

spirax/sarco

TI-P078-06
CH Issue 5

KA43, KB43 and KC43 Steel 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

KA43 Normally open with flanged connections.

KB43 Normally open with phosphor bronze pressure balancing bellows with flanged connections.

KC43 Normally open with stainless steel pressure balancing bellows with flanged connections.

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

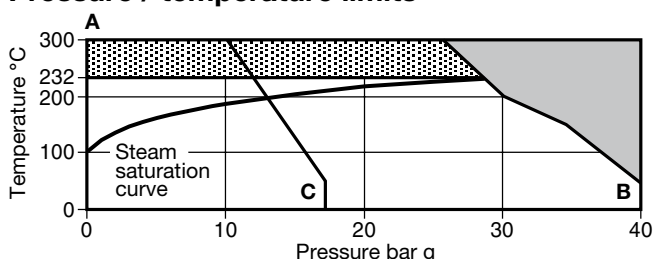
Standards

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. Additionally, at extra cost, certification to EN 10204 3.1 can be supplied. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Pressure / temperature limits



A - B The product **must not** be used in this region.

C For use in this region a Spirax Sarco spacer is required. See TI-P033-01 for further details.

A - B Flanged EN 1092 PN40, ASME (ANSI) 300 and BS 10 Table H.

A - C Flanged EN 1092 PN25 and ASME (ANSI) 150.

Body design conditions		PN40
Maximum design pressure		40 bar g @ 20°C
Maximum design temperature		300°C @ 25.8 bar g
Minimum design temperature		-10°C

Maximum operating temperature	KA43, KC43	Fitted to a Spirax Sarco spacer	300°C
		Fitted directly to actuator	232°C
	KB43	Fitted directly to actuator	232°C
		Note that the KB43 is limited to 232°C	

Minimum operating temperature 0°C

Note: For lower operating temperatures consult Spirax Sarco

Maximum differential pressure bar	Size	DN15	DN20	DN25	DN32	DN40	DN50
	KA43	17.0	10.0	4.5	3.0	2.0	1.5
	KB43	-	-	10.0	9.0	8.2	6.9
	KC43	-	-	-	16.0	16.0	13.8

Designed for a maximum cold hydraulic test pressure of 24 bar g

Size and pipe connections

KA43 DN15, DN20, DN25, DN32, DN40 and DN50

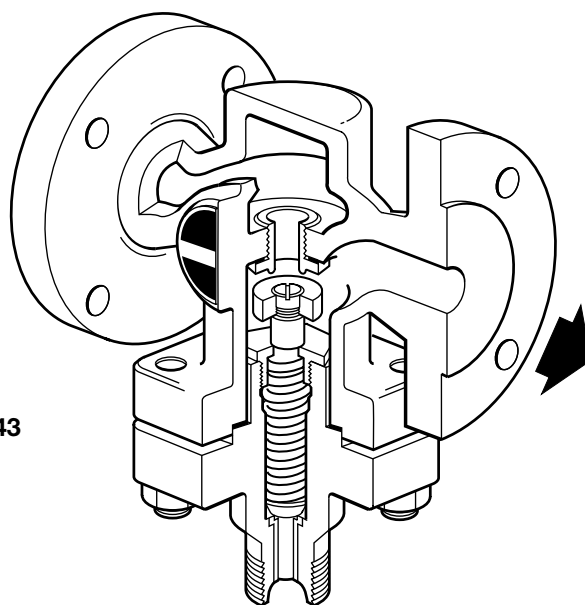
KB43 DN25, DN32, DN40 and DN50

KC43 DN32, DN40 and DN50

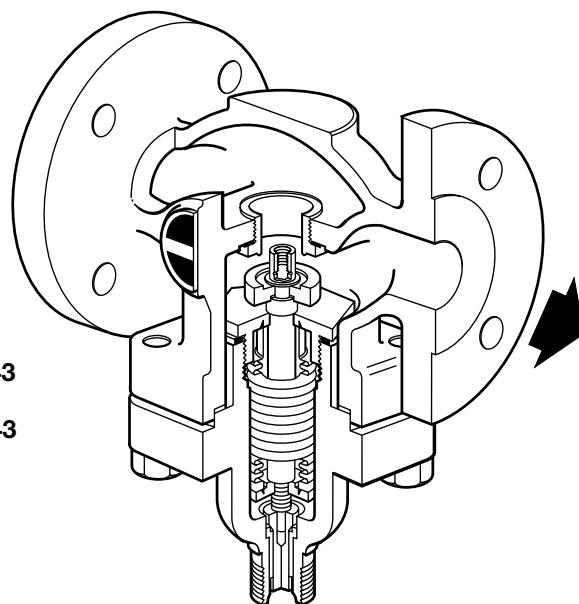
Flanged EN 1092 PN25 and PN40, ASME (ANSI) 300 and BS 10 Table H.

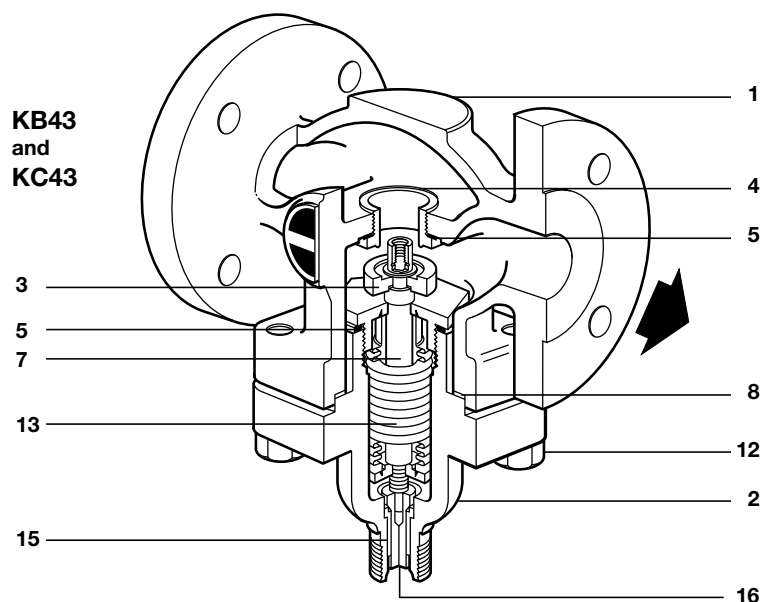
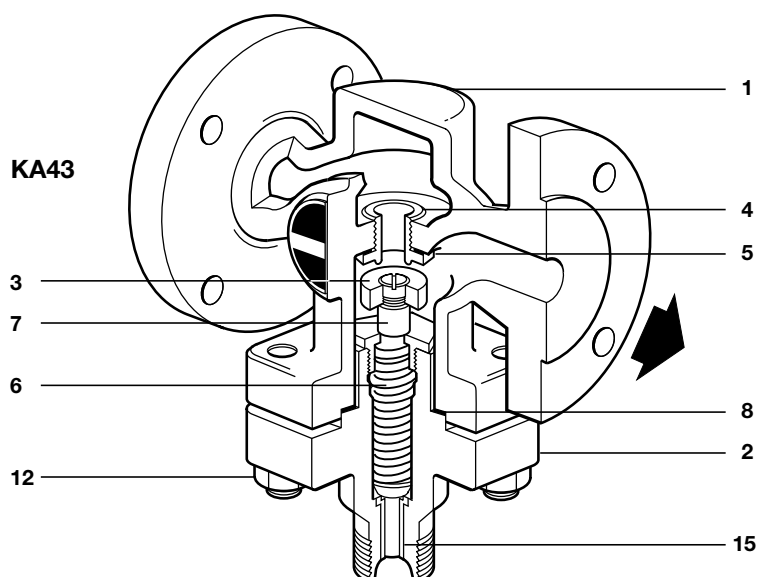
The following flanges are **available on request**: ASME (ANSI) 150.

KA43



KB43
and
KC43





Materials

No. Part		Material	
1	Body	Steel	EN 10213 GP240 GH+N
2	Bonnet	Steel	DIN 17243 C22.8
		Steel	EN 10213 GP240 GH+N
3	Valve head	Stainless steel	BS 970 431 S29
4	Valve seat ring	Stainless steel	BS 970 431 S29
5	Valve seat gasket	Mild steel	BS 1449 CS 4
		Reinforced exfoliated graphite	
6	Return spring	Stainless steel	BS 2056 302 S 26
7	Stem	Brass	BS 2872 CZ 121
		Stainless steel	BS 970 321 S20
8	Bonnet gasket	Reinforced exfoliated graphite	
12	Bonnet studs	Steel	BS 4439 Gr. 8.8
	Bonnet nuts	Steel	BS 3692 Gr. 8
13	Bellows	Phosphor bronze	EN 12449 Cu Sn 6
		Stainless steel	AISI 316 L
14	Bellows gasket (not shown)		Reinforced exfoliated graphite
15	Bonnet bush	Brass	BS 2874 CZ 121
16	Plunger	Brass	BS 2874 CZ 121

Kv values

Size	DN15	DN20	DN25	DN32	DN40	DN50
KA43	2.90	4.64	9.80	16.48	23.70	34.00
KB43	-	-	9.80	16.48	23.70	34.00
KC43	-	-	-	16.48	16.48	34.00

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

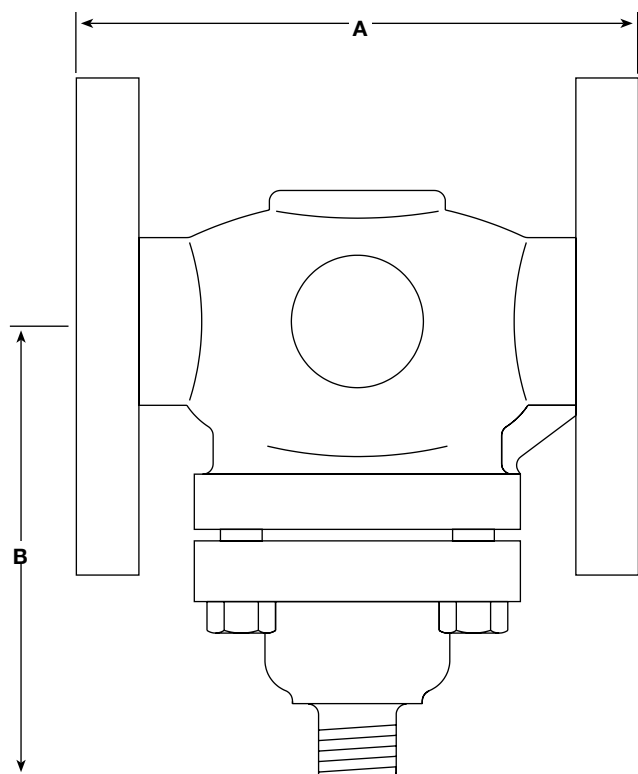
Capacities

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	PN25 PN40	ASME 300	Table 'H'	KA43 B	KB43 KC43 B	Weight	
	A	A	A			KA43	KB43/ KC43
DN15	130	130	130	105		4.3	
DN20	150	150	150	146	105		6.3
DN25	160	162	162	105	138	8.0	8.2
DN32	180	180	180	110	152	8.7	9.1
DN40	200	202	198	110	152	9.7	10.1
DN50	230	232	228	110	152	14.6	15.0



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 DN20 KA43 self-acting control valve with steel body having flanged EN 1092 PN40 connections.

Spare parts

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

Available spares

KA43	Valve seat assembly	A, D, E, L
	Set of gaskets	E, L
	Set of bonnet studs and nuts (set of 4)	S
KB and KC43	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, G
	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 DN20 KB43 self-acting control valve.

