

# Bailey B Pressure Reducing Valve

The Bailey B series of steam pressure reducing and regulating valves are single seated, spring loaded, direct acting diaphragm-actuated valves. This series automatically reduces a high inlet pressure to a lower delivery pressure and maintains that lower pressure within reasonably close limits.

They are designed and built to withstand long periods of service. The simplicity of design aids the ease of maintenance when it is required.

## OPERATION

The steam enters at the inlet port (upstream), passing through the strainer screen and seat to the valve outlet (downstream). The amount of valve opening is controlled by the diaphragm.

The diaphragm moves in accordance with the forces exerted upon it by the main spring and the downstream pressure acting on the underside of the diaphragm, which opposes the main spring.

When the force exerted by the main spring is greater than that exerted by the downstream pressure, the valve is pushed off its seat by means of the push rod, thus allowing steam to flow from inlet to outlet. When the force exerted by the downstream pressure is greater than that exerted by the main spring, the diaphragm will return to a horizontal position. The piston spring, assisted by the steam pressure, will force the valve against the seat, thus cutting off the flow.

## FEATURES AND BENEFITS

- Pressure adjustment can be changed easily by loosening the lock nut and simply turning the adjustment screw - clockwise to increase, and anti-clockwise to decrease the delivery (outlet) pressure.
- Valves are fitted with a carefully matched brass piston and cylinder with a composition seat disc insert for tight shut-off.
- The working parts of the valve are protected by a self supporting inbuilt monel strainer screen which maximises operability and increase reliability. It is easily removed for cleaning.
- The rugged but simple design of the Bailey B regulator lends itself to easy maintenance and repair. The inner valve assembly is easy to clean or replace by loosening the large hex head bottom plug. All major repairs can normally be made without removing the valve from the line.
- Self activation/regulation - requires no external power source.

## TECHNICAL SPECIFICATION

<b>Size</b>	15, 20, 25, 32, 40, 50mm (½", ¾", 1", 1¼", 1½", 2")
<b>Connection</b>	Screwed BSP parallel female.
<b>Material</b>	Bronze.
<b>Temperature Range</b>	-20 to 204°C.
<b>Maximum Inlet Pressure</b>	Steam 17.2 Barg.
<b>Maximum Outlet Pressure</b>	Steam 10.3 Barg.
<b>Minimum Outlet Pressure*</b>	Steam 0.7 Barg

Outlet pressure should not be less than 10% of the inlet pressure.

\* Setting including rise at dead end (see page 56).

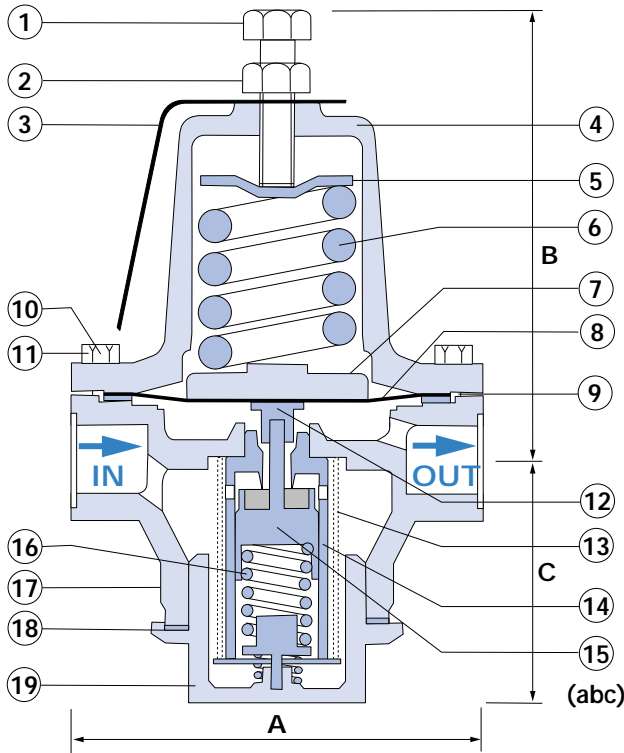
## SPRING SELECTION

Size	Spring Ranges Maximum Working Range		Part Number
	Barg	Psig	
DN15 (½")	0.14-2.07	2-30	110
	0.69-3.45	10-50	111
	2.07-8.62	30-125	113
	3.45-10.34	50-150	8805
DN20 (¾")	0.14-1.39	2-20	110
	0.69-2.41	10-35	111
	2.07-5.17	30-75	113
	3.45-6.70	50-100	8805
DN25 (1")	0.14-1.39	2-20	110
	0.69-2.41	10-35	111
	2.07-5.17	30-75	113
	3.45-6.70	50-100	8805
DN32 (1¼")	0.14-1.03	2-15	5356
	0.69-2.07	10-30	737
	1.36-4.14	20-60	1163
	3.79-6.70	55-100	1303
DN40 (1½")	0.14-1.03	2-15	5356
	0.69-2.07	10-30	737
	1.38-3.46	20-50	1163
	3.10-6.70	45-100	1303
DN50 (2")	0.14-0.69	2-20	5357
	0.69-4.14	10-60	3135
	1.38-6.70	20-100	760
	6.12-10.34	90-150	1904

## CE MARKING

The Bailey B valve has been certified to the requirements of the PED (Category II). Valve sizes below 32mm (1¼ inch), do not require, and hence, cannot be CE marked.

## PARTS



ITEM	PART	MATERIAL
1	Adjusting Screw	St. Steel
2	Lock Nut	St. Steel
3	Name Plate	Aluminium
4	Spring Chamber	Bronze
5	Spring Button	Brass
6	Pressure Spring	St. Steel
7	Pressure Plate	Brass
8*	Diaphragm	Bronze
9	Gasket	Teflon
10	Screw (Top)	St. Steel
11	Nut (Bottom)	St. Steel
12	Pusher Post Button	Brass
13*	Screen	Monel
14*	Cylinder	Brass
15	Piston Sub Assembly:-	
15a*	Pusher Rod	Brass
15b*	Seat Disc	Teflon
15c*	Piston	Brass
16*	Piston Spring	St. Steel
17	Body	Bronze
18*	Gasket	Teflon
19	Bottom Plug	Bronze

## DIMENSIONS

SIZE	DIMENSIONS			SHIP Wt (Kg)
	A	B	C	
DN15 1/2"	107	114	54	3.6
DN20 3/4"	130	117	54	4.5
DN25 1"	149	137	54	7.3
DN32 1 1/4"	171	156	67	9.1
DN40 1 1/2"	171	156	67	9.1
DN50 2"	235	216	89	17

\*Repair pack; available from Safety Systems UK Ltd.

Recommended inspection every 12 months

## FIGURE NUMBERING



SIZE	SPRING Bar (Psi)				
1 = 15mm (1/2")	1 = 0.14-2.07 (2-30)	2 = 0.69-3.45 (10-50)	3 = 2.07-8.62 (30-125)	4 = 3.45-10.34 (50-150)	-
2 = 20mm (3/4")	1 = 0.14-1.38 (2-20)	2 = 0.69-2.41 (10-35)	3 = 2.07-5.17 (30-75)	4 = 3.45-7.60 (50-110)	5 = 7.20-10.34 (105-150)
3 = 25mm (1")	1 = 0.14-1.38 (2-20)	2 = 0.69-3.10 (10-45)	3 = 1.38-4.14 (20-60)	4 = 3.79-6.90 (55-100)	5 = 6.21-10.34 (90-150)
4 = 32mm (1 1/4")	1 = 0.14-1.03 (2-15)	2 = 0.69-2.07 (10-30)	3 = 1.38-4.14 (20-60)	4 = 3.79-6.90 (55-100)	5 = 6.21-10.34 (90-150)
5 = 40mm (1 1/2")	1 = 0.14-1.03 (2-15)	2 = 0.69-2.07 (10-30)	3 = 1.38-3.45 (20-50)	4 = 3.10-6.90 (45-100)	5 = 6.21-10.34 (90-150)
5 = 50mm (2")	1 = 0.14-0.69 (2-10)	2 = 0.69-4.14 (10-60)	3 = 1.38-6.90 (20-100)	4 = 6.12-10.34 (90-150)	-