

spirax sarco

SCA Series

Steel

Inverted Bucket Steam Traps

TI-P077-05
CMGT Issue 7

Description

The Spirax Sarco SCA series is a maintainable carbon steel inverted bucket steam trap with in-line connections. They are suitable for a wide range of pressures and incorporate an integral strainer.

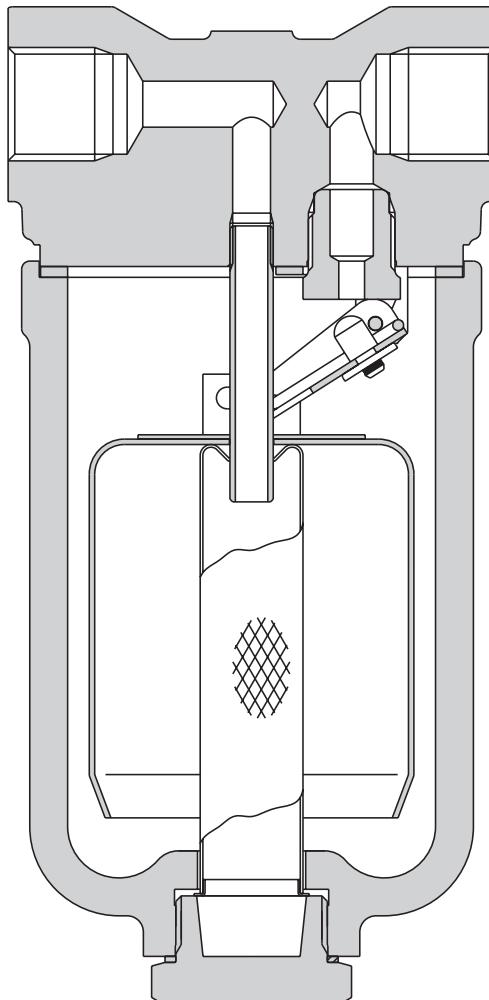
Certification

The product is available with material certification to EN 10204 3.1.B as standard. Certification must be specified at the time of order.

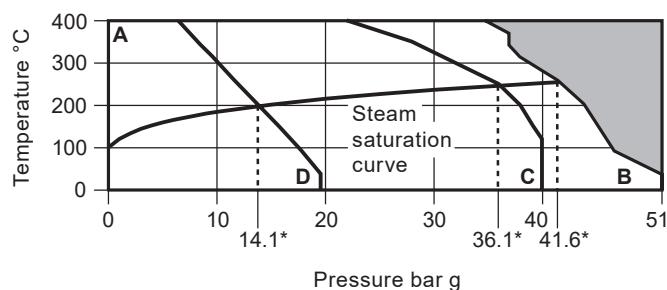
Sizes and pipe connections

½", ¾" and 1" screwed BSP T Rp (ISO 7-1) or NPT.

DN15, DN20 and DN25 socket weld ends (ANSI B16.11 Class 3000), flanged PN40, ANSI 150 and ANSI 300.



Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region.

*PMO Maximum operating pressure recommended.

A - B Flanged ANSI 300, screwed and socket weld

A - C Flanged BS 4504 PN40 (ISO 7005.1)

A - D Flanged ANSI 150

Maximum operating conditions depend on the orifice size.

Body design conditions	ANSI/ASME 300 (PN50)
PMA Maximum allowable pressure	51 bar g
TMA Maximum allowable temperature	400 °C
Designed for a maximum cold hydraulic test pressure of:	78 bar g

SCA 30 product is safe for use under full vacuum conditions

Differential pressure limitations

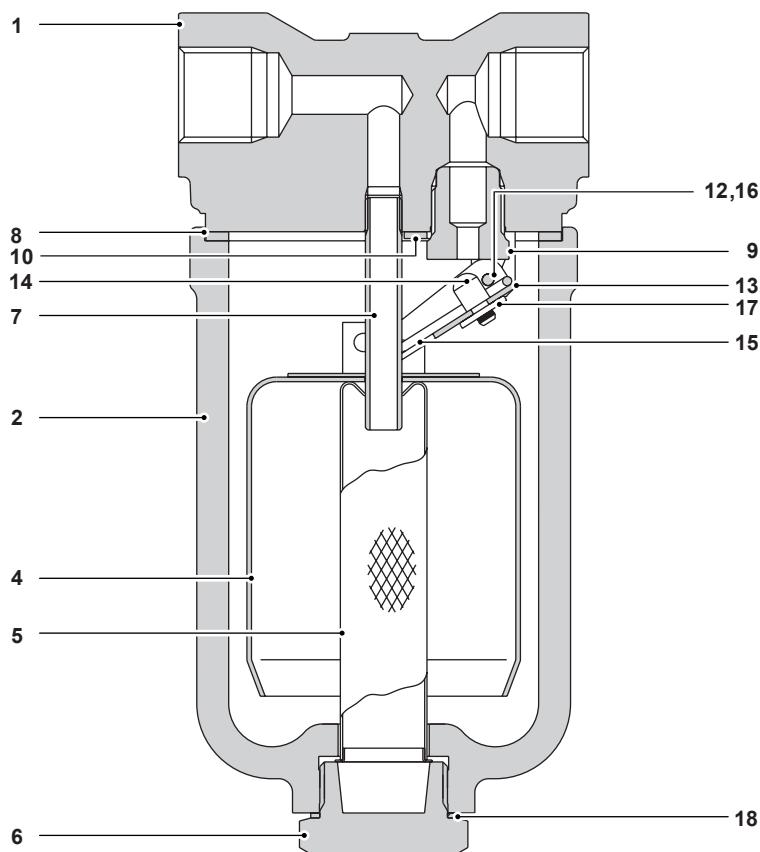
Size	ΔPMX - Maximum differential pressure bar					
	3	5	11	15	30	40
DN15 1/2"	SCA3	SCA5	SCA11	SCA15	SCA30	SCA40
DN20 3/4"	SCA3	SCA5	SCA11	SCA15	SCA30	SCA40
DN25 1"	SCA3	SCA5	SCA11	SCA15	SCA30	SCA40

The SCA15, SCA30 and SCA40 are available as standard and the SCA3, SCA5 and SCA11 to special request.

Note: The pressure limit on the flange specified should be greater than the pressure limit of the internal mechanism. The table below offers guidance.

Flange	Pressure (at saturation)	Mechanism available
ANSI 150	14.1 bar g	3, 5, 11 (15 limited to 14.1 bar g)
ANSI 300	41.6 bar g	all versions
PN40	36.1 bar g	3, 5, 11, 15, 30 (40 limited to 36.1 bar g)

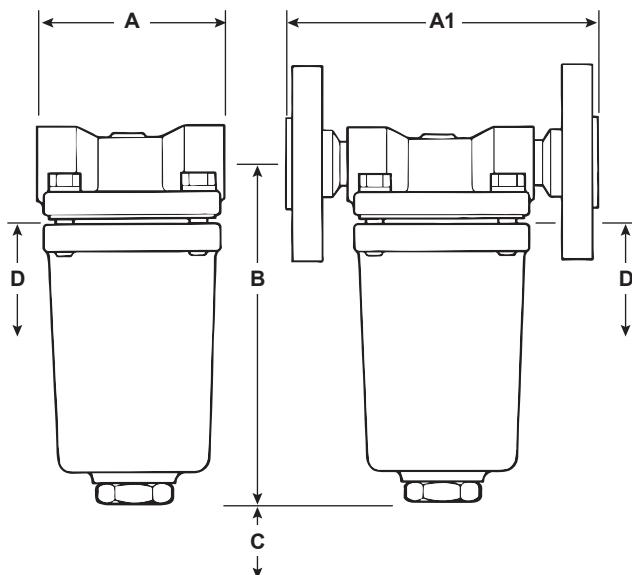
Materials



No	Part	Material
1	Body	Carbon steel ASTM A105
2	Cover	Carbon steel A216 WCB
3	Cover bolts	Steel ASTM A193 Gr. B7
4	Bucket	Stainless steel AISI 304-2B
5 *	Screen	Stainless steel AISI 304
6	Strainer cap	Stainless steel AISI 416
7	Inlet tube	Stainless steel AISI 304
8	Cover gasket	Reinforced exfoliated graphite
9	Valve seat	Stainless steel AISI 440C
10	Valve guide plate	Stainless steel AISI 304-2B
11	Valve guide plate screws	Stainless steel BS 6105 CI A2-70
12	Hinge pin	Stainless steel AISI 304
13	Valve lever	Stainless steel AISI 304-2B
14 *	Valve head	Stainless steel AISI 420
15	Spring pin	Stainless steel AISI 304
16	Washer	Stainless steel AISI 304
17	Starlock washer	Stainless steel AISI 301
18	'S' type gasket	Stainless steel AISI 304

* Note: Items 3 and 11 not illustrated.

Dimensions/weights (approximate) in mm and kg

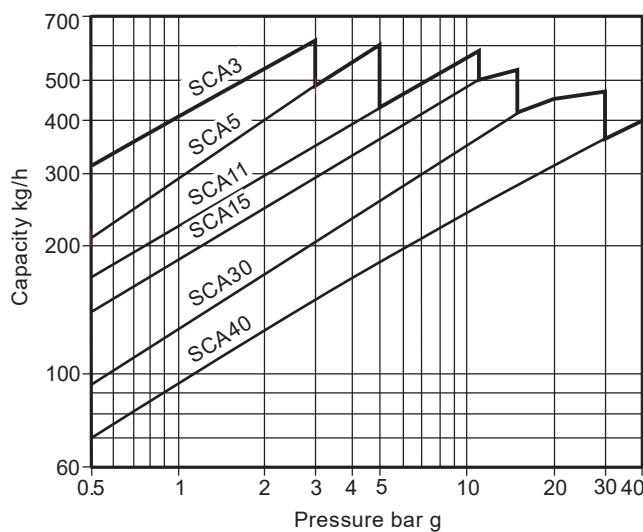


Size	Screwed SW	PN40	ANSI 150	ANSI 300	B	Withdrawal distance	
	A	A1	A1	A1		C	D
DN15 1/2"	90	150	150	150	167	100	110
DN20 3/4"	90	150	150	150	167	100	110
DN25 1"	90	160	160	160	167	100	110

Weight

Size	Screwed SW	PN40	ANSI 150	ANSI 300
DN15 1/2"	3.0	4.7	4.6	5.0
DN20 3/4"	3.0	5.3	5.0	5.8
DN25 1"	3.5	6.0	5.7	6.5

Capacities (in accordance with ISO 7842)



Safety information, installation and maintenance

Before undertaking any maintenance on the inverted bucket steam trap it must be isolated from both supply line and return line and any pressure allowed to safely normalise to atmosphere. The trap should then be allowed to cool. It is recommended that new gaskets are used whenever maintenance is undertaken.

The 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.

How to fit valve and seat assembly

Isolate the inverted bucket steam trap, remove body by undoing cover bolts. Remove complete bucket assembly by undoing the two screws. Remove valve seat. Screw in new valve seat to torque figures shown, using a little jointing paste on the threads and making sure that joint faces are clean. Fix new bucket assembly in position by using new screws which are supplied, centralise valve to the orifice and tighten screws to torque figures shown. Using new gaskets, refit body to torque figures shown.

How to order

Example: 1 off Spirax Sarco DN20 SCA15 inverted bucket steam trap with steel body, and flanged to PN40.

Spare parts

The spare parts that are available are detailed below.

Available spares

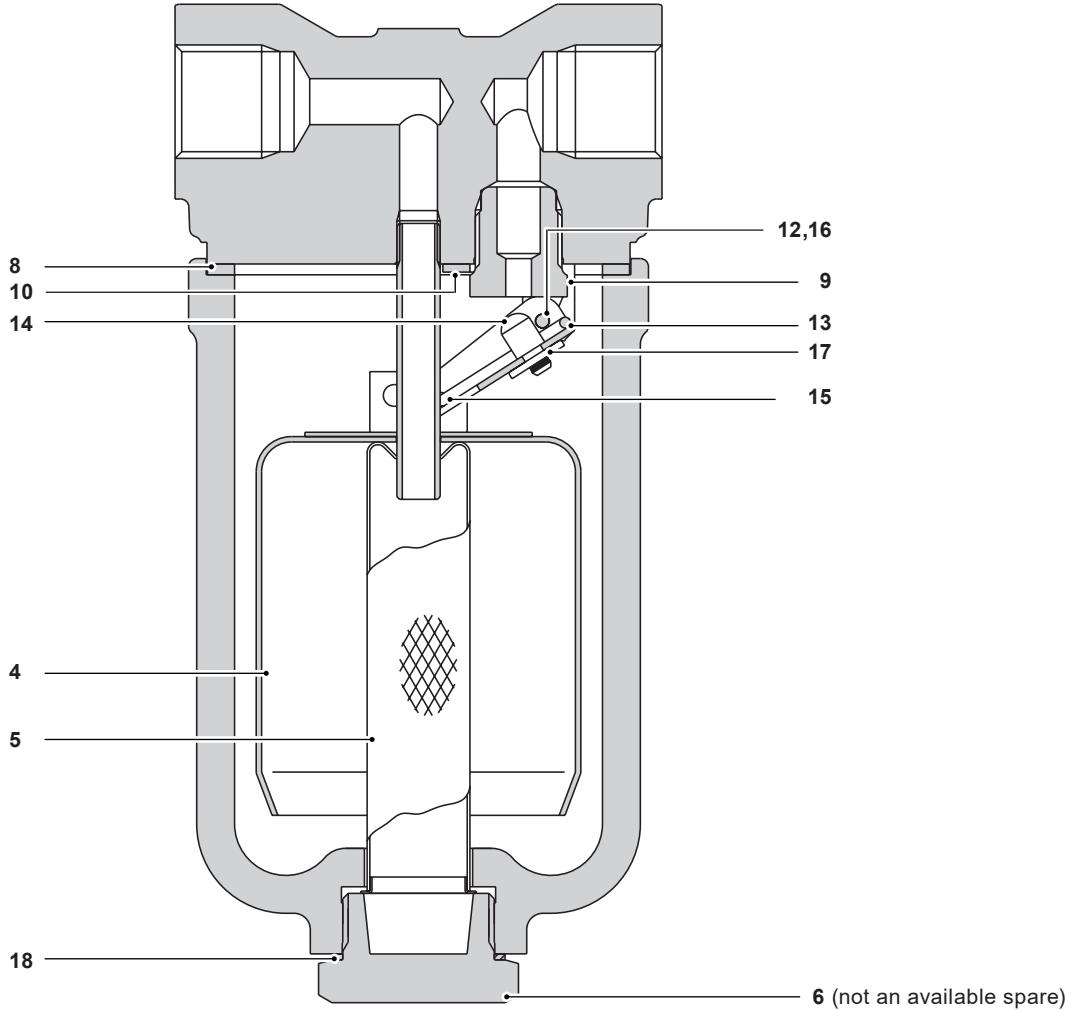
Internal set (state pressure range)	4, 8, 9, 10, 11 (2 off)*, 12, 13, 14, 15, 16 (2 off), 17
Strainer set	5, 18
Cover and strainer gasket (packet of three)	8, 18

* Note: Item 11 (valve guide plate screws) are not shown.

How to order spares

Always order spare parts by using the description given in the column headed 'Available spare' and state the size, model number and pressure rating of the trap.

Example: 1 - Internal set for a Spirax Sarco DN20 SCA15 inverted bucket steam trap.



Recommended tightening torques

Item	Part	or mm	N m
3 *	Cover bolts	14	M10
6	Strainer cap	5	M28
9	Valve seat	17	M16
11 *	Valve guide plate screws	Posidrive	M4 x 6
			2.5 - 3.0

* Note: Items 3 and 11 are not illustrated.