

# spirax sarco

## Pilot Operated Back Pressure Regulator 6" 25BP

The 25BP Back Pressure Regulator maintains a constant upstream pressure in a piping system. The reverse-acting pressure pilot opens the main valve when the sensed upstream pressure increases. The valve meets Class IV shut-off specifications but is not suitable for dead-end service. The 25BP is NOT a safety valve and should NEVER be used as such.

|                     |                                   |               |
|---------------------|-----------------------------------|---------------|
| <b>Model</b>        | 25BP                              |               |
| <b>PMO</b>          | 250 psig                          |               |
| <b>Sizes</b>        | 6"                                |               |
| <b>Connections</b>  | ANSI 125, 250                     | ANSI 150, 300 |
| <b>Construction</b> | Cast Iron                         | Cast Steel    |
| <b>Options</b>      | Reduced Orifice Designated by "S" |               |

### Typical Applications

The modulated release of surplus steam so as to ensure that the set maximum pressure in the steam space or upstream piping will not be exceeded. Flash steam recovery systems to release excess flash steam so as to limit the flash tank pressure. For elimination of non-critical loads, see TI-3-031-US

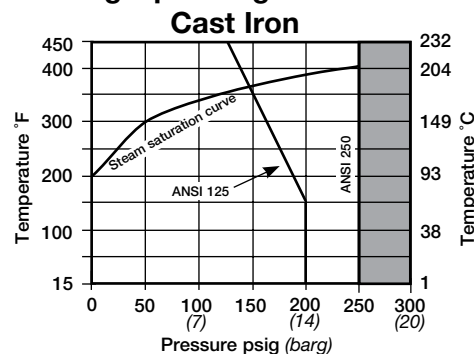
### Capacities:

For selection and sizing data, see TI-3-031-US.

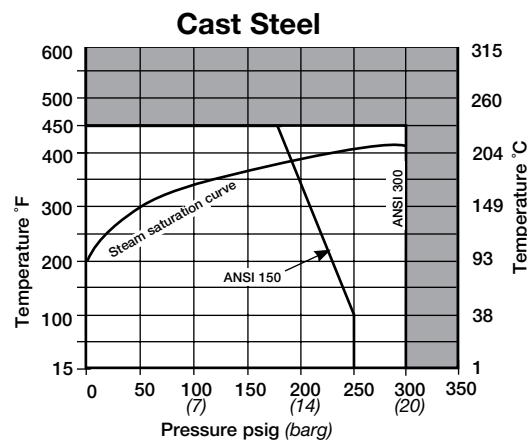
### Sample Specification

The back pressure regulator shall be of the pilot-actuated, diaphragm-operated type. The main valve shall be single seated with hardened stainless steel trim; the valve body shall be cast iron

### Limiting Operating Conditions



■ The product should not be used in shaded area.



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### Upstream Pressure Ranges

For the following upstream pressures, three color-coded pilot valve springs are available:

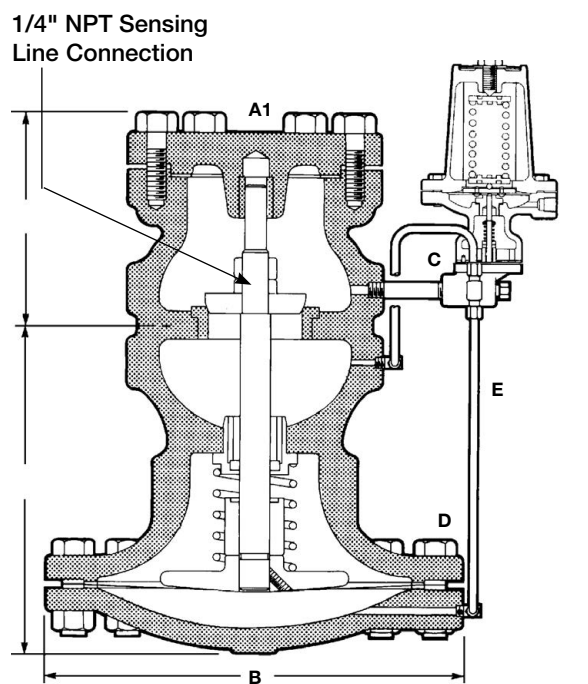
**Yellow:** 3 to 30 psi

**Blue:** 20 to 100 psi

**Red:** 80 to 250 psi

### C<sub>v</sub> Values

| Size                 | 6"  | 6" "S" |
|----------------------|-----|--------|
| C <sub>v</sub> value | 280 | 156    |



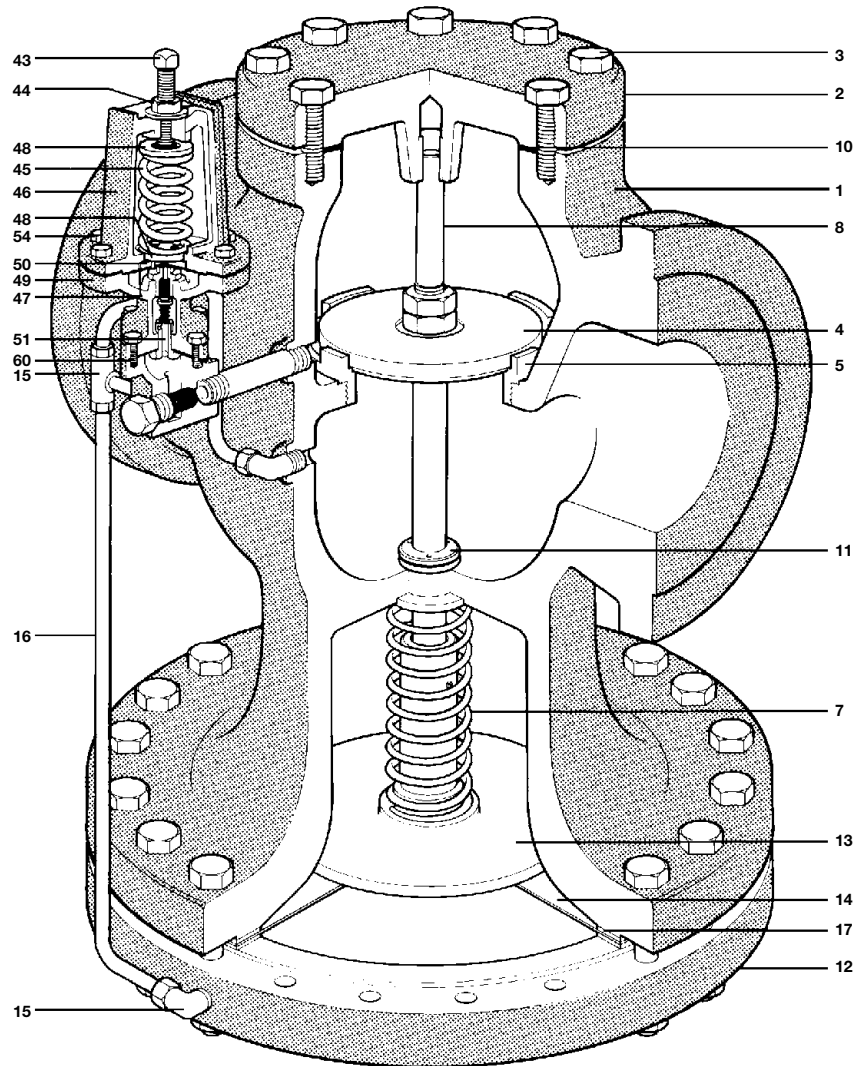
### Dimensions (nominal) in inches and millimeters

| Size | ANSI 125/150 |      | ANSI 250/300 |      | D    | E    | Weight |
|------|--------------|------|--------------|------|------|------|--------|
|      | A1           | A1   | B            | C    |      |      |        |
| 6"   | 18.1         | 18.9 | 19.75        | 14.9 | 17.1 | 32.1 | 595 lb |
|      | 460          | 481  | 502          | 380  | 435  | 815  | 270 kg |

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

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# Pilot Operated Back Pressure Regulator 6" 25BP



## Construction Materials

| No. | Part                   | Material        |                  |
|-----|------------------------|-----------------|------------------|
| 1   | Valve Body             | Cast Iron       | ASTM A 126 CL B  |
|     |                        | Cast Steel      | ASTM A 216 WC B  |
| 2   | Cover                  | Cast Iron       | ASTM A 126 CL B  |
|     |                        | Cast Steel      | ASTM A 216 WC B  |
| 3   | Cover Bolts            | Steel           | AISI 1038        |
| 4   | Main Valve Head        | Stainless Steel | ASTM A 743 CA 40 |
| 5   | Main Valve Seat        | Stainless Steel | ASTM A 743 CA 40 |
| 7   | Valve Return Spring    | Stainless Steel | AISI 302         |
| 8   | Valve Stem             | Stainless Steel | AISI 304         |
| 10  | Cover Gasket           | Graphite        | BS 2815 A        |
| 11  | Stem Bushing           | Brass           | ASTM B16         |
| 12  | Lower Diaphragm Case   | Cast Iron       | ASTM A 126 CL B  |
|     |                        | Cast Steel      | ASTM A 216 WC B  |
| 13  | Diaphragm Plate        | Stainless Steel | ASTM A 743 CA 40 |
| 14  | Main Diaphragm (2 ply) | Stainless Steel | ASTM A240        |
| 15  | Tube & Orifice         | Brass           | ASTM B16         |
| 16  | Tubing Assembly        | Copper          | ASTM B280 (122)  |
| 17  | Diaphragm Gasket (2)   | Graphite        | BS 2815 A        |
| 43  | Adjustment Screw       | Stainless Steel | AISI 304         |
| 44  | Jam Nut                | Brass           | ASTM B16         |
| 45  | Pilot Valve Spring     | Steel           | AISI 1060        |
| 46  | Upper Diaphragm Case   | Cast Iron       | ASTM A 126 CL B  |
|     |                        | Cast Steel      | ASTM A 216 WC B  |

| No. | Part                  | Material              |                 |
|-----|-----------------------|-----------------------|-----------------|
| 47  | Lower Diaphragm Case  | Cast Iron             | ASTM A 126 CL B |
|     |                       | Cast Steel            | ASTM A 216 WC B |
| 48  | Spring Plate          | Steel                 | ASTM A569       |
| 49  | Diaphragm             | Stainless Steel       | ASTM A240       |
| 50  | Diaphragm Plate       | Brass                 | ASTM B36        |
| 51  | Head & Seat Assembly  | Stainless Steel       | AISI 440        |
|     |                       | Stainless Steel       | AISI 440F       |
| 54  | Diaphragm Case Screws | Steel 5/16" - 18 x 1" | ASTM A449       |
| 60  | Pilot Gasket          | Graphite              |                 |

## Installation

The regulator should be installed in a horizontal line with suitable bypass and isolating valves. A steam trap should be installed upstream to prevent condensate from reaching the regulator. The trap and regulator should both be protected with a strainer separator set. The pressure sensing line should be located either in the upstream piping, or in the steam space. Complete installation instructions are given in IM-3-023-US.

## Maintenance

Complete installation and maintenance instructions are given in IM-3-023-US and ADVP 3029, a copy of which is supplied with each regulator. Available spare parts are shown on TI-1-1121-US and TI-3-0271-US.

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