

# spirax sarco

## Direct Operated Pressure Regulator BRV71 & BRV73

The BRV71 ductile iron screwed, and the BRV73 ductile iron flanged body is a direct operated pressure regulator for steam applications.

<b>Model</b>	BRV71 & BRV73
<b>Sizes</b>	1", 1-1/4", 1-1/2", 2"
<b>Connections</b>	NPT/ANSI150
<b>Construction</b>	Ductile Iron
<b>Options</b>	BSP, PN16, JIS10

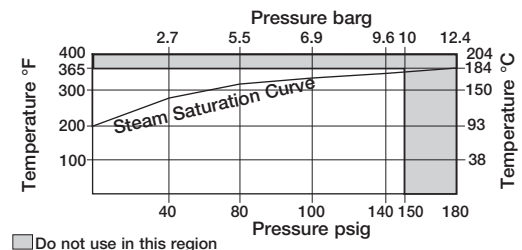
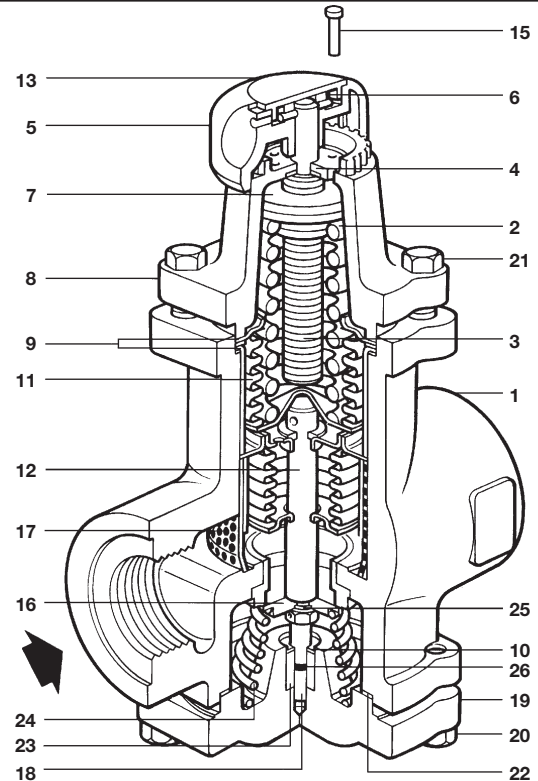
### Construction Materials

No.	Part	Material	Material Spec.
1	Body Assembly	SG Iron	DIN 1693 GGG40.3 ELNP coated
2	Pressure Adjustment Control Spring	Silicone Chrome	BS 2803 685 A55
3	Adjustment Screw	Carbon Steel	BS970 230 M07
4	Plain Washer	Stainless Steel	Gr. 18/10/3-4A
5	Adjustment Knob	Mineral filled nylon 66	10B 140
6	Spirol Pin	Stainless Steel	AISI420 Chrome plated
7	Spring Plate	Cast Iron	DIN 1691 GG20
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/push rod assy.	Stainless Steel 316L	PTFE 15% graphite fill
13	Printed Cap	Polypropylene	
14	Locking Pin	Copper	
16*	Head (incorporating seal Pt No.27)	Stainless Steel	BS970 431S29
17	Screen	Stainless Steel 316L	
18	Lower Push Rod	Stainless Steel	BS970 431S29
19	End Cap	SG iron	DIN 1693 GGG40.3 ELNP coated
20	Screw	Steel, zinc plated	BS3692 Gr.8.8
21	Screw	Steel, zinc plated	BS3692 Gr.8.8
22	Washer	Stainless Steel	BS1449 304 515
23	Guide Bush	PTFE 15% Graphite Filled	
24	Return Spring	Stainless Steel	BS2056 316 S42
25	PTFE Washer	Virgin PTFE	BS6564 Type 2Gr.B
26	"O" Ring Seal	EPDM	E0962-90
27*	Head "O" Ring Seal	EDPM	E0962-90

\*Not Shown

### Limiting Operating Conditions

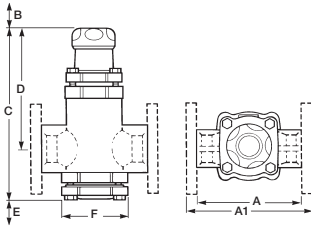
Body design conditions	PN16
Maximum allowable pressure	232 psig@248°F (16barg @ 120°C)
Maximum allowable temperature	366°F@ 232 psig (184°C @10barg)
Minimum allowable temperature	14°F (-10°C)
Maximum operating pressure for saturated steam service	150 psig (10 barg)
Maximum operating temperature	366°F@150 psig (184°C @10barg)
Minimum operating temperature	32°F (0°C)
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	
Maximum downstream reduced pressure	130 psig (9 barg)
Maximum differential pressure	150 psig (10 barg)
Maximum recommended turndown ratio 10:1 at maximum flow	
Designed for a maximum cold hydraulic test pressure of	340 psig (24 barg)
<b>Note:</b> With internals fitted, test pressure must not exceed	252 psig (16 barg)



### Downstream Pressure Ranges

For the following downstream pressures, three color-coded springs are available. Where the pressures overlap, use the lowest pressure spring to give the downstream pressure required:  
**Grey:** 2 to 25 psig    **Green:** 20 to 60 psig    **Orange:** 50 to 125 psig  
 0.14 to 1.7 barg    1.4 to 4.0 barg    3.5 to 8.6 barg

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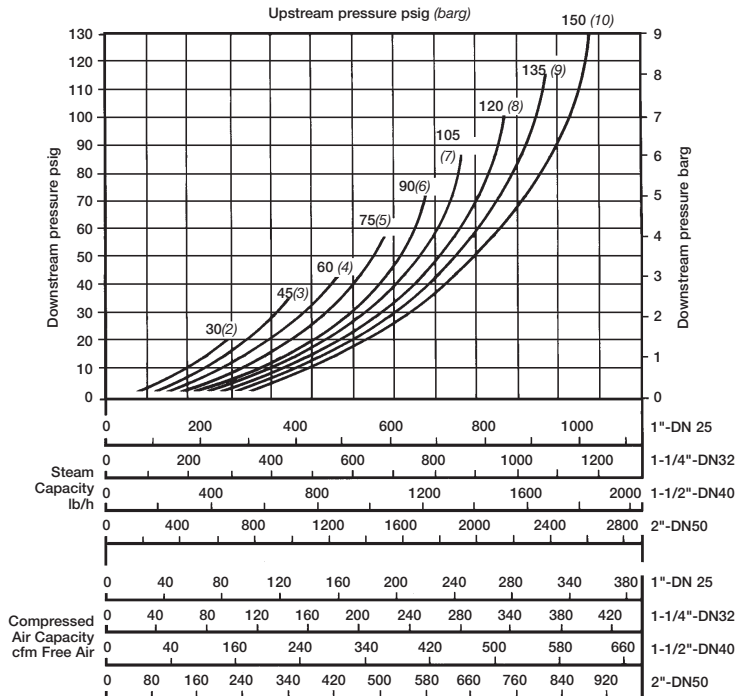


Dimensions (nominal) in inches and millimeters												
Size	BSP/NPT PN Scr.		ANSI 150 A1		JIS 10 A1		Weight					
	A	A1	A1	A1	B	C	D	E	F	Scr	Flg	
1"	5.3 134	6.8 174	6.7 170	6.7 170	3.5 90	8.6 220	6.0 153	1.0 25	3.3 84	10 lb 4.4 kg	13 lb 5.9 kg	
1-1/4"	5.3 134	7.0 179	6.8 174	6.8 175	3.5 90	8.6 220	6.0 153	1.0 25	3.3 84	9.8 lb 4.2 kg	16 lb 7.65 kg	
1-1/2"	5.3 134	7.2 186	7.1 183	7.1 180	3.5 90	8.6 220	6.0 153	1.0 25	3.3 84	11.0 lb 4.95 kg	18 lb 8.55 kg	
2"	5.3 134	7.2 186	7.2 186	7.1 180	3.5 90	8.6 220	6.0 153	1.0 25	3.3 84	11.0 lb 4.75 kg	20 lb 9.4 kg	

## Capacities – Steam & compressed air capacity chart

Full lift capacities for safety valve sizing are shown below:

$Cv_s (Kv_s)$	1" (DN25)	1-1/4" (DN32)	1-1/2" (DN40)	2" (DN50)
	10.7 (9.3)	12.8 (11.1)	18.1 (15.7)	18.7 (16.2)



### How to use the chart

The curved lines labeled 30, 45, 60, etc., represent upstream pressures. Downstream pressures are read along the vertical line on the left hand side of the chart.

#### Example:

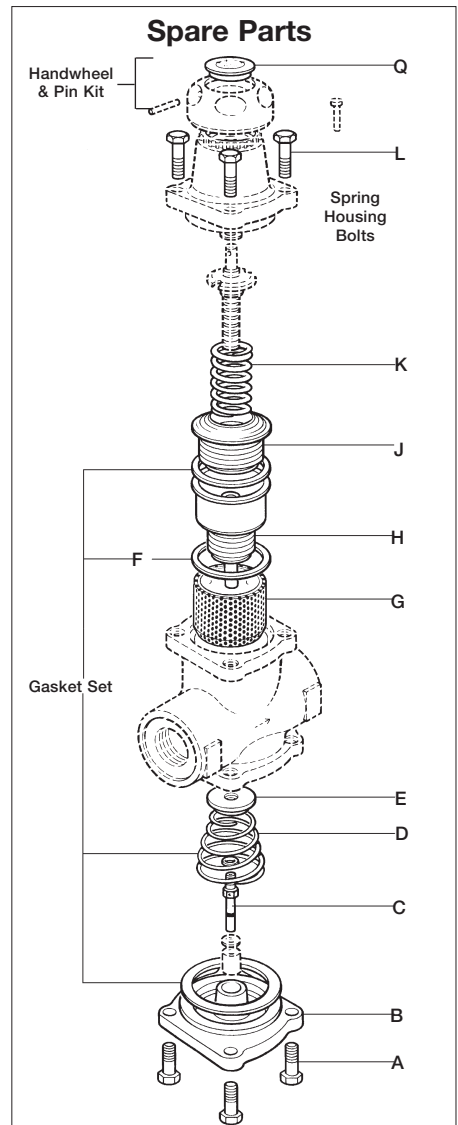
Required, a reducing valve to pass 400 lb/h reducing from 105 to 60 psi. From the downstream pressure of 60 psi on the left hand side of the chart extend out horizontally until the line meets the curved 105 psi upstream line. At this point, read vertically downward where it will be seen that a 1" BRV71/73 will be required.

### Installation and Maintenance

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body. Full Installation and Maintenance Instructions are supplied with this product. (IM-P210-04)

#### How to order

Example: 1" Spirax Sarco BRV71 pressure reducing valve with ductile iron body, stainless steel bellows and fitted with Orange spring (50-130 psig)



### Spare Parts

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

#### AVAILABLE SPARE

- \* Pressure Adjustment Spring K,Q  
Grey 2-25 psig • Green 20-60 psig  
Orange 50-125 psig
- \* Bellows Assembly (Stainless Steel) J  
Bellows pushrod assembly,  
(Sub Assembly, Head, "O" rings,  
Lower push rod and balancing bellows)E,C,H
- \* Bottom cap B
- \* Strainer screen G
- \* Return spring and gasket set F
- \* Hex. Head Screws - Spring housing(set of 4) L  
- Bottom cap(set of 4) A
- \* Return spring D
- \* Common to all sizes.

#### How to order

Always order spares by using the description given in the column headed Available Spare and stating the size, type and pressure range of the reducing valve.  
Example: Pressure Adjustment Spring, pressure range 50-130 psig (orange) for 1" Spirax Sarco BRV71 Reducing Valve.