BRV71 and BRV73
SG Iron
Pressure Reducing Valves

Description

The **BRV71** (screwed) and **BRV73** (flanged) are SG iron bodied direct acting pressure reducing valves designed for applications using steam.

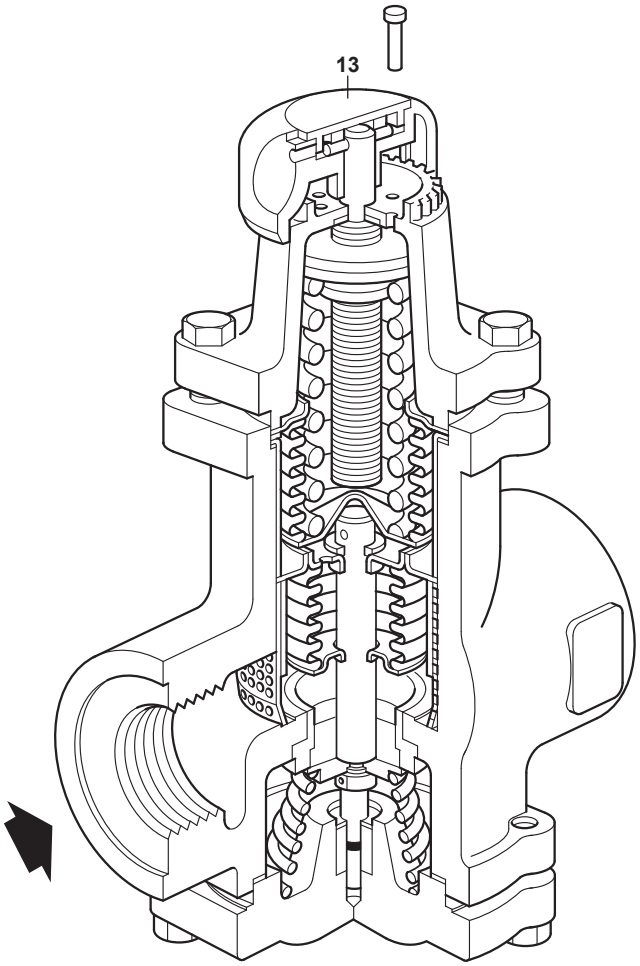
The **BRV71** and **BRV73** pressure reducing valves are supplied with one of three colour coded springs which are identified by the disc (**13**) located on the adjustment handwheel:

Grey	For downstream pressure control: 0.14 to 1.7 bar g
Green	For downstream pressure control: 1.40 to 4.0 bar g
Orange	For downstream pressure control: 3.50 to 9.0 bar g

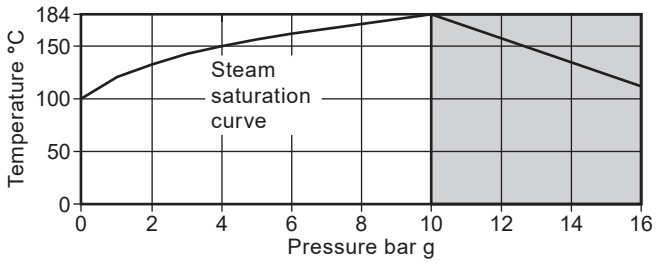
Note: Where control spring ranges overlap always use the lower range to give better control.

Sizes and pipe connections

1", 1¼", 1½" and 2" screwed BSP and NPT.
DN25, DN32, DN40 and DN50 flanged PN16, JIS 10 and ANSI 150.



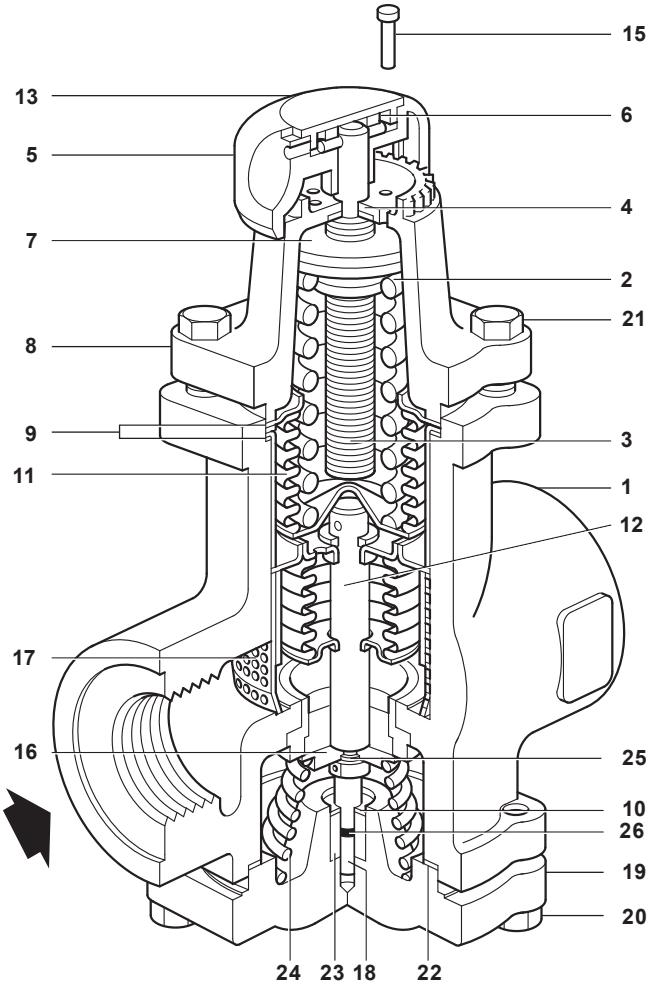
Pressure/temperature limits



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

Body design conditions	PN16
Maximum allowable pressure	16 bar g @ 120 °C
Maximum allowable temperature	184 °C @ 10 bar g
Minimum allowable temperature	- 10 °C
Maximum operating pressure for saturated steam service	10 bar g
Maximum operating temperature	184 °C @ 10 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco.	0 °C
Maximum downstream reduced pressure	9 bar g
Maximum differential pressure	10 bar
Designed for a maximum cold hydraulic test pressure of:	24 bar g
Note: With internals fitted, test pressure must not exceed:	16 bar g

Materials

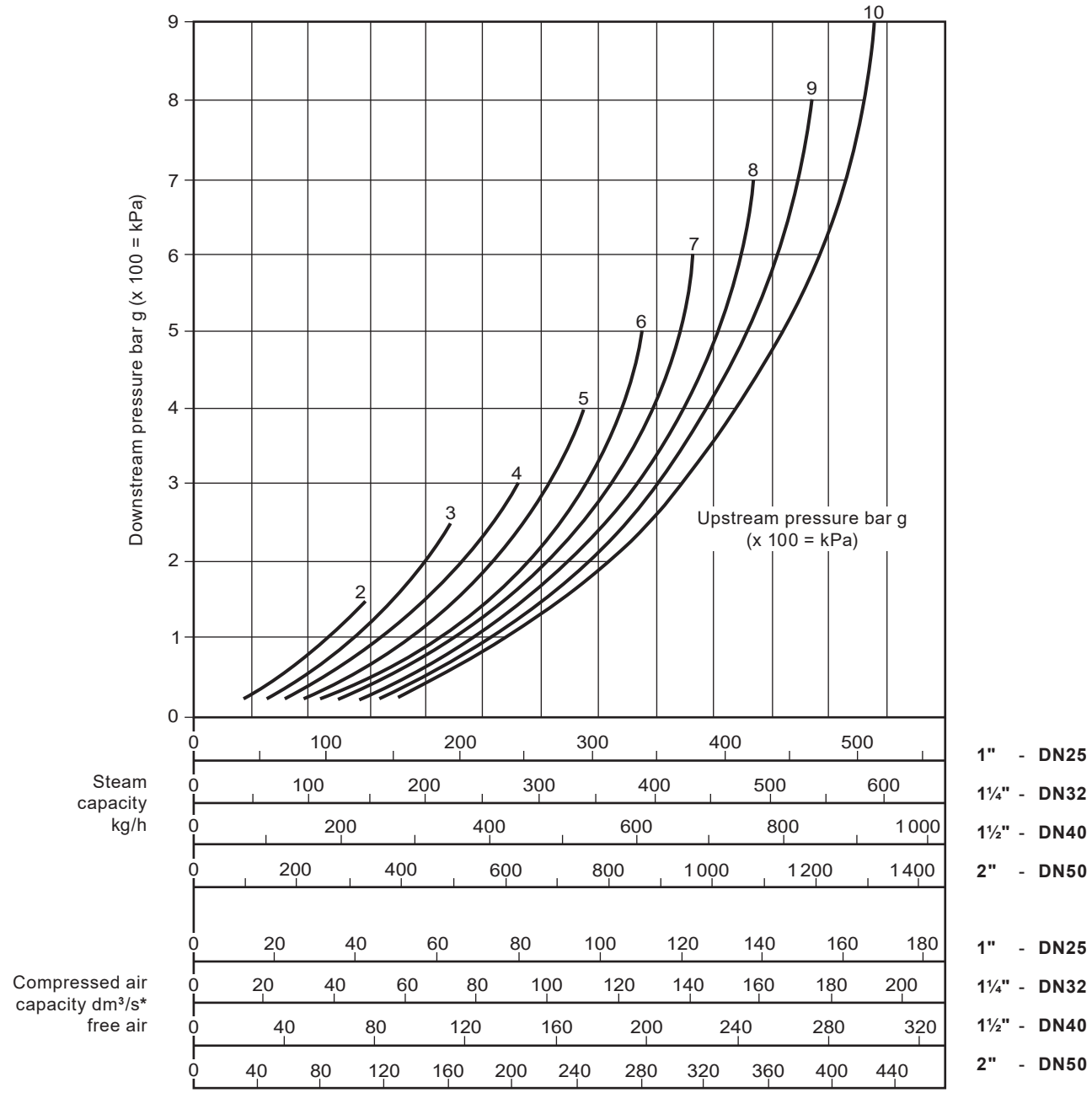


No.	Part	Material	
1	Body assembly	SG iron	DIN 1693 GGG 40.3 ELNP coated
2	Pressure adjustment control spring	Silicon chrome	BS 2803 685 A55
3	Adjustment screw	Carbon steel	BS 970 230 M07
4	Plain washer	Stainless steel	Gr.18/10/3-4A
5	Adjustment knob	Mineral filled nylon 66	10B 140
6	Spirol pin	Chrome plated stainless steel	AISI 420
7	Spring plate	Cast iron	DIN 1691 GG 20
8	Spring housing	Aluminium	2ELNP coated
9	Upper gasket	Semi-rigid graphite laminated	
10	Lower gasket	Semi-rigid graphite laminated	
11	Bellows assembly	Stainless steel	316L
12	Bellows/pushrod assembly	Stainless steel/PTFE 15% graphite fill	316L

No.	Part	Material	
13	Printed cap	Polypropylene	
15	Locking pin	Copper	
16*	Head (incorporating seal Pt No.27)	Stainless steel	BS 970 431 S29
17	Screen	Stainless steel	316L
18	Lower pushrod	Stainless steel	BS 970 431 S29
19	End cap	SG iron	DIN 1693 GGG 40.3 ELNP coated
20	Screw	Zinc plated steel	BS 3692 Gr. 8.8
21	Screw	Zinc plated steel	BS 3692 Gr. 8.8
22	Washer	Stainless steel	BS 1449 304 515
23	Guide bush	PTFE 15% graphite filled	
24	Return spring	Stainless steel	BS 2056 316 S42
25	PTFE washer	Virgin PTFE	BS 6564 Type 2 Gr. B
26	'O' ring seal	EPDM	E 0962-90
27*	Head 'O' ring seal	EDPM	E 0962-90

***Note:** Parts **16** and **27** are not shown.

Steam and compressed air capacity chart



* dm³/s = l/s, 1 l/s ≙ 2 c.f.m.

How to use the chart

The curved lines labelled 2, 3, 4, 5 etc., represent upstream pressures. Downstream pressures are read along the vertical line on the left hand side of the chart.

How to use the chart is best described by an example:-

Required, a pressure reducing valve to pass 350 kg/h reducing from 8 to 6 bar. From the downstream pressure of 6 bar on the left hand side of the chart extend out horizontally until the line meets the curved 8 bar upstream line. At this point read vertically downwards where it will be seen that DN25 BRV71 or BRV73 will be required.

K_v values

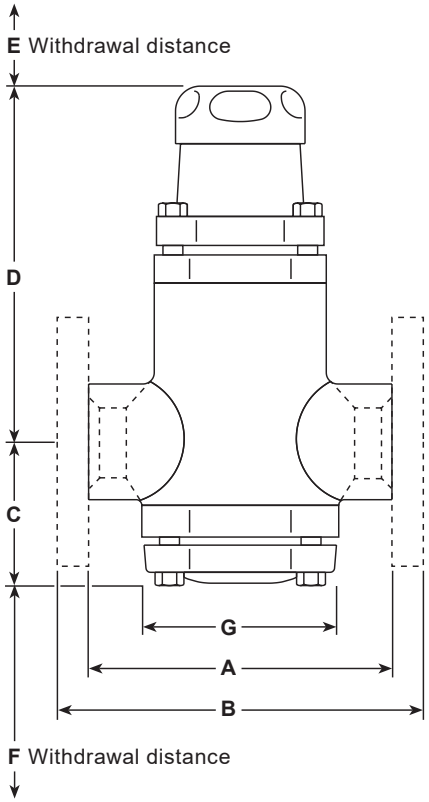
Full lift capacity for safety valve sizing purposes are shown below:

Size	1" - DN25	1¼"- DN32	1½"- DN40	2" - DN50	For conversion:
K_v	9.3	11.1	15.7	16.2	C_v (UK) = K_v x 0.963 C_v (US) = K_v x 1.156

Dimensions/weights (approximate) in mm and kg

	Scr. BSP/NPT	PN16	ANSI 150	JIS 10						Weight	
Size	**A**	**B**	**B**	**B**	**C**	**D**	**E**	**F**	**G**	**Scr.**	***Flg**
DN25 - 1"	134	174	170	170	67	153	90	25	84	4.40	5.90
DN32 - 1¼"	134	179	174	175	67	153	90	25	84	4.20	7.65
DN40 - 1½"	134	186	183	180	67	153	90	25	84	4.95	8.55
DN50 - 2"	134	186	186	180	67	153	90	25	84	4.75	9.40

***Note:** Flanged weights are typical of the BRV73 model and the figures quoted are based on the PN16 version.



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P210-04) supplied with the product.

Installation note:

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

How to order

Example: 1 off Spirax Sarco 1" screwed BSP BRV71 pressure reducing valve with SG iron body, stainless steel bellows and fitted with an orange spring for a downstream pressure control of 3.5 to 9.0 bar g.

Spare parts

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

Available spares

Note the spares listed are common to all sizes

Pressure adjustment spring	Grey	0.14 to 1.7 bar g	**K, Q**
	Green	1.40 to 4.0 bar g	**K, Q**
	Orange	3.50 to 9.0 bar g	**K, Q**
Control bellows - Stainless steel			**J**
Bellows pushrod assembly, (Sub assembly, head, 'O' rings, lower pushrod and balancing bellows)			**E, C, H**
Bottom cap			**B**
Strainer screen			**G**
Return spring and gasket set			**F**
Bolt set	Spring housing	(Set of 4)	**L**
	Bottom cap	(Set of 4)	**A**
Return spring			**D**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, type and pressure range of the reducing valve.
Example: 1 off Pressure adjustment spring (orange), having a downstream pressure range of 3.5 to 9.0 bar g for a Spirax Sarco 1" BRV71 pressure reducing valve.