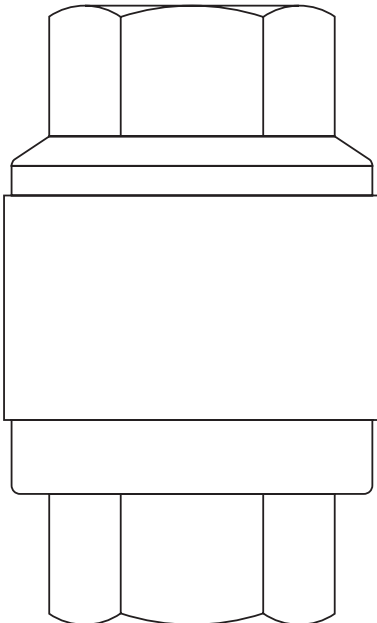


T3

Bimetallic Steam Trap

Installation and Maintenance Instructions



1. *General safety information*
2. *General product information*
3. *Installation*
4. *Commissioning*
5. *Operation*
6. *Maintenance*
7. *Spare parts*
8. *Fault finding*

— 1. *General safety information* —

Safe operation of these units can only be guaranteed if they are properly installed, commissioned and maintained by a qualified person (see Section 11 of the attached Supplementary Safety Information) in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

Isolation

Consider whether closing isolating valves will put any other part of the system or personnel at risk. Dangers might include; isolation of vents and protective devices or alarms. Ensure isolation valves are turned off in a gradual way to avoid system shocks.

Pressure

Before attempting any maintenance consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the product, this is easily achieved by fitting Spirax Sarco depressurisation valves type DV (see separate literature for details). Do not assume that the system is depressurised even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalise after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required.

Disposal

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

— 2. General product information —

2.1 General description

The Spirax Sarco T3 is a forged stainless steel automatic steam trap. It is designed for instrument tracing or draining low capacity lines.

The T3 operates with no loss of steam, and quickly drains air, non-condensable gases and large quantities of cold water on start-up.

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

Note:

For additional information see Technical Information Sheet TI-P625-01.

2.2 Sizes and pipe connections

$\frac{3}{8}$ ", $\frac{1}{4}$ " and $\frac{1}{2}$ " screwed BSP or NPT

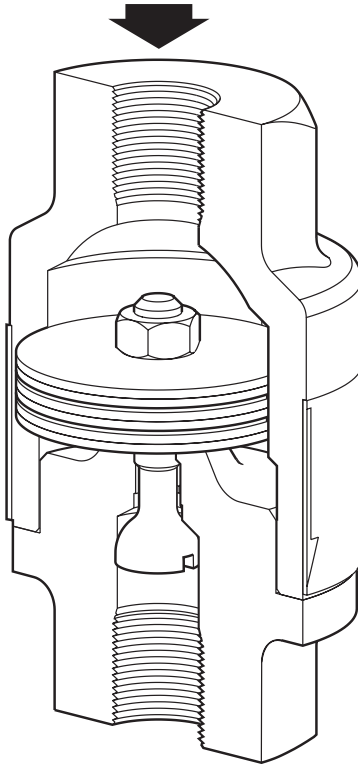
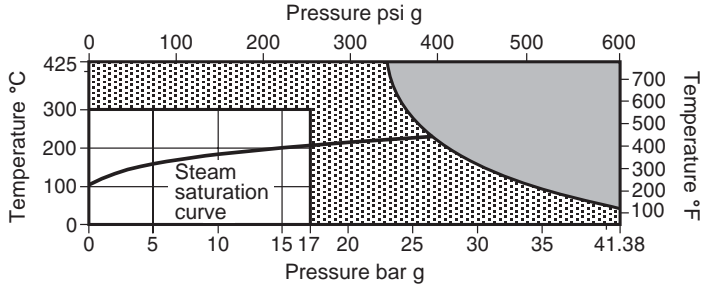



Fig. 1

2.3 Pressure/temperature limits



 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, Class 300 to ANSI B 16.34	
PMA	Maximum allowable pressure	41.38 bar g @ 37.8°C (600 psi g @ 100°F)
TMA	Maximum allowable temperature	425°C @ 22.8 bar g (797°F @ 330.7 psi g)
	Minimum allowable temperature	-254°C (-425°F)
PMO	Maximum operating pressure for saturated steam service	17 bar g (247 psi g)
TMO	Maximum operating temperature	300°C @ 17 bar g (572°F @ 247 psi g)
	Minimum operating temperature	0°C (32°F)
	Minimum operating pressure for satisfactory operation is:	0.15 bar g (2 psi g)
ΔPMX	The backpressure for correct operation must not exceed 90% of the upstream pressure.	
	Designed for a maximum cold hydraulic test pressure of:	62 bar g (899 psi g)

3. Installation

Note: Before actioning any installation observe the 'Safety information' in Section 1.

Referring to the Installation and Maintenance Instructions, name-plate and Technical Information Sheet, check that the product is suitable for the intended installation:

- 3.1** Check materials, pressure and temperature and their maximum values. If the maximum operating limit of the product is lower than that of the system in which it is being fitted, ensure that a safety device is included in the system to prevent overpressurisation.
- 3.2** Determine the correct installation situation and the correct direction of fluid flow.
- 3.3** Remove protective covers from all connections.
- 3.4** Install the steam trap downstream of the equipment to be drained, ensuring that it is easily accessible for inspection and maintenance.
- 3.5** The steam trap may be installed in any position.
- 3.6** Before installing the trap, ensure all connecting pipework is clean and free of debris.
- 3.7** Mount the steam trap with the arrow on the body pointing in the direction of the flow of the liquid.
- 3.8** The steam trap is factory set. It is non-adjustable and non-maintainable.

Note: If the trap is to discharge to atmosphere ensure it is to a safe place, the discharging fluid may be at a temperature of 100°C (212°F).

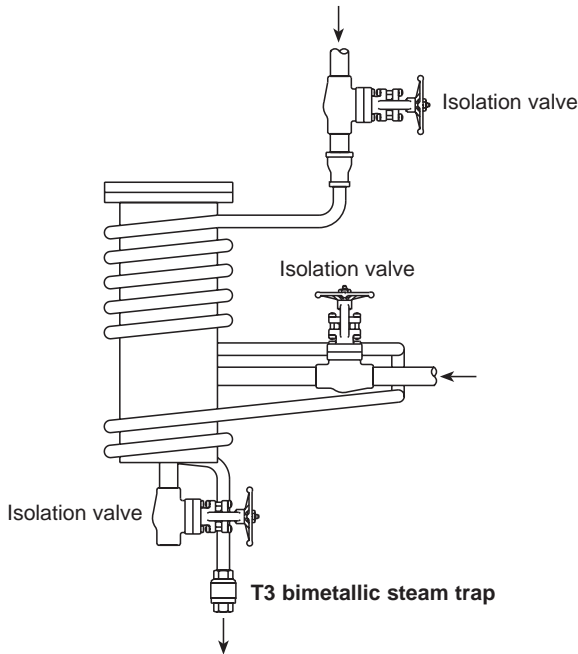


Fig. 3 Recommended installation - Instrument tracing

4. Commissioning

After installation or maintenance ensure that the system is fully functioning. Carry out tests on any alarms or protective devices.

5. Operation

The Spirax Sarco T3 is a bimetallic steam trap.

This trap operates on the basis of two opposing forces acting on the valve - an opening force created by system pressure, and a closing force resulting from the condensate temperature acting on the bimetallic elements.

The T3 operates with no loss of steam and automatically and quickly drains air, non-condensable gases and large quantities of cold water on start-up.

6. Maintenance

The Spirax Sarco T3 is factory set, it is non-adjustable and requires no maintenance.

7. Spare parts

There are no spare parts available for this product.

How to order a new product

Example: 1 off Spirax Sarco ¼" T3 bimetallic steam trap with screwed NPT connections.

8. *Fault finding*

Trap fails to pass condensate	1. Make sure upstream and downstream valves are open.
	2. Check external strainers for clogging; blowdown or dismantle and clean.
	3. Back pressure too high. Downstream system must be corrected. Back pressure will also lower the discharge temperature.
	4. Valve port clogged with dirt. Remove and replace trap.
	5. Bimetallic element failed. Remove and replace trap.
Trap blows live steam	1. Dirt on seating surface. Remove from line, observing relevant safety instructions, (see Section 1). Remove dirt if possible. If not, remove and replace trap.
	2. Bimetallic element failed. Remove and replace trap.
	3. Worn valve seat. Remove and replace trap.

