

spirax sarco

KA51, KB51 and KC51

Bronze

Self-Acting Control Valves

Description

The KA, KB and KC range of two-port valves are used in conjunction with Spirax Sarco SA control systems to provide a self-acting temperature control unit.

Available types

KA51 Normally open

KB51 Normally open + phosphor bronze pressure balancing bellows

KC51 Normally open + stainless steel pressure balancing bellows

Note: Pressure balancing bellows enables the valve to operate against higher differential pressures.

Standards

These products fully comply with the requirements of the Pressure Equipment Directive (PED) and carry the **CE** mark when so required.

Certification

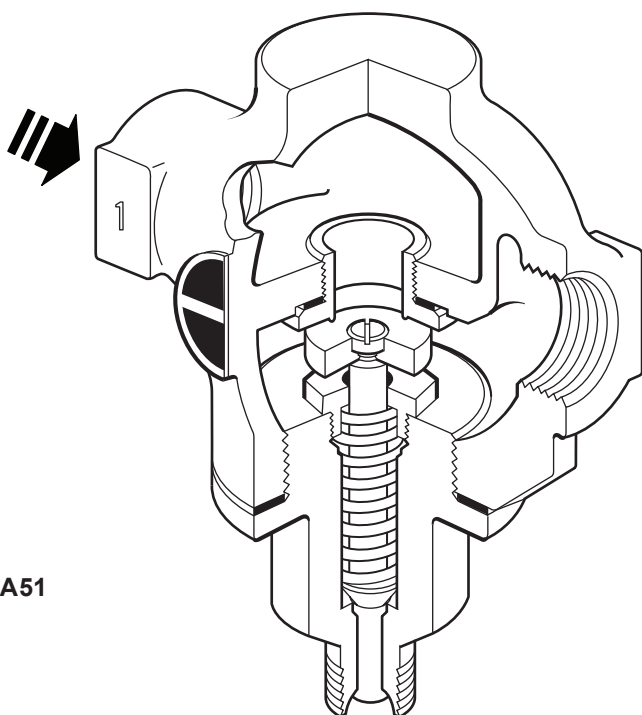
As standard these products are available with a manufacturers' Typical Test Report.

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

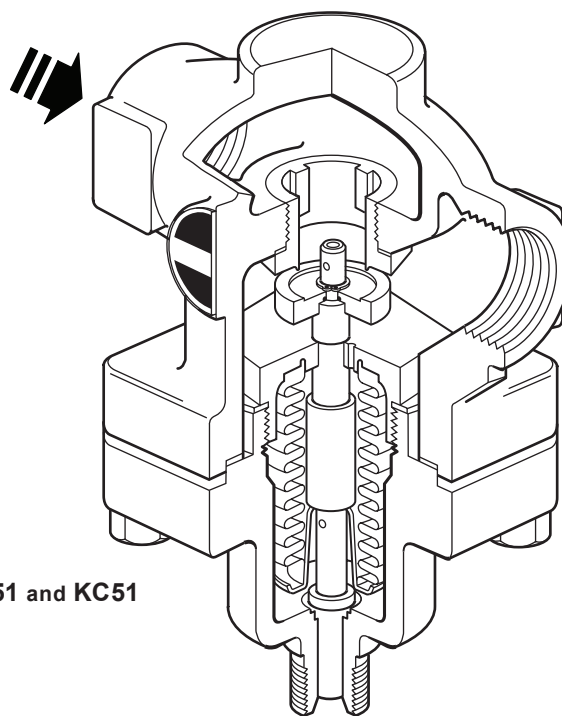
Sizes and pipe connections

KA51 and **KB51**: 1", 1¼", 1½" and 2" **KC51**: 1½" and 2"

Screwed BSP (BS 21 parallel) or NPT connections.

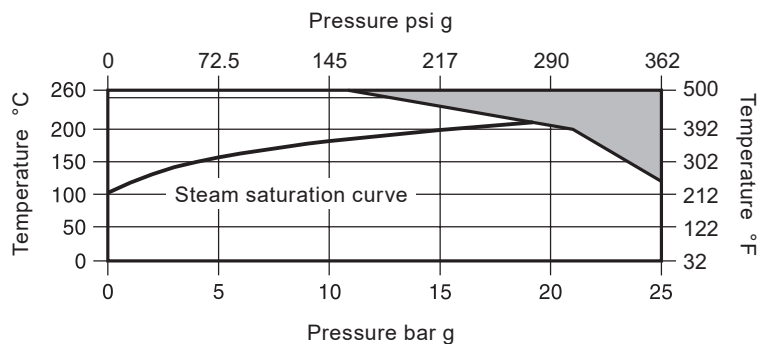


KA51



KB51 and KC51

Pressure/temperature limits



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

Body design conditions					PN25
Maximum design pressure		25 bar g @ 260 °C		363 psi g @ 500 °F	
Maximum design temperature		260 °C @ 10.5 bar g		500 °F @ 152 psi g	
Minimum design temperature		-10 °C		14 °F	
Maximum operating temperature		260 °C @ 10.5 bar g		500 °F @ 152 psi g	
Minimum operating temperature		0 °C			
Note: For lower operating temperatures consult Spirax Sarco					
Maximum differential pressure psi (bar)	Size	1"	1¼"	1½"	2"
	KA51	4.5 (65)	3.0 (44)	2.0 (29)	1.5 (22)
	KB51	10.0 (145)	9.0 (131)	8.2 (119)	6.9 (100)
	KC51	-	-	16.0 (232)	13.8 (200)
Designed for a maximum cold hydraulic test pressure of:				38 bar g	551 psi g

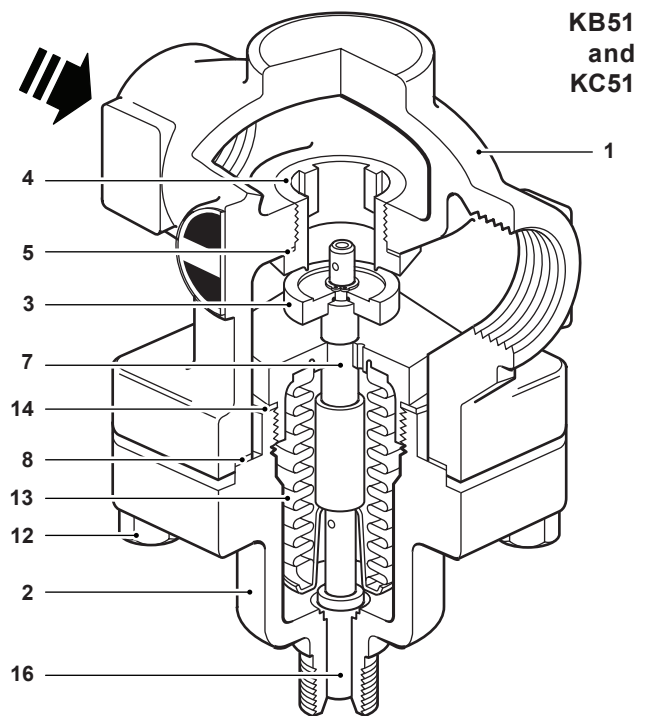
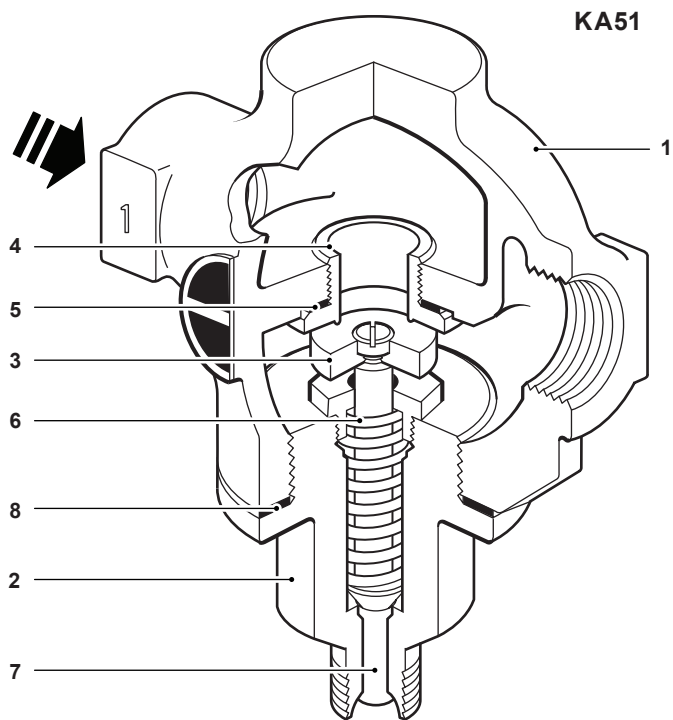
Kv values

Size	1"	1¼"	1½"	2"	For conversion: Cv (UK) = Kv x 0.963 Cv (US) = Kv x 1.156
KA51 and KB51	9.80	16.48	23.70	34.00	
KC51	-	-	16.48	34.00	

Capacities

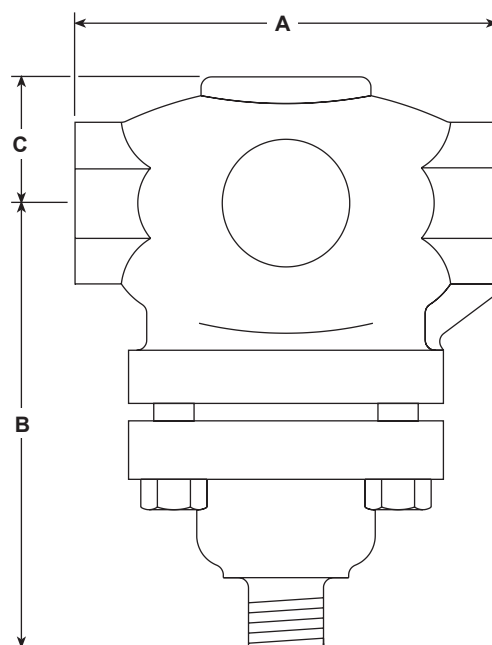
For saturated steam sizing capacities see TI-GCM-08.
For water valve sizing capacities see TI-GCM-09.

Materials



No.	Part	Material
1	Body	Bronze CC 491 KM
2	Bonnet	KA51, KB51 and 1½" KC51 Bronze CC 491 KM
		KC51 2" Steel EN 10213 GP240 GH+N
3	Valve head	Stainless steel BS 970 431 S 29
4	Valve seat ring	Stainless steel BS 970 431 S 29
5	Valve seat gasket	1" Mild steel BS 1449 CS 4
		1½" to 2" Reinforced exfoliated graphite
6	Return spring	Stainless steel BS 2056 302 S 26
7	Stem	KA51 and KB51 Brass BS 2874 CZ 121
		KC51 Stainless steel BS 970 321 S20
8	Bonnet gasket	Reinforced exfoliated graphite
12	Bonnet	Studs Steel BS 4439 Gr. 8.8
		Nuts Steel BS 3692 Gr. 8
13	Bellows	KA51 Phosphor bronze EN 12449 Cu Sn 6
		KC51 Stainless steel AISI 316L
14	Bellows gasket	Reinforced exfoliated graphite
16	Plunger	Brass BS 2874 CZ 121

Dimensions/weights (approximate) in mm (inches) and kg (lb)



KB51 and KC51 shown

Size	A	KA51	KB51	KC51	C	Weight		
		B	B	B		KA51	KB51	KC51
1"	136 (5.35)	107 (4.21)	138 (5.43)	-	51 (2.01)	3.96 (8.73)	4.17 (9.19)	-
1¼"	144 (5.67)	110 (4.33)	152 (5.98)	-		6.20 (13.7)	7.00 (15.4)	-
1½"	150 (5.91)	110 (4.33)	152 (5.98)	152 (5.98)	62 (2.44)	7.52 (16.6)	8.32 (18.1)	8.32 (18.1)
2"	180 (7.09)			189 (7.44)	71 (2.80)	9.35 (20.6)	10.30 (22.1)	10.60 (23.4)

Safety information, installation and maintenance

For full details see the Installation and Maintenance instructions supplied with the product.

Installation note:

The valve should be fitted in a horizontal line with the actuator vertically below the pipeline.

How to order

Example: 1 off Spirax Sarco 1¼" screwed BSP KA51 self-acting control valve with bronze body.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares

KA51	Valve seat assembly	A, D, E, L
	Set of gaskets	E, L
	Set of bonnet studs and nuts (set of 4)	S
KB51 and KC51	Valve seat assembly (excluding bellows and stem assembly)	A, B, C, D, E, L, U, G
	Bellows and stem assembly	G, L, N, H
	Set of gaskets	B, C, E, L, U
	Set of bonnet studs and nuts (set of 4)	S

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 valve.

Example: 1 - Valve seat assembly for a Spirax Sarco 1¼" KB51 self-acting control valve.

