



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.

KA43 Normally open with flanged connections.

Available types

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 Pressure Equipment Directive (PED) and carry the  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.

Size and pipe connections

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

KB43 DN25, DN32, DN40 and DN50

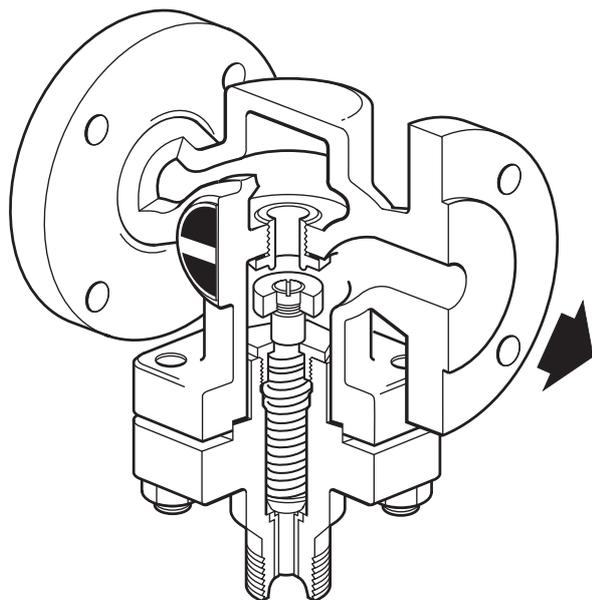
KC43 DN32, DN40 and DN50

Standard flanges:

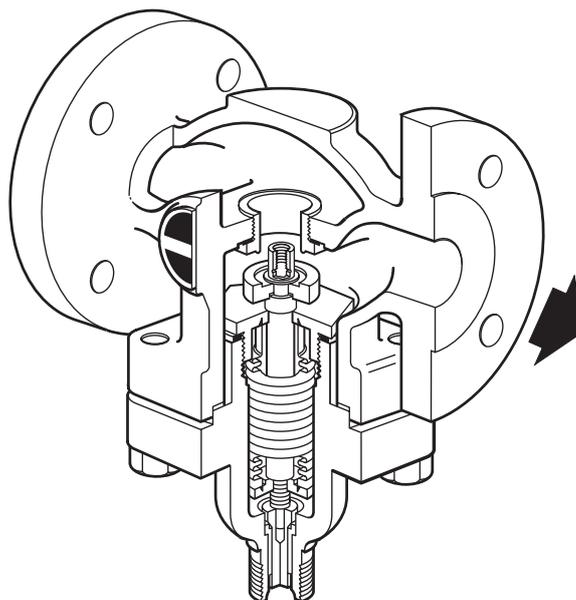
EN 1092 PN25 and EN 1092 PN40,

ASME 300 and BS 10 Table H.

The following flanges are available on request: ASME 150.

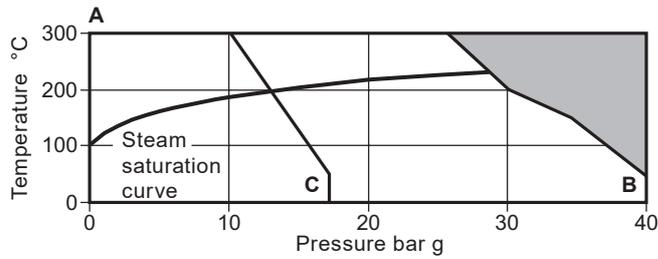


KA43



KB43 and KC43

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

| | |
|---|--|
| 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 | A - B 300 °C @ 25.8 bar g A - C 300 °C @ 10.0 bar g |
| Minimum operating temperature | 0 °C |
| Note: For lower operating temperatures consult Spirax Sarco | |

| | Size | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 |
|---|-------------|------|------|------|------|------|----------|
| Maximum differential pressure bar | 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 |

K_v values

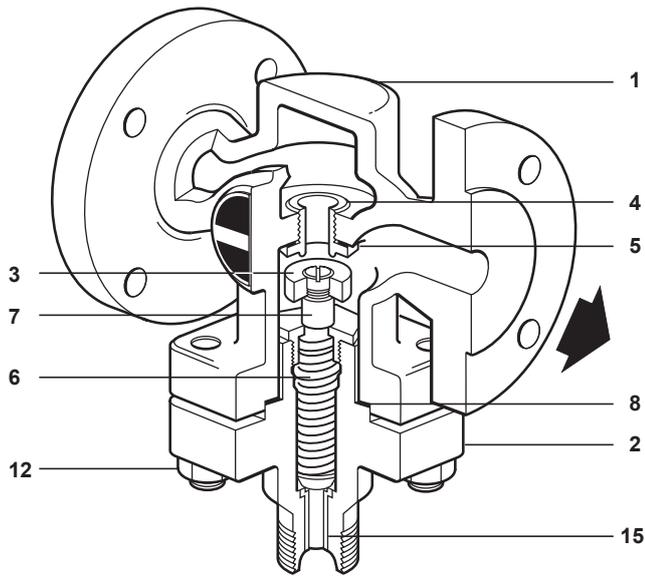
| Size | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | |
|-------------|------|------|------|-------|-------|-------|---|
| KA43 | 2.90 | 4.64 | 9.80 | 16.48 | 23.70 | 34.00 | For conversion: C _v (UK) = K _v x 0.963 C _v (US) = K _v x 1.156 |
| KB43 | - | - | 9.80 | 16.48 | 23.70 | 34.00 | |
| KC43 | - | - | - | 16.48 | 16.48 | 34.00 | |

Capacities

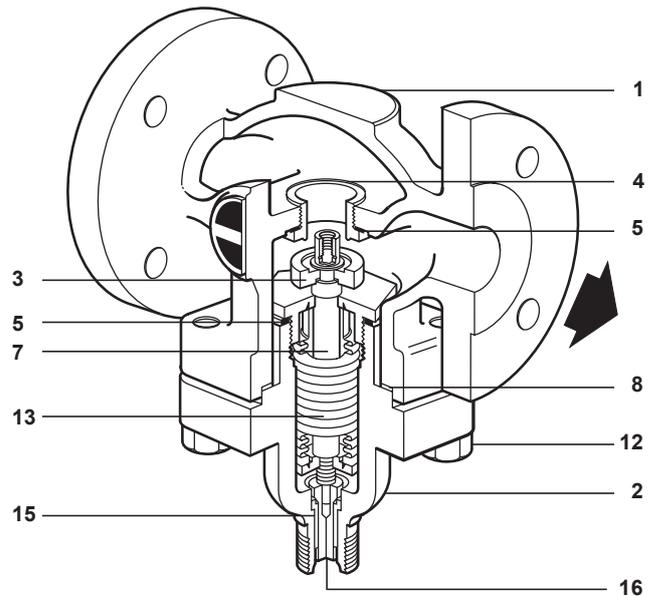
For saturated steam sizing capacities see TI-GCM-08.

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

Materials



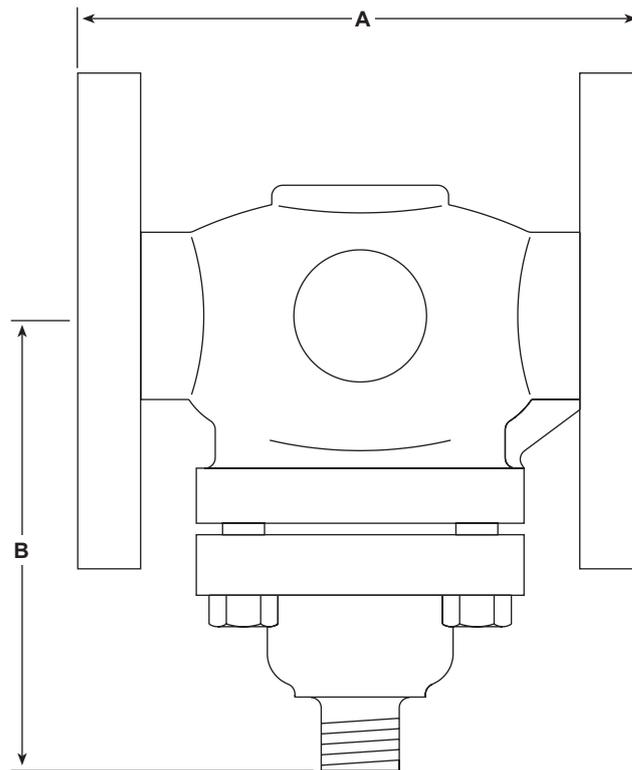
KA43



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 and kg



| Size | PN25 PN40 | ASME 300 | Table 'H' | KA43 | KB43 KC43 | Weight | |
|------|--------------|----------|-----------|------|--------------|--------|---------------|
| | A | A | A | B | B | KA43 | KB43/ KC43 |
| DN15 | 130 | 130 | 130 | 105 | | 4.3 | |
| DN20 | 150 | 150 | 146 | 105 | | 6.3 | |
| DN25 | 160 | 162 | 162 | 105 | 138 | 8.0 | 8.2 |
| DN32 | 181 | 181 | 181 | 110 | 152 | 8.7 | 9.1 |
| DN40 | 201 | 203 | 199 | 110 | 152 | 9.7 | 10.1 |
| DN50 | 233 | 235 | 231 | 110 | 152 | 14.6 | 15.0 |

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.

