



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-S03-02
ST Issue 5

HM Series Cast Iron Inverted Bucket Steam Traps

Description

The Spirax Sarco HM Series of cast iron inverted bucket steam traps are designed for installation in horizontal pipework. They are available in screwed and flanged connections, with an optional blowdown valve.

Sizes and pipe connections

½" - HM00, ¾" - HM10 and 1" - HM12
Screwed BSP or NPT
DN15 - HM003, DN20 - HM103 and DN25 - HM123.
Standard flange: BS 4504 and DIN PN16

Optional extras

Integral blowdown valve:- The HM Series inverted bucket steam traps can be supplied with integral blowdown valves to remove debris from the inlet strainer. For further details see the relevant Technical Information Sheet.

External air vents:- When required, HM Series inverted bucket steam traps can be supplied with separate thermostatic air vents to provide the efficient and quick release of air. Various models, both balanced pressure and bimetallic, are available. Details for the range up to 30 bar g are shown in the relevant sales brochure.

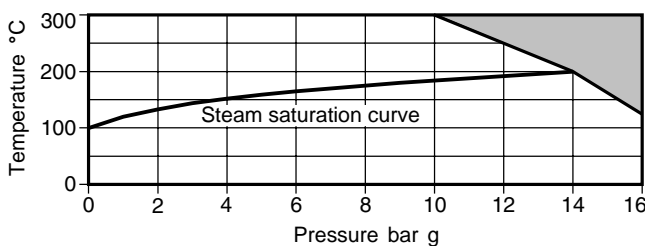
Diffusers:- Where steam traps discharge to atmosphere a diffuser should be fitted to reduce the effect of the blast discharge. The diffuser not only reduces the risk of groundwork erosion and condensate splashback, but also reduces sound pressure levels as well. Available models are detailed in the relevant sales brochure.

Limiting conditions

Note: Maximum operating conditions depend upon the orifice size.

Body design conditions	PN16
PMA - Maximum allowable pressure	16 bar g
TMA - Maximum allowable temperature	300°C
PMO - Maximum operating pressure	16 bar g
TMO - Maximum operating temperature	300°C
Designed for a maximum cold hydraulic test pressure of 24 bar g	

Operating range



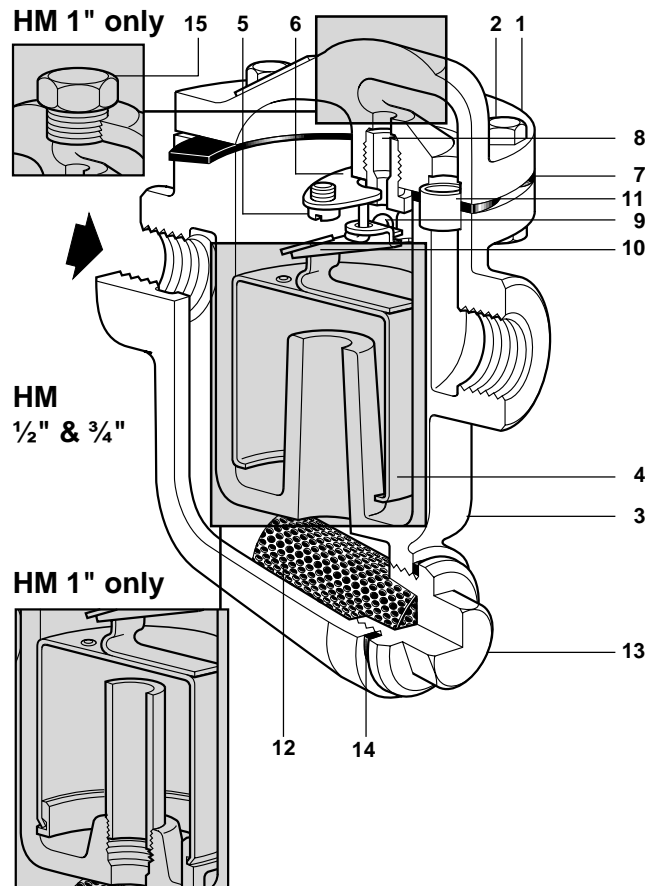
The product must not be used in this region

ΔPMX - Maximum differential pressure

	Size	ΔPMX - Maximum differential pressure bar				
		4	8.5	10	12.5	14
Screwed	½"	HM00/8	HM00/7	HM00/6	-	-
	¾"	HM10/10	HM10/8	-	HM10/7	-
	1"	HM12/12	HM12/10	-	-	HM12/7
Flanged	DN15	HM003/8	HM003/7	HM003/6	-	-
	DN20	HM103/10	HM103/8	-	HM103/7	-
	DN25	HM123/12	HM123/10	-	-	HM123/7

Capacities

See TI-P072-02 for capacities

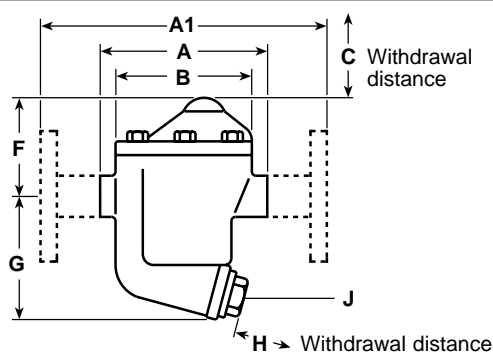


Materials

No.	Part	Material	
1	Cover	Cast Iron	DIN 1691 GG 20
	Cover bolts ½", ¾"	Steel	BS 3692 Gr.10
	Cover nuts ½", ¾"	Steel	BS 3692 Gr.10.9
2	Cover bolts 1"	Steel	BS 3692 Gr. 8.8
	Cover nuts 1"	Steel	BS 692 Gr. 8
3	Body	Cast iron	DIN 1691 GG 20
4	Bucket	Stainless steel	BS 1449 304 S16
5	Valve guide plate screw	Stainless steel M4.5 x 10	BS 4183 18/8
6	Valve guide plate	Stainless steel	BS 1449 304 S11
7	Cover gasket	Reinforced exfoliated graphite	
8	Valve seat	Stainless steel	AISI 440B
9	Valve	Stainless steel	AISI 440B
10	Valve lever	Stainless steel	BS 1449 321 S31
	HM00/10	Stainless steel	BS 970 321 S31
	HM12	Stainless steel	BS 3605 (CFS) 304 S14
12	Strainer screen	HM00	Stainless steel ASTM A240 316L
13	Strainer cap	½" and ¾"	SG iron DIN 1693 GGG 40
	1"	Cast iron	DIN 1691 GG 25
14	Strainer gasket	Reinforced exfoliated graphite	
15	Plug	Stainless steel	BS 970 416-537

Dimensions / weights (approximate) in mm and kg

Size	A	A1	B	C	F	G	H	J	Weight
DN15 - ½"	120	210	100	100	73.5	89	65	M28	2.6
DN20 - ¾"	120	210	100	140	94.5	107	65	M28	3.2
DN25 - 1"	180	230	160	160	145.0	120	85	M32	8.8



Safety information

Pressure

Before attempting any maintenance of the steam trap, 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 steam trap. 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.

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.

Installation

The trap must be installed with the body upright so that the bucket is rising and falling vertically. The inlet and outlet connections should be in a horizontal plane, with the trap installed below the drain point so that a water seal can be maintained around the open end of the bucket.

Suitable isolation valves must be installed to allow for safe maintenance and trap replacement. Remove all protective caps prior to installation. Open isolation valves slowly until normal operating conditions are achieved. Check for leaks and correct operation.

Maintenance

Maintenance can be completed with the trap in the pipeline, once the safety procedures have been observed. It is recommended that new gaskets and spares are used whenever maintenance is undertaken. Ensure that the correct tools and necessary protective equipment are used at all times. When maintenance is complete open isolation valves slowly and check for leaks.

How to fit the valve and seat assembly

Isolate the trap, remove the cover by undoing the cover nuts. Unhook the bucket from the valve lever. Remove the valve seat. Remove the valve guide plate by undoing the two screws. Screw in a new valve seat, using a little jointing paste on the threads and making sure the joint faces are clean. Fix a new valve guide plate in position by using the new screws which are supplied, hook the new valve lever over the pins on the valve guide plate and centralise the valve to the orifice and tighten the screws.

Note: Due to adoption of metric threads the spares for the HM series, other than buckets, are not interchangeable with the spares for the previous H series.

How to clean or replace the strainer screen

Undo the strainer cap and remove the screen. Clean or replace as required and reassemble the strainer cap into the body, ensuring the screen is located centrally and a new gasket is used. Using a little anti-seize compound on the threads tighten to the recommended torque.

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 ¾" HM10/7 inverted bucket steam trap with screwed BSP connections.

Spare parts

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

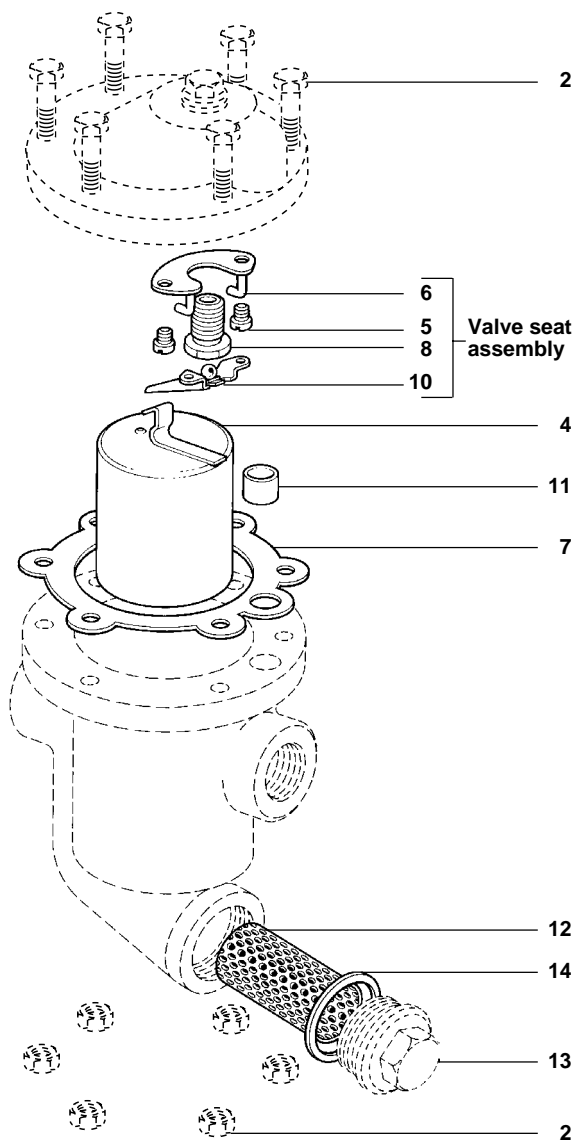
Available spares

Valve and seat assembly	5 (2 off), 6, 8, 10
Bucket	4
Cover gasket and ferrule (packet of 3 each)	7, 11
Strainer screen	12
Strainer screen gasket (packet of 3 each)	14

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and series of the trap.

Example: 1 - Valve and seat assembly for a Spirax Sarco ½" HM00/7 inverted bucket steam trap.



Recommended tightening torques

Item No.	Size	or mm	N m
2	½", ¾"	M6 x 25	15 - 16
	1"	M12 x 45	85 - 95
8	½", ¾"	13	50 - 55
	1"	13	80 - 88
13	½", ¾"	22 M28	90 - 100
	1"	27 M32	125 - 145