

spirax sarco

TI-P078-03
 CH Issue 10

KX51 and KY51 Bronze Self-acting Control Valves

Description

The KX51 and KY51 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

KX51 Normally closed.

KY51 Normally closed.

The valve incorporates a pressure balancing bellows, which enables the valve to operate against higher differential pressures.

Optional extras

Fixed bleed bypass for water systems.

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

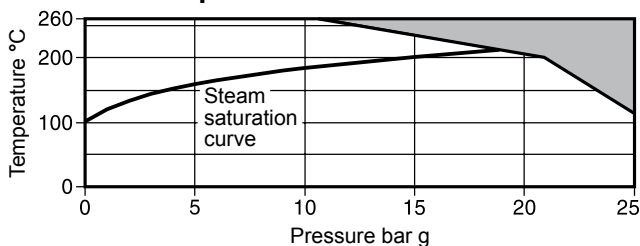
As standard these products are available with a manufacturers' Typical Test Report.

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

Sizes and pipe connections

KX51	1"	1¼"	1½"	2"	Screwed BSP (BS 21 parallel) or NPT
KY51		1¼"	1½"	2"	

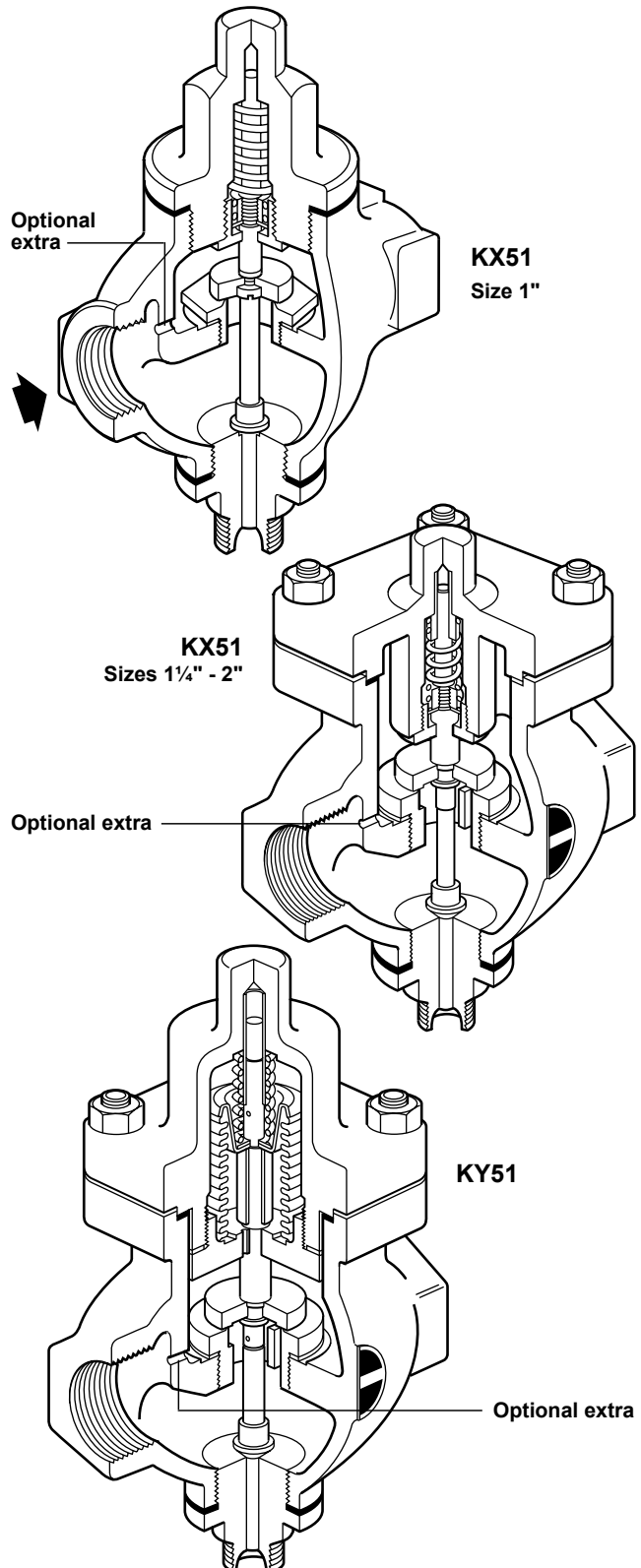
Pressure/temperature limits



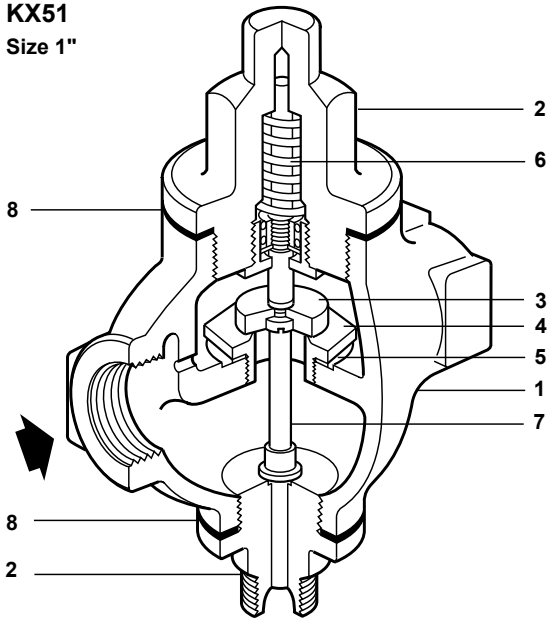
The product **must not** be used in this region.

Body design conditions		PN25			
Maximum design pressure		25 bar g @ 120°C			
Maximum design temperature		260°C @ 10.5 bar g			
Minimum design temperature		-10°C			
Maximum operating pressure for saturated steam service		17.5 bar g			
Maximum operating temperature		260°C @ 10.5 bar g			
Minimum operating temperature		0°C			
Maximum differential pressure bar	Size	1"	1¼"	1½"	2"
	KX51	3.5	2.3	1.7	1.1
	KY51	-	9.0	8.2	6.9

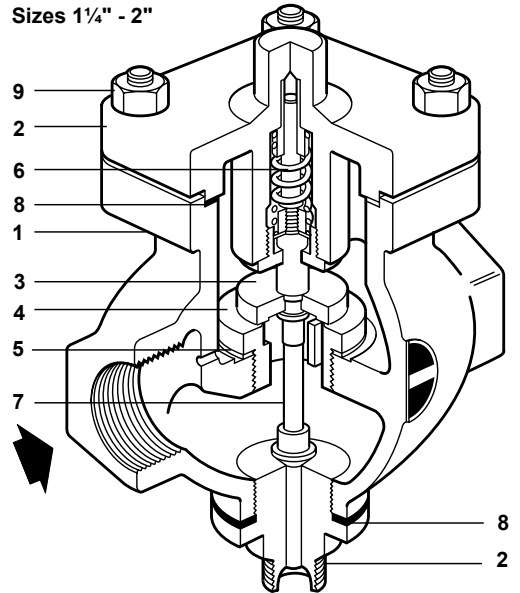
Designed for a maximum cold hydraulic test pressure of 38 bar g



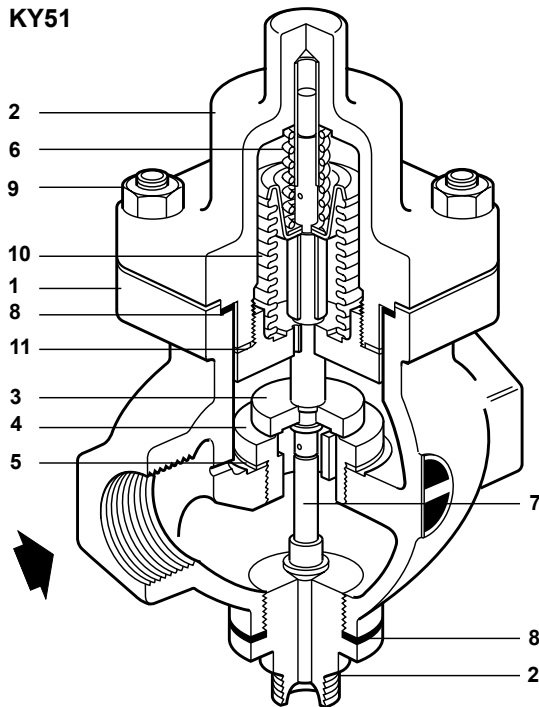
KX51
Size 1"



KX51
Sizes 1¼" - 2"



KY51



Materials

No. Part		Material	
1	Body	Bronze	CC491 KM
2	Bonnet	Bronze	CC491 KM
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	BS 1449 CS 4
		1¼ - 2" Reinforced exfoliated graphite	
6	Return spring	Stainless steel	BS 2056 302 S 26
7	Stem	Brass	BS 2874 CZ 121
8	Bonnet gaskets	Reinforced exfoliated graphite	
9	Bonnet studs	Steel	BS 4439 Gr. 8.8
	Bonnet nuts	1¼ and 1½" M10 x 35 mm	BS 3692 Gr. 8
		2" M12 x 35 mm	BS 3692 Gr. 8
10	Bellows	Phosphor bronze	EN 12449 Cu Sn 6
11	Bellows gasket	Reinforced exfoliated graphite	

Kv values

Size	1"	1¼"	1½"	2"
Kv	9.80	16.48	23.70	34.0

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

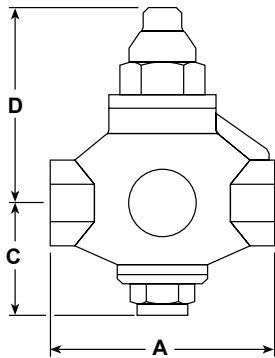
Capacities

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

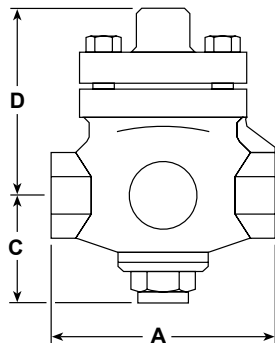
Dimensions/weights (approximate) in mm and kg

Size	A	C	D	D1	Weights	
					KX	KY
1"	136	80	108		4.10	-
1¼"	144	80	112	154	6.32	7.25
1½"	150	90	112	154	7.62	8.57
2"	180	100	112	154	9.50	10.60

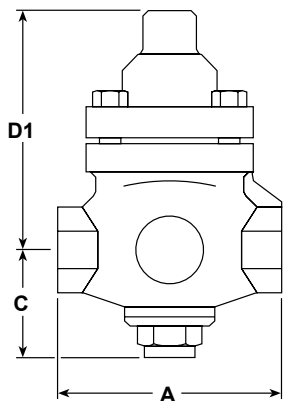
KX51 1"



KX51 1¼" - 2"



KY51



Spare parts

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

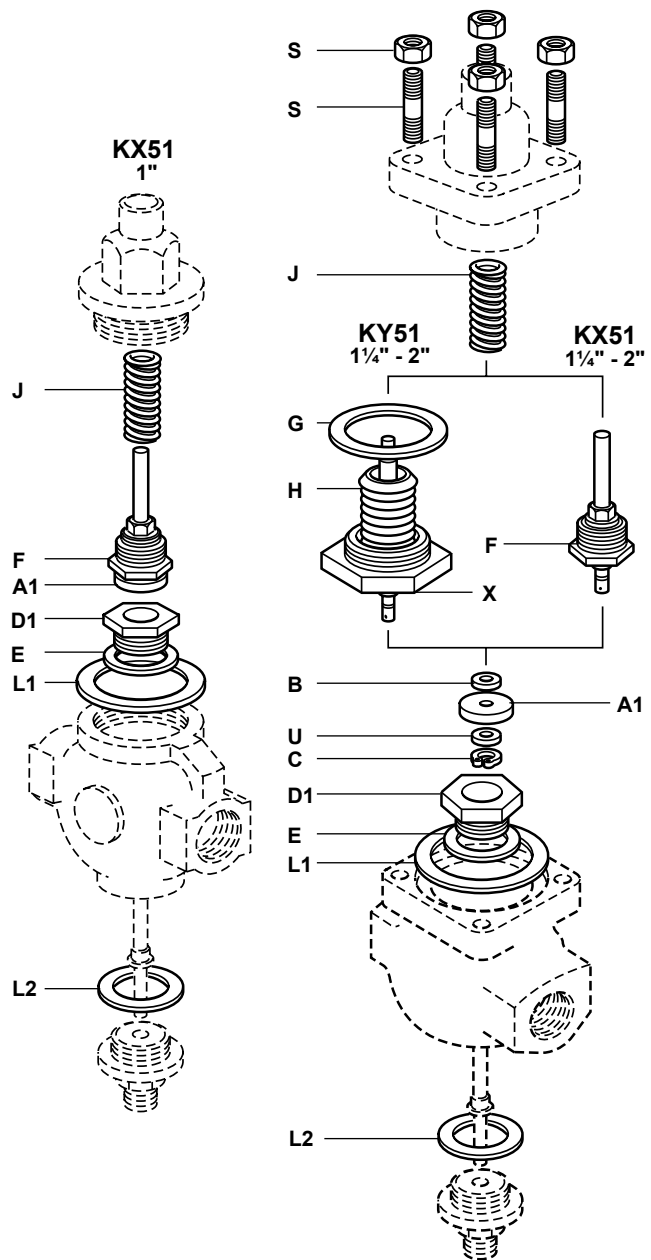
Available spares

	Valve seat assembly	A1, D1, E, J, F, L1
KX51	Set of all gaskets	1" L1, L2, E
		1¼" - 2" E, L1, L2, B, U, C
	Set of bonnet studs and nuts (set of 4)	S
	Valve seat assembly	A1, B, C, D1, E, L1, U
KY51	Bellows and stem assembly	H, G, L1, B, C, U
	Set of all gaskets	B, C, U, E, G, L1, L2
	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 1½" KY51 self-acting control valve.



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 2", KY51 self-acting control valve with bronze body having screwed BSP connections.