Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice. © Copyright 2026

USM90

Stainless Steel Bimetallic Steam Trap for use with 4-Bolt Pipeline Connector

Description

The USM90 is a preset sealed non maintainable bimetallic steam trap, manufactured in austenitic stainless steel. It has been specifically designed for for ASME Class 900. The USM90 is attached to a suitable pipeline connector (for example; PC90) by four connector bolts for quick and easy installation, and replacement.

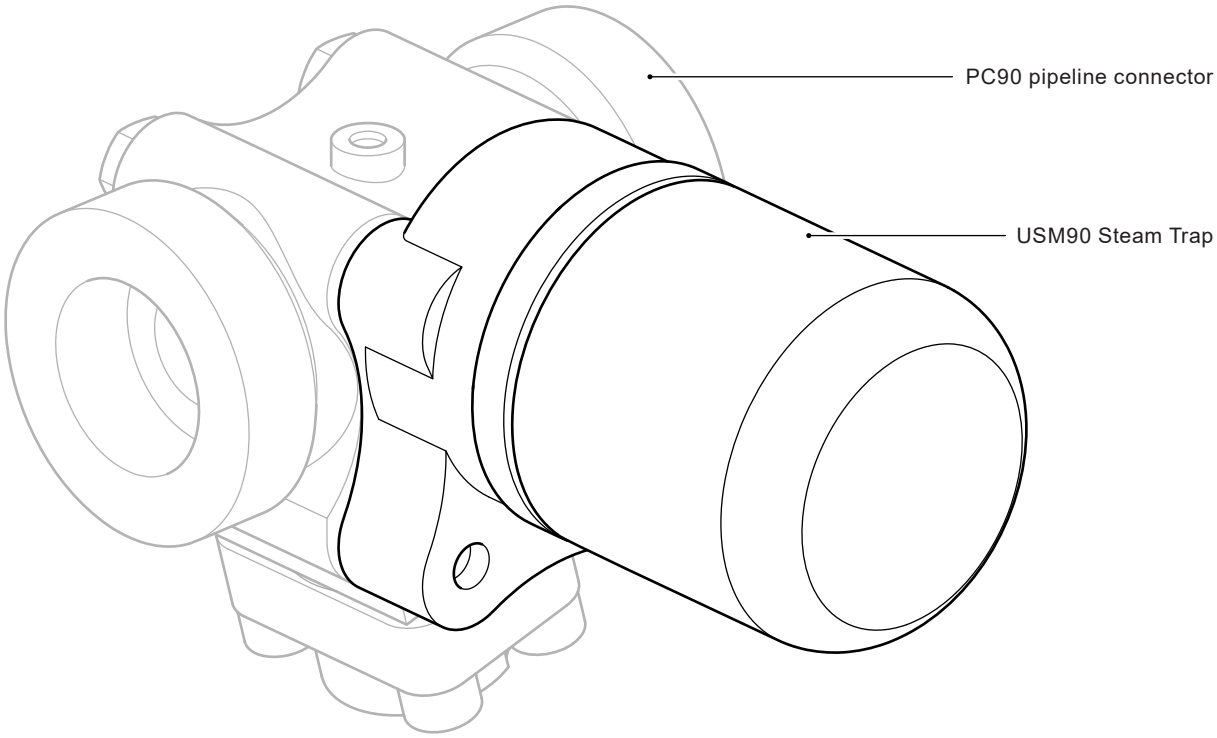
Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU.

Certification

This product is supplied with EN 10204 3.1 certification as standard.
Note: All certification/inspection requirements must be stated at the time of order placement.
Canadian Registration (CRN) for the USM90 is pending.

USM90 fitted to a PC90 4-Bolt connector



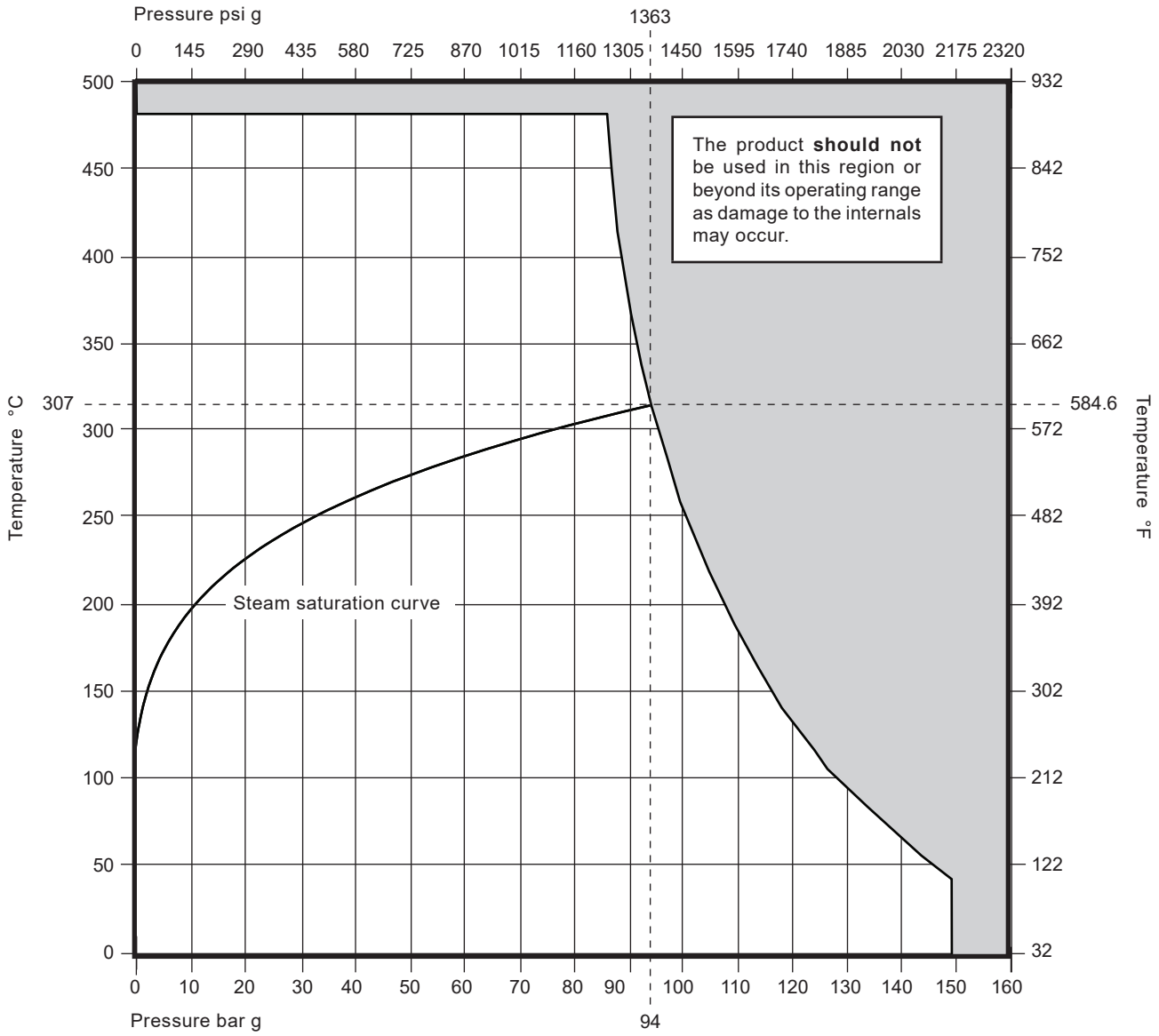
Pipeline connector options

The USM90 can only be used with the PC90 4-Bolt pipeline connector or equivalent.

PC90	4-Bolt Pipeline Connector	ASME 900	(TI-P806-01)

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

Pressure/temperature limits (ISO 6552)



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.

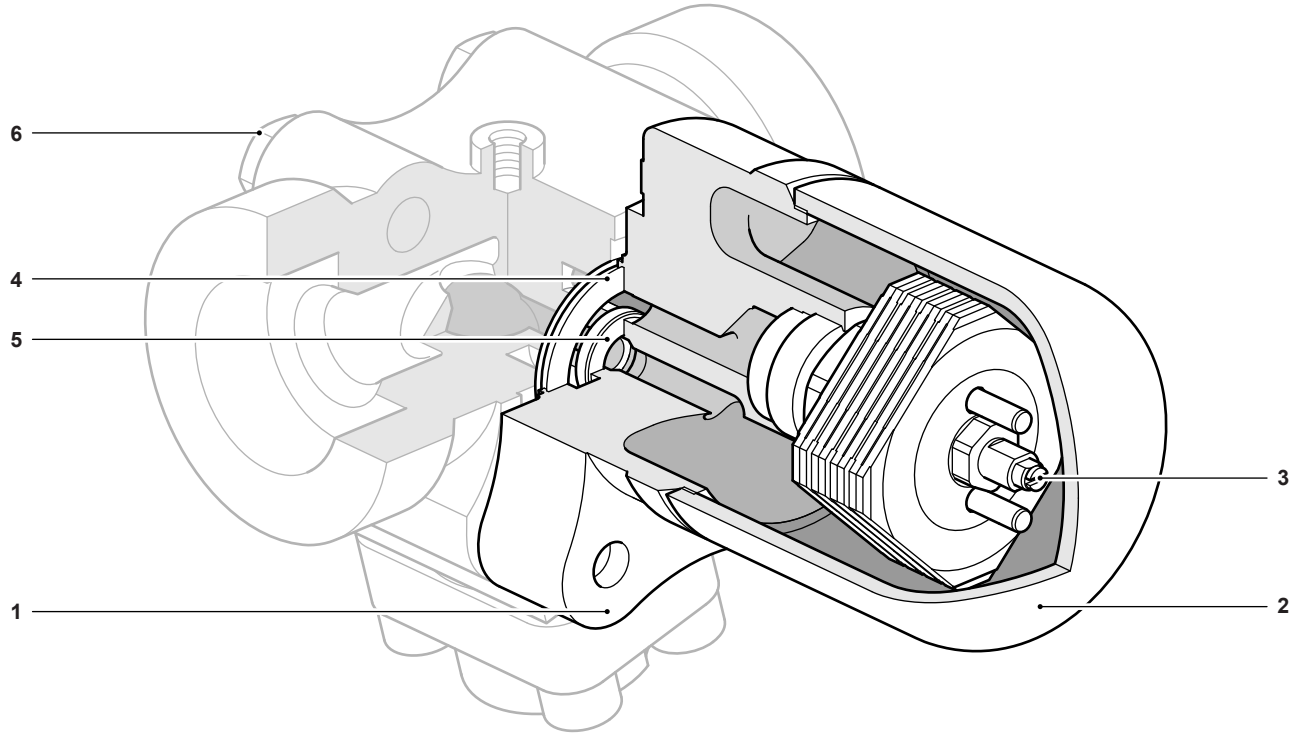
Body design conditions		ASME Class 900
PMA Maximum allowable pressure	149.1 bar g @ 38 °C	2163 psi g @ 100 °F
TMA Maximum allowable temperature	482 °C @ 86 bar g	900 °F @ 1245 psi g
Minimum allowable temperature	-46 °C	-50.8 °F
PMO Maximum operating pressure for saturated steam	94 bar g @ 307 °C	1363 psi g @ 584.6 °F
TMO Maximum operating temperature	482 °C @ 86 bar g	900 °F @ 1245 psi g
Minimum operating differential pressure	4 bar g	58 psi g
Minimum operating temperature *	0 °C	32 °F
ΔPMX Maximum differential pressure	86 bar g	1245 psi g
Designed for a maximum cold hydraulic test pressure of	224 bar g	3249 psi g

The USM90 is suitable for full vacuum condition.

*** Note:** For lower operating temperatures consult Spirax Sarco

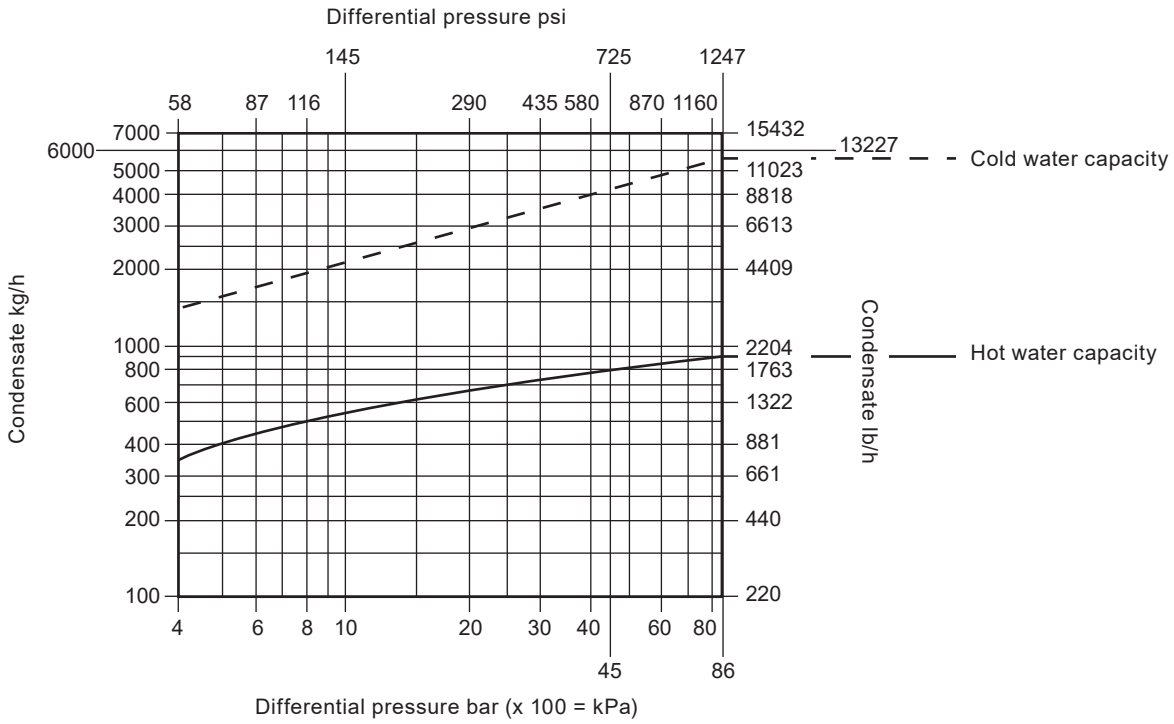
Materials

USM90 fitted to the PC90 4-bolt pipeline connector



No.	Part	Material	
1	Body	Austenitic Stainless Steel	ASTM A351 CF8M
2	Cover	Austenitic Stainless Steel	ASTM A240 316
3	Regulator	Stainless steel/Titanium	
4	Outer gasket	Graphite/stainless steel	Graphite Foil/UNS S30400 - EN 1.4301
5	Inner gasket	Graphite/stainless steel	Graphite Foil/UNS S30400 - EN 1.4301
6	Pipeline heavy hex connector bolts	Austenitic Stainless Steel	ASTM A193 grade B8 class 2

Capacities (in accordance with ISO 5117)



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

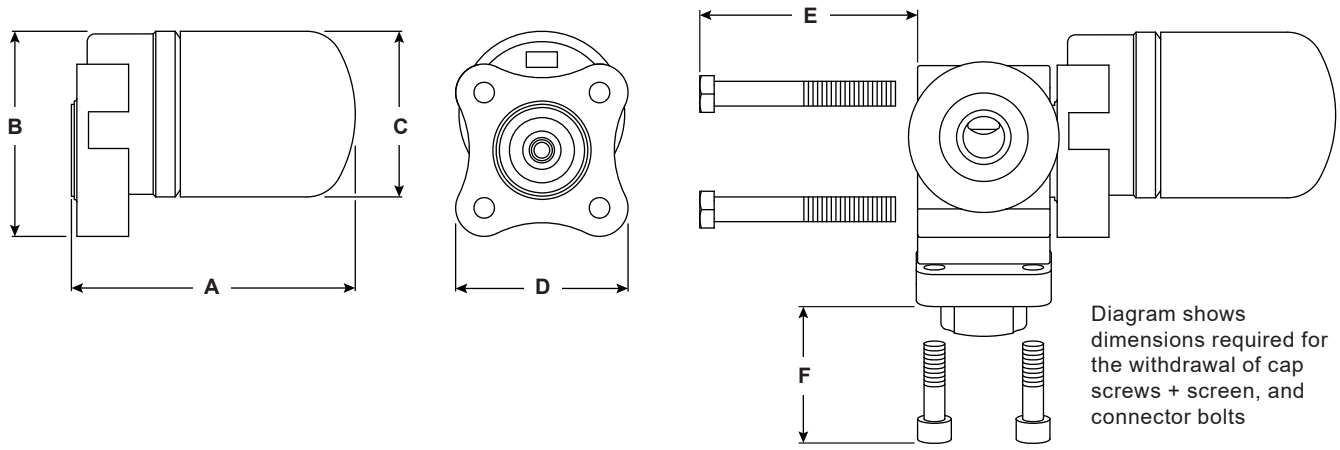


Diagram shows dimensions required for the withdrawal of cap screws + screen, and connector bolts

Dimensions				Withdrawal dimensions		Weight (Trap Only)
A	B	C	D	E	F	
115 (4.5)	79 (3.1)	Ø64 (2.52)	67 (2.6)	80 (3.15)	85 (3.35)	1.8 (4)

How to specify

Steam traps shall be of the sealed bimetal thermostatic USM90 type manufactured in stainless steel and be designed to ASME Class 900.

Traps to be non maintainable (sealed) and to be connected to separate pipeline connectors by four connector bolts for quick and simple installation/replacement.

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-P805-02) provided with the product.

Disposal
Some or all components of this product are recyclable. No environmental hazards are anticipated during the disposal of recyclable parts. For more information, please contact your local Spirax Sarco manufacturing or sales centre.

Installation note
The USM90 can be installed on any approved 4-Bolt pipeline connector, in any orientation, provided the connection face is in the vertical plane.

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.

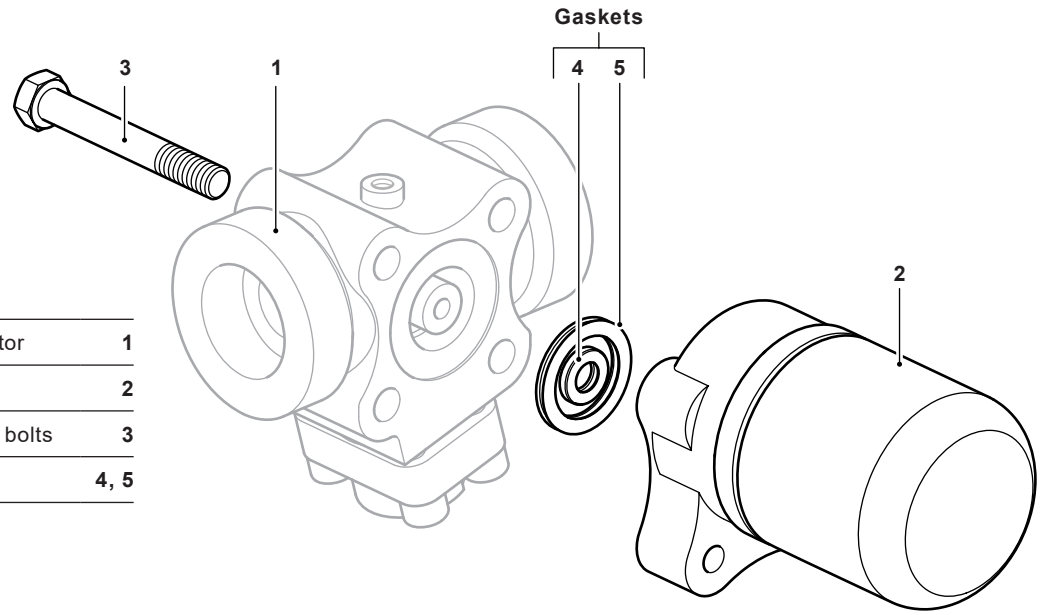
For ease of maintenance, consideration should be given to fitting isolation valves upstream and downstream of the steam trap.

How to order
The USM90 needs to be fitted to a new or existing PC90 4-Bolt connector or equivalent.
Note: Any optional extras need to be specified at the time of order placement.

How to order example:
1 off ½" PC90 4-Bolt pipeline connector having socket weld connections for use with a USM90 sealed bimetallic steam trap.
1 off Spirax Sarco USM90 4-Bolt bimetallic steam trap.

Spare parts

The USM90 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.



PC90 4-Bolt Pipeline Connector	**1**
USM90 trap unit	**2**
Pipeline heavy hex connector bolts	**3**
Pipeline gaskets	**4, 5**

Available spares

Pipeline heavy hex connector bolts (4 off)	**3**
Set of gaskets (pipeline)	**4, 5**

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: 4 off Connector screws for a USM90 sealed bimetallic steam trap

Recommended tightening torques

Item	Part				N m	ft lbs
3	Heavy hex connector bolts		11/16" A/F	3/8" UNC	26	19.2