



## USM32

# Sealed Bimetallic Steam Trap for use with Pipeline Connectors

### Description

The USM32 is a pre-set and maintenance free sealed bimetallic steam trap manufactured in stainless steel. It is designed for steam pressures up to 32 bar and applications such as steam tracing and mains drips. When installed in any position with a suitable pipeline connector the USM32 can easily and simply be removed without breaking into the pipeline, thus speeding up trap replacement with minimal system downtime. Pipeline connectors are available with screwed, socket weld and flanged connections.

### Standards

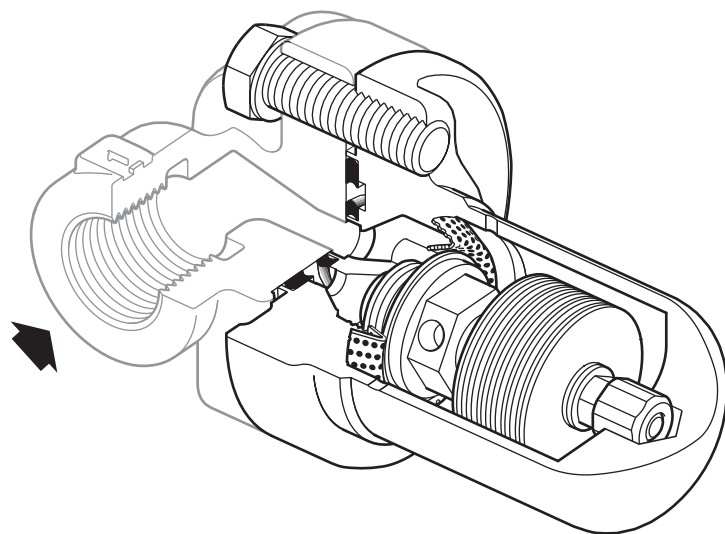
This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the **CE** mark when so required.

**Note:** The body/cover weld joint complies with ASME section IX.

### Certification

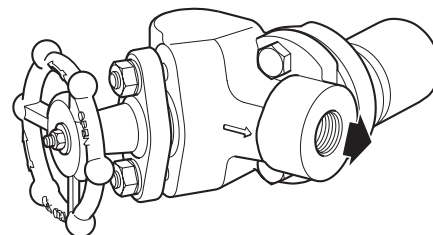
This product is available with certification to EN 10204 3.1.

**Note:** All certification/inspection requirements must be stated at the time of order placement.

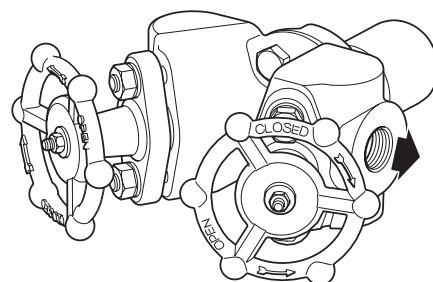


USM32 fitted to a PC10HP connector

USM32 fitted to a PC3\_ connector



USM32 fitted to a PC4\_ connector



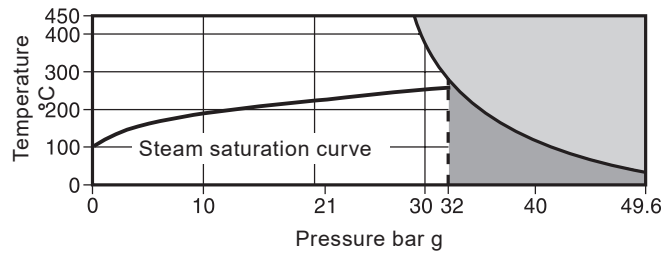
### Pipeline connector options

The USM can be fitted to a variety of pipeline connectors including:


PC10HP	Straight connector	ASME 600	(TI-P128-10)
PC20	+ 'Y' type strainer	ASME 300	(TI-P128-15)
IPC2_	+ 'Y' type strainer and Spiratec sensor		(TI-P128-17)
PC3_	+ 1 piston isolation valve	ASME 600	(TI-P128-02)
PC4_	+ 2 piston isolation valves	ASME 600	(TI-P128-03)

See the relevant Technical Information sheet as listed above for details of the connections available for each pipeline connector.

## Pressure/temperature limits (ISO 6552)



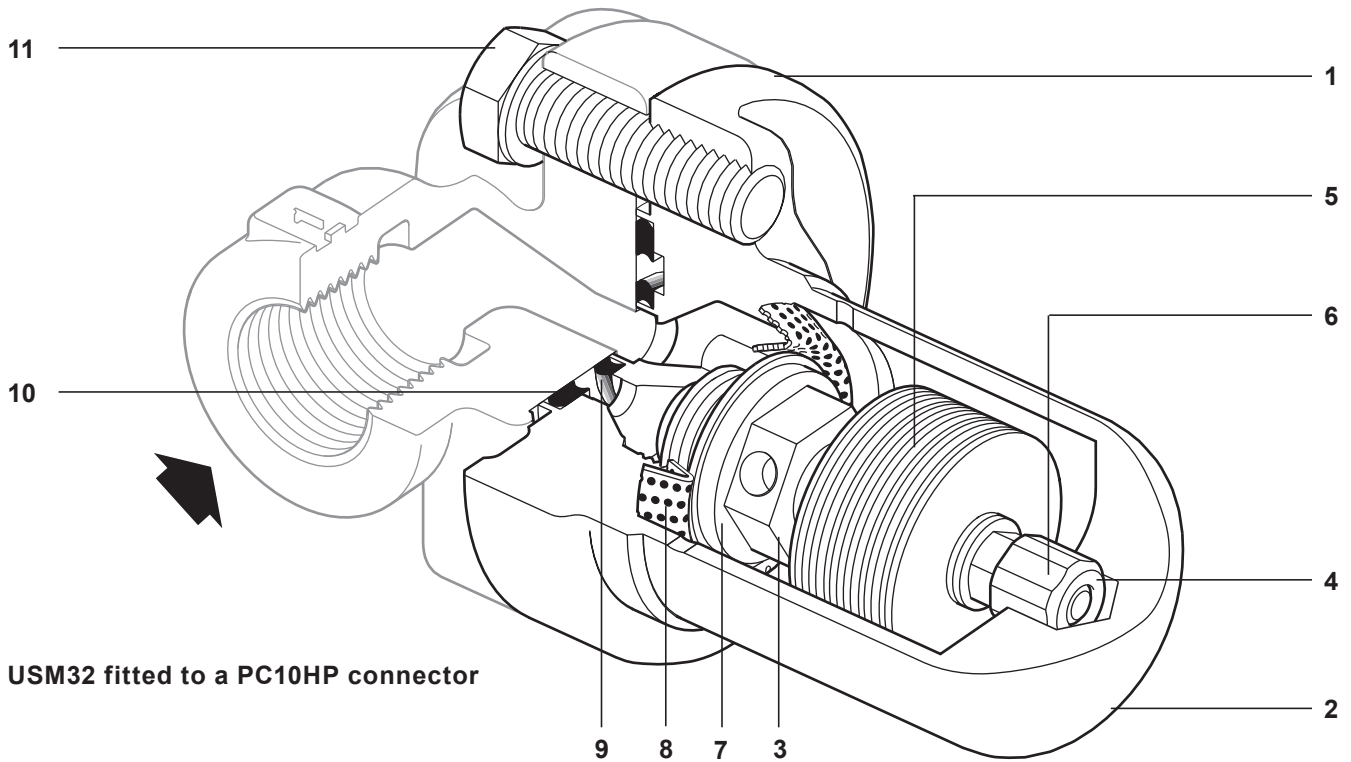
 The product **must not** be used in this region.

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

**Note:** The model of pipeline connector and connections selected will dictate the maximum operating pressure and temperature of the complete assembly. Consult the specified Technical Information sheet as listed in 'Sizes and pipe connections' for relevant data.

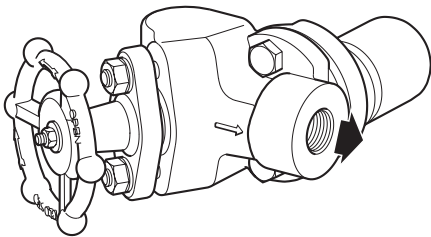
Body design conditions	ASME 300
PMA Maximum allowable pressure	49.6 bar g @ 38 °C
TMA Maximum allowable temperature	450 °C @ 28.8 bar g
Minimum allowable temperature	-29 °C
PMO Maximum operating pressure for saturated steam service	32 bar g
TMO Maximum operating temperature	400 °C @ 28.8 bar g
Minimum operating temperature	0 °C
Minimum operating pressure	1 bar g
$\Delta$ PMX Maximum differential pressure	32 bar
Designed for a maximum cold hydraulic test pressure of	75 bar g

## Materials

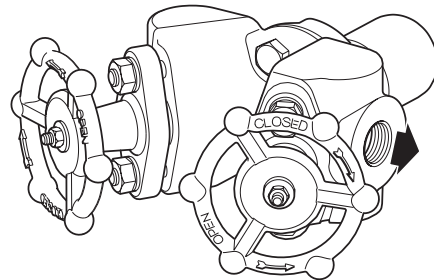


USM32 fitted to a PC10HP connector

USM32 fitted to a PC3\_ connector

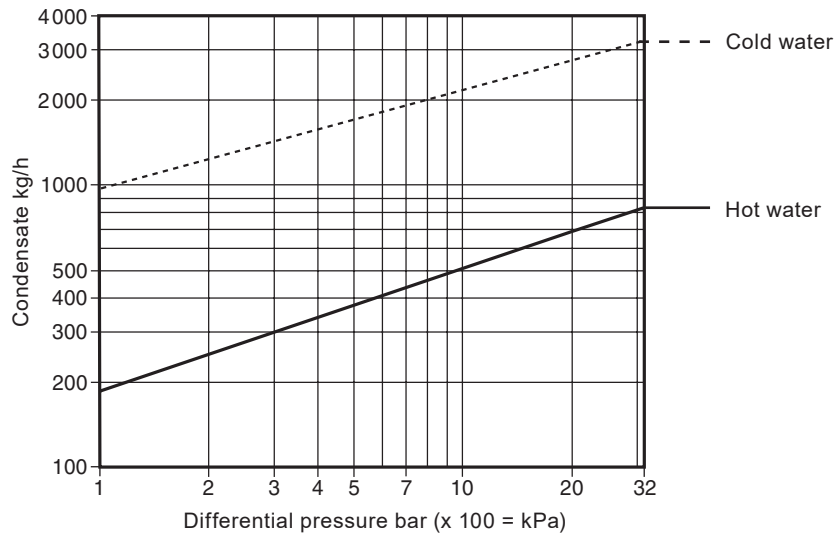


USM32 fitted to a PC4\_ connector



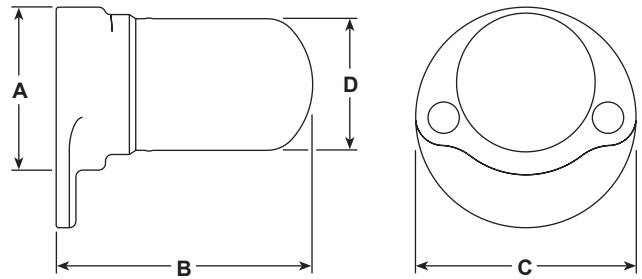
No.	Part	Material	
1	Body	Stainless steel	ASTM A351 CF8M
2	Cover	Stainless steel	AISI 316L
3	Seat	Stainless steel	AISI 304
4	Stem	Stainless steel	AISI 304
5	Bimetal	Nickel alloy	G. Rau H46
6	Lock-nuts	Stainless steel	AISI 304L
7	Body/seat gasket	Stainless steel	AISI 316L
8	Screen	Stainless steel	AISI 304L
9	Inner gasket	Stainless steel / Graphite filler	AISI 304 strip
10	Outer gasket	Stainless steel / Graphite filler	AISI 304 strip
11	Connector screws	Carbon steel	ASTM A193 B7

## Capacities (in accordance with ISO 7842)



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

A	B	C	D	Weight (Trap only)
35	78	67	40	0.6



## How to specify

Steam traps shall be of the sealed bimetal thermostatic USM32 type manufactured in stainless steel and be suitable for operating pressures up to 32 bar. Traps to be zero maintenance and to be connected to separate pipeline connectors by two screws for quick and simple installation/replacement. The thermostatic element is to nominally operate at 30 °C below steam temperature. Traps can be installed in any plane.

## How to order

The USM32 is supplied in two parts:-

1. The swivel pipeline connector

<b>PC10HP</b>	Standard connection
<b>PC20</b>	+ 'Y' type strainer
<b>IPC2_</b>	+ 'Y' type strainer and Spiratec sensor
<b>PC3_</b>	+ 1 integral ISO valve
<b>PC4_</b>	+ 2 integral ISO valves

2. The USM32 trap complete with inner and outer gaskets and two connector screws.

## Notes:

1. State the nominal subcooling temperature required.
2. Any optional extras need to be specified at the time of order placement.

## How to order example:

1 off ½" PC10HP swivel connector having screwed NPT connections for use with a USM32 sealed bimetallic steam trap.

1 off Spirax Sarco USM32 sealed bimetallic steam trap, set to operate nominally at 30 °C below steam temperature.

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P625-10) supplied with the product. The USM32 can be installed on any Spirax Sarco pipeline connector. See separate Installation and Maintenance Instructions for Spirax Sarco pipeline connectors (IM-P128-06, IM-P128-11 and IM-P128-13).

## Disposal

The USM32 trap unit is manufactured from stainless steel and is therefore totally recyclable. No ecological hazard is anticipated with the disposal of this product provided due care is taken.

## Spare parts

The USM32 is a sealed non-maintainable trap unit. No internal spares are available.

The spares which are available are shown in heavy outline. Parts shown in a grey line are not available as spares.

## Available spares

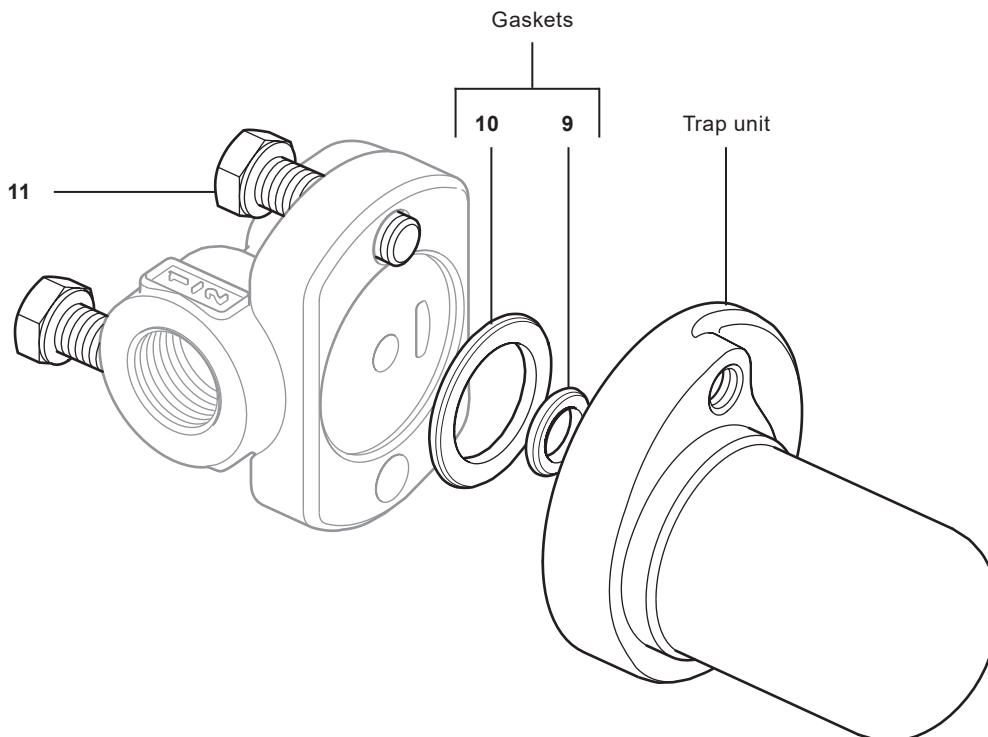
Connector screws (2 off)	<b>11</b>
Complete USM32 trap unit inclusive of gaskets ( <b>9</b> and <b>10</b> ) and connector screws ( <b>11</b> )	

Note: The gaskets contain sharp metal reinforcement, please handle with care.



## How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state if ordering a complete trap the nominal operating temperature of the steam trap.

**Example:** 2 off Connector screws for a USM32 sealed bimetallic steam trap.



## Recommended tightening torques

Item	Part	 or mm		N m
11	Connector screws	9/16"		33