (ISO 6552)



The product **must not** be used in this region.

Body design conditions	PN16
PMA Maximum allowable pressure	16 bar g @ 120°C
TMA Maximum allowable temperature	200°C @ 7 bar g
Minimum allowable temperature	-20°C
PMO Maximum operating pressure	13 bar g @ 220°C
TMO Maximum operating temperature	200°C @ 7 bar g
Minimum operating temperature	0°C

Note: For lower operating temperatures consult Spirax Sarco

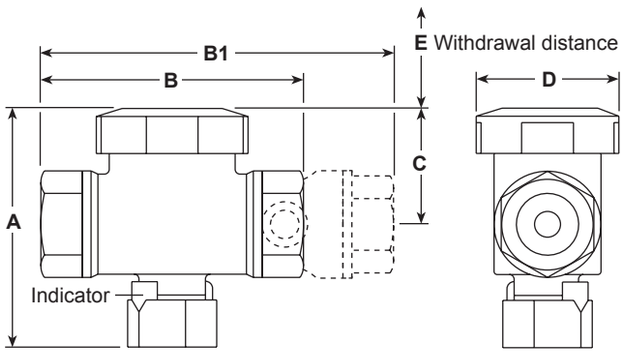
Designed for a maximum cold hydraulic test pressure of 24 bar g

Materials

No.	Part	Material	
1	Body	Brass	BS EN 12165 CW 617N
2	End connection	Brass	BS EN 12165 CW 617N
3	Cap	Brass	BS EN 12165 CW 617N
4	Actuator	Stainless steel	BS 3146 Pt2 ANC 4B
5	Spindle	Stainless steel	BS 970 431 S29
6	Stem seal	25% carbon filled PTFE	
7	Gland nut	Stainless steel	BS 970 303 S31
8	Spring washer	Stainless steel	BS 6105 Gr. A4
9	Lock-nut	Stainless steel	ISO 3506-2: A2-70
10	Ball plug	Brass (ELNP Finish)	BS 2874 CZ 121
11	Seat 'O' ring	Synthetic rubber high fluorine fluorocarbon	
12	Valve seat	Stainless steel	BS 970 431 S29
13	Main seal	25% carbon filled PTFE	
14	End connection 'O' ring	Synthetic rubber high fluorine fluorocarbon	
15	Screen	Stainless steel	ASTM A240 TP 304
16	Spacer plate	Stainless steel	BS 1449 304 S16
17	Capsule	Stainless steel	
18	Spring	Stainless steel	BS 2056 302 S26
19	Cap 'O' ring	Synthetic rubber high fluorine fluorocarbon	
20	Sight tube housing	Brass	BS 2874 CZ 121
21	Sight tube gasket	Virgin PTF E / Flurocarbon	
22	Sight tube	Borosilicate glass	

Dimensions / weights (approximate) in mm and kg

Size	A	B	B1	C	D	E	Weight BPT13T	Weight BPT13TGX
½"	92	97	133	45	50	55	1.1	1.35
¾"	92	117	153	45	50	55	1.2	1.45
1"	92	127	163	45	50	55	1.5	1.75



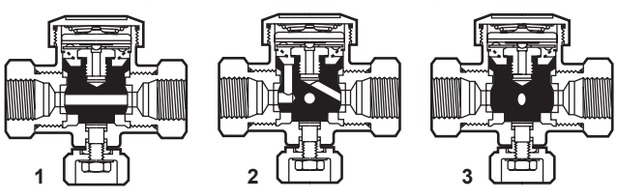
Installation

The trap is designed for installation with the capsule in a horizontal plane and the cap at the top, preferably with a drop leg immediately preceding the trap. See IM-P126-05 for full installation details.

Warning:
Under certain conditions corrosive elements in condensate can effect the inside face of the sight tube, particularly where caustic alkali and hydrofluoric acid are present. It is recommended that the sight tube is periodically checked for thinning. If there is evidence of thinning or erosion damage then the sight tube should be replaced immediately. Always wear eye protection when viewing the contents of the sight tube.
Reasonable steps should be taken to protect personnel from injury in the unlikely event that the sight tube breaks.

Operation

The trap is supplied in the '**Bypass**' position (**1**). To move it to '**Trap**' (**2**) or '**Stop**' (**3**) position the actuator should be moved until the indicator aligns with the marking on the body.



Maintenance

See IM-P126-05 for full maintenance details

Replacement of capsule assembly:
Before any maintenance is undertaken, suitable independent isolation valves should be closed and the trap positioned in the 'bypass' mode. Allow the trap to cool. Remove the cap and lift out the old capsule, spring and spacer plate. Drop in a new spacer plate, capsule and spring. Screw on the cap using a new 'O' ring assembled into the groove in the top of the cap. Always fit a completely new assembly when replacing the capsule.

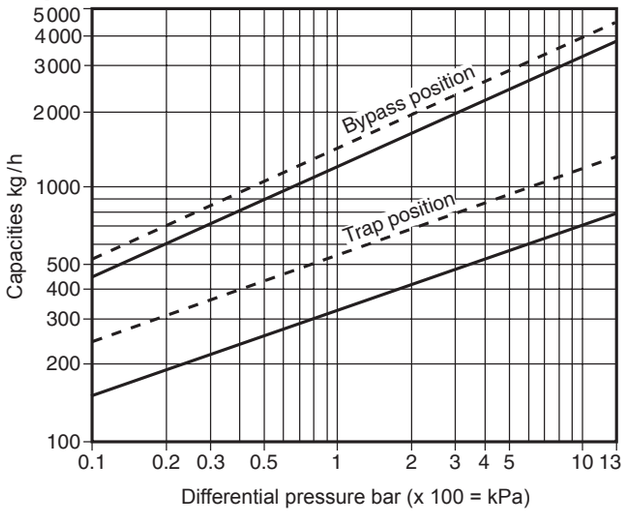
Recommended tightening torques

Item	Size	or mm	Nm
2 and 20	DN15	32	35 - 40
2 and 20	DN20	36	35 - 40
2 and 20	DN25	46	35 - 40
3	DN15 - 25	50	50 - 60
4	DN15 - 25	30	-
7	DN15 - 25	13	7 - 10
9	DN15 - 25	13	12 - 15
12	DN15 - 25	17	12 - 15

How to order

Example: 1 off ½" Spirax Sarco BPT13 balanced pressure thermostatic steam trap with a capsule marked 'SUB' for sub-cooled operation.

Capacities



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

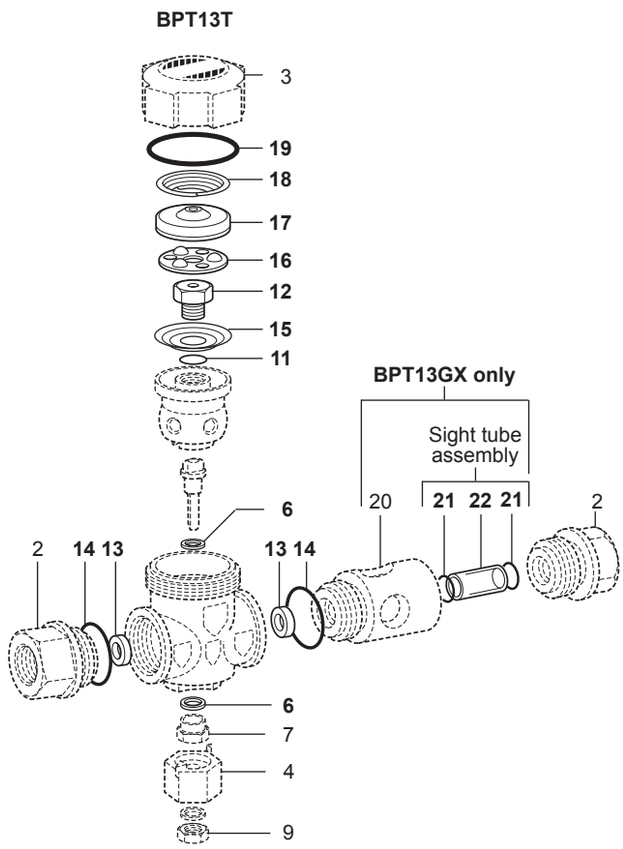
Spare parts

The spare parts available are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

Available spares	
Capsule assembly	**16**, **17***, **18**, **19**
Maintenance kit	**6** (2 off), **11**, **12**, **13** (2 off), **14** (2 off), **15**, **16**, **17***, **18**, **19**
Sight tube assembly	**21** (2 off), **22**

***Note:** The capsule can be identified from the letter stamped on the name-plate on the cap (e.g. STD, SUB or NTS). A standard capsule (STD) will be supplied, unless specified otherwise on the order.

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 assembly, marked STD, for a Spirax Sarco BPT13T balanced pressure thermostatic steam trap.



spirax sarco

TI-P125-08
ST Issue 9

MST21
Stainless Steel
Balanced Pressure Thermostatic Steam Trap

Description

The MST21 is a maintainable balanced pressure thermostatic steam trap designed for relatively small condensate loads usually associated with instrument tracing applications. It is manufactured in stainless steel and is corrosion resistant and easily maintainable.

Available types

MST21	Standard capacity for tracing loads (standard unit)
MST21H	High capacity for special applications

Note: When placing an order always state the capsule fill.

Capsule fill and operation

Standard capsules are marked with the letter '**STD**' for operation at approximately 10°C below steam saturation temperature.

Optionally the capsule can be supplied for sub cooled '**SUB**' operation at approximately 22°C below steam saturation temperature or a '**NTS**' fill capsule for operation at approximately 4°C below steam saturation temperature.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

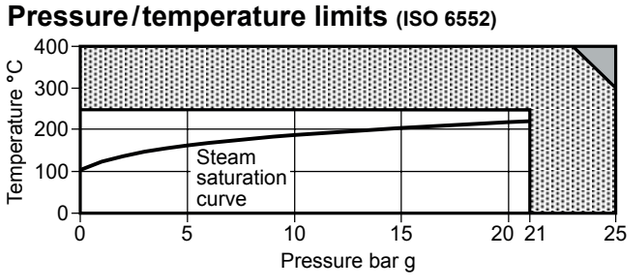
Certification

This product is available with a manufacturers' Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

MST21 ¼" ⅜" and ½" screwed BSP, EN ISO 228-1, or NPT.
MST21H ½", ¾" and 1" screwed BSP, EN ISO 228-1, or NPT.

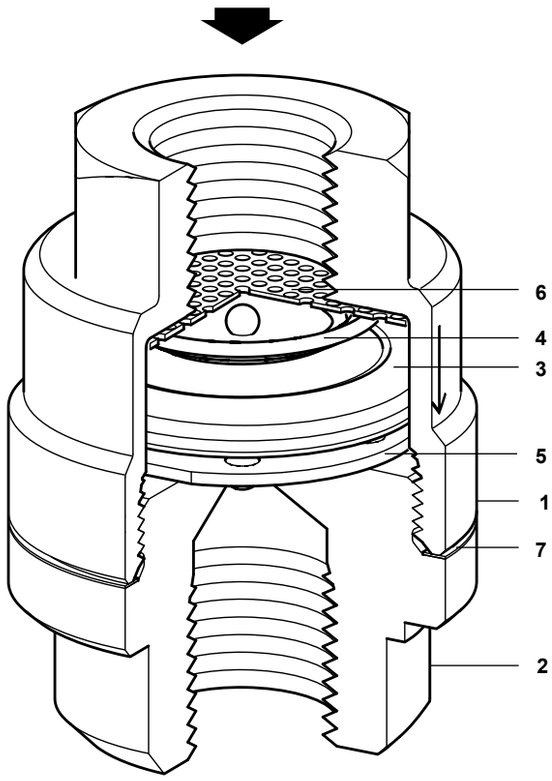
Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

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

Body design conditions		PN25
PMA	Maximum allowable pressure	25 bar g @ 300°C
TMA	Maximum allowable temperature	400°C @ 23 bar g
Minimum allowable temperature		0°C
PMO	Maximum operating pressure	21 bar g @ 235°C
TMO	Maximum operating temperature	235°C @ 21 bar g
Minimum operating temperature		0°C
Designed for a maximum cold hydraulic test pressure of 38 bar g		



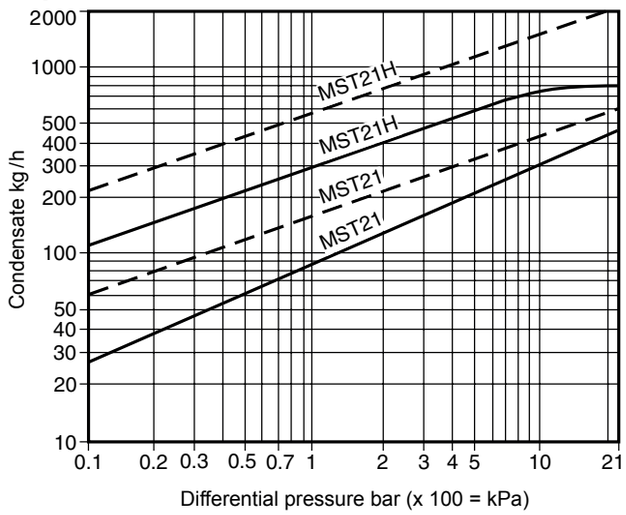
Materials

No.	Part	Material	
1	Body	Austenitic stainless steel (303)	ASTM A743 CF16Fa
2	Cap	Stainless steel	420A UGIMA AISI 420
3	Capsule	Stainless steel	
4	Spring	Stainless steel	BS 2056 302 S26
5	Spacer plate	Stainless steel	BS 1449 304 S15
6	Strainer screen (0.8 mm perforations)	Stainless steel	ASTM A240 316L
7	Gasket	Stainless steel	BS 1449 304 S15

Note: Material grades shown in brackets are nearest equivalents.

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

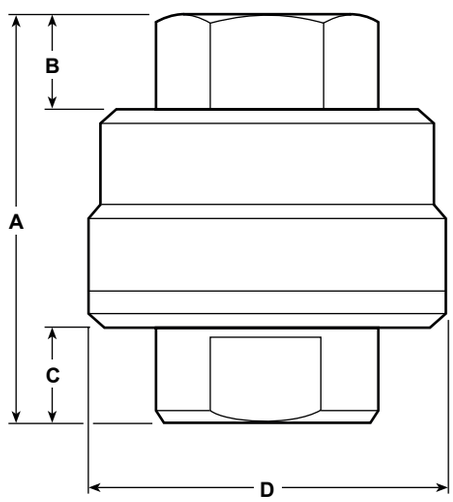
Capacities



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

Dimensions / weights (approximate) in mm and kg

Size	A	B	C	D	Weight
¼"	50.5	8.5	10	45	0.34
½"	61.0	12.5	14	45	0.48
⅜"	68.0	14.0	14	45	0.48
¾"	68.0	14.0	14	45	0.48
1"	75.0	14.0	14	45	0.48



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P125-07) supplied with the product.

Installation note:
The MST21 is designed for installation with the capsule in a vertical line with the inlet at the top and the outlet at the bottom. This will ensure it is self-draining. If fitted in a horizontal line the trap should be proceded by a short drop-leg.

Caution:
The body/cover gasket contains a thin stainless steel support ring, which may cause physical injury if it is not handled and disposed of carefully.

Disposal:
This product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco ¼" MST21 balanced pressure thermostatic steam trap having a 'STD' fill capsule for operation approximately at 10°C below steam saturation temperature. The connections are to be screwed NPT.

Spare parts

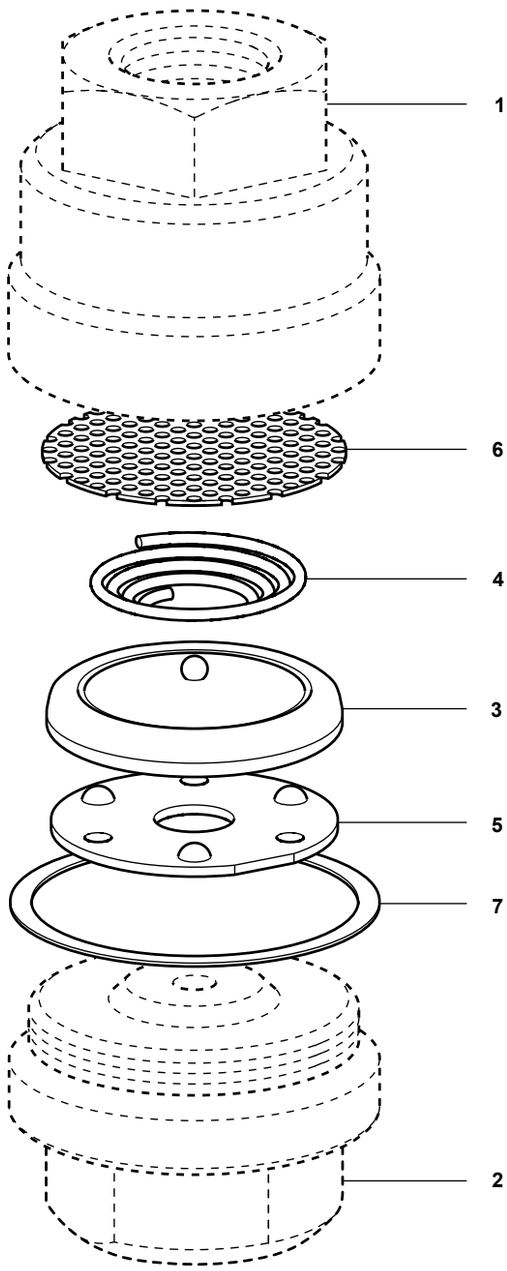
The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

Available spares

Internals set for MST21	**3, 4, 5, 6, 7**

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 off Internals set for a Spirax Sarco ¼" MST21 balanced pressure thermostatic steam trap having a 'STD' fill capsule for operation at 10°C below steam saturation temperature.



Recommended tightening torques

Item	Size	or mm	N m
1 and 2	¼"	22	100 - 110
	½"	32	100 - 110
	⅜"	32	100 - 110
	¾"	36	100 - 110
	1"	41	100 - 110

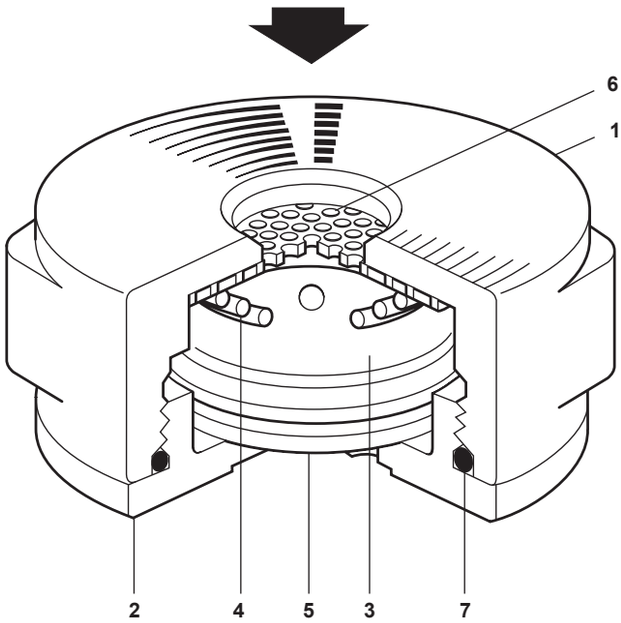
TI-P126-06
ST Issue 5

BPW32
Balanced Pressure Wafer Steam Trap

Description
The BPW32 is a compact wafer pattern stainless steel balanced pressure steam trap for pressures up to 21 bar g. It has an internal strainer, is maintainable and is suitable for installation between two pipeline flanges. It offers both weight and space savings over conventional traps.

Capsule filling and operation
Standard capsules are marked with the letters **'STD'** for operation at approximately 13 °C below steam saturation temperature.

Optionally, the capsule can be supplied for sub-cooled operation with a **'SUB'** fill which operates at approximately 24 °C below steam saturation temperature or for near-to-steam a **'NTS'** fill which operates at approximately 6 °C below steam saturation temperature.

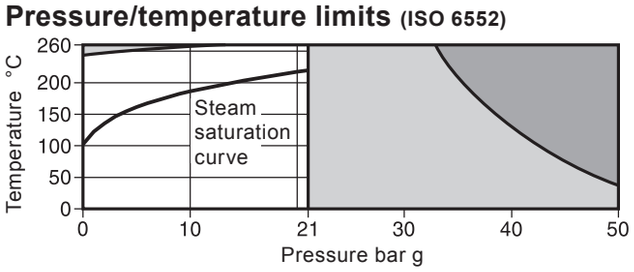


Standards
This product fully complies with requirements of the European Pressure Equipment Directive 97/23/EC.

Certification
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections
DN15, DN20 and DN25 to fit between standard flanges PN40, ANSI 150, ANSI 300, JIS 10, JIS 16 and JIS 20.

Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

Body design conditions	PN50/ANSI 300
PMA Maximum allowable pressure	50 bar g @ 38 °C
TMA Maximum allowable temperature	260 °C @ 33 bar g
Minimum allowable temperature	0 °C
PMO Maximum operating pressure	21 bar g @ 260 °C
TMO Maximum operating temperature	260 °C @ 21 bar g
Minimum operating temperature	0 °C
Note: For lower operating temperatures consult Spirax Sarco	
Designed for a maximum cold hydraulic test pressure of 75 bar g	

Materials

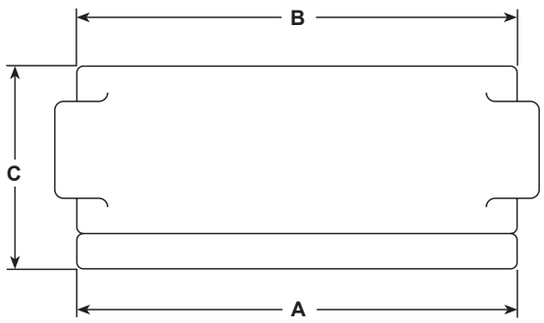
No.	Part	Material	
1	Body	Stainless steel	DIN 17445 1.4408/ ASTM A351 CF8M
2	Cap	Stainless steel	EN10088 1.4057/ ASTM A479 431
3	Capsule	Stainless steel	
4	Spring	Stainless steel	BS 2056 302 S26
5	Spacer plate	Stainless steel	BS 1449 304 S16
6	Strainer screen 0.8 mm perforations	Stainless steel	ASTM A240 316L
7	'O' ring	EPDM	

8.2
11

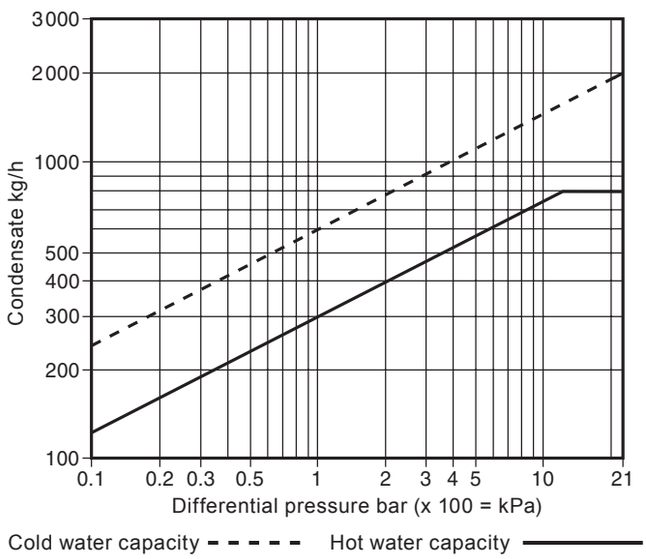
Steam traps
Balanced pressure

Dimensions/weights (approximate) in mm and kg

Size	PN40 A	ANSI 150 A	ANSI 300 A	JIS A	ANSI 150 B	ANSI 300 PN40/JIS B	ANSI 150 C	ANSI 300 PN40/JIS C	Weight
DN15	53	-	55	58	47	53	25.5	25.5	0.30
DN20	63	53	67	63	53	63	25.5	31.5	0.57
DN25	72	53	72	74	62	72	31.5	35.5	0.83



Capacities



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P126-07) supplied with the product.

Installation note:
The trap is intended for installation in a vertical line with flow from top to bottom, this will ensure that it is self-draining. It can also be installed in other planes if required. Standard flange gaskets are to be used - supplied by customer.

How to order

Example: 1 off Spirax Sarco DN25 BPW32 maintainable wafer pattern balanced pressure steam trap for installation between DIN PN40 flanges. To be supplied with an 'STD' fill capsule. The outer diameter to provide positive location inside flange bolts for ease of installation.

Spare parts

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

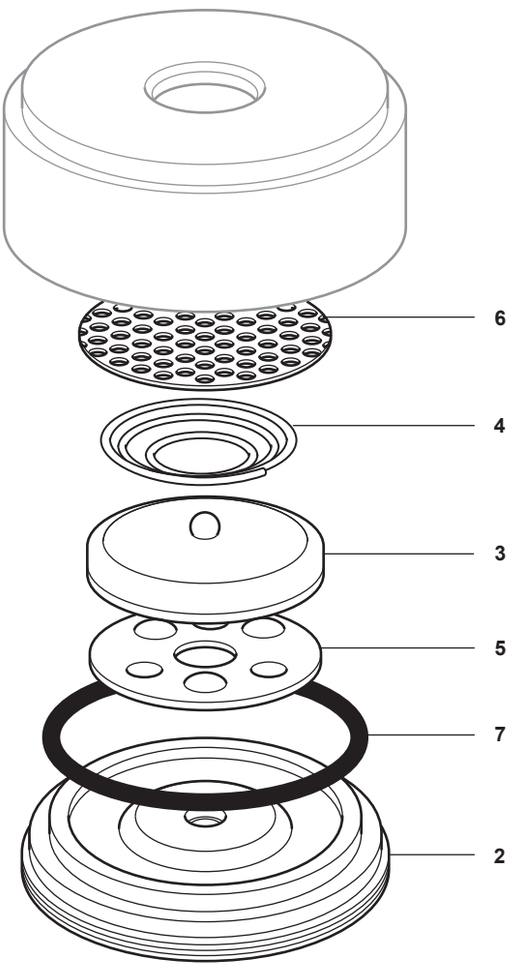
Available spares	
Internal set	**3**, **4**, **5**, **6**, **7**
End cap	**2**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, model no. and capsule option required.

Example: 1 - Internal set for a DN20 BPW32 balanced pressure wafer steam trap with 'STD' fill capsule.

Note: The capsule can be identiified from the letter stamped on the name-plate of the cap (e.g. **STD**, **SUB** or **NTS**).
A standard capsule (**STD**) will be supplied, unless specified otherwise on the order.



Recommended tightening torques

Item	Connections	Sizes	or mm		N m
1 and 2	**ANSI 150**	**All sizes**			10 - 15
	PN40 **ANSI 300** **JIS 10** **JIS 16** **JIS 20**	**DN15**			10 - 15
		DN20			15 - 20
		DN25			20 - 25

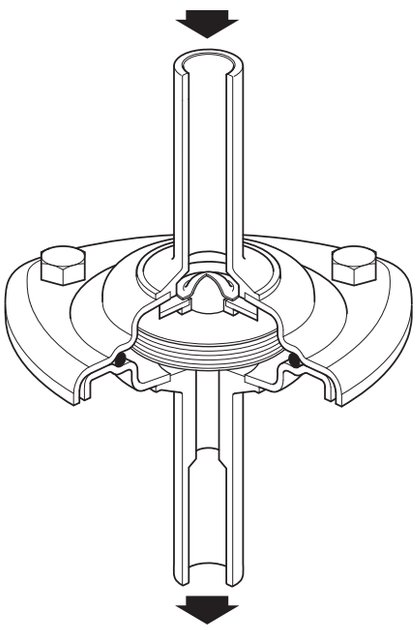
8 Steam traps
Balanced pressure

TI-P180-11
CMGT Issue 15

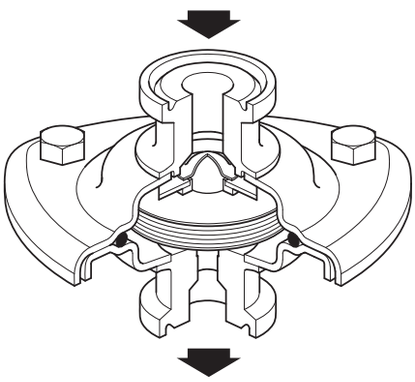
BTM7
Balanced Pressure Thermostatic Clean Steam Trap

Description

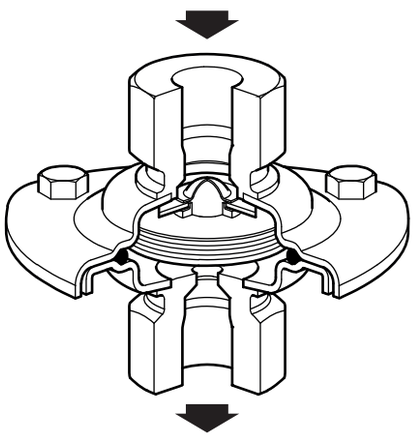
The Spirax Sarco BTM7 is a maintainable thermostatic steam trap designed to remove condensate from clean (chemical free) steam systems with minimal condensate retention. Applications include steam barriers, block and bleed installations, mains drainage and CIP/SIP of vessels and reactors and process lines. Manufactured in 316L stainless steel with minimal crevises and a typical internal surface finish of 1.6 - 3.2 µm 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.



Tube ended variant



Sanitary clamp ended variant



Screwed ended variant

Options and available types

Contact Spirax Sarco for further information

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

Special connections to suit most piping systems.

8

Steam traps
Balanced pressure

Standards

- The BTM7 has been designed and manufactured in general accordance with ASME BPE standards.
- The unit also complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulation.
- 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.
- EC1935 : 2004.
- Full material lot number product traceability.

Sizes and pipe connections

Sanitary clamp ended variants

Standard	Issue	Type	Sizes						
ASME BPE		Type A			½"	¾"			
		Type B					1"		
DIN32676	2001-02	Series 2			DN15				
	2009-05	Series A			DN15				
		Series B	DN8	DN10	DN15	DN20	DN25	DN32	DN40
		Series C			½"	¾"	1"		

Tube ended variants

Standard	Issue	Type	Sizes						
DIN11866	2016-11	Series A			DN15				
		Series C			DN15	DN20	DN25		
DIN11850	1999-01	Series 2		DN10	DN15				
ISO1127	1997	Series 1	DN8	DN10	DN15				

Screw ended variants

Standard	Issue	Type	Sizes						
Socket BSP Socket NPT				¼"	½"	¾"	1"		

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.

Certification

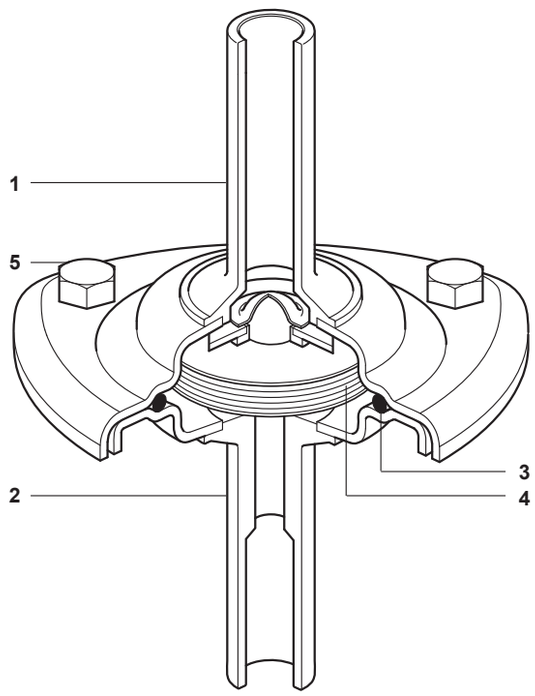
This product is available with the following certification:

- 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.
- Declaration of Conformity BS EN ISO 14644-1:2015 Class 7 Clean Room - F.O.C.
- Typical Test Report - F.O.C.

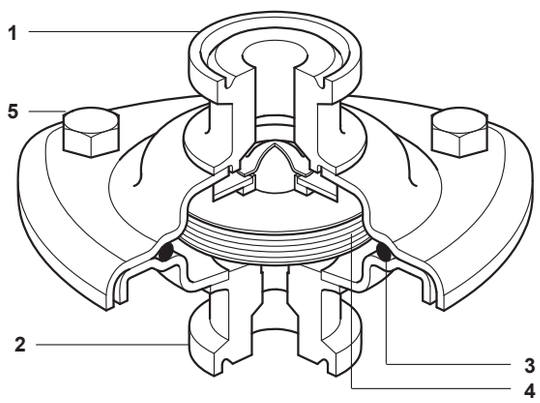
Note: All certification/inspection requirements must be stated at the time of order placement, and may be subject to additional cost as detailed above.

Materials

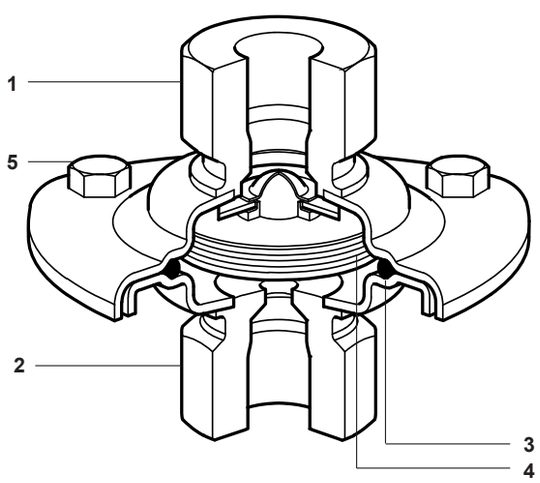
No.	Part	Material	
1	Body (inlet)	Stainless steel	316L (1.4404)
2	Body with seal (outlet)	Stainless steel	316L (1.4404)
3	'O' ring	FKM	
4	Capsule element	Stainless steel	316L (1.4404)
5	Nuts and bolts	Stainless steel	BS 6105 Gr. A4 80
	Washers	Austenitic stainless steel	



Tube ended variant



Sanitary clamp ended variant

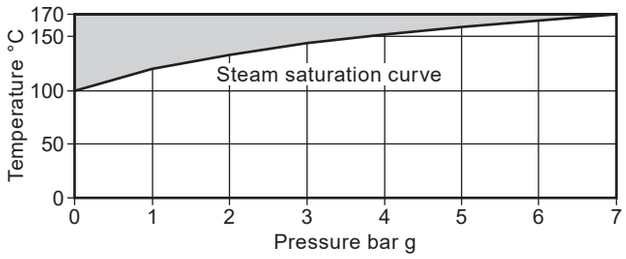


Screwed ended variant

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

Steam traps
Balanced pressure

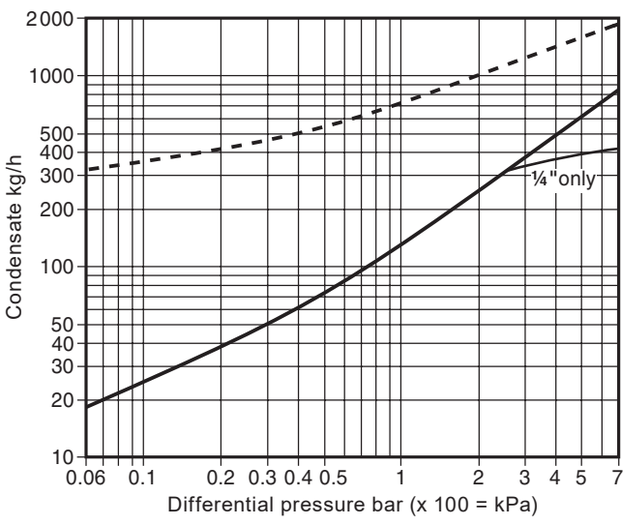
Pressure/temperature limits



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

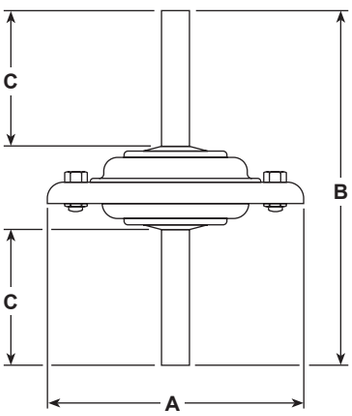


Cold water capacity - - - - Hot water capacity ——

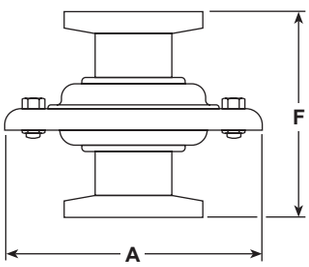
Dimensions/weights (approximate) in mm and kg.

Products each weigh 1 kg maximum *

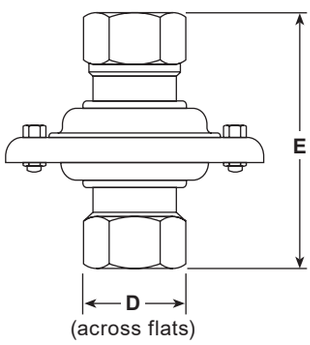
Standard	Sizes	A	B Tube	C	D Screwed	E Screwed	F Sanitary Clamp	Weight
Sanitary Clamp ended variants								
ASME BPE Types A and B, DIN32676 Series 2 + A, B, and C Variants	DN8, DN10 (¼"), DN15 (½") DN20 (¾") DN25 (1") DN32, DN40.	70					49 for DN8 to DN15, and 53 for DN25 and DN40	1 kg *
Tube ended variants								
DIN11866 Series A and C, DIN11850 Series 2, ISO1127 Series 1	DN8, DN10, DN15, DN20, DN25	70	106	40				1 kg *
Screw ended variants								
Socket BSP + NPT	¼", ½", ¾", 1"	70			27, 27, 32, 41	58, 74, 81, 95		1 kg *



Tube ended variant



Sanitary clamp ended variant



Screwed ended variant

Steam traps
Balanced pressure

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-P180-05) supplied with the product.

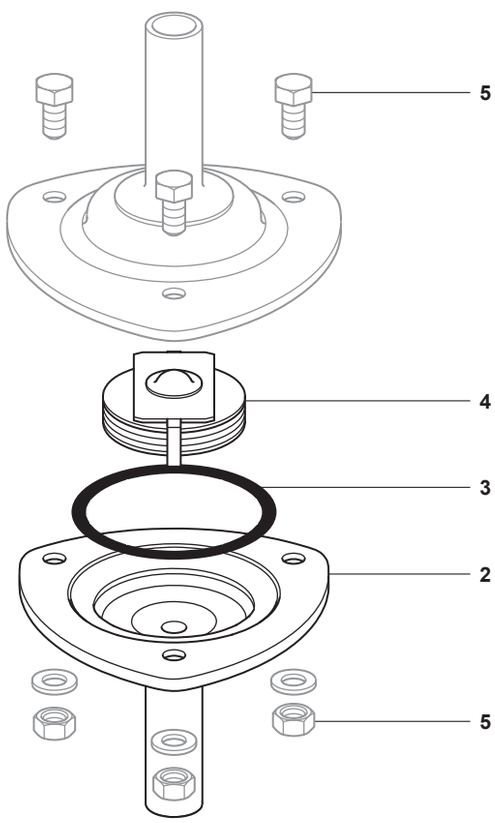
Installation note:
The trap is designed for installation in vertical lines with the flow downward to ensure self-draining operation. Do not expose element to superheat conditions since over-expansion may result.
Suitable isolation valves must be installed to allow for safe maintenance/replacement.

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

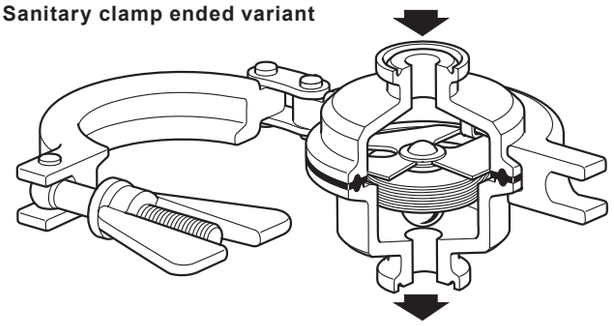
TI-P180-30
CMGT Issue 13

BT6-B
Sanitary Balanced Pressure Thermostatic Steam Trap

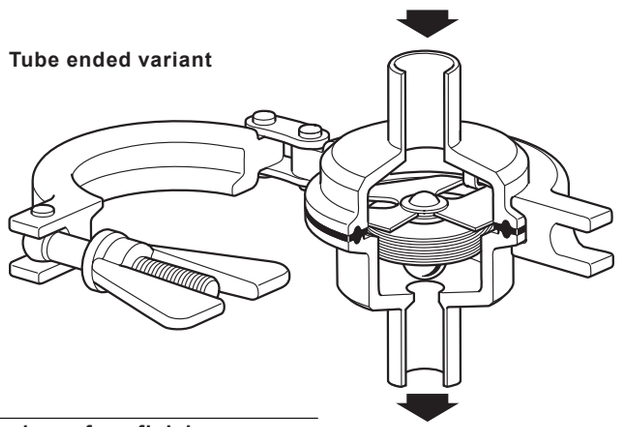
Description

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.

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

8 Steam traps

Balanced pressure

Sizes and pipe connections

Sanitary clamp ended variants

Standard	Issue	Type	Sizes						
ASME BPE		Type A			½"	¾"			
		Type B					1"		1 1/2"
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

Standard	Issue	Type	Sizes						
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."

Certification

This product is available with the following certification:

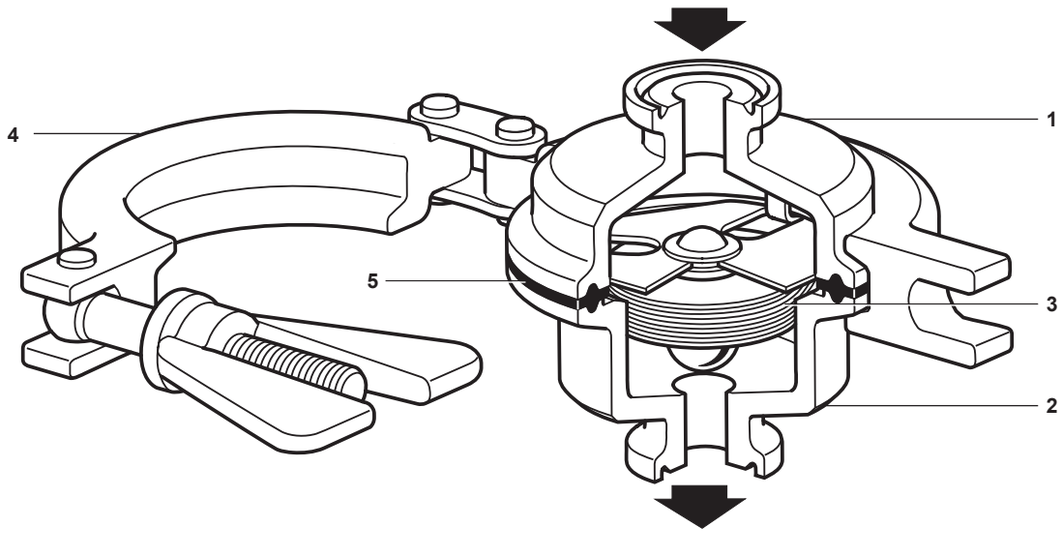
- EN 10204 3.1 Full Validation Pack - Chargeable
- EN 10204 3.1 Material Certification Pressure Retaining Parts - Chargeable
- EN 10204 3.1 Material Certification Wetted Parts (including a WFI element fill) available for element spares (included in Full Validation Pack) - Chargeable
- Specific Internal 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.

8.2

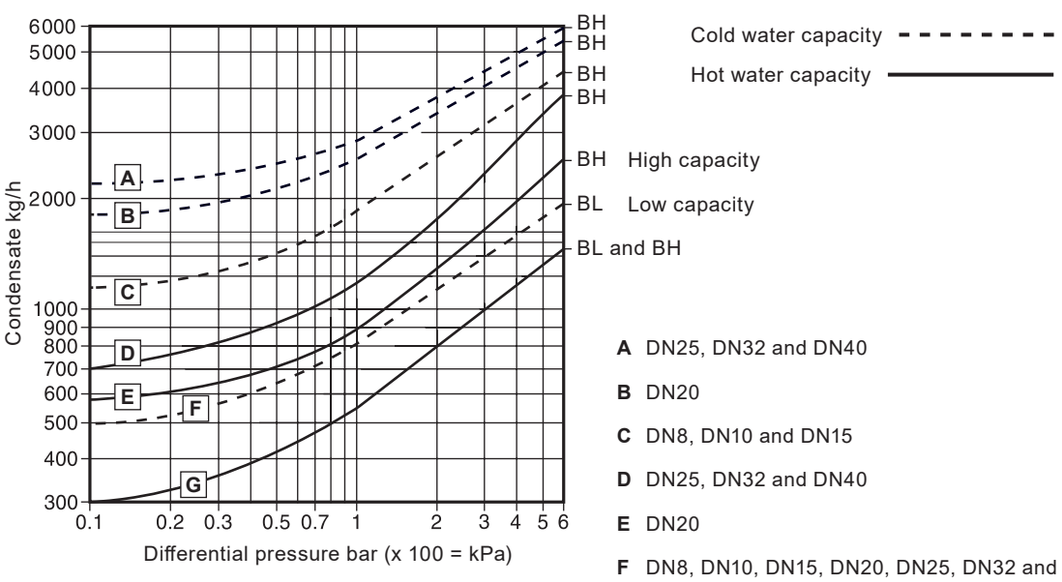
22

Materials



No.	Part	Material	
1	Body (inlet)	Stainless steel	316L (1.4404)
2	Body (outlet)	Stainless steel	
3	Capsule element	Stainless steel	
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

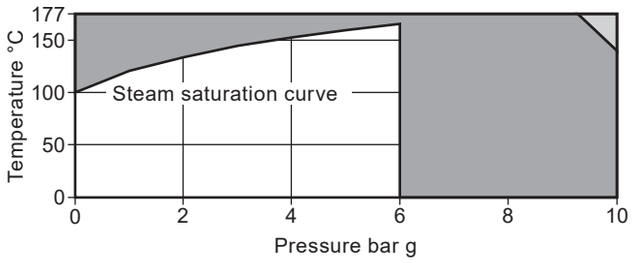
D DN25, DN32 and DN40

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.

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.

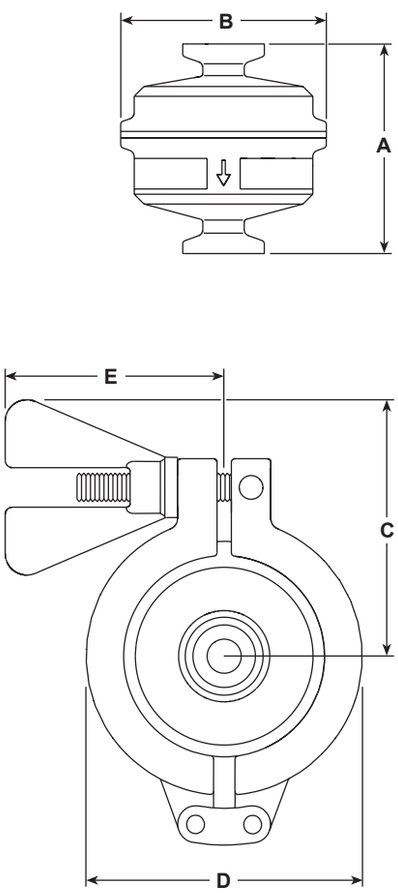
How to order

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.

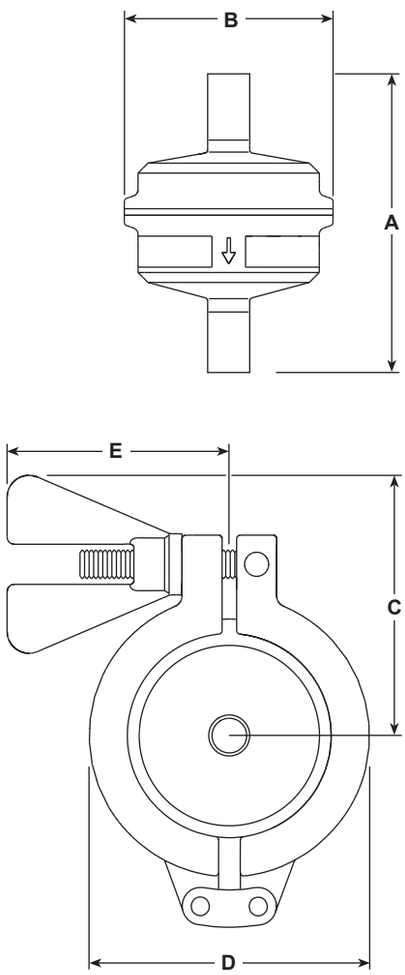
Dimensions (approximate) in mm. Products each weigh 1 kg maximum.

Sanitary clamp ended variants

Standard	Sizes	A	B	C	D	E	Weight
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	
Tube ended variants							
DIN11866 Series A, DIN11850 Series 2, ISO1127 Series 1	DN15 + DN20 + DN25 + DN40	92	64	71.5	77	61	1 kg maximum



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



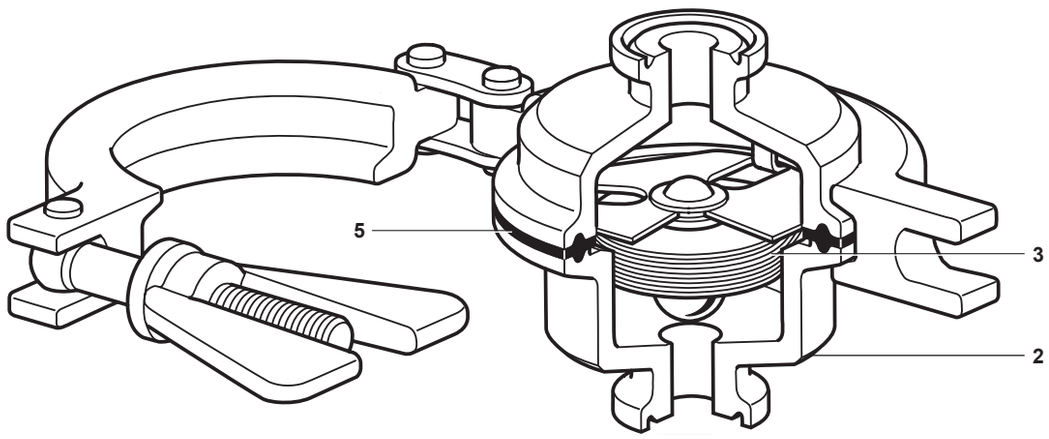
Tube ended variants
in DIN11866, DIN11850 and ISO1127 standards

Steam traps
Balanced pressure

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.



TI-P180-03
CMGT issue 12

BTS7
Balanced Pressure Thermostatic Steam Trap

Description

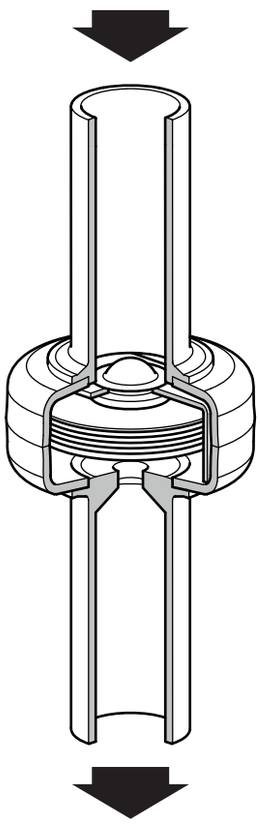
The Spirax Sarco BTS7 is a sealed thermostatic steam trap designed to remove condensate from clean (chemical free) steam systems with minimal condensate retention. Applications include steam barriers, block and bleed installations, mains drainage and CIP/SIP of vessels and reactors and process lines.
Manufactured in 316L stainless steel with minimal crevises, 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.

Options

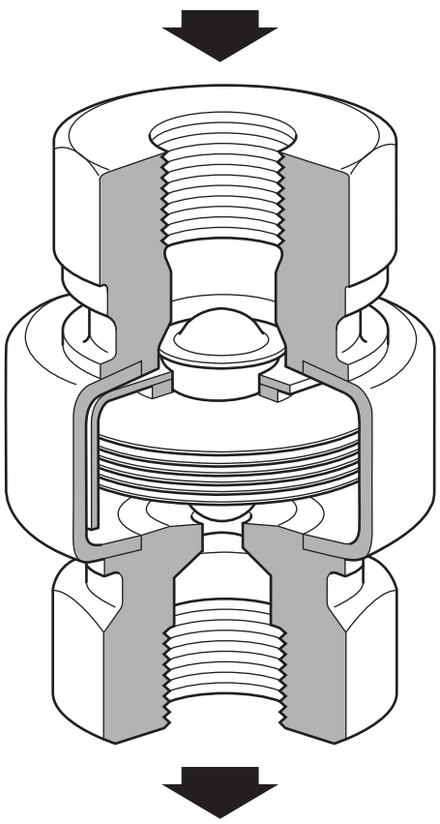
Fixed bleed to ensure 'Fail Open' operation. Special connections to suit most piping systems.

Standards

- The BTS7 has been designed and manufactured in general accordance with ASME BPE standards.
- The unit also complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.



BTS7
Tube ended variant



BTS7
Screwed ended variant

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

8

Steam traps
Balanced pressure

Certification
This product is available with the following certification:

- Certificate of Compliance for FDA and ADI Free Statement - F.O.C
- TSE-BSE Statement - F.O.C.
- Declaration of Conformity BS EN ISO 14644-1:2015 Class 7 Clean Room - F.O.C.
- Typical Test Report - F.O.C.

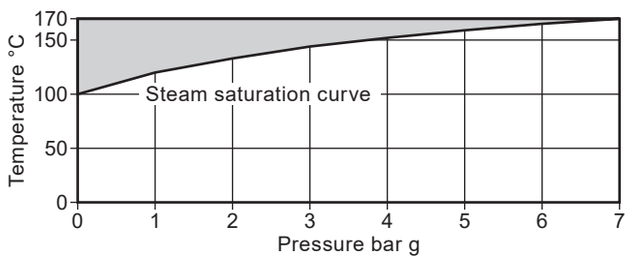
Note: All certification/inspection requirements must be stated at the time of order placement, and may be subject to additional cost as detailed above.

Sizes and pipe connections

	Standard	Issue	Type	Sizes				
Tube Ended Variants	**Imperial O/D**		16swg wall			½"	¾"	1"
	DIN 11850		Series 1		DN10	DN15		
	ISO 1127		Series 1	DN8	DN10	DN15		

	Standard	Issue	Type	Sizes				
Screwed Ended Variants	**BSP**				¼"	½"	¾"	1"
	NPT				¼"	½"	¾"	1"

Pressure/temperature limits



8.2

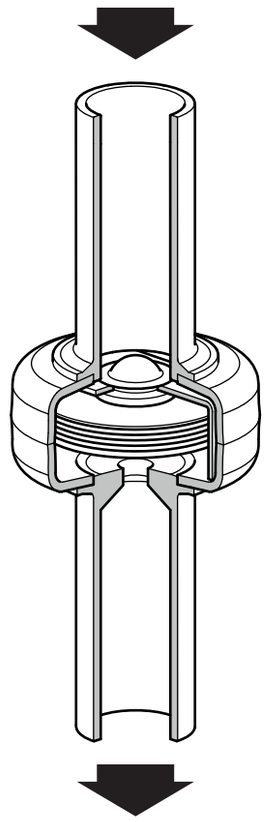
28

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

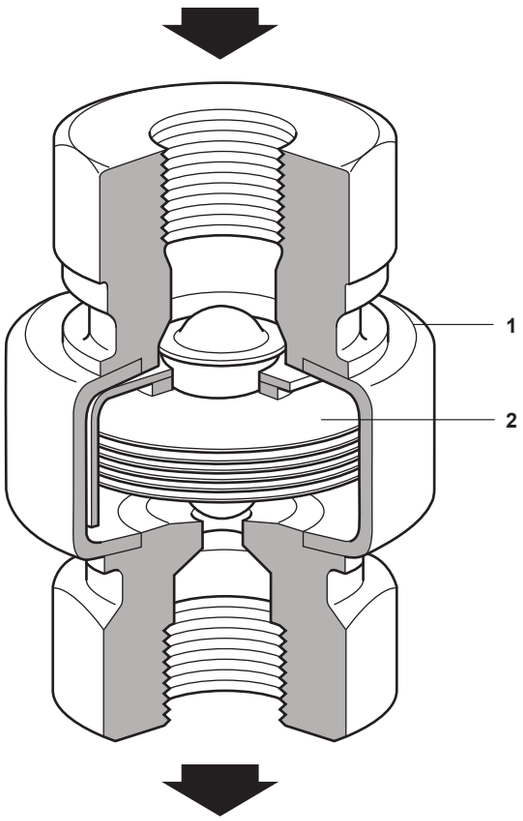
Body design conditions		PN7
PMA	Maximum allowable pressure	7 bar g @ 170 °C
TMA	Maximum allowable temperature	170 °C @ 7 bar g
Minimum allowable temperature		-254 °C
PMO	Maximum operating pressure for saturated steam service	7 bar g @ 170 °C
TMO	Maximum operating temperature	170 °C @ 7 bar g
Minimum operating temperature		0 °C
Designed for a maximum cold hydraulic test pressure of:		10.5 bar g

Materials

No.	Part	Material	
1	Body	Stainless steel	316L (1.4404)
2	Capsule element	Stainless steel	316L (1.4404)

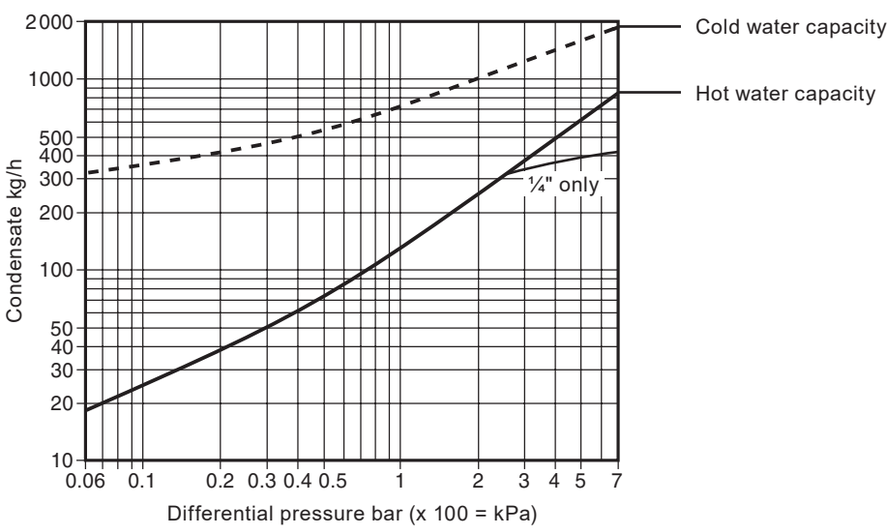


BTS7
Tube ended variant



BTS7
Screwed ended variant

Capacities

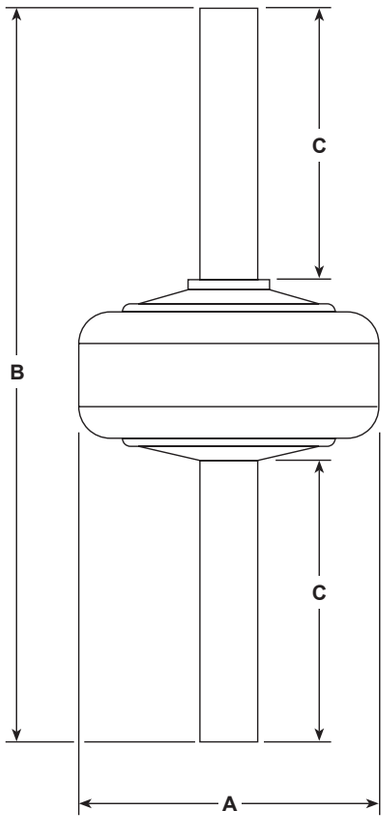


Steam traps
Balanced pressure

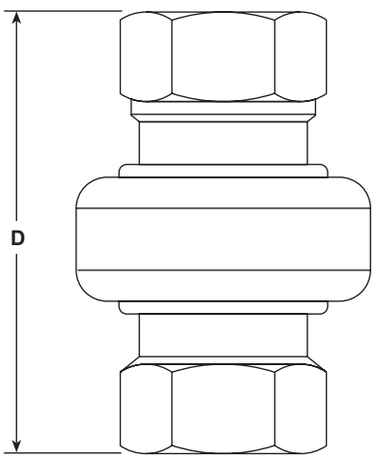
Dimensions/weights (approximate) in mm and kg

	A	B	C	D	Weight	
Size		Tube		Screwed	Tube	Screwed
¼"	40	-	-	58	-	0.53
½"	40	106	40	74	0.44	0.49
¾"	40	106	40	81	0.51	0.60
1"	40	106	40	95	0.60	0.73
DN8*	40	106	40	-	0.35	-
DN10	40	106	40	-	0.35	-
DN15	40	106	40	-	0.42	-

*DN8 only available for ISO 1127 tube ends.



Tube



Screwed

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 the 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 non-maintainable DN15 BTS7 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
There are no spare parts for the BTS7.

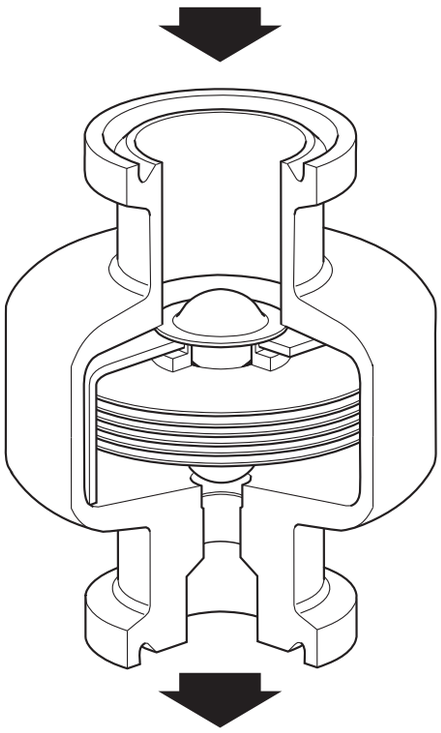
TI-P180-40
CMGT Issue 9

BTS7.1
Sanitary Balanced Pressure Thermostatic Steam Trap

Description
The Spirax Sarco BTS7.1 is a sealed sanitary balanced pressure thermostatic steam trap 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 stainless steel with minimal crevices, it is self-draining and operates close to steam temperature. The BTS7.1 has an internal finish of 0.5 µm Ra whilst the external finish is 0.75 µm Ra. Each trap is individually packaged within an "ISO CLASS 7" clean environment with protective end caps and sealed in a protective plastic bag.

Options
Fixed bleed to ensure 'Fail Open' operation.

Standards
- The BTS7.1 has been designed and manufactured in general accordance with ASME BPE standards.
- The unit also complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.



BTS7.1
Sanitary clamp ended variant

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 - Chargeable.
- Specific Internal Surface Finish - Chargeable.
- Typical Internal Surface Finish - F.O.C.
- Certificate of Compliance for FDA 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 - 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.

8

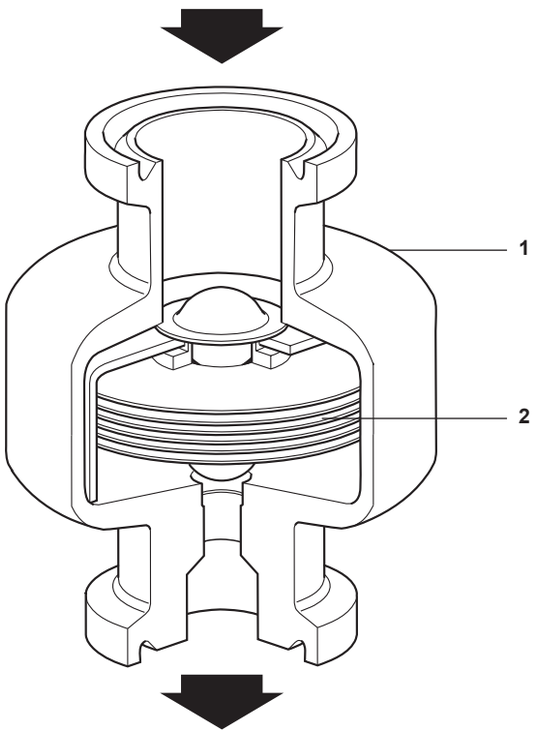
Steam traps
Balanced pressure

Sizes and pipe connections
¾" inlet and ½" outlet to ASME BPE Type A sanitary clamp connections.

The BTS7.1 trap is designed to be self draining for vertical installation (discharge down) ½" - ¾" trap should be fitted with a ¾" gasket at the inlet.

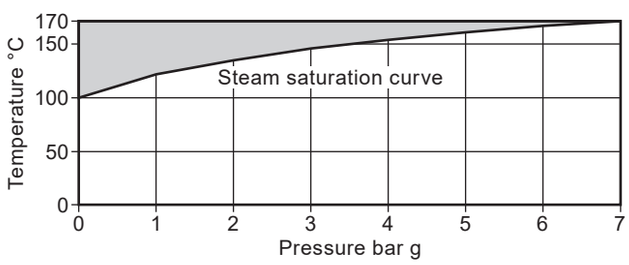
Materials

No.	Part	Material	
1	Body	Stainless steel	316L (1.4404)
2	Capsule element	Stainless steel	316L (1.4404)



BTS7.1
Sanitary clamp ended variant

Pressure/temperature limits

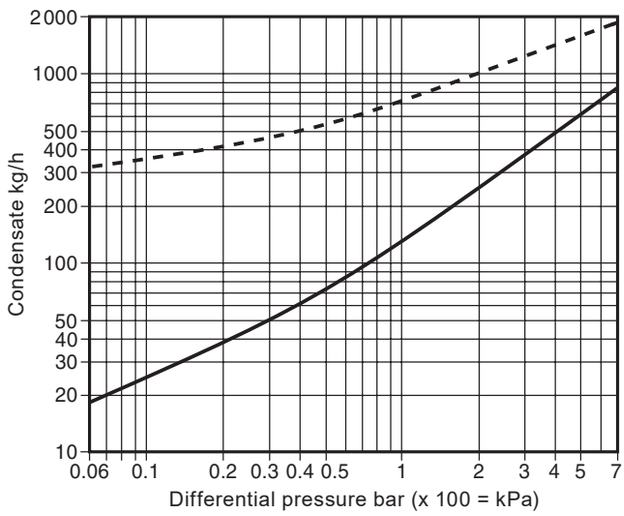


The product should not be used in this region as damage to the internals may occur.

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		-254 °C
PMO	Maximum operating pressure for saturated steam service	7 bar g @ 170 °C
TMO	Maximum operating temperature	170 °C @ 7 bar g
Minimum operating temperature		0 °C
Designed for a maximum cold hydraulic test pressure of:		10.7 bar g

8.2
32

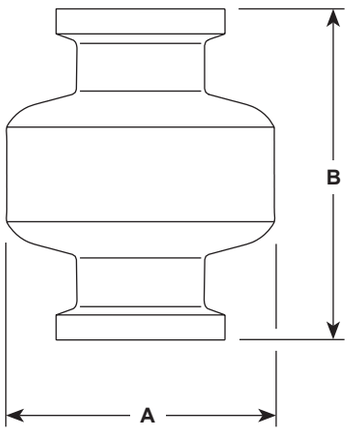
Capacities



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

Dimensions/weights (approximate) in mm and kg

Size	A	B	Weight
¾" x ½"	40	49	0.15 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 the 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 non-maintainable ½" - ¾" BTS7.1 clean steam trap suitable for pressures up to 7 bar g with a body that is self-draining.

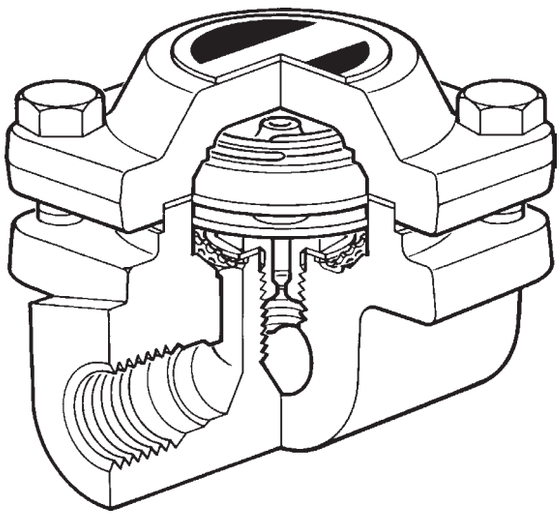
Spare parts

There are no spare parts for the BTS7.1.

8 Steam traps
Balanced pressure

TI-P124-08
CMGT Issue 3

BPM21L
Carbon Steel
Balanced Pressure Thermostatic Steam Trap

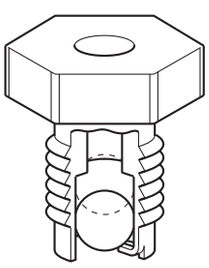


Description
The BPM21L is a compact, carbon steel, balanced pressure steam trap, having an internal strainer. It is ideally suited for applications where space is important such as OEM machinery.

Options

Capsule fill and operation
As standard, the capsule fitted will operate at approximately 13 °C below steam saturation temperature (STD). Alternatively, a near-to-steam capsule (NTS) can be fitted that will operate at approximately 6 °C below steam saturation temperature or a sub-cooling capsule (SUB) can be fitted that will operate at approximately 24 °C below steam saturation temperature.

Non-return/check valve
All versions can be supplied with an integral check valve and are designated **BPM21LCV.**



Standards
The product fully complies with the requirements of the Pressure Equipment Directive (PED).

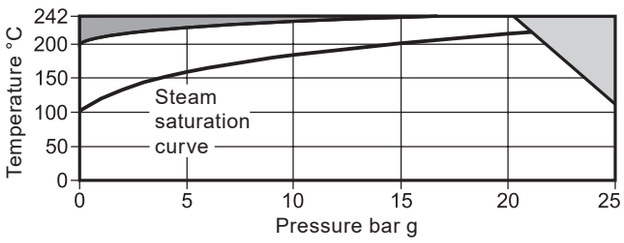
Certification
The product is available with a manufacturers Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections
⅜" and ½" screwed BSP (BS 21 parallel) or NPT.
Socket weld ends (½" only).

8

Steam traps
Balanced pressure

Pressure/temperature limits (ISO 6552)

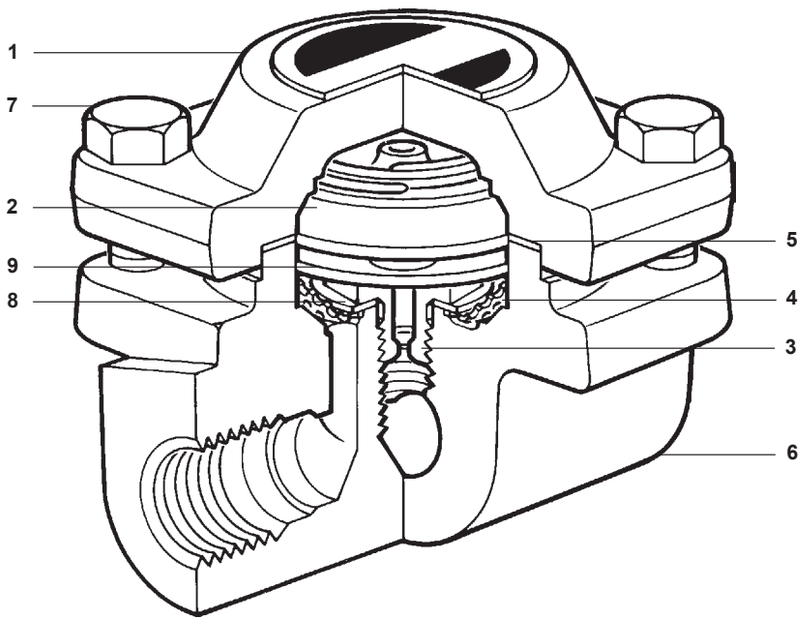


The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

Body design conditions	PN25
PMA Maximum allowable pressure	25 bar g @ 120 °C
TMA Maximum allowable temperature	242 °C @ 20 bar g
Minimum allowable temperature	-10 °C
PMO Maximum operating pressure	21 bar g @ 217 °C
TMO Maximum operating temperature	242 °C @ 20 bar g
Minimum operating temperature	0 °C
Designed for a maximum cold hydraulic test pressure of 38 bar g	

Materials

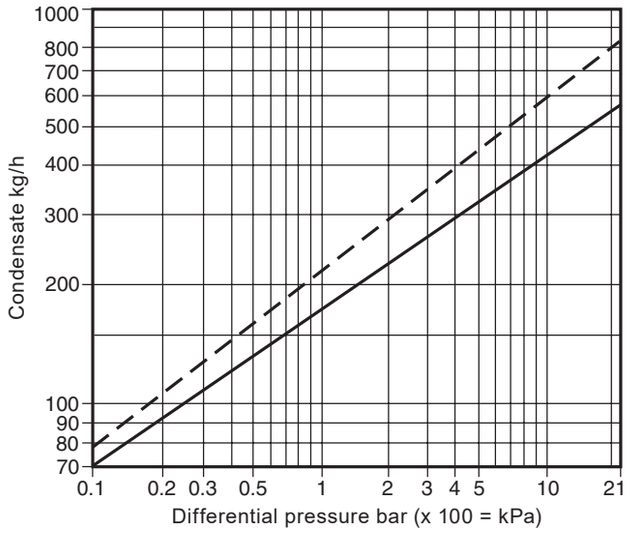


8.2

36

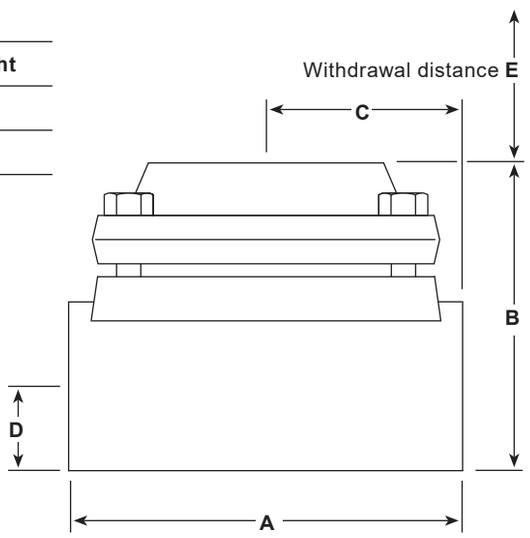
No.	Part	Material	
1	Cover	Steel	1.0460 (C22.8)
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	
4	Strainer screen	Stainless steel	
5	Cover gasket	Nickel reinforced exfoliated graphite	
6	Body	Steel	1.0460 (C22.8)
7	Cover bolts	Steel M8 x 25 mm	BS 1506 - 621 A B7M
8	Valve seat gasket	Stainless steel	
9	Spacer plate	Stainless steel	
10	Spring	Stainless steel	

Capacities



Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	E	Weight
⅜"	70	62	35	15	20	0.9
½"	70	62	35	15	20	0.9



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P124-09) supplied with the product.

Installation note:

The trap is designed for installation with the capsule in a horizontal plane and the cover at the top, preferably with a drop leg immediately preceding the trap. Installation in a vertical plane is also acceptable. When welding the trap into the pipeline, there is no need to remove the capsule, providing the welding is done by the electric arc method. Suitable isolation valves must be installed to allow for safe maintenance and trap replacement.

Disposal:

This product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco ½" BPM21L balanced pressure thermostatic steam trap having screwed BSP connections. The unit is to be supplied with a steel body with internal strainer screen and STD capsule for operation approximately 13 °C below steam saturation temperature.

8

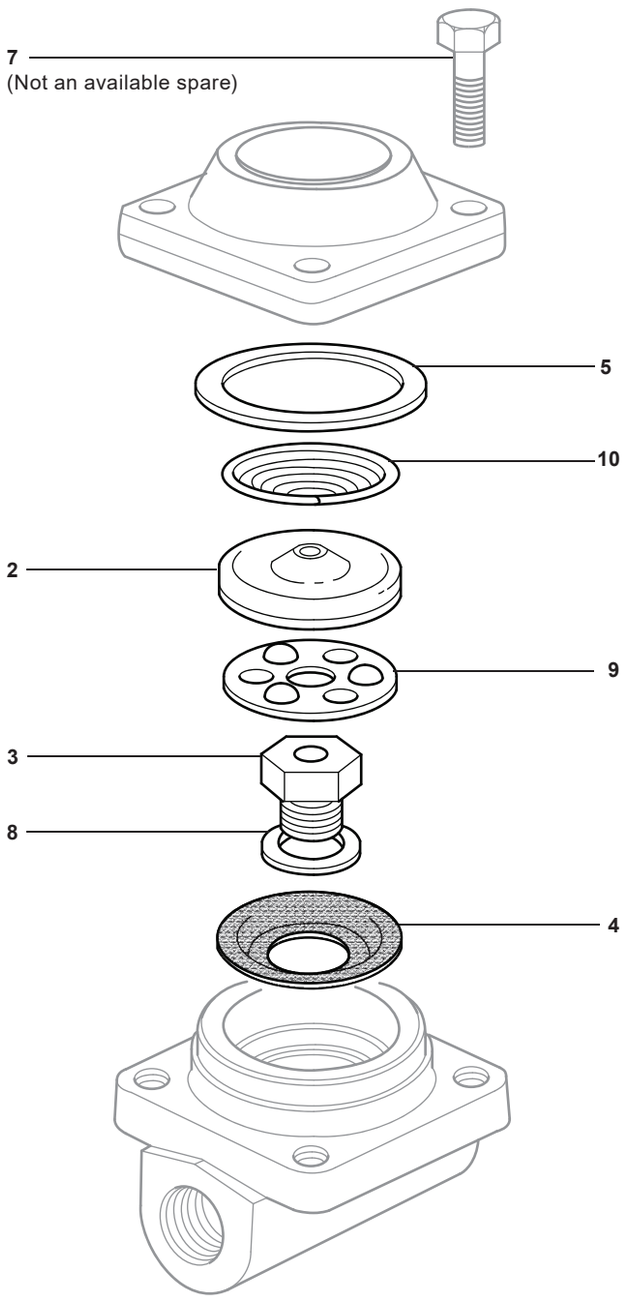
Steam traps
Balanced pressure

Spare parts
The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares	
Capsule and seat assembly set	**2, 3, 5, 8, 9, 10**
Gasket set	**5, 8**
Strainer screen (packet of 3)	**4**

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 Capsule and seat assembly for Spirax Sarco ½" BPM21L balanced pressure thermostatic steam trap having STD fill operation at 13 °C below steam saturation temperature.



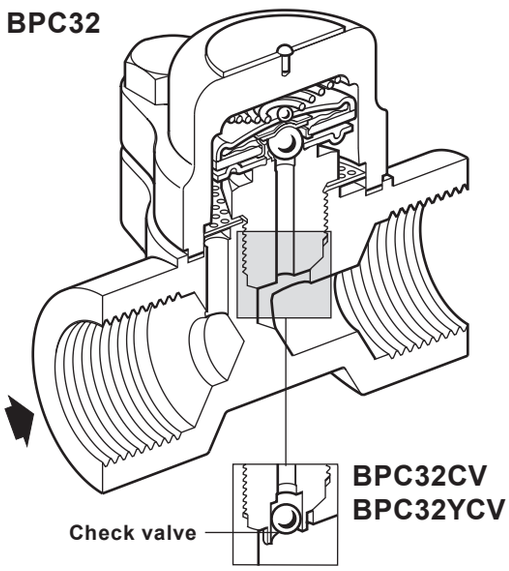
Recommended tightening torques

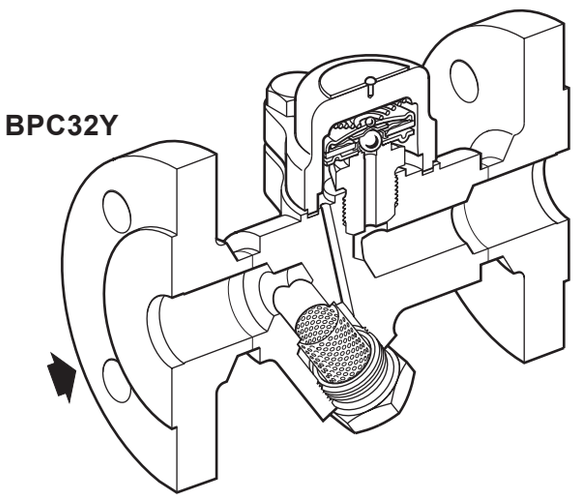
Item	Part	or mm	N m
3	Valve seat	17 A/F	50 - 55
7	Cover bolts	M8 x 25	14 - 18

8.2
38

TI-P005-01
CMGT Issue 7

BPC32 and BPC32Y
Carbon Steel
Balanced Pressure Thermostatic Steam Traps





Description

The BPC32 and BPC32Y are carbon steel maintainable balanced pressure thermostatic steam traps with straight connections.
The BPC32 has an integral flat strainer screen and the BPC32Y an integral cylindrical Y-type strainer. All pressure bearing components are produced by TÜV approved suppliers in accordance with AD-Merkblatt WO/TRD100. Both traps are unaffected by waterhammer and are available as follows:-

Standard units	**BPC32 and BPC32Y**	having 'STD' fill capsule	**Note:** When placing an order always state capsule fill.
Also available	**BPC32CV and BPC32YCV**	having 'STD' fill capsule and check valve	

8.2
39

Capsule fill and operation:

Standard capsule - Is marked with '**STD**' for operation at approximately 12 °C below steam saturation temperature.

Optionally - The capsule can be supplied for sub-cooled '**SUB**' operation at approximately 24 °C below steam saturation temperature or near-to-steam '**NTS**' operation at approximately 6 °C below steam temperature.

Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED).

Certification

This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

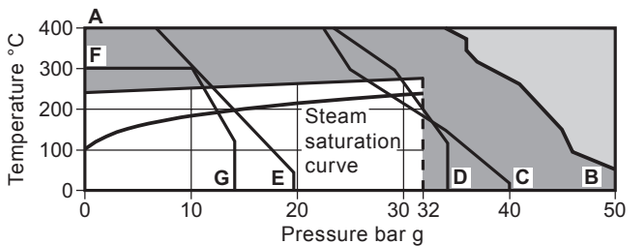
Sizes and pipe connections

½", ¾", and 1" screwed BSP or NPT.
½", ¾", and 1" socket weld ends to BS 3799.
½", ¾", and 1" butt weld ends to EN 12 627.
DN15, DN20 and DN25 standard flange to EN 1092 PN40,
ASME B 16.5 Class 150 and 300, JIS/KS 10K and JIS/KS 20K.

8

Steam traps
Balanced pressure

Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

A - **B** Screwed, socket weld, butt weld and flanged ANSI 300.

A - **C** Flanged EN 1092 PN40.

A - **D** Flanged JIS/KS 20K.

A - E Flanged ANSI 150.

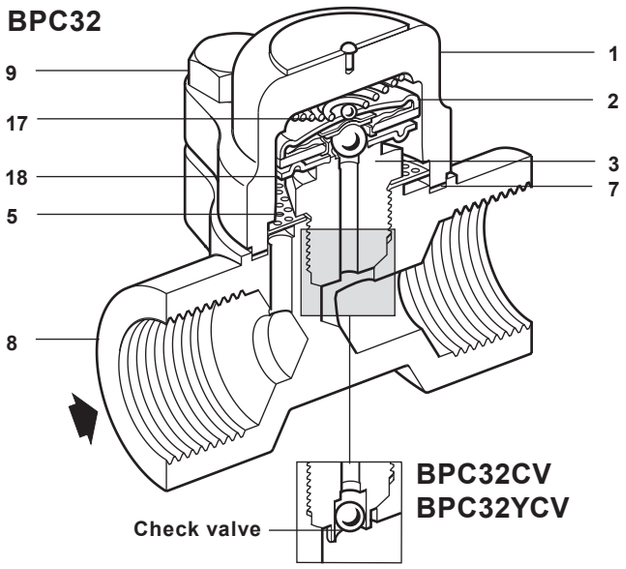
F - G Flanged JIS/KS 10K.

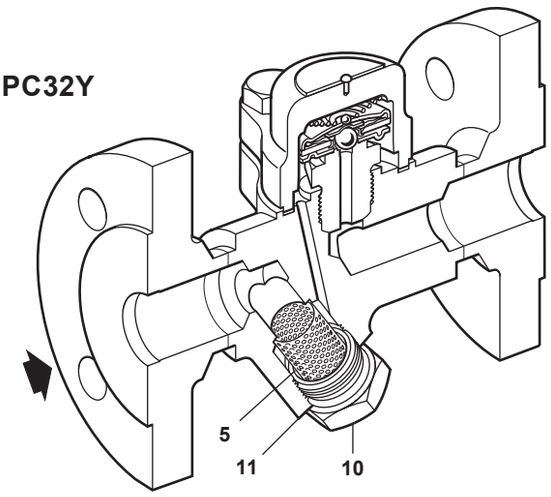
Body design conditions		PN40
PMA	Maximum allowable pressure	50 bar g @ 50 °C
TMA	Maximum allowable temperature	400 °C @ 35 bar g
Minimum allowable temperature		-60 °C
PMO	Maximum operating pressure for saturated steam service	32 bar g @ 281 °C
TMO	Maximum operating temperature	281 °C @ 32 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco.		0 °C
Designed for a maximum cold hydraulic test pressure of:		75 bar g

8.2

40

Materials

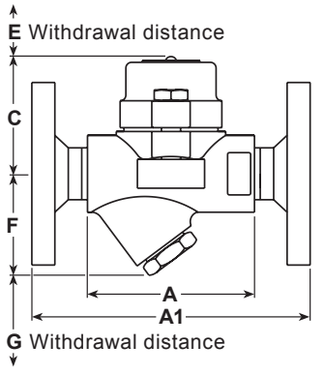


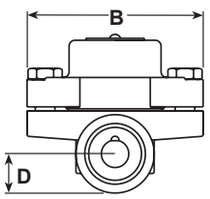


No.	Part	Material	
1	Cover	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	BS 970 431 S29
5	Strainer screen	Stainless steel	AISI 304
7	Cover gasket	Stainless steel reinforced exfoliated graphite	
8	Body / flanges	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
9	Cover bolts	Stainless steel (M10 x 30)	A2-70
10	Strainer cap	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
11	Strainer cap gasket	Stainless steel	BS 1449 304 S16
17	Spring	Stainless steel	
18	Spacer plate	Stainless steel	

Steam traps
Balanced pressure

Dimensions/weights (approximate) in mm and kg





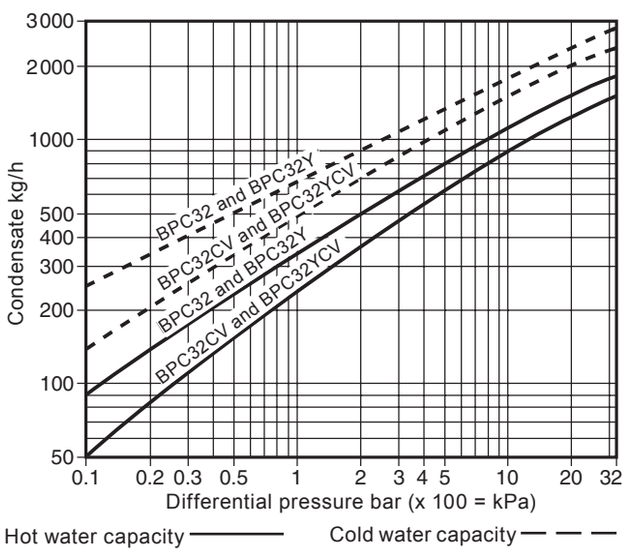
BPC32

Size	A	A1	B	C	D	E	F	G	Weight Scrd/SW/BW	Weight Flanged
½" DN15	95	150	94	64	17	37	-	-	1.4	2.9
¾" DN20	95	150	94	64	19	37	-	-	1.4	3.5
1" DN25	95	160	94	64	23	37	-	-	1.5	4.1

BPC32Y

Size	A	A1	B	C	D	E	F	G	Weight Scrd/SW/BW	Weight Flanged
½" DN15	95	150	94	64	-	37	54	28	1.6	3.1
¾" DN20	95	150	94	64	-	37	54	28	1.6	3.7
1" DN25	95	160	94	64	-	37	54	28	1.8	4.4

Capacities



Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-P005-02) supplied with the product.

Installation note:
The BPC32 and BPC32Y are designed for installation in any position, horizontal or vertical.
It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced.
It is also recommended that a diffuser is fitted when discharging to atmosphere.
For ease and maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

Disposal
These products are recyclable. No ecological hazard is anticipated with the disposal of these products, providing due care is taken.

How to order
Example: 1 off Spirax Sarco ½" BPC32 carbon steel bodied maintainable balanced pressure thermostatic steam trap. Screwed BSP with 'STD' fill capsule for operation at approximately 12 °C below steam saturation temperature.

Spare parts

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

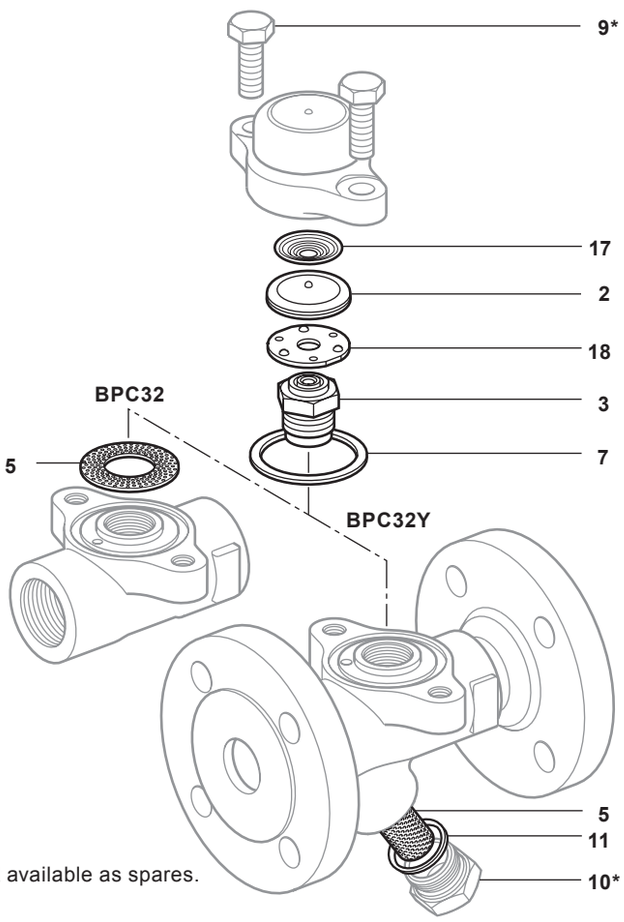
Available spares

Capsule and seat assembly set			**2**, **3**, **17, 18**
Strainer screen	BPC32	(3 off)	**5**
Strainer screen and gasket	BPC32Y	(1 off each)	**5, 11**
Set of cover gaskets		(packet of 3)	**7**
Strainer cap gasket		(packet of 3)	**11**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 - Capsule and seat assembly set for a Spirax Sarco DN25 BPC32 - 'STD' fill capsule for operation at 12 °C below steam saturation temperature.



***Note:** Items 9 and 10 are not available as spares.

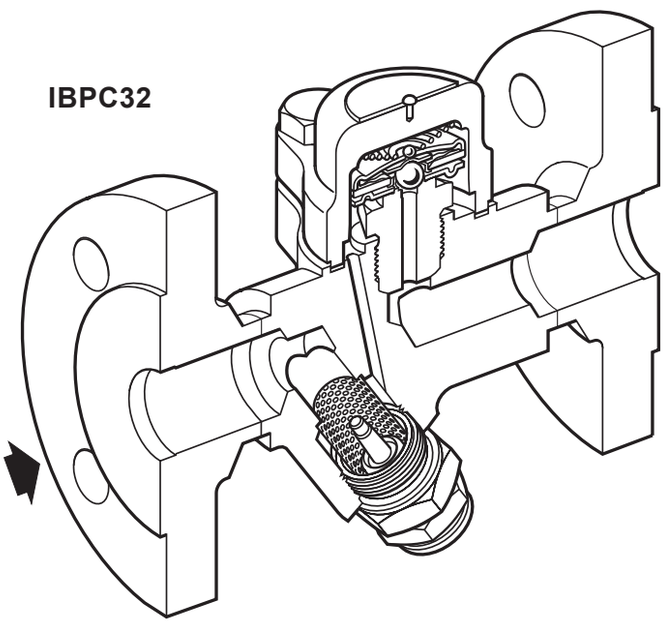
Recommended tightening torques

Item	Part	or mm		N m
3	Valve seat	24 A/F		115 - 125
9	Cover bolts	16 A/F	M10 x 30	23 - 27
10	Strainer cap	27 A/F		120 - 135

8 Steam traps
Balanced pressure

TI-P005-06
CMGT Issue 5

IBPC32
Carbon Steel Balanced Pressure Thermostatic Steam Trap with Integral Spiratec Sensor



Description
The IBPC32 is a carbon steel maintainable balanced pressure thermostatic steam trap fitted with an integral Spiratec sensor and straight connections and has an integral cylindrical Y-type strainer.
It can be supplied with a sensor to detect waterlogging and steam leakage (WLS1) or for steam leakage only (SS1).
The IBPC32 can be easily integrated into all existing Spiratec monitoring systems.
All pressure bearing components are produced by TÜV approved suppliers in accordance with AD-Merkblatt WO/TRD100.

Standard unit	**IBPC32**	having 'STD' fill capsule
Also available	**IBPC32CV**	having 'STD' fill capsule and check valve

Note: When placing an order always state capsule fill.

Capsule fill and operation:

Standard capsule	Is marked with 'STD' for operation at approximately 12 °C below steam saturation temperature.
Optionally	The capsule can be supplied for sub-cooled 'SUB' operation at approximately 24 °C below steam saturation temperature or near-to-steam 'NTS' operation at approximately 6 °C below steam temperature.

Standards
This product fully complies with the requirements of the Pressure Equipment Directive (PED).

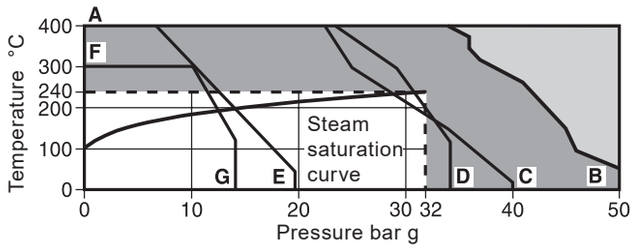
Certification
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections
½", ¾", and 1" screwed BSP or NPT.
½", ¾", and 1" socket weld ends to BS 3799.
½", ¾", and 1" butt weld ends to EN 12 627.
DN15, DN20 and DN25 standard flange to EN 1092 PN40,
ANSI B 16.5 class 150 and 300, JIS/KS 10K and JIS/KS 20K.

8

Steam traps
Balanced pressure

Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

A - B Screwed, socket weld, butt weld and flanged ANSI 300.

A - C Flanged EN 1092 PN40.

A - D Flanged JIS/KS 20K.

A - E Flanged ANSI 150.

F - G Flanged JIS/KS 10K.

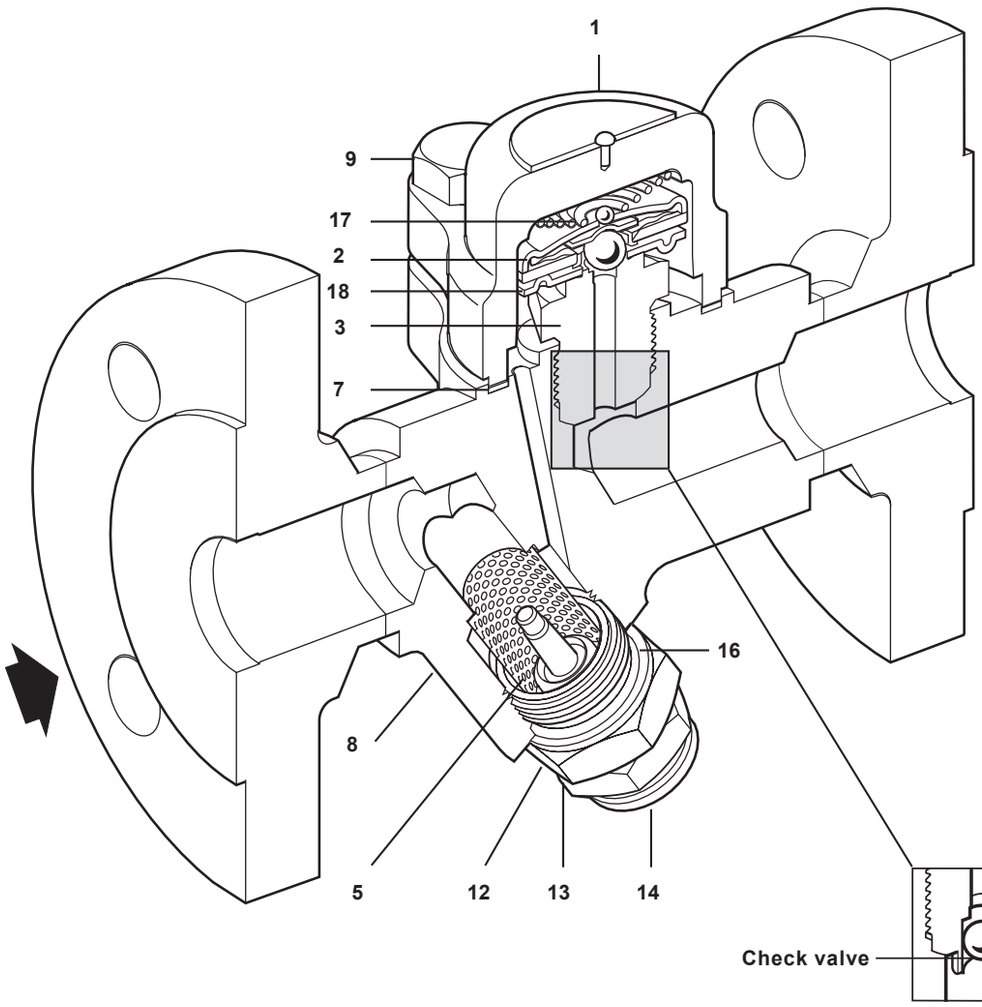
Maximum body design conditions	PN40
PMA Maximum allowable pressure	50 bar g @ 50 °C
TMA Maximum allowable temperature	400 °C @ 35 bar g
Minimum allowable temperature	-60 °C
PMO Maximum operating pressure for saturated steam service	32 bar g
TMO Maximum operating temperature	240 °C @ 32 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco	0 °C
Designed for a maximum cold hydraulic test pressure of:	75 bar g

8.2

46

Materials

IBPC32



IBPC32CV

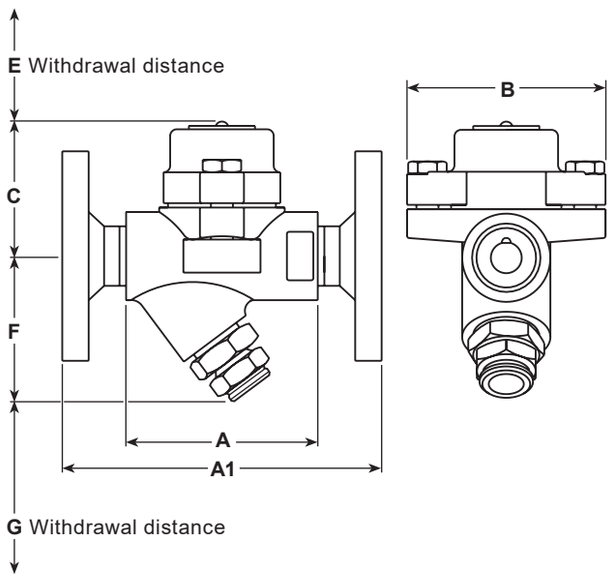
No.	Part	Material	
1	Cover	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	BS 970 431 S29
5	Strainer screen	Stainless steel	AISI 304
7	Cover gasket	Stainless steel reinforced exfoliated graphite	
8	Body/flanges	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
9	Cover bolts	Stainless steel (M10 x 30)	A2-70
12	Sensor adaptor	Stainless steel	BS 970 416 S37
13	Sensor gasket	Stainless steel	BS 1449 304 S16
14	Sensor	Stainless steel	BS 1449 304 S16
15	Blanking plug (not shown)	Steel	
16	Adaptor gasket	Stainless steel	BS 1449 304 S16
17	Spring	Stainless steel	
18	Spacer plate	Stainless steel	

8

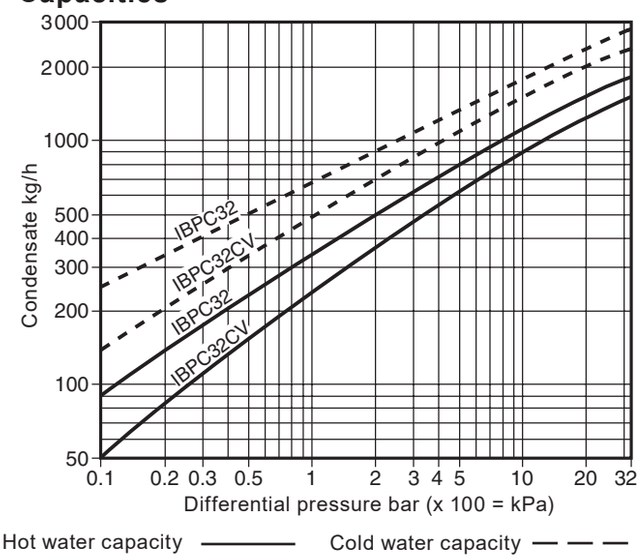
Steam traps
Balanced pressure

Dimensions/weights (approximate) in mm and kg

Size	A	A1	B	C	E	F	G	Weight	
								Scrd/SW/BW	Flgd
½" DN15	95	150	94	64	37	63	28	1.65	3.15
¾" DN20	95	150	94	64	37	64	28	1.65	3.75
1" DN25	95	160	94	64	37	66	28	1.85	4.45



Capacities



Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-F01-30) supplied with the product.

Installation note:
The IBPC32 is designed for installation with the capsule in a horizontal plane with the cover at the top.
It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced.
It is also recommended that a diffuser is fitted when discharging to atmosphere.
For ease and maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

8.2

48

Disposal
The product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to order
Example: 1 off Spirax Sarco ½" IBPC32 carbon steel bodied maintainable balanced pressure thermostatic steam trap. Screwed BSP with 'STD' fill capsule for operation at approximately 12 °C below steam saturation temperature.
The trap will be supplied with an integral sensor to identify waterlogging and steam wastage (WLS1 sensor) or for steam leakage only (SS1 sensor). Sensors to be compatible with Spiratec indicators, automatic monitors and test points:
R1 (single trap) remote test point, R12 (12 trap) remote test point, Type 30 hand held indicator, R16C (16 traps) automatic steam trap monitor or R1C (single trap) automatic steam trap monitor with PNP/NPN output where appropriate.

Spare parts

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

Available spares

Capsule and seat assembly set		**2, 3, 17, 18**
Strainer screen Y-type cylindrical	(1 off)	**5**
Set of cover gaskets	(packet of 3)	**7**
Sensor and sensor gasket		**13, 14**
Adaptor gasket	(packet of 3)	**16**

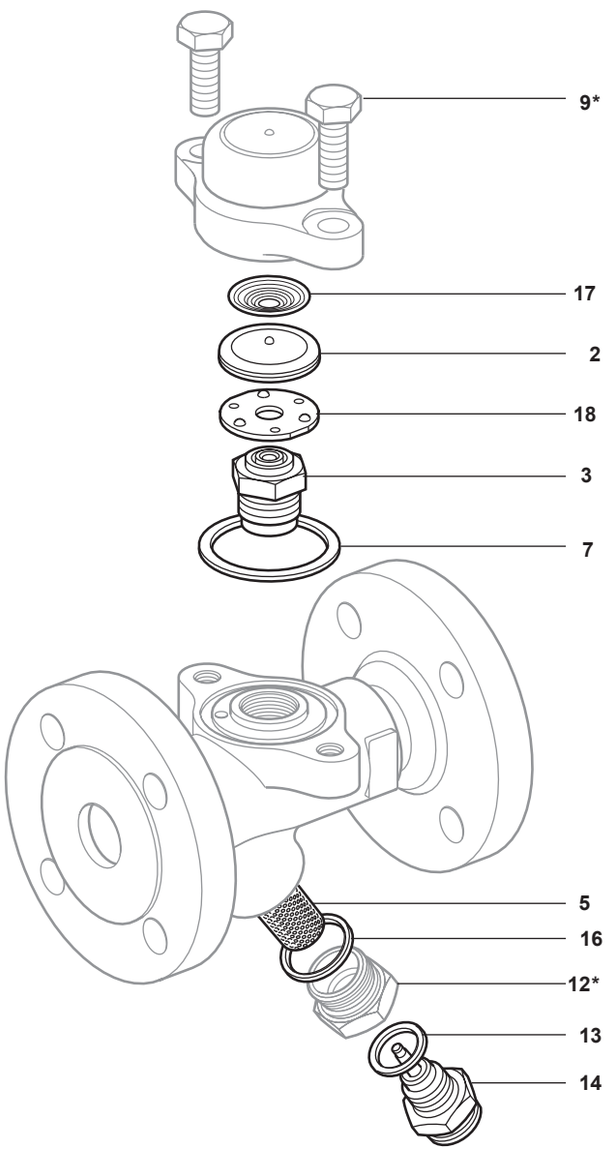
How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 - Capsule and seat assembly set for a Spirax Sarco DN25 IBPC32 having 'STD' fill capsule for operation at 12 °C below steam saturation temperature with integral Spiratec sensor.

Recommended tightening torques

Item	Part	or mm		N m
3	Valve seat	24 A/F		115 - 125
9	Cover bolts	16 A/F	M10 x 30	23 - 27
12	Sensor adaptor	27 A/F		120 - 135
14	Sensor	24 A/F		50 - 56



*** Note**
Items 9 and 12 are not available as spares

8 Steam traps
Balanced pressure

TI-P005-10
ST Issue 2

BPC32F and BPC32YF Carbon Steel Integrally Flanged Balanced Pressure Thermostatic Steam Traps

Description

The BPC32F and BPC32YF are carbon steel maintainable balanced pressure thermostatic steam traps having integrally flanged straight connections.
The BPC32F has an integral flat strainer screen and the BPC32YF has an integral cylindrical Y-type strainer. All pressure bearing components are produced by TÜV approved suppliers in accordance with AD-Merkblatt WO/TRD100. Both traps are unaffected by waterhammer and are available as follows:-

Standard units BPC32F and BPC32YF		having 'STD' fill capsule
Also available	**BPC32CVF and BPC32YCVF**	having 'STD' fill capsule and check valve.

Note: When placing an order always state capsule fill.

Capsule fill and operation:

Standard capsule - Is marked with **'STD'** for operation at approximately 12°C below steam saturation temperature.

Optionally - The capsule can be supplied for sub-cooled **'SUB'** operation at approximately 24°C below steam saturation temperature or near-to-steam **'NTS'** operation at approximately 6°C below steam temperature.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

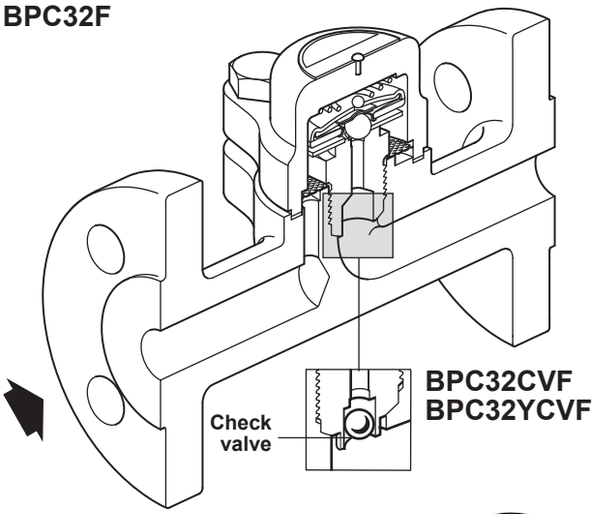
Certification

This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

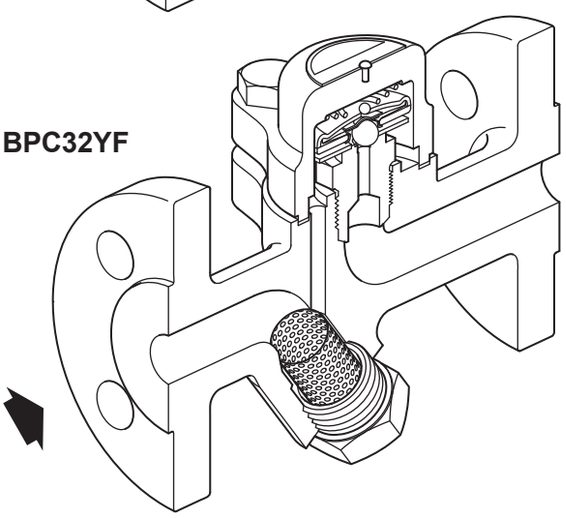
Sizes and pipe connections

DN15, DN20 and DN25
Standard flanges: EN 1092 PN40, ASME (ANSI) B 16.5 Class 150 or ASME (ANSI) B 16.5 Class 300.
For other connections please consult Spirax Sarco.

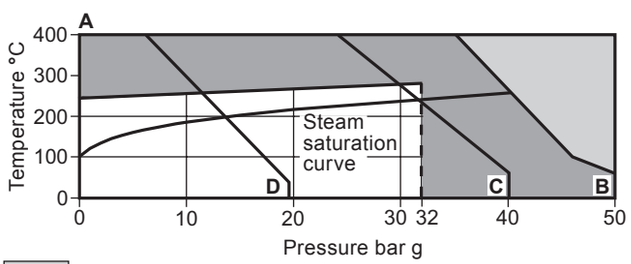
BPC32F



BPC32YF



Pressure/temperature limits (ISO 6552)

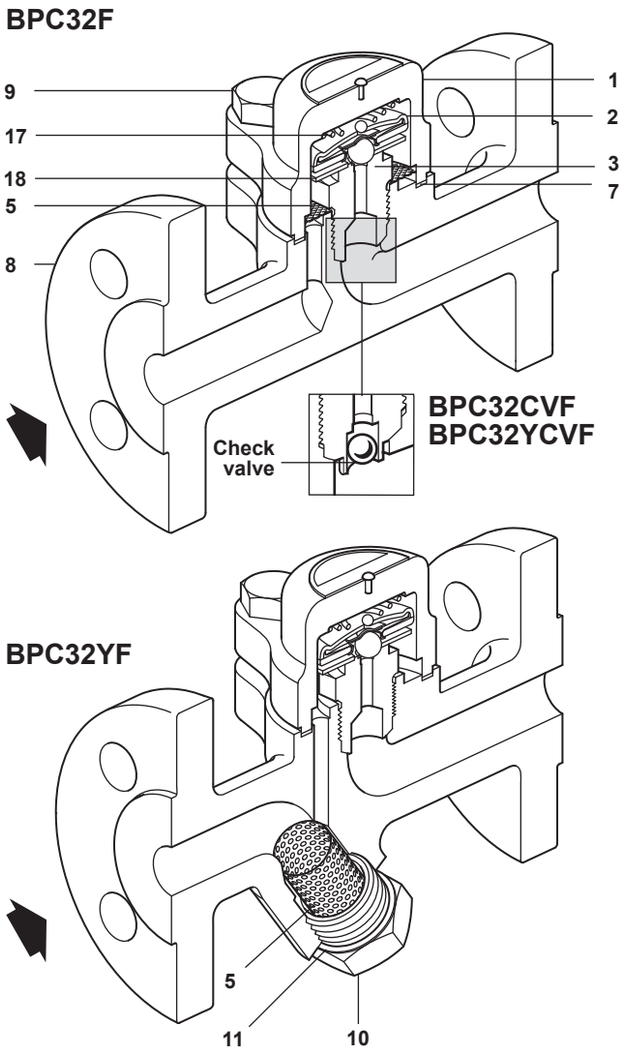


The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

A - B Flanged ASME (ANSI) 300.
A - C Flanged EN 1092 PN40.
A - D Flanged ASME (ANSI) 150.

Body design conditions		ASME (ANSI) 300
PMA	Maximum allowable pressure	50 bar g @ 50°C
TMA	Maximum allowable temperature	400°C @ 35 bar g
Minimum allowable temperature		-60°C
PMO	Maximum operating pressure for saturated steam service	32 bar g @ 281°C
TMO	Maximum operating temperature	281°C @ 32 bar g
Minimum operating temperature		0°C
Designed for a maximum cold hydraulic test pressure of 75 bar g		



Materials

No.	Part	Material	
1	Cover	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	BS 970 431 S29
5	Strainer screen	Stainless steel	AISI 304
7	Cover gasket	Stainless steel reinforced exfoliated graphite	
8	Body	Carbon steel	1.0619+N ASTM A216 WCB
9	Cover bolts	Stainless steel (M10 x 30)	A2-70
10	Strainer cap	Carbon steel	DIN 17243 C22.8 (W/S 1.0460) ASTM A105N
11	Strainer cap gasket	Stainless steel	BS 1449 304 S16
17	Spring	Stainless steel	
18	Spacer plate	Stainless steel	

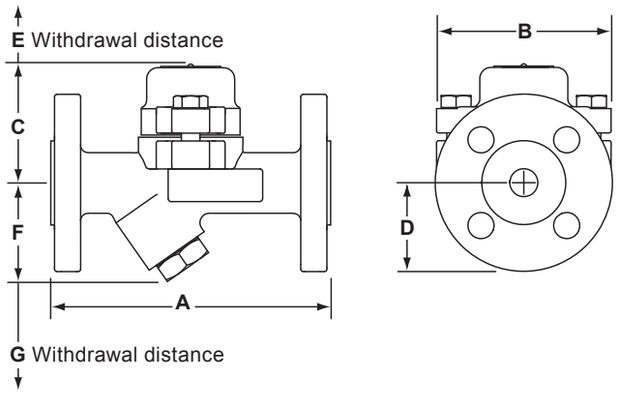
Dimensions/weights (approximate) in mm and kg

BPC32F

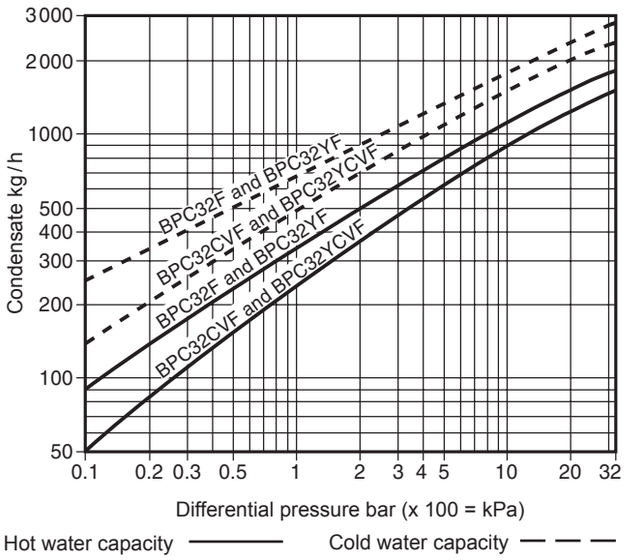
Size	A	B	C	D	E	F	G	Weight
DN15	150	94	64	17	37	-	-	2.9
DN20	150	94	64	19	37	-	-	3.5
DN25	160	94	64	23	37	-	-	4.1

BPC32YF

Size	A	B	C	D	E	F	G	Weight
DN15	150	94	64	-	37	55	28	3.1
DN20	150	94	64	-	37	56	28	3.7
DN25	160	94	64	-	37	58	28	4.4



Capacities



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P005-02) supplied with the product.

Installation note:
The BPC32F and BPC32YF are designed for installation in any position, horizontal or vertical.
It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced.
It is also recommended that a diffuser is fitted when discharging to atmosphere.
For ease and maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

Disposal
These products are recyclable. No ecological hazard is anticipated with the disposal of these products, providing due care is taken.

How to order

Example: 1 off Spirax Sarco DN15 BPC32F carbon steel bodied maintainable balanced pressure thermostatic steam trap having flanged EN 1092 PN40 connections and an integral strainer screen. The trap is to be fitted with an 'STD' fill capsule for operation at approximately 12°C below steam saturation temperature.

Spare parts

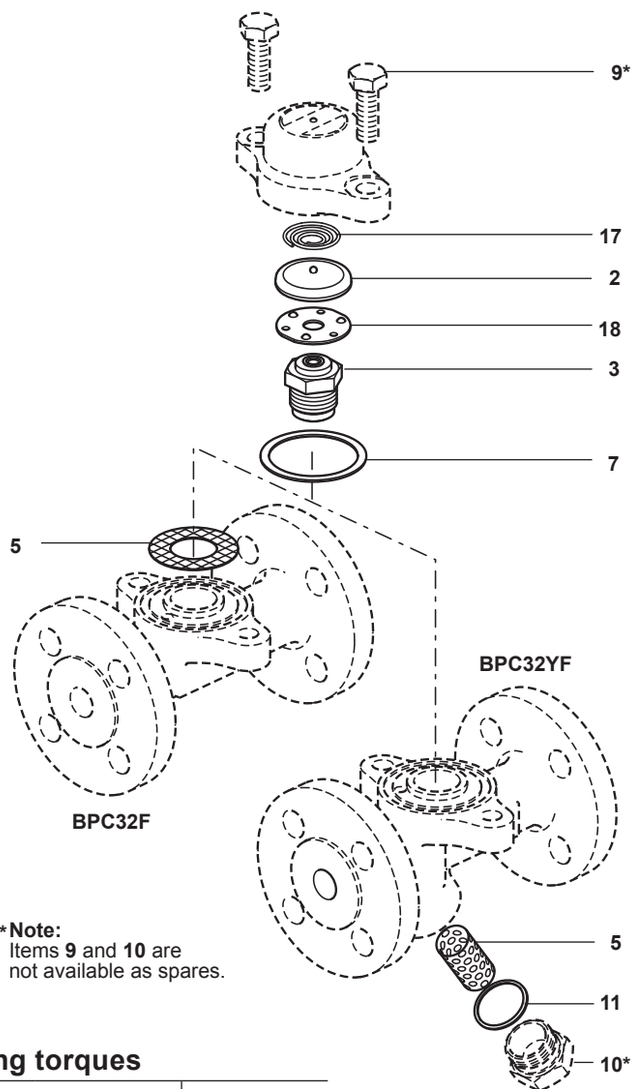
The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

Available spares			
Capsule and seat assembly set			**2**, **3**, **17**, **18**
Strainer screen	BPC32F	(3 off)	**5**
Strainer screen and gasket	BPC32YF	(1 off each)	**5, 11**
Set of cover gaskets		(packet of 3)	**7**
Strainer cap gasket		(packet of 3)	**11**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 - Capsule and seat assembly set for a Spirax Sarco DN25 BPC32F - 'STD' fill capsule for operation at 12°C below steam saturation temperature.



Recommended tightening torques

Item	Part	or mm		N m
3	Valve seat	24 A/F		115 - 125
9	Cover bolts	16 A/F	M10 x 30	23 - 27
10	Strainer cap	27 A/F		120 - 135

TI-P005-03
ST Issue 5

BPS32 and BPS32Y Stainless Steel Balanced Pressure Thermostatic Steam Traps

Description

The BPS32 and BPS32Y are stainless steel maintainable balanced pressure thermostatic steam traps with straight connections. The BPS32 has an integral flat strainer screen and the BPS32Y an integral cylindrical Y-type strainer. All pressure bearing components are produced by TÜV approved suppliers in accordance with AD-Merkblatt WO/TRD100. Both traps are unaffected by waterhammer and are available as follows:-

Standard units	**BPS32 and BPS32Y**	having 'STD' fill capsule
Also available	**BPS32CV and BPS32YCV**	having 'STD' fill capsule and check valve.

Note: When placing an order always state capsule fill.

Capsule fill and operation:

Standard capsule - Is marked with '**STD**' for operation at approximately 12°C below steam saturation temperature.

Optionally - The capsule can be supplied for sub-cooled '**SUB**' operation at approximately 24°C below steam saturation temperature or near-to-steam '**NTS**' operation at approximately 6°C below steam temperature.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

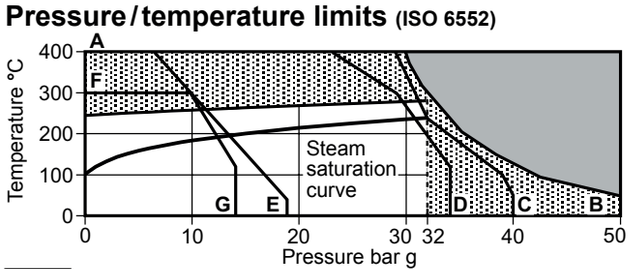
Certification

This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

½", ¾", and 1" screwed BSP or NPT.
½", ¾", and 1" socket weld ends to BS 3799.
½", ¾", and 1" butt weld ends to EN 12 627.
DN15, DN20 and DN25 standard flange to EN 1092 PN40, ASME B 16.5 Class 150 and 300, JIS/KS 10K and JIS/KS 20K.

Pressure/temperature limits (ISO 6552)



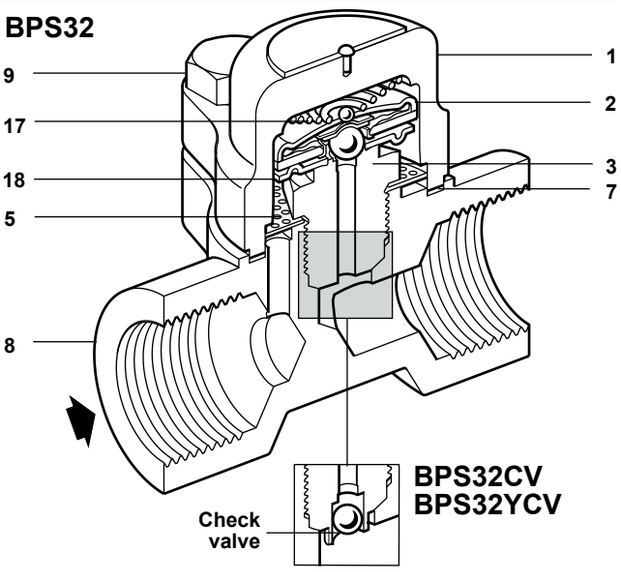
The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

A - B Screwed, socket weld, butt weld and flanged ASME 300
A - C Flanged EN 1092 PN40
A - D Flanged JIS / KS 20K
A - E Flanged ASME 150
F - G Flanged JIS / KS 10K

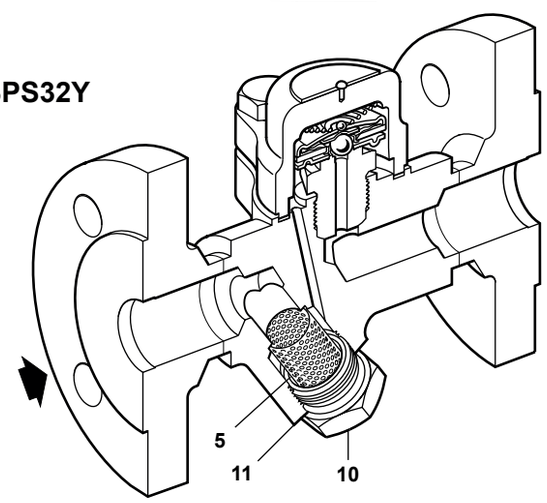
Body design conditions		PN40
PMA	Maximum allowable pressure	50 bar g @ 50°C
TMA	Maximum allowable temperature	400°C @ 30 bar g
Minimum allowable temperature		-200°C
PMO	Maximum operating pressure for saturated steam service	32 bar g
TMO	Maximum operating temperature	281°C @ 32 bar g
Minimum operating temperature		0°C
Note: For lower operating temperatures consult Spirax Sarco		
Designed for a maximum cold hydraulic test pressure of 75 bar g		

BPS32



BPS32CV
BPS32YCV

BPS32Y



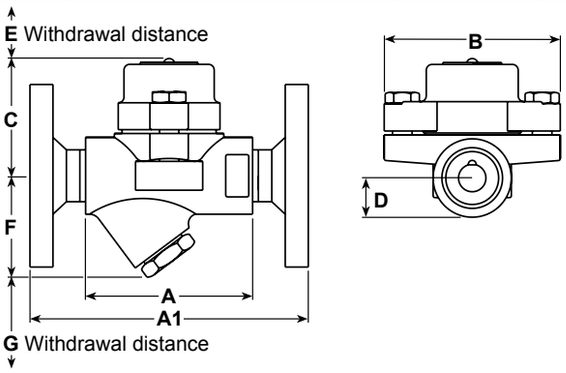
Materials

No.	Part	Material	
1	Cover	Austenitic stainless steel	EN 10222-5 1.4571 or ASTM A182 F316 Ti
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	BS 970 431 S29
5	Strainer screen	Stainless steel	AISI 304
7	Cover gasket	Stainless steel reinforced exfoliated graphite	
8	Body/flanges	Austenitic stainless steel	EN 10222-5 1.4571 or ASTM A182 F316 Ti
9	Cover bolts	Stainless steel (M10 x 30)	A2-70
10	Strainer cap	Austenitic stainless steel	DIN 17440 (W/S 1.4404) 316L
11	Strainer cap gasket	Stainless steel	BS 1449 304 S16
17	Spring	Stainless steel	
18	Spacer plate	Stainless steel	

Dimensions / weights (approximate) in mm and kg

BPS32

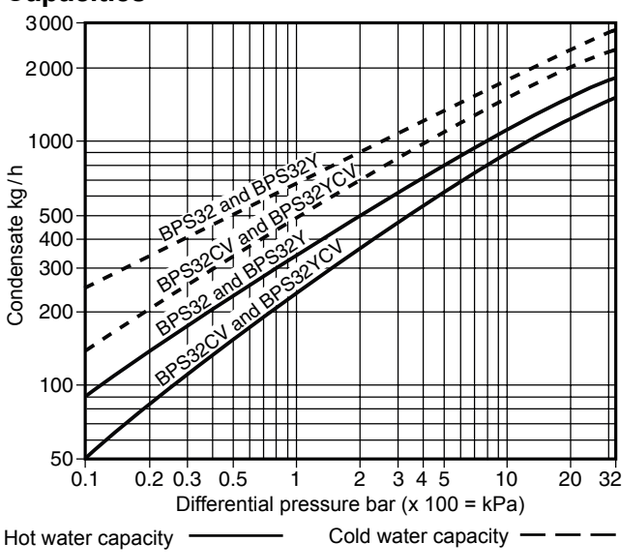
Size	A	A1	B	C	D	E	F	G	Weight Scrd / SW / BW	Weight Flgd
½" DN15	95	150	94	64	17	37	-	-	1.4	2.9
¾" DN20	95	150	94	64	19	37	-	-	1.4	3.5
1" DN25	95	160	94	64	23	37	-	-	1.5	4.1



BPS32Y

Size	A	A1	B	C	D	E	F	G	Weight Scrd / SW / BW	Weight Flgd
½" DN15	95	150	94	64	-	37	55	28	1.6	3.1
¾" DN20	95	150	94	64	-	37	56	28	1.6	3.7
1" DN25	95	160	94	64	-	37	58	28	1.8	4.4

Capacities



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

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P005-04) supplied with the product.

Installation note:
The BPS32 and BPS32Y are designed for installation in any position, horizontal or vertical.
It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced. It is also recommended that a diffuser is fitted when discharging to atmosphere.
For ease and maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

Disposal
These products are recyclable. No ecological hazard is anticipated with the disposal of these products, providing due care is taken.

How to order

Example: 1 off DN20 Spirax Sarco BPS32Y balanced pressure thermostatic steam trap manufactured in corrosion resistant stainless steel. Having a Y-type strainer and 'STD' fill capsule for operation at approximately 12°C below steam saturation temperature. Flanged connections to EN 1092 PN40.

Spare parts

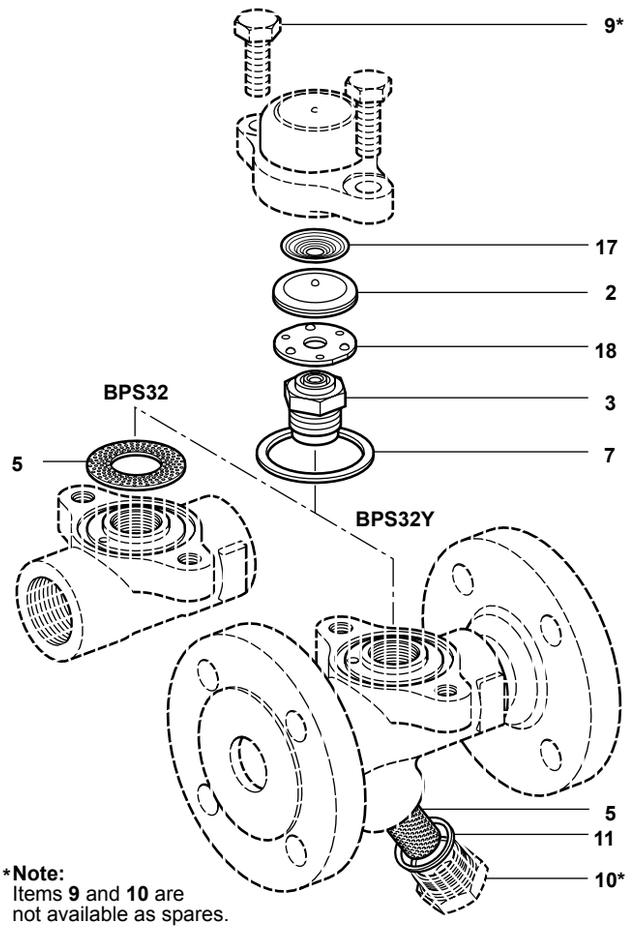
The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

Available spares

Capsule and seat assembly set			**2, 3, 17, 18**
Strainer screen	BPS32	(3 off)	**5**
Strainer screen and gasket	BPS32Y	(1 off each)	**5, 11**
Set of cover gaskets		(packet of 3)	**7**
Strainer cap gasket		(packet of 3)	**11**

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 - Capsule and seat assembly set for a Spirax Sarco DN25 BPS32 - 'STD' fill capsule for operation at 12°C below steam saturation temperature.



***Note:**
Items **9** and **10** are not available as spares.

Recommended tightening torques

Item	Part	or / mm		N m
3	Valve seat	24 A/F		115 - 125
9	Cover bolts	16 A/F	M10 x 30	23 - 27
10	Strainer cap	27 A/F		120 - 135

TI-P005-05
ST Issue 5

IBPS32
Stainless Steel Balanced Pressure Thermostatic Steam Trap with Integral Spiratec Sensor

Description
The IBPS32 is a stainless steel maintainable balanced pressure thermostatic steam trap fitted with an integral Spiratec sensor and straight connections. It also has an integral 'Y' type strainer.
It can be supplied with a sensor to detect waterlogging and steam leakage (WLS1) or for steam leakage only (SS1).
The IBPS32 can be easily integrated into all existing Spiratec monitoring systems.
All pressure bearing components are produced by TÜV approved suppliers in accordance with AD-Merkblatt WO/TRD100.

Standard unit	**IBPS32**	having 'STD' fill capsule
Also available	**IBPS32CV**	having 'STD' fill capsule and check valve

Note: When placing an order always state capsule fill.

Capsule fill and operation:
Standard capsule - Is marked with '**STD**' for operation at approximately 12°C below steam saturation temperature.
Optionally - The capsule can be supplied for sub-cooled '**SUB**' operation at approximately 24°C below steam saturation temperature or near-to-steam '**NTS**' operation at approximately 6°C below steam temperature.

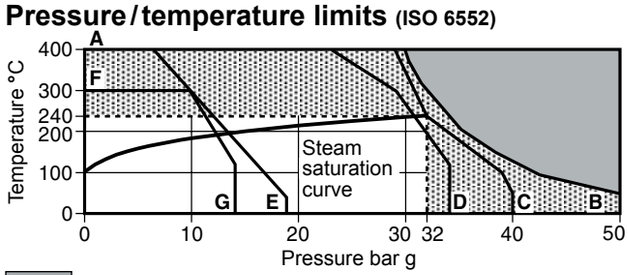
Standards
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification
This product is available with certification to EN 10204 3.1
Note: All certification / inspection requirements must be stated at the time of order placement.

Sizes and pipe connections
½", ¾", and 1" screwed BSP or NPT.
½", ¾", and 1" socket weld ends to BS 3799.
½", ¾", and 1" butt weld ends to EN 12 627.
DN15, DN20 and DN25 standard flange to EN 1092 PN40, ASME B 16.5 Class 150 and 300, JIS / KS 10K and JIS / KS 20K.

8.2
58

Pressure / temperature limits (ISO 6552)

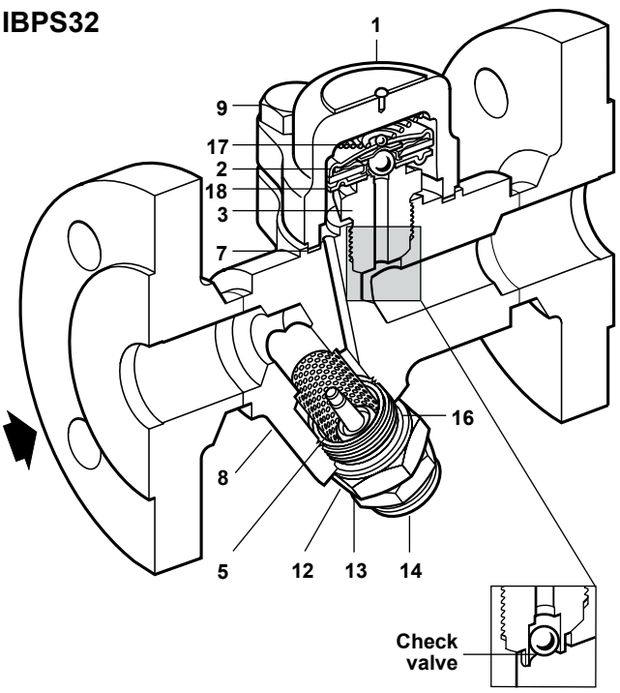


The product **must not** be used in this region.
The product should not be used in this region or beyond its operating range as damage to the internals may occur.

A - B Screwed, socket weld, butt weld and flanged ASME 300
A - C Flanged EN 1092 PN40
A - D Flanged JIS / KS 20K
A - E Flanged ASME 150
F - G Flanged JIS / KS 10K

Maximum body design conditions		PN40
PMA	Maximum allowable pressure	50 bar g @ 50°C
TMA	Maximum allowable temperature	400°C @ 30 bar g
Minimum allowable temperature		-200°C
PMO	Maximum operating pressure for saturated steam service	32 bar g
TMO	Maximum operating temperature	240°C @ 32 bar g
Minimum operating temperature		0°C
Note: For lower operating temperatures consult Spirax Sarco		
Designed for a maximum cold hydraulic test pressure of 75 bar g		

IBPS32



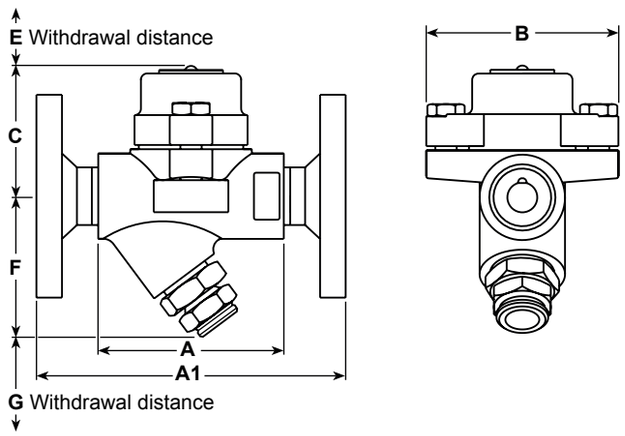
IBPS32CV

Materials

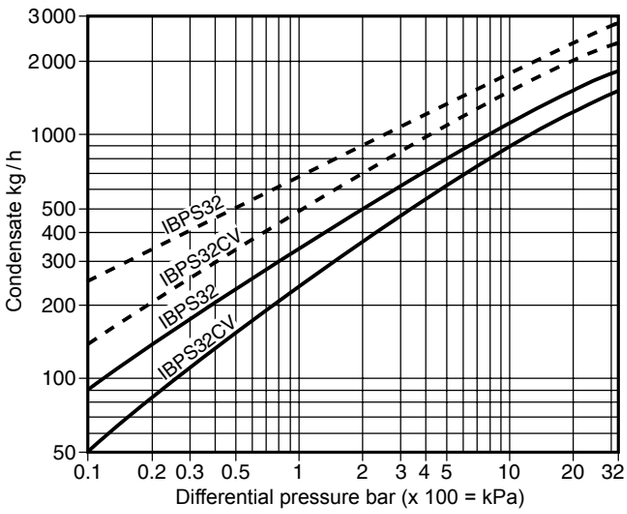
No.	Part	Material	
1	Cover	Austenitic stainless steel	EN 10222-5 1.4571 or ASTM A182 F316 Ti
2	Capsule	Stainless steel	
3	Valve seat	Stainless steel	BS 970 431 S29
5	Strainer screen	Stainless steel	AISI 304
7	Cover gasket	Stainless steel reinforced exfoliated graphite	
8	Body / flanges	Austenitic stainless steel	EN 10222-5 1.457 or ASTM A182 F316 Ti
9	Cover bolts	Stainless steel (M10 x 30)	A2-70
12	Sensor adaptor	Stainless steel	DIN 17440 (W/S 1.4404) 316L
13	Sensor gasket	Stainless steel	BS 1449 304 S16
14	Sensor	Stainless steel	BS 1449 304 S16
15	Blanking plug (not shown)	Stainless steel	
16	Adaptor gasket	Stainless steel	BS 1449 304 S16
17	Spring	Stainless steel	
18	Spacer plate	Stainless steel	

Dimensions / weights (approximate) in mm and kg

Size	A	A1	B	C	E	F	G	Weight Scrd / SW / BW	Weight Flgd
½" DN15	95	150	94	64	37	63	28	1.65	3.15
¾" DN20	95	150	94	64	37	64	28	1.65	3.75
1" DN25	95	160	94	64	37	66	28	1.85	4.45



Capacities



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

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-F01-30) supplied with the product.

Installation note:
The IBPS32 is designed for installation with the capsule in a horizontal plane with the cover at the top.
It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced. It is also recommended that a diffuser is fitted when discharging to atmosphere.
For ease and maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

Disposal
The product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco ½" IBPS32 stainless steel bodied maintainable balanced pressure thermostatic steam trap. Screwed BSP with 'STD' fill capsule for operation at approximately 12°C below steam saturation temperature.
The trap will be supplied with an integral sensor to identify waterlogging and steam wastage (WLS1 sensor) or for steam leakage only (SS1 sensor). Sensors to be compatible with Spiratec indicators, automatic monitors and test points:
R1 (single trap) remote test point, R12 (12 trap) remote test point, Type 30 hand held indicator, R16C (16 traps) automatic steam trap monitor or R1C (single trap) automatic steam trap monitor with PNP / NPN output where appropriate.

Spare parts

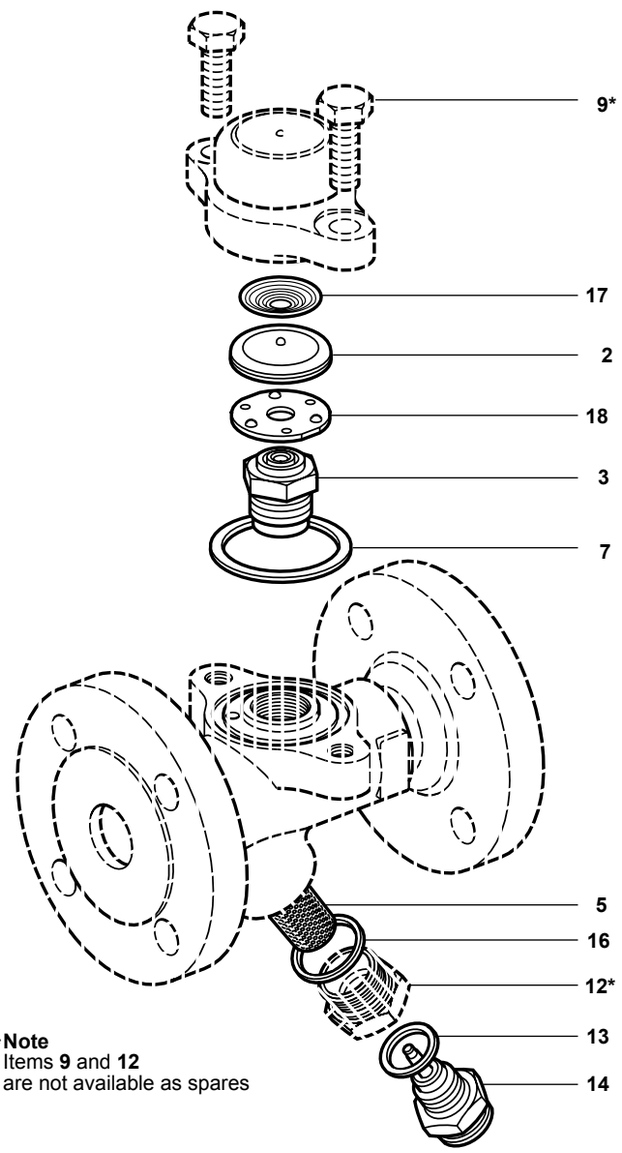
The spare parts available are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

Available spares

Capsule and seat assembly set		**2**, **3**, **17**, **18**
Strainer screen Y-type cylindrical	(1 off)	**5**
Set of cover gaskets	(packet of 3)	**7**
Sensor and sensor gasket		**13, 14**
Adaptor gasket	(packet of 3)	**16**

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size, model number and capsule reference.

Example: 1 - Capsule and seat assembly set for a Spirax Sarco DN25 IBPS32 having 'STD' fill capsule for operation at 12°C below steam saturation temperature with integral Spiratec sensor.



***Note**
Items **9** and **12**
are not available as spares

Recommended tightening torques

Item	Part	or mm		N m
3	Valve seat	24 A/F		115 - 125
9	Cover bolts	16 A/F	M10 x 30	23 - 27
12	Sensor adaptor	27 A/F		120 - 135
14	Sensor	24 A/F		50 - 56

8 Steam traps
Balanced pressure