



TI-P078-05  
 CH Issue 7

# KX43 and KY43 Steel Self-acting Control Valves

## Description

The KX and KY 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 EL3500 Series electric actuator with a suitable temperature transmitter and controller.

## Available types

**KX43** Normally closed

Normally closed. This valve incorporates a pressure

**KY43** balancing bellows, which enables the valve to operate against higher differential pressures.

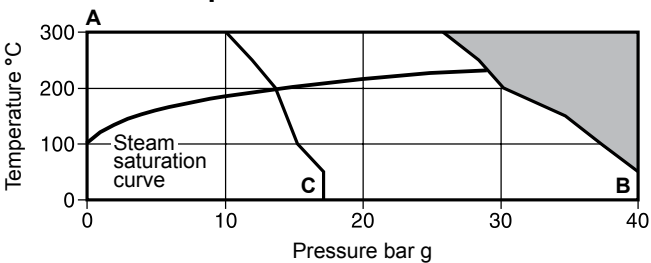
## Standards

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** 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 @ 120°C	
Maximum design temperature	<b>A - B</b>	300°C @ 25.8 bar g
	<b>A - C</b>	300°C @ 10.0 bar g
Minimum design temperature	-10°C	
Maximum operating temperature	<b>A - B</b>	300°C @ 25.8 bar g
	<b>A - C</b>	300°C @ 10.0 bar g
Minimum operating temperature	0°C	

**Note:** For lower operating temperatures consult Spirax Sarco

Maximum differential pressure bar	Size	DN15	DN20	DN25	DN32	DN40	DN50
	<b>KX43</b>	12.0	7.0	3.5	2.3	1.7	1.1
	<b>KY43</b>	-	-	-	9.0	8.2	6.9

Designed for a maximum cold hydraulic test pressure of 60 bar g

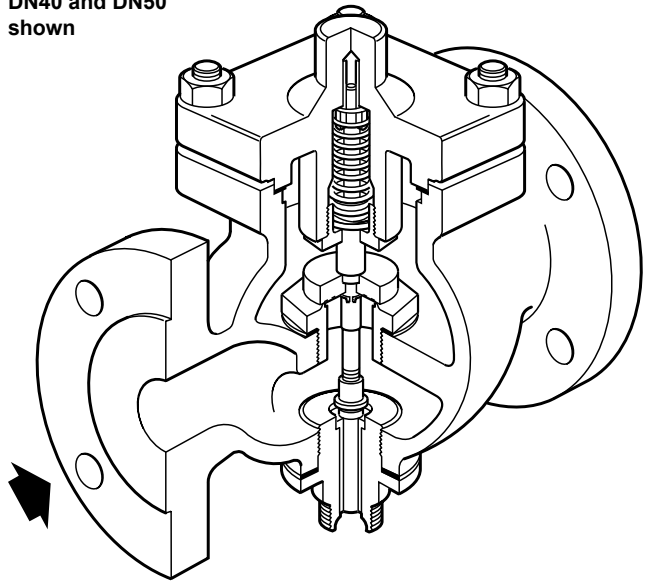
## Size and pipe connections

**KX43** DN15, DN20, DN25, DN32, DN40 and DN50

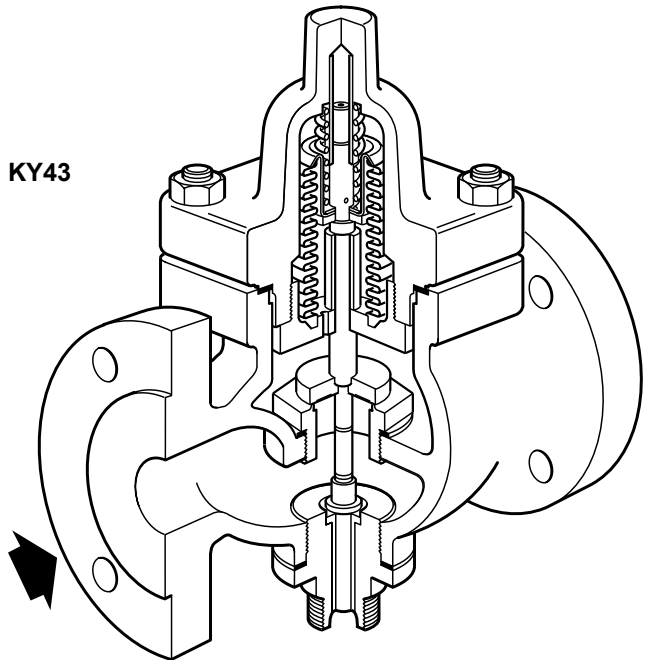
**KY43** DN32, DN40 and DN50

**Flanged** EN 1092 PN25 and PN40, ASME 300 and BS 10 Table H.  
 The following flange connection is **available on request:** ASME 150.

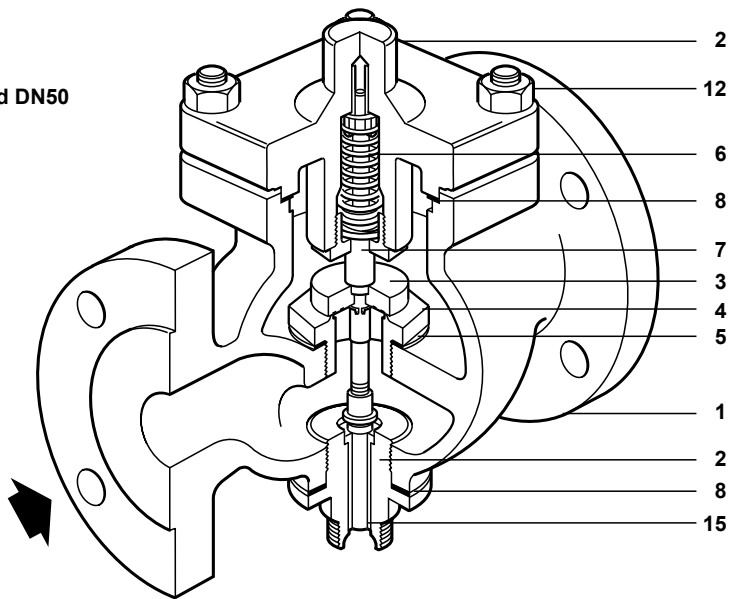
**KX43**  
 DN40 and DN50  
 shown



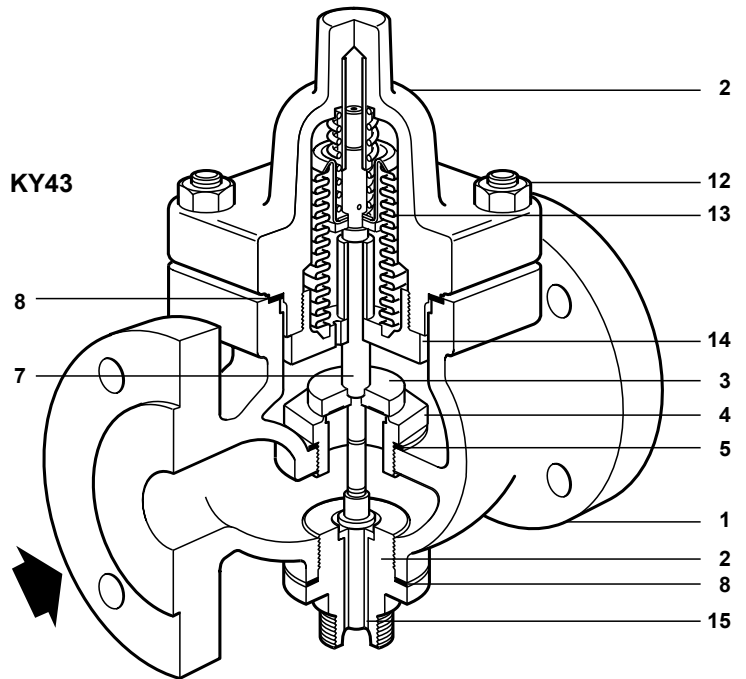
**KY43**



**KX43**  
DN40 and DN50  
shown



**KY43**



**Materials**

No. Part		Material	
1	Body	Steel	EN 10213-2 GP240 GH+N
2	Bonnet	DN15 to DN25	Steel DIN 17243 C22.8
		DN32 to DN50	Steel EN 10213-2 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	Brass	BS 2872 CZ 121
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
14	Bellows gasket	Reinforced exfoliated graphite	
15	Bonnet bush	Brass	BS 2874 CZ 121

### Kv values

Size	DN15	DN20	DN25	DN32	DN40	DN50
<b>KX and KY</b>	2.90	4.64	9.80	16.48	23.7	34.0
For conversion:	$C_V \text{ (UK)} = K_V \times 0.963$		$C_V \text{ (US)} = K_V \times 1.156$			

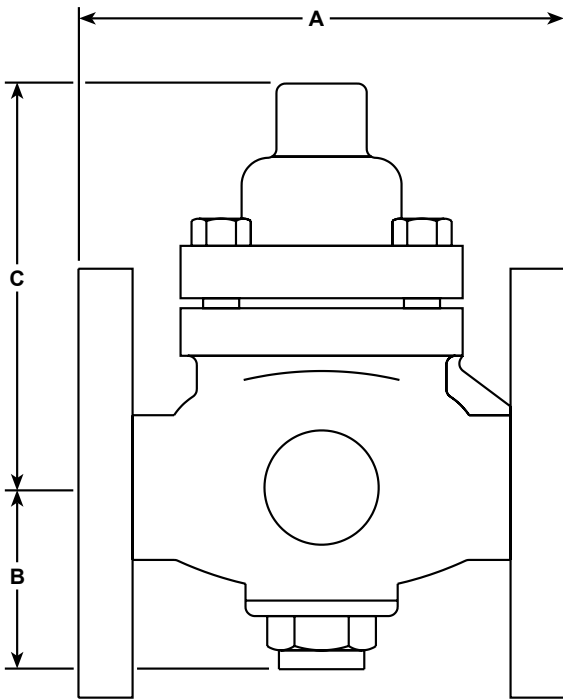
### Capacities

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

#### KX43

Size	PN25	ASME	ASME	BS 10	B	C	Weight
	PN40	150	300	H			
	A	A	A	A			
DN15	130	124	130	130	68	106	4.4
DN20	150	142	150	146	68	106	6.4
DN25	160	156	162	162	80	108	8.1
DN32	180	180	180	178	80	112	8.8
DN40	200	198	202	198	90	112	9.8
DN50	230	228	232	228	100	112	14.7



#### KY43

Size	PN25	ASME	ASME	BS 10	B	C	Weight
	PN40	150	300	H			
	A	A	A	A			
DN32	180	180	180	178	80	154	9.2
DN40	200	198	202	198	90	154	10.2
DN50	230	228	232	228	100	154	15.1

### 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 DN50 KX43 self-acting control valve 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

<b>KX43</b>	Valve and seat assembly	<b>A1, D1, E, J, F, L1</b>
	Set of all gaskets	<b>L1, L2, E</b>
	(DN25)	
	(DN32 - DN50)	<b>E, L1, L2, B, U, C</b>
	Set of bonnet studs and nuts (set of 4)	<b>S</b>
<b>KY43</b>	Valve and seat assembly	<b>A1, B, C, D1, E, L1, U</b>
	Bellows and stem assembly	<b>H, G, L1, B, C, U, J</b>
	Set of all gaskets	<b>B, C, U, G, L1, L2</b>
	Set of bonnet studs and nuts (set of 4)	<b>S</b>

#### 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 DN40 KY43 self-acting control valve.

