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ISO 9001

spirax sarco

TI-P084-01
ST Issue 7

FT12

Cast Iron

Float/Orifice Trap for High Capacity Applications

Description

The FT12 is a unique steam trap which combines a large fixed orifice to handle very high condensate loads up to differential pressures of 4 bar. An integral float trap mechanism provides a variable capacity in addition to the orifice. Minimum flowrates are required to avoid blowthrough and these depend on the orifice selected A, B, C or D. The FT12 is manufactured in cast iron with DN150 (6") flanged connections. It is designed specifically for the sugar industry, which has inherently low pressure, high load steam systems.

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 2.2.

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

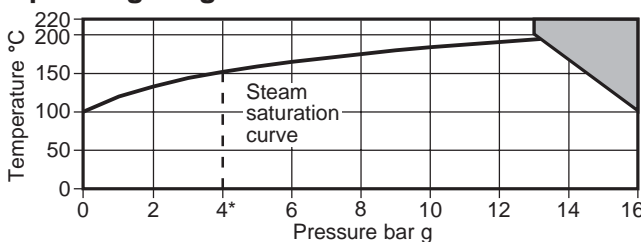
Size and pipe connections

DN150, flanged PN16 and ANSI 125
(Flanges to BS 10 Table D can be supplied to special order).

Limiting conditions

Body design conditions	PN16
PMA - Maximum allowable pressure	16 bar g
TMA - Maximum allowable temperature	220°C
PMO - Maximum operating pressure	4 bar g
TMO - Maximum operating temperature	220°C
Designed for a maximum cold hydraulic test pressure of 24 bar g	

Operating range



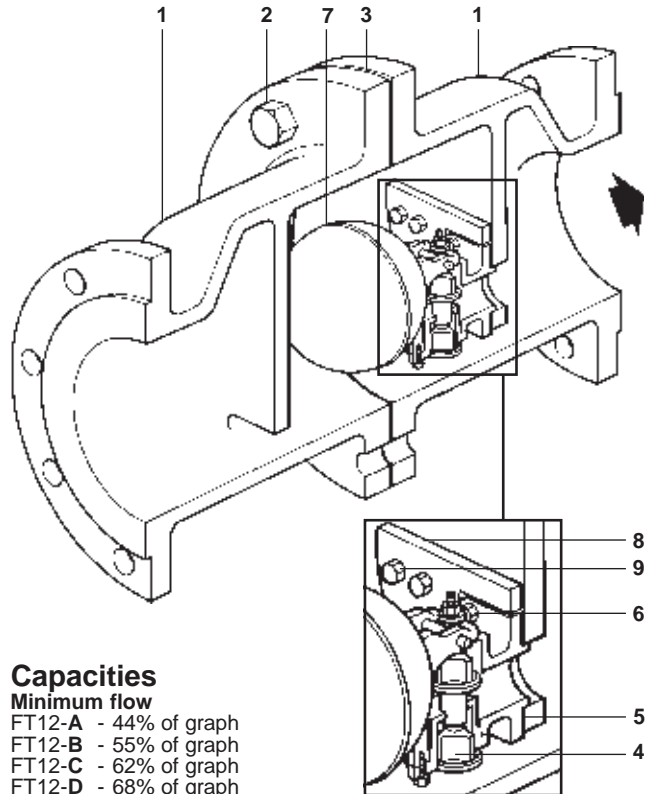
The product must not be used in this region.

* PMO Maximum operating pressure.

Note: The trap is available with a choice of four orifice plates suitable for various capacities: **FT12-A, B, C and D**. Each orifice option has a maximum and minimum flowrate. See the capacity chart opposite.

Materials

No.	Part	Material	
1	Body	Cast iron	GG25
2	Cover bolts	Steel (M22 x 90)	BS 3692 Gr. 8.8
	Cover nuts	Steel	BS 3692 Gr. 8
3	Body gasket	Reinforced exfoliated graphite	
4	Main valve assembly	Stainless steel BS 3146 Pt2 ANC2	
5	Main valve assembly gasket	Reinforced exfoliated graphite	
6	Main valve assembly bolts	Stainless steel (M8 x 20)	
7	Ball float	Stainless steel BS 1449 304 S16	
8	Orifice plate	Stainless steel	304
9	Orifice plate studs and nuts	Stainless steel	



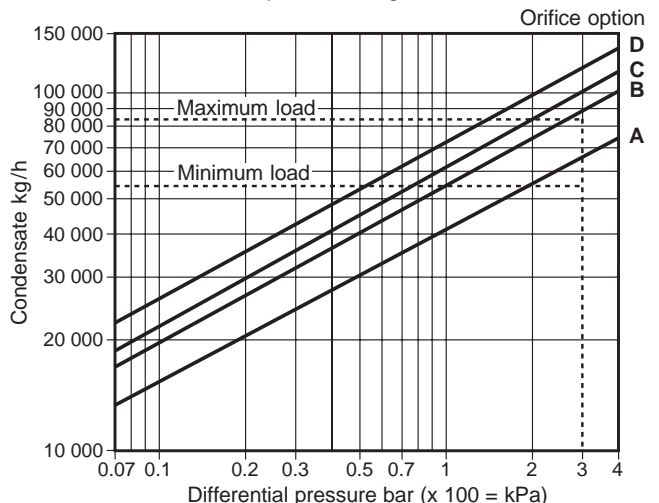
Capacities

Minimum flow	
FT12-A	- 44% of graph
FT12-B	- 55% of graph
FT12-C	- 62% of graph
FT12-D	- 68% of graph

How to select/size the trap

The FT12 has a fixed orifice combined with a float mechanism. There is a minimum flowrate which must be present to ensure that the orifice does not waste steam. This minimum flow is indicated as a percentage flow of the maximum hot condensate flow as shown on the capacity graph.

Example: Maximum condensate load from a process is 85 000 kg/h at 3 bar pressure differential. The minimum load is 57 000 kg/h. Whilst the B, C or D models will pass the maximum load the B model has a minimum flow at 49 000 kg/h where as the C and D models require a higher minimum load of 62 000 kg/h and 85 000 kg/h respectively. In this example an FT12-B would be selected as the minimum flowrate of the trap is 49 000 kg/h.

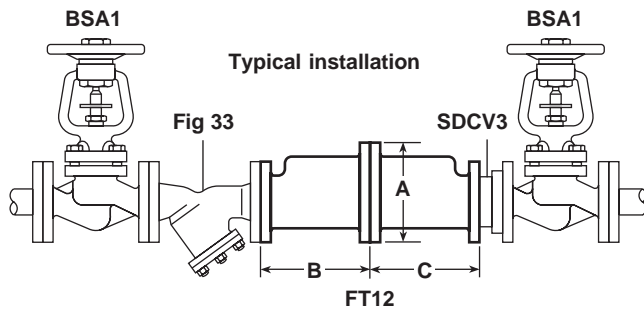


Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification.

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Dimensions/weight (approximate) in mm and kg

Trap	A	B	C	Weight
FT12	340	240	240	82



Trap operation

It is important that the FT12 is sized correctly to the running load of the plant being drained. See 'Capacities - How to select / size the trap' for full details.

The fixed orifice (available in four different cross sectional areas A, B, C, or D) will pass a set amount of condensate at any given differential pressure consequently it is important that loads are constant. If the condensate load drops below the minimum value shown then steam will also pass through the trap. A separate float trap mechanism provides additional capacity should the condensate level increase up to the maximum values shown on the graph. Correct sizing will ensure that the plant condensate flow is between the minimum and maximum flowrates shown.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P084-02) supplied with the product.

The FT12 is designed for installation in a horizontal plane. Suitable isolation valves must be installed to allow for safe maintenance and trap replacement. A typical installation is shown on the left.

Warning: The body/cover gasket contains a thin stainless steel support ring, which may cause physical injury if it is not handled and disposed of carefully.

Disposal

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

How to order

Example: 1 off Spirax Sarco DN150 FT12-B cast iron float/orifice trap having PN16 flanged connections.

Spare parts

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

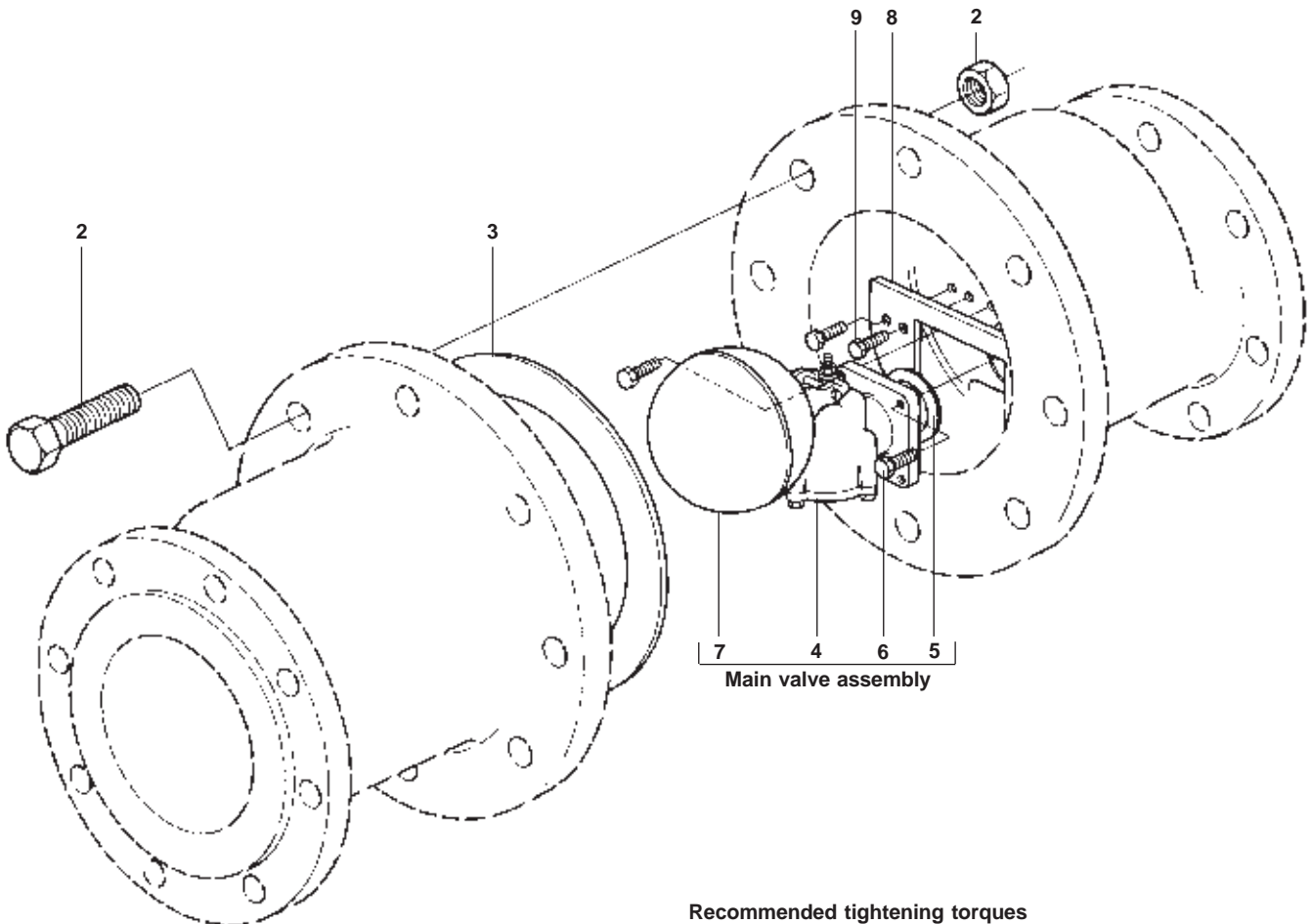
Available spares

Main valve assembly with float	4, 5, 6, 7, 8
Orifice plate (state A, B, C or D)	8, 9
Set of body gaskets (packet of 3)	3
Set of body nuts and bolts	2



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 - Main valve assembly for a DN150 FT12-D cast iron float/orifice trap.



Recommended tightening torques

Item	 or 	N m
2	32 A/F M22 x 90	160 - 180
6	M8 x 20	20 - 24
9	M8 x 20	20 - 24