High-relief pilot operated regulator with integral control regulator

Model Shown: HPR250-0B0B0A

HPR250 Models
Port Sizes: 1-1/2, 2

Designed for systems that require high flow, high-relief and pressure regulation. This unit can be installed in an inaccessible location with a control regulator in an accessible location.

- Diaphragm design. Excellent pressure regulation and stability.
- High-relief characteristics up to 200 SCFM.
- Balanced valve minimizes effect of pressure changes on inlet pressure.
- Inline mounting.
- 3/4-14 NPTF exhaust port.
- Self relieving.
- NPTF port threads; ISO G type (parallel) optional
- Integral pilot regulator porting.
- 1/4-18 NPTF auxiliary inlet pressure port

INTERNAL PILOT REGULATOR OPTION
Constant bleed feature provides quick response to pressure changes. Finger adjustment.

FEED BACK INTEGRAL PILOT REGULATOR OPTION
Provides superior pressure regulation under changing flow demands. Where changes in flow are not sudden or cyclic.

WARNING - FEEDBACK REGULATORS
The feedback line must sense the pilot operated regulator outlet pressure and must be connected before turning on the air supply. If it is not connected, the pilot operated regulator outlet pressure will rapidly increase to the inlet pressure when the adjusting knob on the pilot regulator is turned clockwise.

GENERAL PURPOSE INTEGRAL PILOT REGULATOR OPTION
Provides good pressure regulation, rapid response to changing flow demands, excellent stability.
**DIMENSIONS** inches (mm)

<table>
<thead>
<tr>
<th>PORTS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>DEPTH†</th>
<th>WEIGHT lb (kg)†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>with IR230</td>
</tr>
<tr>
<td>1-1/2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>8.70 (3.95)</td>
</tr>
<tr>
<td>2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>8.42 (3.82)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>with R230</td>
</tr>
<tr>
<td>1-1/2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>8.93 (4.05)</td>
</tr>
<tr>
<td>2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>8.65 (3.93)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>with FB230</td>
</tr>
<tr>
<td>1-1/2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>9.13 (4.15)</td>
</tr>
<tr>
<td>2</td>
<td>6.6</td>
<td>3.5</td>
<td>6.2</td>
<td>5.5</td>
<td>8.85 (4.05)</td>
</tr>
</tbody>
</table>

† Less gauge.

**SPECIFICATIONS**

**Inlet Pressure Range:**
10 PSIG (min) to 450 PSIG (max) (0.7 TO 31 bar)

**Outlet PSI Range:** 0-250 PSI (17.2 bar)

**Operating Temp:** 0°F TO 175°F (-18°C to 79°C) (Air moisture content must be dry)

**Flow Rating:** Flow rates exceed 2,000 SCFM.

**Body:** Cast aluminum

**Dome:** Cast aluminum

**Cap:** Teflon coated aluminum

**Valve:** Nitrile bonded aluminum

**Elastomers:** Nitrile

**Ports:** 2" or 1-1/2-NPTF

**Gauge Ports:** 1/4-NPTF

**Exhaust Port:** 3/4-NPTF

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the regulator you want.

**HPR250 - 0 A 0 A 0 A - A**

**PILOT REGULATOR**

- HPR251 ........................................ 0
- HPR251-A (non relieving) .............. 1

**CONTROL REGULATOR**

- FB230-Q (feed back) ....................... A
- IR230 (internal pilot) ..................... B
- R230 (general purpose) ................. C

**PORT SIZE**

- 1-1/2 NPTF .................................. A
- 1-1/2-BSPP ................................ B
- 2-NPTF ..................................... C
- 2-BSPP .................................... D

**EXTERNAL CONNECTION**

None (used on all products except ... 0 FB230, feed back controller.
Copper feed back line tubing ............ 1 (only use for FB230-Q).

**GAUGE OPTIONS**

- No gauge .................................... A
- 0-200 psig (gauge on pilot regulator .. B only).
- 0-300 psig (gauge on pilot regulator .. E only).

Master Pneumatic, Inc.
FLOW CHARACTERISTICS

HPR250-0P0A0A
INLET PRESSURE: 91.3 PSI

FLOW CHARACTERISTICS

HPR250-0P0A0C
INLET PRESSURE: 91.3 PSI

FLOW CHARACTERISTICS

HPR250-0L0A0C
INLET PRESSURE: 145 PSI

FLOW CHARACTERISTICS

HPR250-0P0A0A
INLET PRESSURE: 145 PSI
## SEAL KIT DESCRIPTION

<table>
<thead>
<tr>
<th>SEAL KIT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A250-44</td>
<td>SEAL KIT: inclusive for HPR251 pilot operated regulator and all its pilot (control regulators). Includes all o-rings/seals, breather filter and screen. There may be un-used parts in kit depending on which pilot model is being serviced.</td>
</tr>
<tr>
<td>A251-91</td>
<td>SEAL KIT: applies only to the HPR251. Includes diaphragm assembly and 2 o-rings.</td>
</tr>
<tr>
<td>A250-40</td>
<td>SEAL KIT: applies only to HPR250. Includes all o-rings/seals and screen for both pilot and pilot operated regulators.</td>
</tr>
</tbody>
</table>

## DIAPHRAGM KITS DESCRIPTION

<table>
<thead>
<tr>
<th>DIAPHRAGM KITS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A251-71</td>
<td>HPR251 DIAPHRAGM KIT. Includes diaphragm assembly and 2 o-rings.</td>
</tr>
<tr>
<td>A230-51</td>
<td>R230-*Q and IR230 diaphragm kit. Includes diaphragm assembly and 1 o-ring.</td>
</tr>
</tbody>
</table>

## VALVE KITS DESCRIPTION

<table>
<thead>
<tr>
<th>VALVE KITS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A251-81</td>
<td>HPR251 valve kit. Includes valve, valve spring, washer, retaining ring and 2 o-rings.</td>
</tr>
<tr>
<td>A230-64</td>
<td>FB230 valve kit. Includes valve with bleed, valve spring and 2 o-rings.</td>
</tr>
</tbody>
</table>