



BT6-M

Sanitary Balanced Pressure Thermostatic Steam Trap Module

Description

The Spirax Sarco BT6-M Sanitary Balanced Pressure Thermostatic Steam Trap Module provides a convenient, ready-to-install solution with integrated upstream isolation. It efficiently removes condensate from clean (chemical-free) and pure steam systems with minimal retention. Typical applications include sterile steam barriers, block-and-bleed setups, mains drainage, and CIP/SIP of vessels, reactors, and process lines.

Manufactured from 316/316L stainless steel, the crevice-free body features a 15° angled seat for full drainability. The standard thermostatic element is highly sensitive to condensate temperature, opening within 2 °C (4 °F) of steam saturation at 50 mm (2") above the trap under pressures below 2.4 bar g (35 psi g). Actual performance may vary with pressure, installation, and ambient conditions.

The valve handle includes a spring-loaded lockable mechanism to secure the valve position, ensuring system integrity. The valve also includes an ISO 5211 mounting pad for easy actuator installation. Each trap is individually packaged in an ISO Class 7 clean environment, fitted with protective end caps, and sealed in a plastic bag.



Available types

BT6-ML	Low capacity SF2 finish	Body surface finish (measured to ISO 4287-1997 and ISO 4288-1997): Standard internal surface finish of 0.6 µm Ra (25 µin Ra, ASME BPE SF2). Electropolished internal surface finish of 0.375 µm Ra (15 µin Ra, ASME BPE SF4) External surface finishes are as forged/machined.
BT6-MH	High capacity SF2 finish	
BT6-ML EP	Low capacity SF4 finish	
BT6-MH EP	High capacity SF4 finish	

Standards

- The BT6-M has been designed and built in general accordance with ASME BPE.
- The unit also complies with the requirements of the EU Pressure Equipment Directive 2014/68/EU.
- ADI Free (Animal Derived Ingredients) for materials used, manufacturing processes involved in producing the part.
- TSE/BSE Free as Certified.
- Designed and manufactured in accordance with ASME-BPE standards.
- Full material lot number product traceability.

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.

Certification

This product is available with the following certification:

- EN 10204 3.1 Full Validation Pack
- EN 10204 3.1 Material Certification Pressure Retaining Parts
- EN 10204 3.1 Material Certification Wetted Parts (including a WFI element fill) available for element spares (included in Full Validation Pack)
- Specific Internal Surface Finish
- Typical Internal Surface Finish
- Certificate of Compliance for FDA, USP Class VI Testing Statement, and ADI Free Statement
- TSE-BSE Statement
- Declaration of Conformity BS EN ISO 14644-1:2015 Class 7 Clean Room
- Passivation Certificate
- Typical Test Report

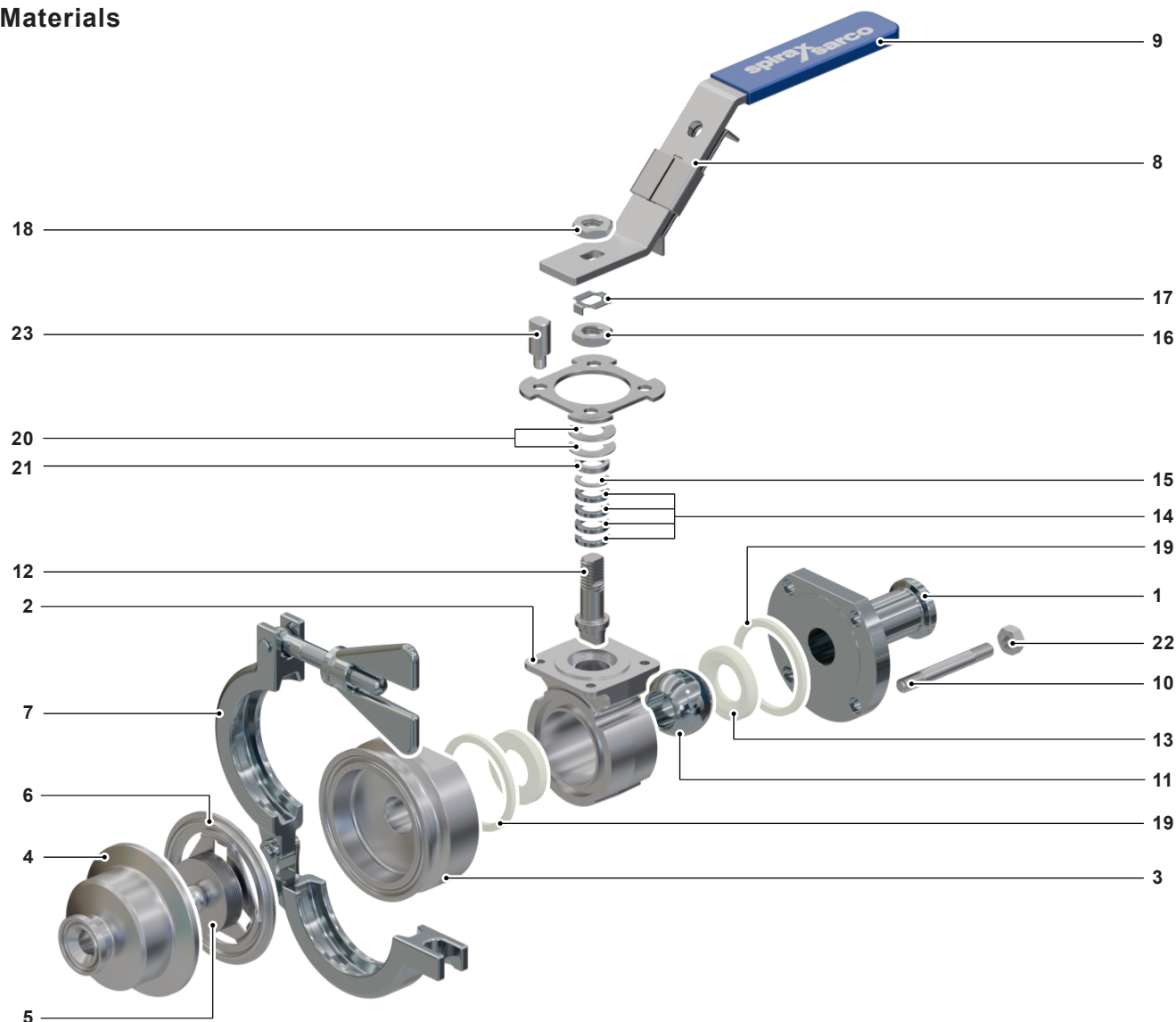
Note: All certification/inspection requirements must be stated at the time of order placement and may be subject to additional cost.

Sizes and pipe connections

Standard		Issue	Type	Sizes				
Sanitary Clamp	ASME BPE	2025	Type A	1/2"	3/4"			
			Type B			1"		1 1/2"

Note: For other connections please consult Spirax Sarco.

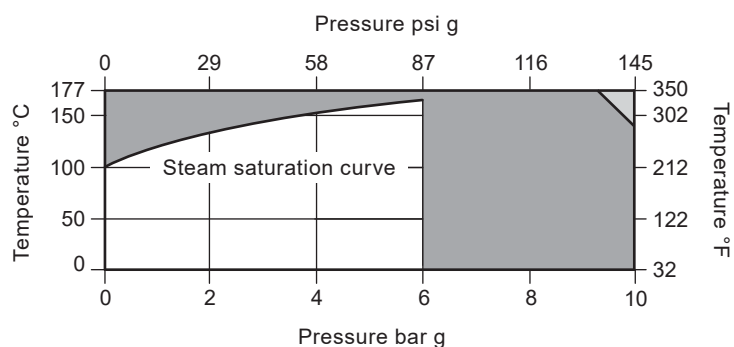
Materials



No.	Part	Material
1	Inlet connector	Stainless steel 316L (1.4404)
2	Valve body	Stainless steel ASTM A 182 F 316L (1.4404)
3	Trap body	Stainless steel 316L (1.4404)
4	Trap seat	Stainless steel 316 (1.4401)
5	Element assembly	Stainless steel PTFE + 316L (1.4404)
6	Trap gasket	PTFE/Stainless Steel Composite gasket
7	Sanitary clamp	Stainless steel
8	Lockable handle	Stainless steel AISI 316 (1.4401)
9	Handle cover	Vinyl
10	Stud	Stainless steel AISI 316 (1.4401)
11	Ball	Stainless steel AISI 316L (1.4404)

No.	Part	Material
12	Stem	Stainless steel AISI 316L (1.4404)
13	Ball seat	Virgin PTFE TFM 1600
14	Lower stem seal	Virgin PTFE TFM 1600
15	Upper stem seal	Virgin PTFE TFM 1600
16	Compression nut	Stainless steel AISI 316 (1.4401)
17	Lock washer	Stainless steel AISI 316 (1.4401)
18	Stem nut	Stainless steel AISI 316 (1.4401)
19	Valve body gasket	Virgin PTFE TFM 1600
20	Belleville washer	Stainless steel AISI 316 (1.4401)
21	Spacer	Stainless steel AISI 316 (1.4401)
22	Nut	Stainless steel AISI 316
23	Stop screw	Stainless steel AISI 316

Pressure/temperature limits (ISO 6552)



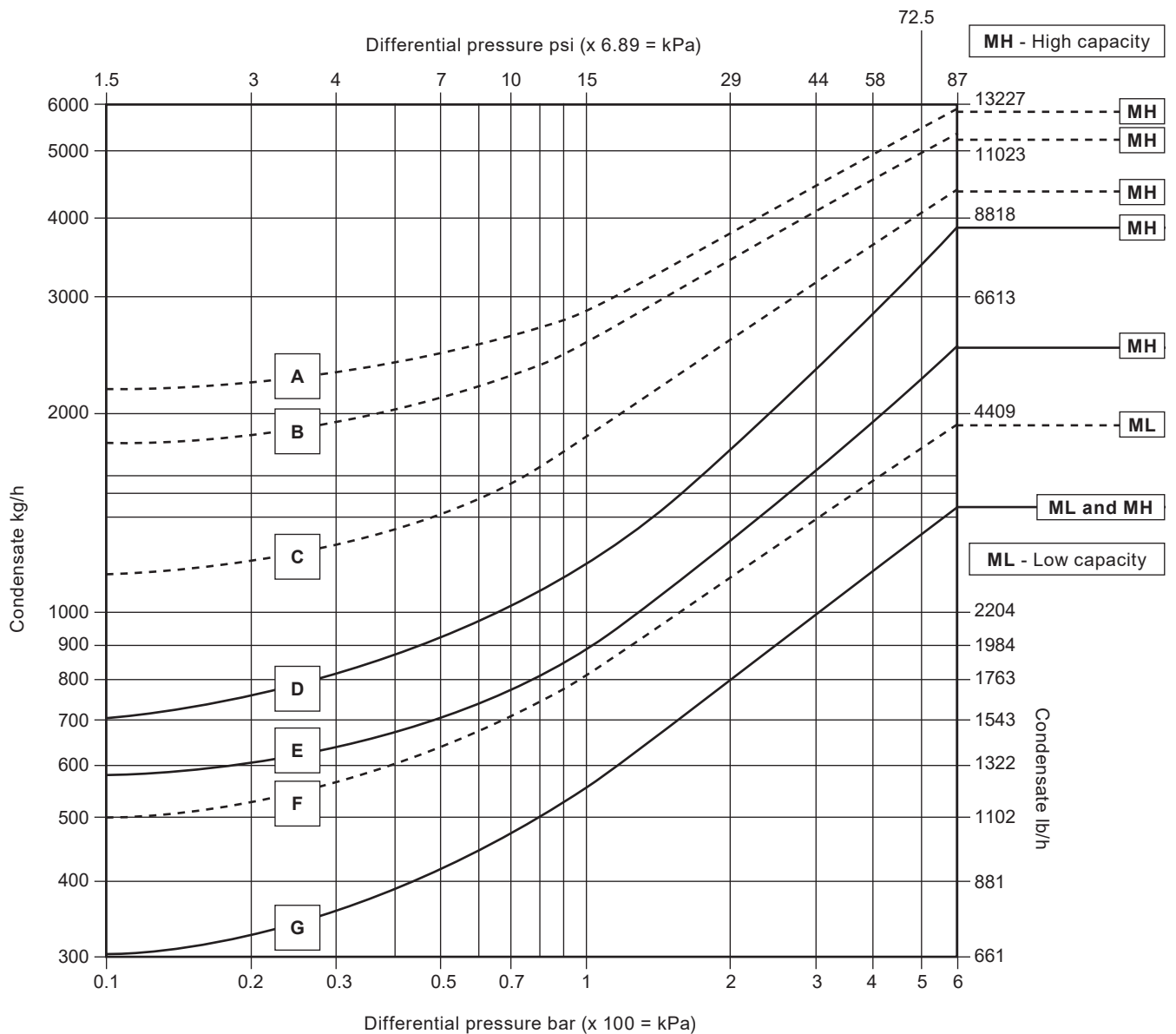
 The product **must not** be used in this region.

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

Body design condition			PN10
PMA	Maximum allowable pressure	10 bar g @ 140 °C	145 psi g @ 284 °F
TMA	Maximum allowable temperature	177 °C @ 9.2 bar g	350 °F @ 133 psi g
Minimum allowable temperature		-10 °C	-14 °F
PMO	Maximum operating pressure for saturated steam service	6 bar g	87 psi g
TMO	Maximum operating temperature	165 °C @ 6 bar g	329 °F @ 87 psi g
Minimum operating temperature		0 °C	32 °F
Designed for a maximum cold hydraulic test pressure of:		15 bar g	218 psi g

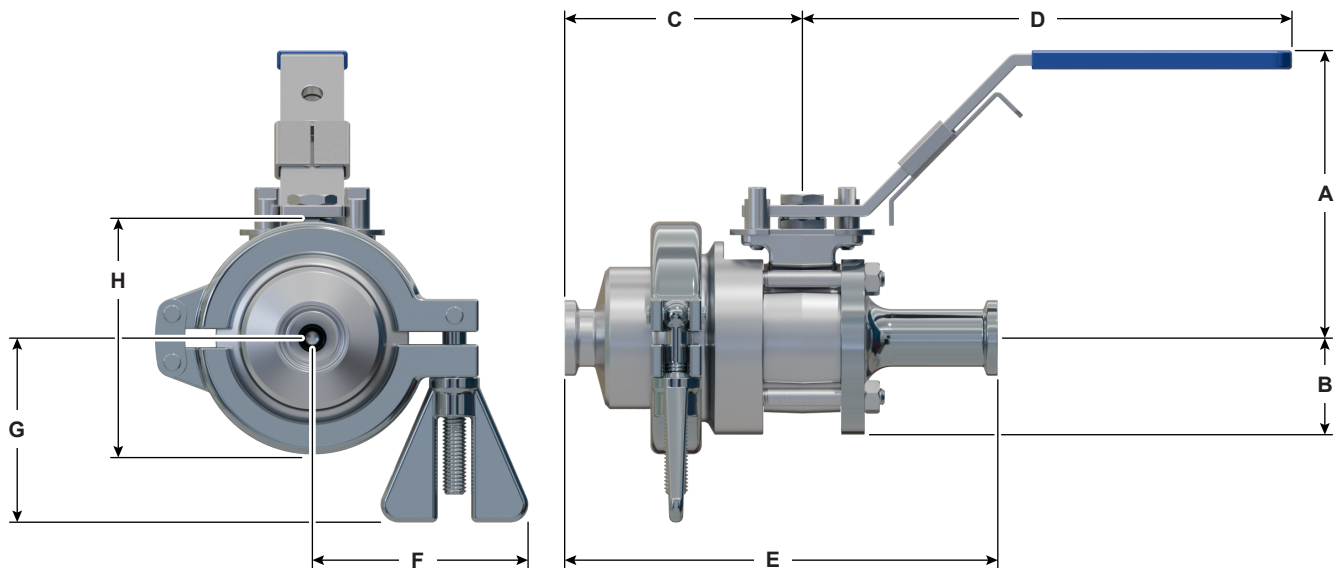
Note: Refer to IM-P818-02 for instruction on how to perform hydraulic testing

Capacities (in accordance with ISO 7842)



A	DN25 (1"), and DN40 (1½")
B	DN20 (¾")
C	DN15 (½")
D	DN25 (1"), and DN40 (1½")
E	DN20 (¾")
F	DN15 (½"), DN20 (¾"), DN25 (1") and DN40 (1½")
G	DN15-M L(½"), DN20-ML(¾"), DN25-ML(1"), DN40-ML (1½") and DN15-MH(½")

Dimensions/weights (approximate) in mm (inches) and kg (lbs)



Standard		Sizes	A	B	C	D	E	F	G	H	Weight
Sanitary Clamp	ASME BPE	½" (DN15)	95.2 (3.75)	32.0 (1.26)	78.6 (3.09)	161.0 (6.34)	134.0 (5.28)	71.5 (2.8)	61.0 (2.40)	77.0 (3.00)	1.8 (3.96)
		¾" (DN20)									
		1" (DN25)									
		1½" (DN40)									

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P818-02) supplied with the product.

Installation

The BT6-M 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. This product has a high performance thermostatic element with minimal subcooling which enables typical cooling leg requirement to be reduced to 50 mm.

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

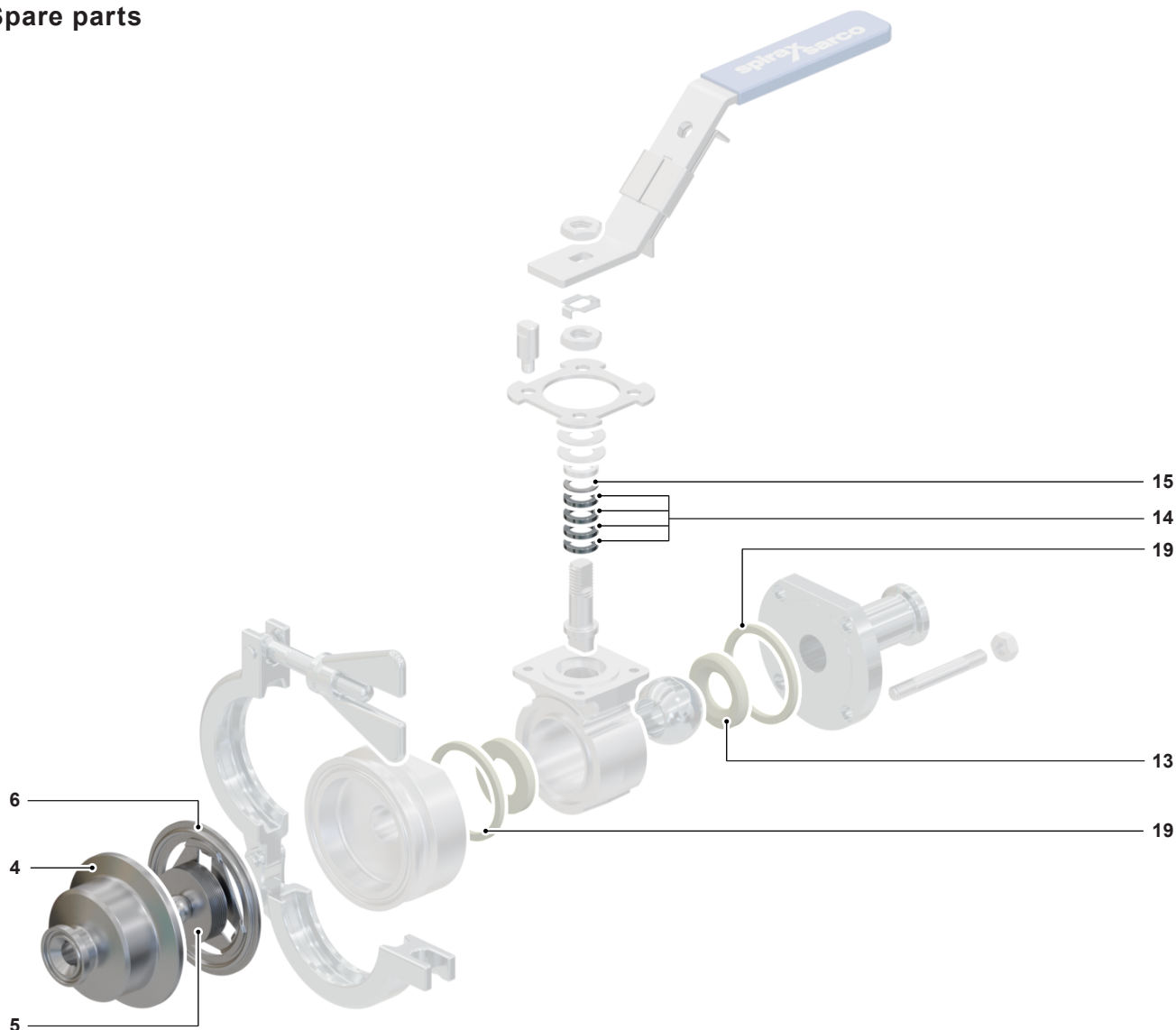
Operation

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.

BT6-M selection guide - How to order

Size	DN15	DN15	
	DN20	DN20	
	DN25	DN25	
	DN40	DN40	
Trap series	BT6-M	BT6-M	Example: DN20 BT6-M H 0.375 EP ASME BPE
Capacity	H = High Capacity	H	
	L = Low Capacity	L	
Surface finish	Standard internal surface finish of 0.6 µm Ra	Blank	
	Electropolished internal surface finish of 0.3751 µm Ra	0.375 EP	
Connection	ASME BPE	ASME BPE	

Spare parts



Available spares

Element and Gasket Set	5, 6
Trap Gasket	6
Trap Seat	4
Valve Seal Set	13, 14, 15, 19

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 ½" BT6-M Sanitary Balanced Pressure Thermostatic Steam Trap Module

Example: 2 – Valve Seal Set for a ½" BT6-M Sanitary Balanced Pressure Thermostatic Steam Trap Module