MANOSTAT PRECISION PRESSURE REGULATOR SERIES MANUALLY OPERATED

FEATURES

- Reliable, durable
- Precise regulation
- Excellent setting sensitivity
- High relief capability
- Versatile design for varied applications

GENERAL DESCRIPTION

The manostat precision pressure regulator series are designed for critical pressure control applications and have demonstrated outstanding reliability and durability in many thousands of applications worldwide. It is suitable for dead-end (closed load) conditions and can be supplied on its own or with a visual display dial.

Other versions include; plunger, lever operated and volume boosting air relay (see separate datasheet).

TECHNICAL DATA

PNEUMATIC

- Output Signal: See ordering information. Pressure range can be limited by resetting the locknuts provided
- Air Supply: Oil free, dry air or other dry gases, filtered to better than 25 microns; at least 0.2bar (3psig) above output pressure to a maximum of 10bar (150psig, 1000kPa)
- Flow Capacity: Up to 300Nm/min (10scfm). High relief versions available (applications requiring rapid exhaust)
- Air Consumption: 0.2 l/min (0.006scfm) at 1bar (15psig); 0.3 l/min (0.01scfm) at 1.7bar (25psig); 0.6 l/min (0.02scfm) at 4bar (60psig); 1.2 l/min (0.04scfm) at 8bar (120psig)
- Response Time: less than 0.2 seconds for 50% load change
- Regulation Accuracy: % output change for 1bar/15psi supply pressure change at mid-range output; 0.1% (0.14bar/2.25psi), 0.05% (0.14-4bar/2-60psi), 0.02% (0.14-8bar/2-120psi)
- Sensitivity: Better than 0.3mbar (0.005psi)
- Hysteresis and Repeatability: Typically less than 0.05% setting at mid-range
- Temperature Effect: Typically better than ±1% change of full span between -20°C and +70°C
- Connections: 1/4” NPT female standard (plus two integral 1/4” NPT gauge ports); others on request

MODEL TYPES

- Handwheel: Basic manostat unit with pressure adjusting handwheel; mounting in any attitude, integral mounting nut supplied
- Dial manostat: Manual pressure loading unit combining a manostat regulator with a 4” diameter gauge
- DIN manostat: As above but with a DIN standard pressure gauge
- DMW: Weatherproof version of dial manostat with 100mm diameter gauge; pneumatic connections taken to lower face of casing; surface or post mounting (yoke supplied suitable for a 50mm/2” diameter post); casing is polycarbonate, grey finish to IP55
- Volume Boosting Air Relay (manual bias): Remote control of regulated pressures is possible with minimal air usage; positive or negative bias between pilot signal and regulated pressure can be set up of up to 2bar/30psig

PHYSICAL

- Operating Temperature: -20°C to +70°C
- I.P. Rating: IP65
- Vibration: The unit is unaffected by moderate vibration
- Material of Construction: Zinc diecasting passivated and epoxy painted, Beryllium copper capsule; Nitrile diaphragms

Note: a small pressure (<2psig, 0.14bar) will show at the lower end of dial manostats gauge scale (due to regulator servo operation)
**Handwheel Manostat**

- Max. pressure stop locknuts
- Tension nut
- Locknut for mounting
- Bleed screw
- Exhaust slots
- Inlet port
- Outlet port
- Gauge port

**Forward Flow Characteristics**

(Study Pressure 7 bar)

Flow (Nl/min) vs Outlet Pressure (bar)

- Flow ranges from 0 to 600 Nl/min
- Outlet pressure ranges from 0 to 5 bar

**Relief Flow Characteristics**

(Study Pressure 7 bar)

Flow (Nl/min) vs Outlet Pressure (bar)

- Flow ranges from 0 to 600 Nl/min
- Outlet pressure ranges from 0 to 5 bar

**Manual Bias Relay**

- 2 Panel mounting holes tapped 2BA *
- 12mm deep.
- Signal port 1/8"BSP
- Bleed screw
- Exhaust
- Inlet port
- Outlet port
- Gauge port
- Air connections 1/4"NPT

**Ordering Information**

<table>
<thead>
<tr>
<th>Handwheel manostats</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output pressure</td>
<td>Order code</td>
</tr>
<tr>
<td>0.14-1.7 bar,</td>
<td>Standard</td>
</tr>
<tr>
<td>2-25 psig</td>
<td>53100200R</td>
</tr>
<tr>
<td>0.14-4 bar,</td>
<td>Standard</td>
</tr>
<tr>
<td>2-60 psig</td>
<td>53100300R</td>
</tr>
<tr>
<td>0.14-8 bar,</td>
<td>Standard</td>
</tr>
<tr>
<td>2-120 psig</td>
<td>53100400R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manual bias relay</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output pressure</td>
<td>Order code</td>
</tr>
<tr>
<td>0.2-1 bar,</td>
<td>Standard</td>
</tr>
<tr>
<td>3-15 psig</td>
<td>53220100R</td>
</tr>
<tr>
<td>0.14-8 bar,</td>
<td>High Relief</td>
</tr>
<tr>
<td>2-120 psig</td>
<td>53220400R</td>
</tr>
</tbody>
</table>

Options to special order: Captured bleed version of handwheel manostat suitable for natural gas applications available. Factory fitting of a reduction gearbox to handwheel manostat (change “00R” to “96R”). Yoke mounting for Weatherproof Manostat (change “00R” to “10R”). Alternative pneumatic connections. Low pressure versions of standard models.

**WatsonSmith**

A subsidiary of IMI plc

Registered in England

1691122

**HISPACONTROL S.L.**

Pº Delicias 65 Bis

28045 Madrid

Tel. 915.308.552

Fax. 914.673.170

Email. hc@hispacontrol.com

Web. www.hispacontrol.com

Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document. Customers are responsible for ensuring that the product is used only for the purpose for which it is intended. In case of doubt Watson Smith will be pleased to advise. WatsonSmith is a registered trade mark of IMI Watson Smith Ltd.
**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>DIN / Dial manostats</th>
<th>Scale</th>
<th>Dual</th>
<th>DIN</th>
<th>Weatherproof (DMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-1bar, 3-15psig</td>
<td>0-100%</td>
<td>53309000R</td>
<td>53319000R</td>
<td>53329000R</td>
</tr>
<tr>
<td>0-2bar, 0-30psig</td>
<td>0-100%</td>
<td>53309100R</td>
<td>53319100R</td>
<td>53329100R</td>
</tr>
<tr>
<td>0-4bar, 0-60psig</td>
<td>0-100%</td>
<td>53309200R</td>
<td>53319200R</td>
<td>53329200R</td>
</tr>
<tr>
<td>0-8bar, 0-120psig</td>
<td>0-100%</td>
<td>53309300R</td>
<td>53319300R</td>
<td>53329300R</td>
</tr>
</tbody>
</table>

Options to special order: Captured bleed version of handwheel manostat suitable for natural gas applications available. Factory fitting of a reduction gearbox to handwheel manostat (change "00R" to "96R"). Yoke mounting for Weatherproof Manostat (change "00R" to "10R"). Special scale calibrations for Dial Manostats. Alternative pneumatic connections. Low pressure versions of standard models.

**WatsonSmith**

HISPACONTROL S.L.
Pº Delicias 65 Bis
28045 Madrid
Tel. 915.308.552
Fax. 914.673.170
Email. hc@hispacontrol.com
Web. www.hispacontrol.com

Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document. Customers are responsible for ensuring that the product is used only for the purpose for which it is intended. In case of doubt Watson Smith will be pleased to advise. WatsonSmith is a registered trade mark of IMI Watson Smith Ltd.