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.

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.

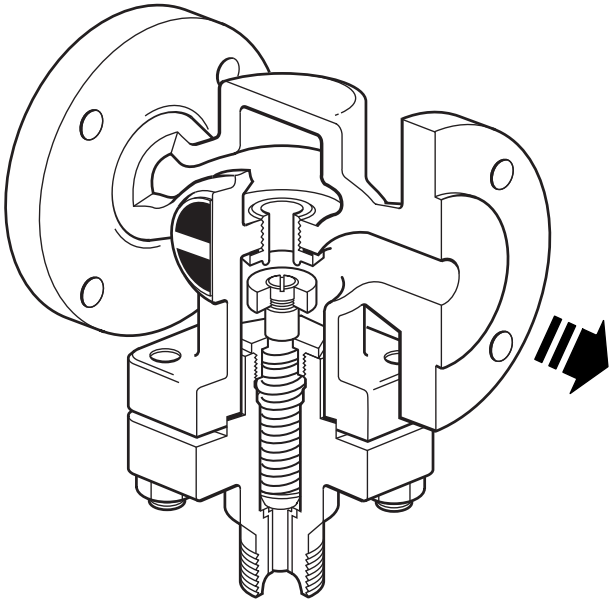
Note: Pressure balancing bellows enables the valve to operate against higher differential pressures.

Standards

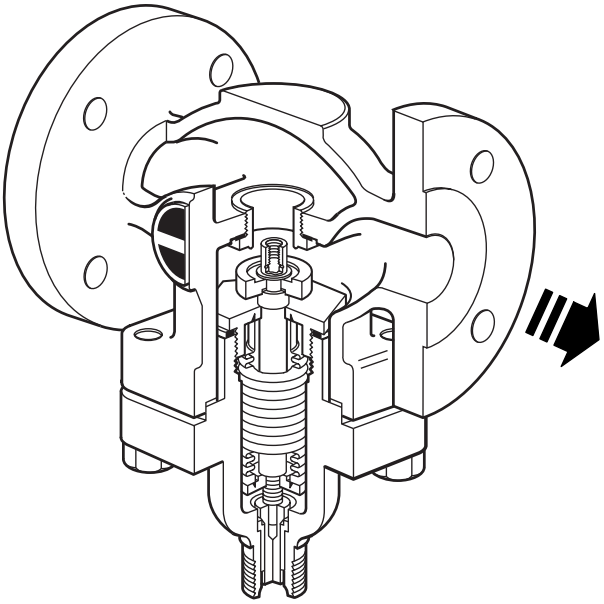
These products fully comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when so required.

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.



KA43



KB43 and KC43

Size and pipe connections

KA43 DN15, DN20, DN25, DN32, DN40 and DN50
(½", ¾", 1", 1¼", 1½" and 2")

KB43 DN25, DN32, DN40 and DN50
(1", 1¼", 1½" and 2")

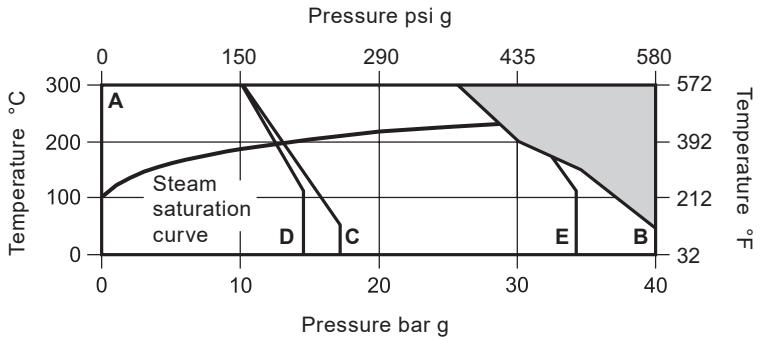
KC43 DN32, DN40 and DN50
(1¼", 1½" and 2")

Standard flanges:
EN 1092 PN25 and EN 1092 PN40, ASME 300 and BS 10 Table H.

The following flanges are available on request:

- ASME 150
- JIS/KIS10
- JIS/KIS20

Pressure/temperature limits



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

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

A - C Flanged EN 1092 PN25 and ASME 150

A - D Flanged JIS/KS 10

A - E Flanged JIS/KS 20

Body design conditions			PN40
Maximum design pressure		40 bar g @ 20 °C	580 psi g @ 68 °F
Maximum design temperature		300 °C @ 25.8 bar g	572 F @ 374 psi g
Minimum design temperature		-10 °C	14 °F
Maximum operating temperature	**A - B**	300 °C @ 25.8 bar g	572 °F @ 374 psi g
	A - C	300 °C @ 10.0 bar g	572 °F @ 145 psi g
	A - D	300 °C @ 10 bar g	572 °F @ 145 psi g
	A - E	300 °C @ 25.8 bar g	572 °F @ 374 psi g
Minimum operating temperature **Note**: For lower operating temperatures consult Spirax Sarco			0 °C

Maximum differential pressure bar	**Size**	**DN15 (½")**	**DN20 (¾")**	**DN25 (1")**	**DN32 (1¼")**	**DN40 (1½")**	**DN50 (2")**
	KA43	17.0 (247)	10.0 (145)	4.5 (65)	3.0 (44)	2.0 (29)	1.5 (22)
	KB43			10.0 (145)	9.0 (131)	8.2 (119)	6.9 (100)
	KC43				16.0 (232)	16.0 (232)	13.8 (200)

Designed for a maximum cold hydraulic test pressure of:	24 bar g (348 psi g)

Kv values

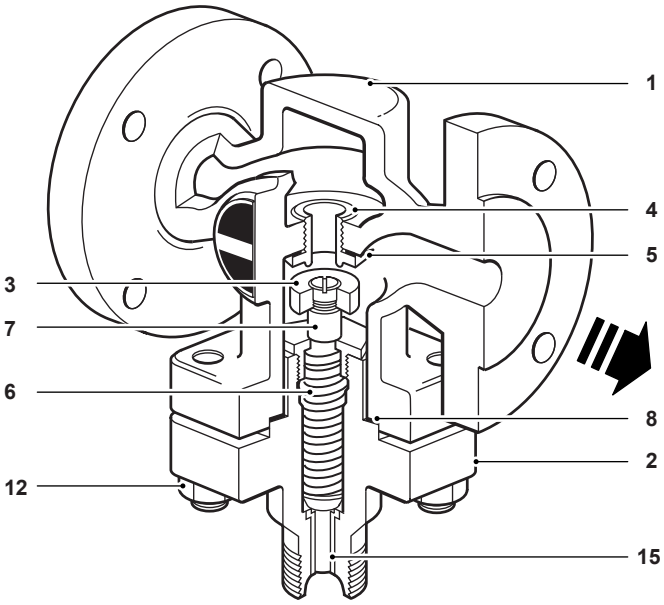
Size	**DN15 (½")**	**DN20 (¾")**	**DN25 (1")**	**DN32 (1¼")**	**DN40 (1½")**	**DN50 (2")**
KA43	2.90	4.64	9.80	16.48	23.70	34.00
KB43	-	-	9.80	16.48	23.70	34.00
KC43	-	-	-	16.48	16.48	34.00

For conversion:
Cv (UK) = Kv x 0.963
Cv (US) = Kv x 1.156

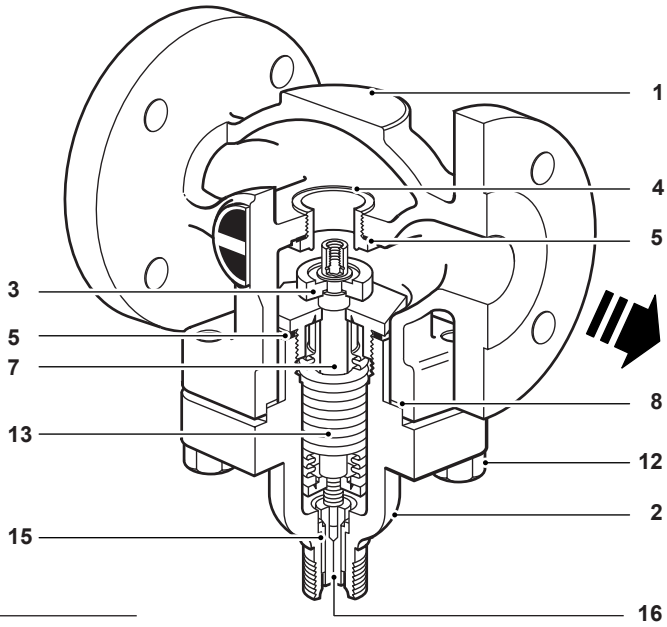
Capacities

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

Materials



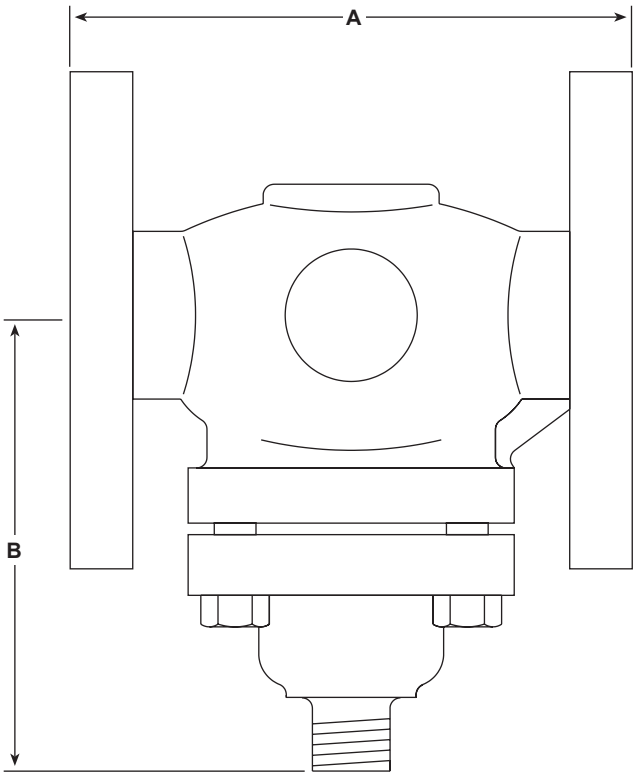
KA43



KB43 and KC43

No.	Part		Material	
1	Body		Steel	EN 10213 GP240 GH+N
2	Bonnet	DN15 - DN25	Steel	DIN 17243 C22.8
		DN32 - DN50	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	DN15 to DN25	Mild steel	BS 1449 CS 4
		DN32 to DN50	Reinforced exfoliated graphite	
6	Return spring		Stainless steel	BS 2056 302 S 26
7	Stem	KA and KB	Brass	BS 2872 CZ 121
		KC	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	KB	Phosphor bronze	EN 12449 Cu Sn 6
		KC	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

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



Size	JIS10	JIS20	PN25 PN40 A	ASME 300 A	Table 'H' A	KA43 B	KB43 KC43 B	Weight KA43	Weight KB43/ KC43
DN15	125 (4.92)	127 (5)	130 (5.12)	130 (5.12)	130 (5.12)	105 (4.13)		4.3 (9.5)	
DN20	145 (5.7)	147 (5.78)	150 (5.91)	150 (5.91)	146 (5.75)			6.3 (14)	
DN25	155 (6.1)	157 (6.18)	160 (6.30)	162 (6.38)	162 (6.38)		138 (5.43)	8.0 (18)	8.2 (18)
DN32	177 (6.96)	181 (7.13)	181 (7.13)	181 (7.13)	181 (7.13)	110 (4.33)	152 (5.43)	8.7 (19)	9.1 (20)
DN40	193 (7.59)	199 (7.83)	201 (7.91)	203 (8.00)	199 (7.83)			9.7 (21)	10.1 (22.3)
DN50	221 (8.7)	225 (8.85)	233 (9.17)	235 (9.25)	231 (9.09)			14.6 (32.2)	15.0 (33.1)

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 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 a grey 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.