

spirax sarco

KB51 and KC51 Bronze Self-Acting Control Valves

Description

The 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

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 2014/68/EU and carry the  mark when so required.

Certification

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

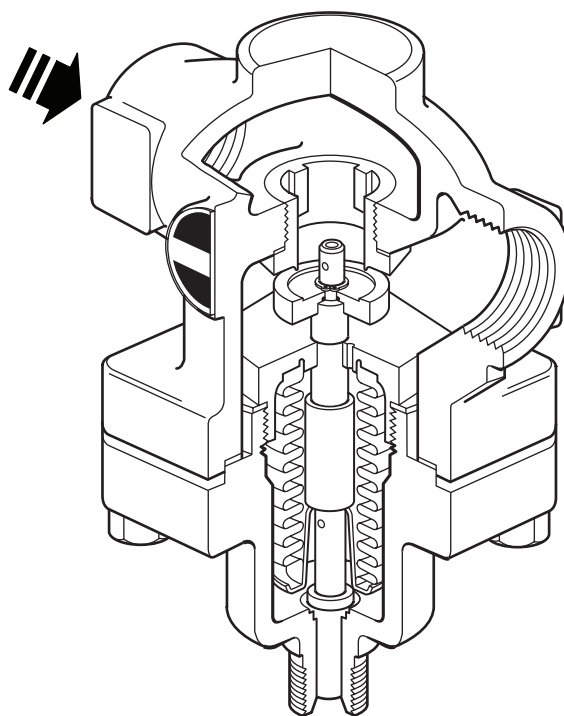
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

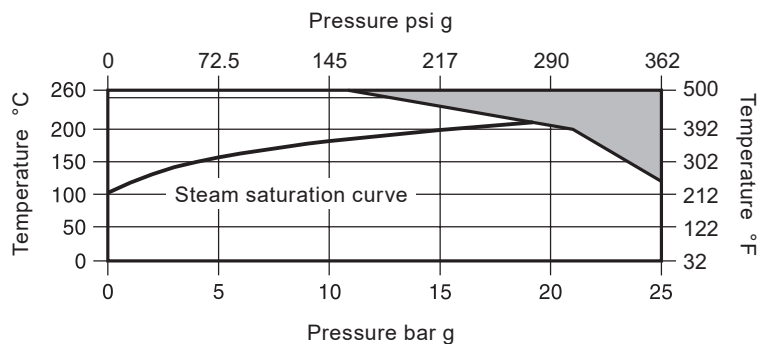
KB51: 1", 1¼", 1½" and 2"

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			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					
	Size	1"	1¼"	1½"	2"
Maximum differential pressure psi (bar)	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

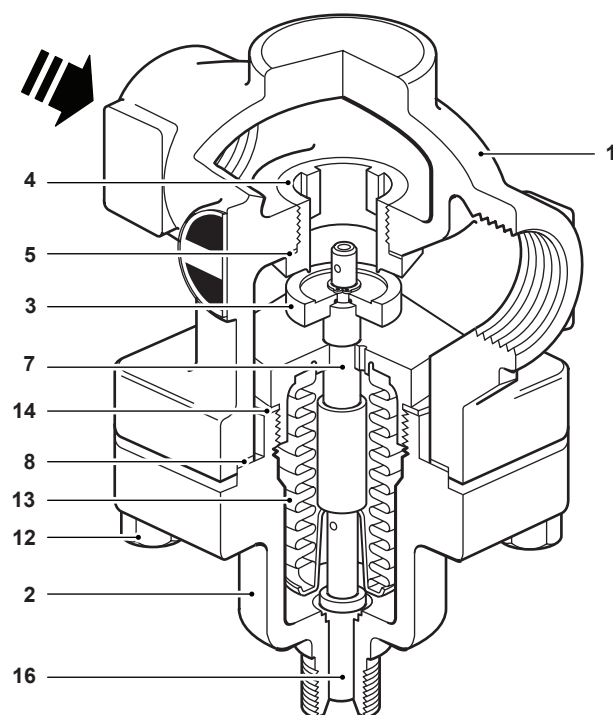
Size	1"	1¼"	1½"	2"	For conversion: Cv (UK) = Kv x 0.963 Cv (US) = Kv x 1.156
KB51	9.80	16.48	23.70	34.00	
KC51	-	-	16.48	34.00	

Capacities

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

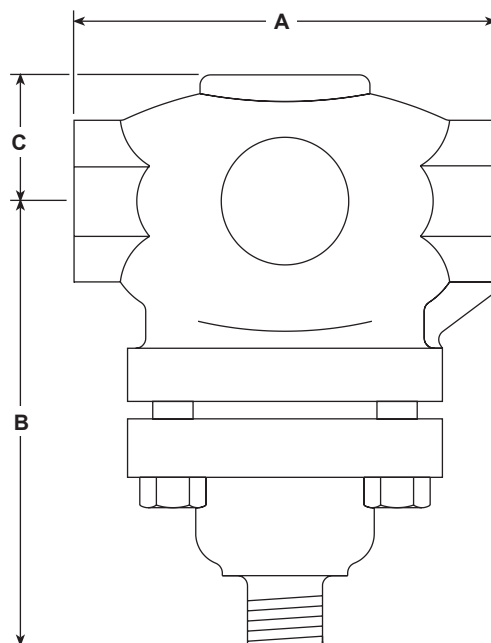
For water valve sizing capacities see TI-GCM-09.

Materials



No.	Part	Material	
1	Body	Bronze	CC 491 KM
2	Bonnet	KB51 and 1½" KC51	Bronze
		KC51 2"	Steel
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
		1½" to 2"	Reinforced exfoliated graphite
6	Return spring	Stainless steel	BS 2056 302 S 26
7	Stem	KB51	Brass
		KC51	Stainless steel
8	Bonnet gasket	Reinforced exfoliated graphite	
12	Bonnet	Studs	Steel
		Nuts	Steel
13	Bellows	KB51	Phosphor bronze
		KC51	Stainless steel
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	KB51	KC51	C	Weight	
		B	B		KB51	KC51
1"	136 (5.35)	138 (5.43)		51 (2.01)	4.17 (9.19)	
1¼"	144 (5.67)	152 (5.98)			7.00 (15.4)	
1½"	150 (5.91)	152 (5.98)	152 (5.98)	62 (2.44)	8.32 (18.1)	8.32 (18.1)
2"	180 (7.09)		189 (7.44)	71 (2.80)	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 KB51 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

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.

