



TI-P078-04
 CH Issue 7

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.

Alternatively, they can be used as electrically actuated temperature control valves by fitting an EL7200 Series electric actuator with a suitable temperature transmitter and controller.

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 European Pressure Equipment Directive 97/23/EC and carry the CE mark when so required.

Certification

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

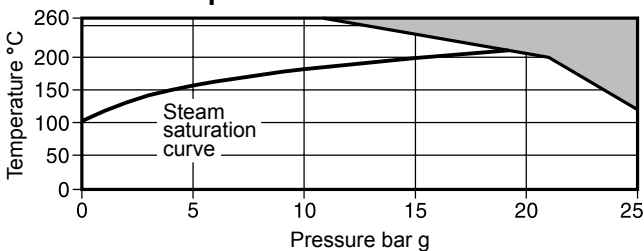
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

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

Screwed BSP (BS 21 parallel) or NPT connections.

Pressure / temperature limits



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

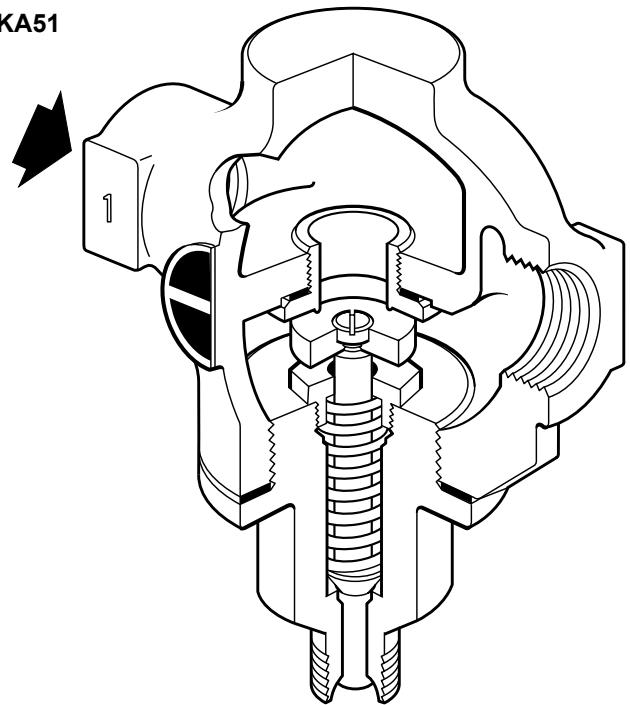
Body design conditions	PN25		
Maximum design pressure	25 bar g @ 260°C		
Maximum design temperature	260°C @ 10.5 bar g		
Minimum design temperature	-10°C		
Maximum operating temperature	260°C @ 10.5 bar g		
Minimum operating temperature	0°C		

Note: For lower operating temperatures consult Spirax Sarco

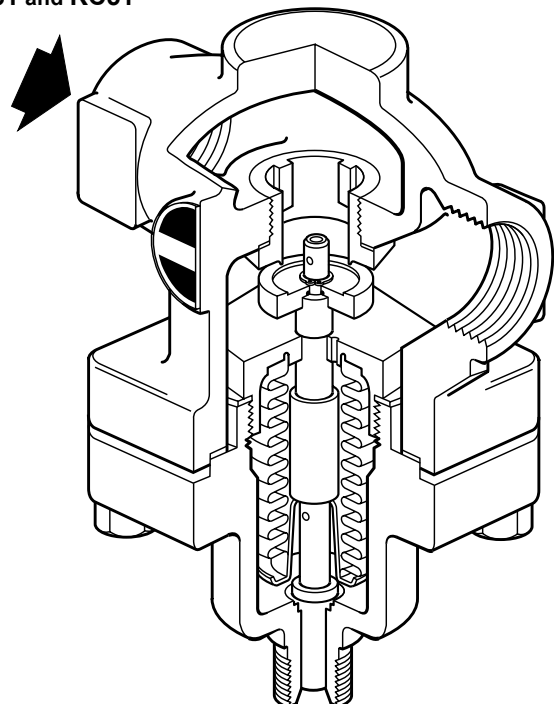
	Size	1"	1¼"	1½"	2"
Maximum differential pressure bar	KA51	4.5	3.0	2.0	1.5
	KB51	10.0	9.0	8.2	6.9
	KC51	-	-	16.0	13.8

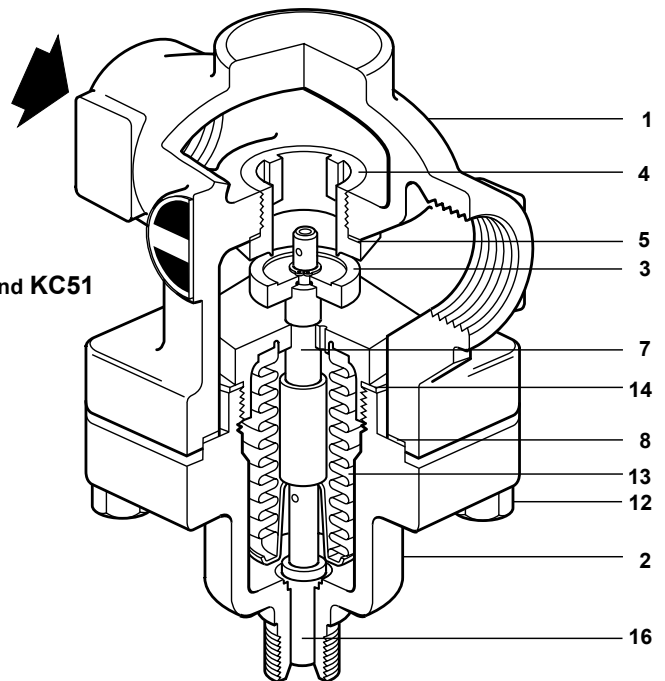
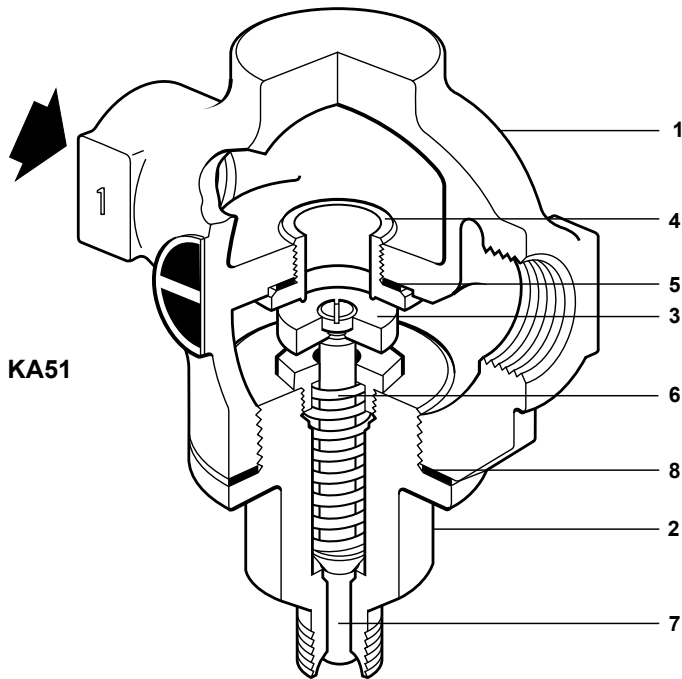
Designed for a maximum cold hydraulic test pressure of 38 bar g

KA51



KB51 and KC51





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	

Kv values

Size	1"	1¼"	1½"	2"
KA51 and KB51	9.80	16.48	23.70	34.00
KC51	-	-	16.48	34.00

For conversion: $C_v(UK) = K_v \times 0.963$ $C_v(US) = K_v \times 1.156$

Capacities

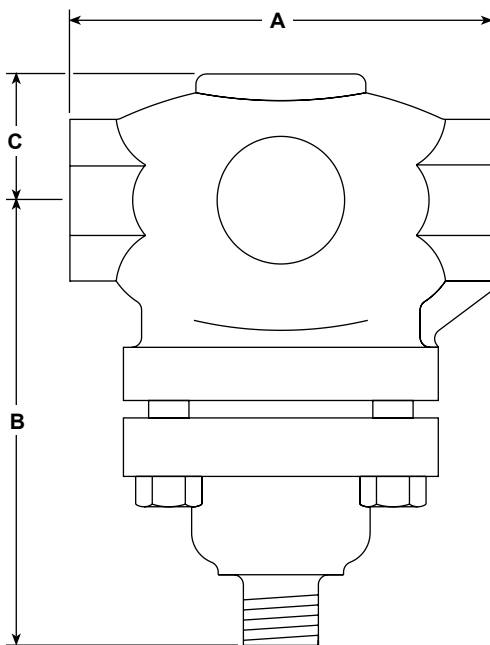
For saturated steam sizing capacities see TI-GCM-08.

For water valve sizing capacities see TI-GCM-09.

Dimensions/weights (approximate) in mm and kg

Size	KA51					KB51			KC51		
	A	B	B	B	C	KA51	KB51	KC51	KA51	KB51	KC51
1"	136	107	138	-	51	3.96	4.17	-			
1¼"	144	110	152	-	51	6.20	7.00	-			
1½"	150	110	152	152	62	7.52	8.32	8.32			
2"	180	110	152	189	71	9.35	10.30	10.60			

KB51 and KC51 shown



Safety information, installation and maintenance

For full details see the Installation and Maintenance instructions (IM-S21-01) 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 broken 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.

