: Operated essure

spirax /sarco[®]

Direct Operated Pressure Regulator 25MP

| The 25MP is a direct acting steam | Model 🔶 | 25MP |
|--|--------------|-----------|
| pressure reducing valve. Downstream | Sizes | 1/2" |
| pressure is fed back | | NPT |
| through an external sensing line. | Construction | Cast Iron |
| | | |

Construction Materials

| No. | Part | Material | | | | | | |
|-----|--------------------------|-----------------|----------------------|--|--|--|--|--|
| 1 | Body | Cast Iron | ASTM A 126 CL B | | | | | |
| 2 | Lower Diaphragm Housing | Cast Iron | ASTM A 126 CL B | | | | | |
| 3 | Diaphragm Bolts | Steel | ASTM A449 | | | | | |
| 4 | Upper Case Diaphragm | Cast Iron | ASTM A 126 CL B | | | | | |
| 5 | Adjustment Screw | Stainless Steel | AISI 300 series | | | | | |
| 6 | Jam Nut | Brass | ASTM B16 | | | | | |
| 7 | Adjustment Spring | Carbon Steel | AISI 1060 | | | | | |
| 8 | Spring Plate | Steel | ASTM A 569 | | | | | |
| 9 | Diaphragm Plate | Brass | ASTM 36(260) | | | | | |
| 10 | Diaphragm | Phosphor Bronze | ASTM B 103 Alloy A | | | | | |
| 11 | Stem | Stainless Steel | AISI 303 | | | | | |
| 12 | Valve Head | Stainless Steel | AISI 440A | | | | | |
| 13 | Valve Seat | Stainless Steel | 400 Series STN Steel | | | | | |
| 14 | Stem Guide | Stainless Steel | AISI 303 | | | | | |
| 15 | Stem Guide Gasket | Stainless Steel | AISI 302 | | | | | |
| 16 | Pilot Valve Spring | Stainless Steel | AISI 302 | | | | | |
| 17 | Pilot Valve Assy. Gasket | Graphite | AISI 302 | | | | | |
| 18 | Cover Plate | Stainless Steel | AISI 300 Series | | | | | |
| 19 | Retaining Ring | Brass | ASTM B 36 | | | | | |

Limiting Operating Conditions

Max. Operating Pressure (PMO) Max. Operating Temperature 250 psig *(17 barg)* 450°F *(232°C)*

Downstream Pressure Ranges

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

Yellow: 3 to 30 psi 0.2 to 2.8 bar

Blue: 20 to 100 psi ar 2.8 to 10.3 bar Red: 80 to 250 psi 10.3 to 13.8 bar

Typical Applications

Small steam pressure reducing applications where an 80% to 90% accuracy of regulation is acceptable.





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.

Direct Operated Pressure Regulator 25MP

Capacity – Pounds of saturated steam per hour at 80% accuracy of regulation

| Inlet Stea Pressure | | | | | | | | Redu | ced Steam | Pressure | | | | | | |
|------------------------|------|-----|-----|-----|------|------|------|------|-----------|----------|------|------|------|------|------|------|
| psig | | 2 | 5 | 10 | 15 | 20 | 30 | 40 | 50 | 60 | 75 | 100 | 125 | 150 | 175 | 200 |
| | bar | .14 | .34 | .69 | 1.03 | 1.38 | 2.07 | 2.76 | 3.45 | 4.14 | 5.17 | 6.89 | 8.62 | 10.3 | 12.1 | 13.8 |
| 15 | 1.03 | 8 | 10 | 15 | | | | | | | | | | | | |
| 30 | 2.07 | 12 | 18 | 27 | 31 | 33 | | | | | | | | | | |
| 50 | 3.45 | 15 | 20 | 30 | 37 | 46 | 50 | 57 | | | | | | | | |
| 75 | 5.17 | 17 | 23 | 48 | 59 | 73 | 74 | 78 | 73 | 72 | | | | | | |
| 100 | 6.89 | 19 | 39 | 56 | 70 | 85 | 93 | 110 | 92 | 98 | 94 | | | | | |
| 125 | 8.62 | | | 68 | 85 | 102 | 118 | 122 | 116 | 125 | 128 | 119 | | | | |
| 150 | 10.3 | | | 85 | 105 | 124 | 139 | 139 | 139 | 142 | 145 | 143 | 139 | | | |
| 175 | 12.1 | | | 97 | 123 | 140 | 159 | 163 | 150 | 159 | 162 | 164 | 162 | 157 | | |
| 200 | 13.8 | | | 114 | 137 | 160 | 182 | 188 | 173 | 187 | 191 | 194 | 197 | 190 | 167 | |
| 250 | 17.2 | | | 137 | 164 | 192 | 218 | 226 | 224 | 228 | 230 | 233 | 232 | 234 | 222 | 210 |
| 300 | 20.6 | | | | 185 | 210 | 245 | 270 | 260 | 265 | 272 | 275 | 216 | 280 | 280 | 275 |

Spare Parts

for kg/hr, multiply by .454

Capacity & Accuracy of Regulation

Capacity of the type MP regulator is based upon the accuracy of regulation of the reduced pressure, and chart values are given for an accuracy of regulation of 80%. This means that, for example, at a reduction of 100 psi to 20 psi, the capacity will be 85 lbs/ hr when the reduced pressure drops to 80% of the 20 psi initial setting or 16 psi.

The following multipliers can be used to determine the capacity for other percent of accuracy of regulation values.

| Accuracy of Regulation | Capacity Chart Multiplier | | | |
|------------------------|---------------------------|--|--|--|
| 75% | 1.25 | | | |
| 80% | 1.0 | | | |
| 85% | 0.75 | | | |
| 90% | 0.5 | | | |

Sample Specification

The pressure regulator shall be direct-acting with an external pressure sensing line. The valve trim shall be hardened stainless steel, and the body shall be cast iron.

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. The pressure sensing line should be located in a straight section of the downstream piping at least 10 pipe diameters from the nearest fitting, or in the steam space.

Maintenance

Complete installation and maintenance instructions are given in IM-3-104-US, a copy of which is supplied with each valve.



| Cover Plate w/ Retaining Ring | A4, B4 | | |
|--|--------------|--|--|
| Pilot Screws w/ Gasket | B, W | | |
| Adjustment Screw w/ Nut, and Upper and Lower Spring Support Disc | G4, H4 J4 | | |
| Adjustment Spring Specify controlled pressure and spring color Yellow 3 to 30 psi Blue 20 to 100 psi Red 80 to 250 psi | К4 | | |
| Diaphragm Assembly | L4 | | |
| Stem Guide w/ Gasket | M4, N4 | | |
| Head & Seat Assembly w/ Gasket | S4, T4 | | |
| Square Gasket for all Pilots (set of 3) | W | | |

TI-3-104-US 5.09

Regulators

Telephone: (803) 714-2000 FAX (803) 714-2222

Spirax Sarco, Inc. 2009

0