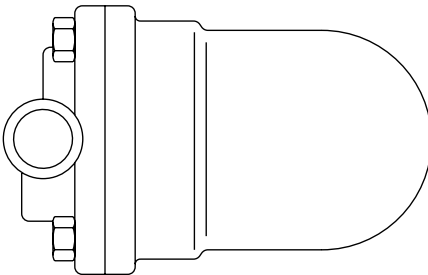


FT16
Ball Float Steam Trap
Installation and Maintenance Instructions



½" and ¾" shown

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

— 1. *General safety information* —

Safe operation of the unit can only be guaranteed if it is 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.

Warning

The cover gasket contains a thin stainless steel support ring which may cause physical injury if not handled and disposed of carefully.

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.

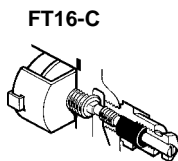
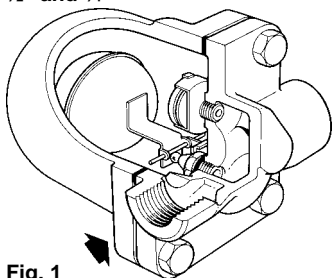
— 2. General product information —

2.1 Description

The FT16 is a 316 austenitic stainless steel ball float steam trap with integral air venting facility. It is available with horizontal screwed connections. As an option a manually adjustable needle valve can be added for use as a steam lock release designated the FT16-C. If required the cover can be drilled and tapped $\frac{3}{8}$ " BSP or NPT for the purpose of fitting a drain valve.

Note: For further information see the following Technical Information Sheet, TI-P143-02, which gives full details of:- Materials, sizes and pipe connections, dimensions, weights, operating ranges and capacities.

FT16
 $\frac{1}{2}$ " and $\frac{3}{4}$ "



FT16
1"

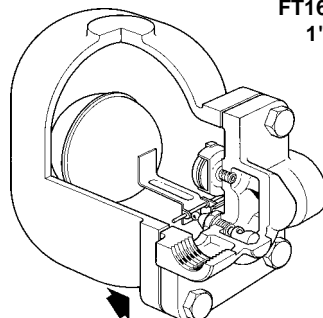


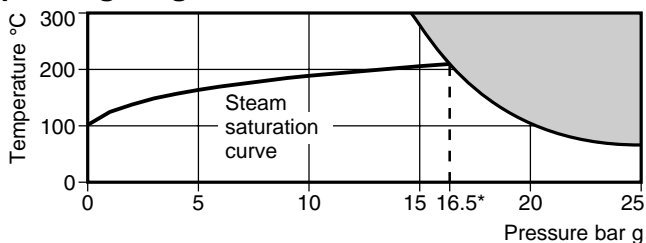
Fig. 1


2.2 Sizes and pipe connections $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1" screwed BSP or NPT.

2.3 Limiting conditions

Maximum body design conditions	PN25
PMA - Maximum allowable pressure	25 bar g (362.5 psi g)
TMA - Maximum allowable temperature	300°C (572°F)
PMO - Maximum operating pressure	16.5 bar g (239 psi g)
TMO - Maximum operating temperature	300°C (572°F)
Designed for a maximum cold hydraulic test pressure of:	38 bar g (551.0 psi g)

2.4 Operating range



 The product must not be used in this region.

* PMO Maximum operating pressure recommended for saturated steam 16.5 bar g.

ΔPMX - Max differential pressure

Trap	FT16 - 4.5	FT16 - 10	FT16 - 14
ΔPMX	4.5 bar	10 bar	14 bar

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 direction of fluid flow.
- 3.3.** Remove protective covers from all connections.
- 3.4** The trap must be fitted with the float arm in a horizontal plane so that it rises and falls vertically with the direction of flow as indicated on the body.

Note:	$\frac{1}{2}$ " and $\frac{3}{4}$ "	Traps require 110 mm withdrawal distance to remove the cover.
	1"	Traps require 160 mm withdrawal distance to remove the cover.

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).

4. Commissioning

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

5. Operation

The ball float steam trap is a continuous discharge trap, removing condensate the instant it forms. On start-up, the thermostatic air vent allows air to bypass the main valve preventing the system air binding. Hot condensate will close the air vent tightly, but as soon as it enters the main chamber of the trap, the float rises and the lever mechanism attached to it opens the main valve - keeping the system drained of condensate at all times. When steam arrives, the float drops and closes the main valve. Float traps are renowned for their high start-up load handling capability, clean tight shut-off and resistance to waterhammer and vibration.

6. Maintenance

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

Warning

The cover gasket contains a thin stainless steel support ring which may cause physical injury if not handled and disposed of carefully.

6.1 General information

Repairs can be carried out with the trap in the line. When reassembling make sure that all joint faces are clean and the dowel locates in the cover.

6.2 How to fit the main valve assembly (refer to Fig. 2, Section 7):



- Unscrew the support and the pivot frame and valve seat (5, 7, 14 and 15).
- Ensure the seat / gasket faces are clean and dry.
- Fit the valve seat (5) to the body (Do not use gasket paste).
- Attach the support frame (15) and the pivot frame (14) to the body with the assembly set screws (7), but do not tighten.
- Fit the float arm to the pivot frame using the pin (17) and by moving the complete assembly centre the valve head onto the seat orifice.
- Tighten the assembly set screws (7) to the recommended tightening torque (see Table 1).

6.3 How to fit the air vent assembly (refer to Fig. 2, Section 7):

- Remove the spring clip, capsule and saucer plate (9).
- Unscrew the seat.
- Fit the new seat and frame.
- Assemble the spacer plate, fit capsule and clip.

Table 1

Recommended tightening torques

Item	Size	 or  mm	N m	(lbf ft)
2	½", ¾" and 1"	17	M10 x 30	29 - 33 (21.3 - 24.3)
9	½", ¾" and 1"	17		50 - 55 (36.8 - 40.4)
5	½", ¾" and 1"	17		40 - 45 (29.4 - 33.1)
11	½", ¾" and 1"	21		40 - 45 (29.4 - 33.1)
7	½", ¾" and 1"		M5 x 20	10 - 12 (7.3 - 8.8)

7. Spare parts

Spare parts

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

Available spares

Main valve assembly with float	5, 6, 7, 8, 9, 14, 15, 17
Air vent assembly	9
Steam lock release and air vent assembly	9, 11, 12
Complete set of gaskets (packet of 3 sets)	3, 6, 12

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 - Air vent assembly for ½" Spirax Sarco FT16 Steam Trap.

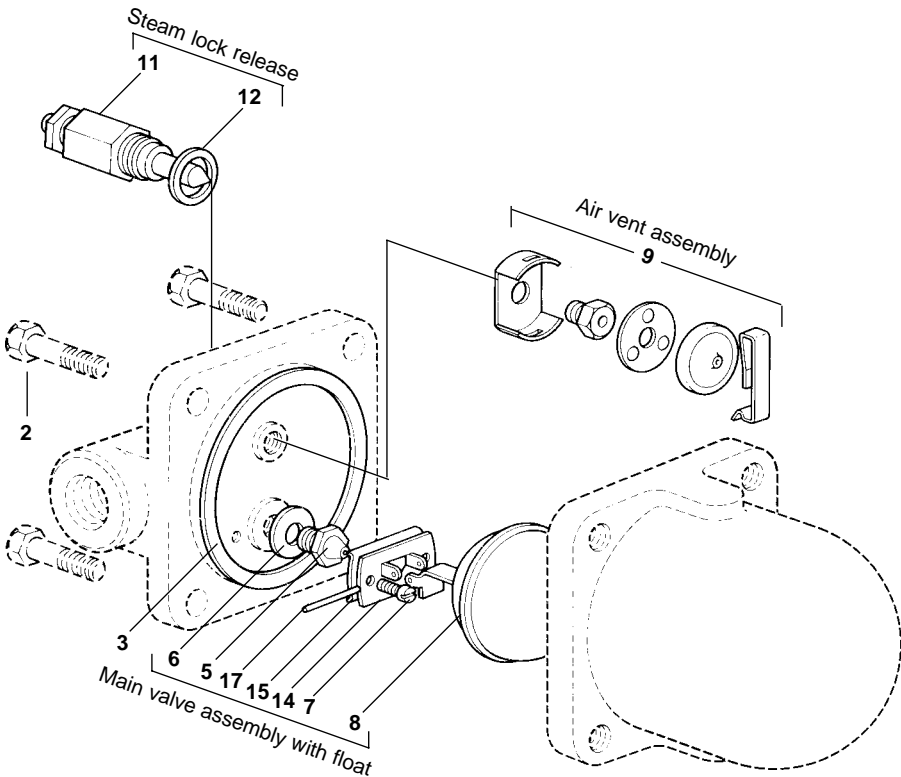


Fig. 2

