



Certificate No. FM163

ISO 9001

spirax sarco

TI-P301-06

CH Issue 1

PN16 Bellow Sealed KE71B1, KE73B1 and KE43B1 Two Port Valves

Description

Two port valve with either equal percentage, linear or fast opening characteristic for use with the Spirax Sarco range of pneumatic and electric range of actuators.

Sizes and pipe connections

KE71B1 (PN16) SG iron

½", ¾", 1", 1¼", 1½" and 2" screwed BSP (BS 21 parallel) and NPT.

KE73B1 (PN16) SG iron and KE43B1 (PN16) carbon steel

DN15, 20, 25, 32, 40, 50, 65, 80 and 100

Standard flange BS 4504 PN25 (KE73B1) BS 4504 PN40 (KE43B1).

The following flange options are available on request:-
BS 10 Table H, ANSI 150, ANSI 300 and JIS 20.

Options

Trim Equal %, linear, reduced K_v , fast opening (on/off) soft seal, hard faced, low noise, high temperature bolting and anti-cavitation.

Refer to TI-S24-14 for further details.

Technical data

Plug design	Parabolic/vee port		
Flow characteristic (standard)	Equal percentage		
Leakage	Class IV 0.01 % of K_{vs}		
Rangeability	50:1		
Travel	DN15 to DN50 (½" to 2")	20 mm	
	DN65 to DN100	30 mm	

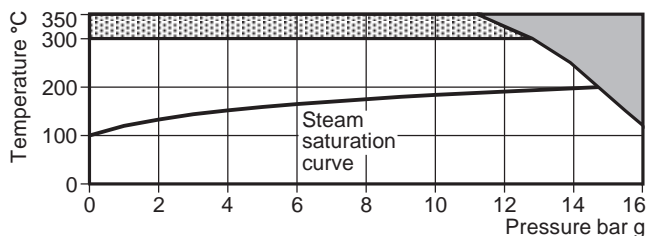
Limiting conditions

Maximum working pressure	16 bar g
Design conditions	PN16
* Maximum design temperature	350°C
Maximum differential pressure	See actuator TI

* Note:

High temperature bolting is required for temperatures above 300°C.

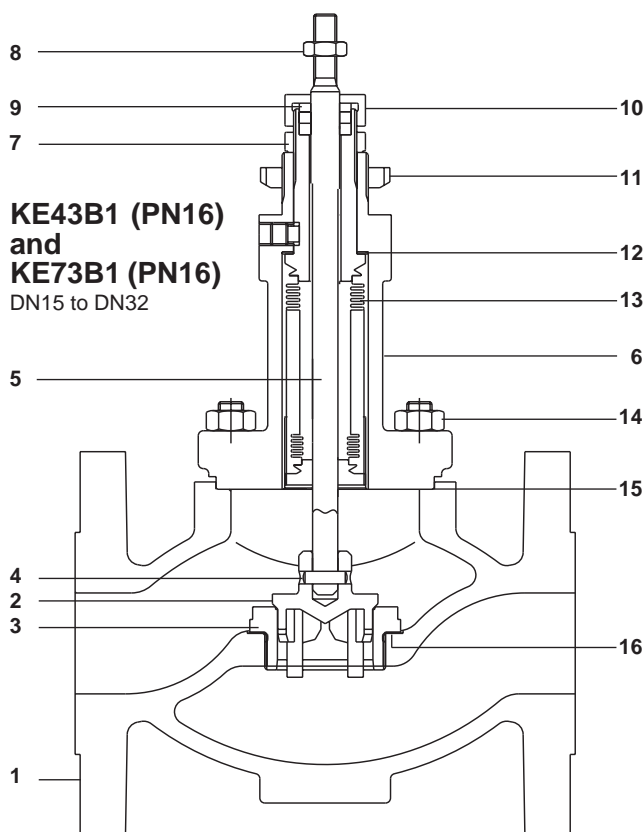
Operating range



The product must not be used in this region.

High temperature bolting required for use in this region.

Note: Although the maximum allowable body pressure is 25 bar g and 40 bar g for SG iron and cast steel respectively, the bellows is limited to 16 bar g. Pressures higher than 16 bar g may lead to bellows rupture.



KE43B1 (PN16) and KE73B1 (PN16)

DN15 to DN32

Materials

No	Part	Material	
1	Body	KE7_B1	SG iron DIN 1693 GGG 40.3
		KE43B1	Carbon steel DIN 17425 GCS 25N
2	Valve plug	Stainless steel BS 970 431 S29	
3	Valve seat	Stainless steel BS 970 431 S29	
4	Pin	Stainless steel AISI 304	
5	Valve stem	Stainless steel BS 970 431 S29	
6	Bonnet	Carbon steel DIN 17425 GSC 25N	
7	Lock-nut	Stainless steel AISI 304	
8	Lock-nut	Stainless steel AISI 304	
9	Gland ring	25 % carbon/graphite	
10	Gland nut	Stainless steel BS 970 431 S29	
11	Mounting nut	Mild steel zinc plated NFA35553XC18S	
12	Bellows gasket	Semi-rigid graphite laminated	
13	Bellows	Stainless steel AISI 316Ti	
14	Bonnet studs Bonnet nuts	Steel	BS 4439 Gr. 8.8
		Steel	BS 3692 Gr. 8.8
		DN15 to 32 M10	DN40 to 50 M12
		DN65 M14	DN80 M16
15	Bonnet gasket	Semi-rigid graphite laminated	
16	Seat gasket	Semi-rigid graphite laminated	

Kvs values (for equal percentage characteristics)

Size (DN)	15	20	25	32	40	50	65	80	100
Kvs value	4	6.3	10	16	25	36	63	100	160

For conversion C_V (UK) = $K_V \times 0.97$ C_V (US) = $K_V \times 1.17$
 Refer to TI-S24-14 for reduced K_{VS} .

Dimensions / weights (approximate) in mm and kg

Size	A	B	Weights		
			KE71	KE73B1	KE43B1
DN15	130	173	3.0	4.3	4.8
DN20	150	173	3.5	4.9	5.4
DN25	160	182	4.7	7.7	8.7
DN32	180	184	5.7	9.9	11.0
DN40	200	184	7.7	10.9	12.2
DN50	230	188	9.3	13.2	14.9
DN65	290	225	-	24.5	27.8
DN80	310	239	-	30.5	35.2
DN100	350	246	-	41.9	49.5

Sizing

For steam see TI-GCH-03
 For water see TI-GCH-04.

Installation

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body. The actuator position will depend on the type fitted to the valve. Full instructions are supplied with the product.

How to order

Example: 1 off DN50 KE43B1 $K_{VS} = 36$ PN40

Spare parts

See TI-P301-08

Compatible actuators and positioners

Electric	EL3500, EL5060 and EL5600 series.
Pneumatic	PN5000, PN6000, PN7000 and PN8000 series.
Positioners	PP5 (pneumatic), EP5 (electropneumatic) and SP1 (smart electropneumatic).

Refer to relevant TI sheet for further details

