Regulators

- Pipe Sizes 1/8 thru 2 Inch
- Flows to 1000 SCFM
- Pressures to 250 PSIG

Air regulators are designed to provide quick response and accurate pressure regulation for the most demanding industrial applications.

- Miniature 14R Series, 1/8 and 1/4 Inch
- Miniature 20R Series, 1/8 and 1/4 Inch
- Economy 05R Series, 1/4 and 3/8 Inch
- Compact 06R Series, 1/4, 3/8 and 1/2 Inch
- Standard 07R Series, 3/8, 1/2 and 3/4 Inch
- Hi-Flow P3NR Series, 3/4, 1 and 1-1/2 Inch
- Hi-Flow 09R Series, 2 Inch
- Precision 27R Series, 1/4 and 3/8 Inch
- Compact 3550 Series, 1/4 Inch
- Pilot Controlled 10R, 11R, 12R, P3NR Series, 1/4 thru 1-1/2 Inch

Regulator Selection

1. Determine maximum system flow requirements.
2. Determine maximum allowable pressure drop at rated flow in SCFM.
3. Refer to flow chart and select regulator by choosing the curve that offers minimum pressure drop at desired flow in SCFM.

Once the required flow is determined for a pneumatic application the regulator or filter/regulator can be selected by using the flow chart. The chart serves two different purposes. To read the flow, use the right side of the chart. To read the relief characteristics use the left side of the chart. When reading the flow chart, first determine the secondary pressure that will be used. Find the appropriate pressure curve on the graph. Given an acceptable pressure drop for an application, follow the flow curve until it intersects the pressure drop point. This will give the flow at that particular pressure drop.
With the adjusting knob (A) turned fully counterclockwise (no spring load), and pressure supplied to the regulator inlet port, the valve poppet assembly (B) is closed. Turning the adjusting knob clockwise applies a load to control spring (C). This load causes the piston / diaphragm (D) and the valve poppet assembly (B) to move downward allowing flow across the seat area (E) created between the poppet assembly and the seat. Pressure in the downstream line is sensed below the piston / diaphragm (D) and offsets the load of spring (C). As downstream pressure rises, poppet assembly (B) and control piston (C) move upward until the area (E) is closed and the load of the spring (C) and pressure under piston / diaphragm (D) are in balance. A reduced outlet pressure has now been obtained, depending on spring load. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the piston / diaphragm (D). The load of control spring (C) now causes the poppet assembly to move downward opening seat area (E) allowing air to flow to meet the downstream demand. The flow of downstream air is metered by the amount of opening (E).

During low flow requirements, the amount of opening at the seat (E) is small, while at high flows it is large. The downstream pressure signal, which regulates the amount of opening, requires an adjustment over this range, in order to attempt a constant output. This adjustment is the orifice (G), which is sized and located in such a manner as to provide a compensation to the downstream pressure signal transmitted to the piston. This effect is called aspiration and its effect is to maintain downstream pressure nearly constant over a wide range of flow demands.

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the piston / diaphragm (D) to move upward against control spring (C), open vent hole (F), and vent the excess pressure to atmosphere through the hole in the bonnet (H). (This occurs in the relieving type regulator only.)
**14R Regulators – Miniature**

**Features**
- Unbalanced poppet standard.
- Solid control piston with lip seal for extended life.
- Non-rising adjusting knob.
- Compact, 2.9 inch (74mm) high by 1.65 inch (42mm) wide.
- Easily serviced.
- High Flow: 1/8” – 13 SCFM  
1/4” – 15 SCFM

**WARNING**
Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating. Product rupture can cause serious injury.

**14R Regulator Dimensions**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>14R013FC</td>
<td>14R013FC1</td>
</tr>
<tr>
<td>1/4”</td>
<td>14R113FC</td>
<td>14R113FC1</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>14R018FC</td>
<td>14R018FC1</td>
</tr>
<tr>
<td>1/4”</td>
<td>14R118FC</td>
<td>14R118FC1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

**Ordering Information**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Pressure Range</th>
<th>Adjustment</th>
<th>Engineering Level</th>
<th>Port Type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. 1/8 Inch Pipe, 1/8 Inch Gauge Port</td>
<td>0. 1/8 Inch Pipe, 1/8 Inch Gauge Port</td>
<td>F. Non-Rising Knob, Unbalanced Poppet, Relieving</td>
<td>C. Current</td>
<td>Blank. NPT</td>
<td>Blank - No Options</td>
</tr>
<tr>
<td>1. 1/4 Inch Pipe, 1/4 Inch Gauge Port</td>
<td>1. BSPP</td>
<td>1. BSPP</td>
<td></td>
<td>S.7 Pressure Limiter Max. Adjustable</td>
<td></td>
</tr>
<tr>
<td>C. 1/8 Inch Pipe, No Gauge Port</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. 1/4 Inch Pipe, No Gauge Port</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Manifold Mounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Shaded items are standard.

**CAUTION:**
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.
Technical Information

14R Regulator Kits & Accessories
- Body Service Kit – Unbalanced .................................. PS424BP
- Bonnet Assembly Kit ................................................. L01369
- Bonnet Tamperproof Kit ........................................... P01265
- Gauges – 30 PSIG, 1/8" NPT (0 to 200 kPa) .................. PS530156
- 60 PSIG, 1/8" NPT (0 to 400 kPa) .............................. PS530154
- 160 PSIG, 1/8" NPT (0 to 1100 kPa) ......................... P77413
- 60 PSIG, 1/4" NPT (0 to 400 kPa) .............................. P781641
- 160 PSIG, 1/4" NPT (0 to 1100 kPa) ......................... P781642
- Mounting Bracket Kit (Includes Panel Mount Nut) .... PS417BP
- Panel Mount Nuts – Plastic ...................................... PS417BP
- Metal ............................................................... P01531
- Service Kits – Non-Relieving .................................... PS422P
- Relieving ............................................................... P543P
- Springs – 1-30 PSIG Range ...................................... P01175
- 1-60 PSIG Range .................................................... P01174
- 2-125 PSIG Range .................................................. P01173
- 1-15 PSIG Range .................................................... P01176

Specifications
- Gauge Ports .......................................................... 1/8 & 1/4 Inch
  (Can be used for Full Flow)
- Port Threads ........................................................ 1/8 & 1/4 Inch
- Pressure & Temperature Ratings – 0 to 250 PSIG (0 to 1725 kPa)
  32°F to 125°F (0°C to 52°C)
- Secondary Pressure Ranges –
  Standard Pressure .............................................. 2 to 125 PSIG (14 to 863 kPa)
  Medium Pressure ................................................. 1 to 60 PSIG (6.9 to 414 kPa)
  Medium Pressure ................................................. 1 to 30 PSIG (6.9 to 207 kPa)
  Low Pressure ....................................................... 1 to 15 PSIG (6.9 to 104 kPa)
- Weight – 14R, 14RM, 14**V* ................................... .3 lb (.14 kg)

Materials of Construction
- Adjusting Nut ......................................................... Brass
- Adjusting Stem & Spring .......................................... Steel
- Body ................................................................. Zinc
- Bonnet, Seat, Piston & Valve Poppet ......................... Plastic
- Seals ................................................................. Nitrile
20R Regulators – Miniature (Water Service)

Features
- Rugged brass body for water service.
- Diaphragm operated for fast response.
- Non-rising adjusting knob.
- Compact, 3.06 inch (77.79mm) high by 1.56 inch (36.69mm) wide.
- High Flow: 1.25 GPM

Port Size | NPT   | BSPP   |
----------|-------|--------|
Without Gauge | 20R013GC | 20R013GC1 |
1/8"        |       |        |
1/4"        |       |        |

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information

Port Size | Pressure Range | Adjustment | Engineering Level | Port Type |
----------|----------------|------------|-------------------|----------|
0. 1/8 Inch | 11. 30 PSIG | F. Unbalanced, Relieving | C. Current | blank. NPT |
1. 1/4 Inch | 12. 15 PSIG | G. Unbalanced, Non-Relieving | | 1. BSPP |
61. 60 PSIG | |

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: BOLD OPTIONS ARE STANDARD.
### Technical Information

#### Flow Characteristics

**Flow - GPM (Water)**

<table>
<thead>
<tr>
<th>Flow - GPM (Water)</th>
<th>0</th>
<th>0.18</th>
<th>20</th>
<th>22</th>
</tr>
</thead>
</table>

#### Specifications

**Gauge Ports (2)**

- 1/8 Inch

**Port Threads**

- 1/8 & 1/4 Inch

**Pressure Rating – Maximum**

- 0 to 300 PSIG (0 to 2068 kPa)

**Secondary Pressure Ranges –**

- Standard Pressure: 2 to 125 PSIG (14 to 863 kPa)
- Medium Pressure: 1 to 30 PSIG (6.9 to 207 kPa)
- Low Pressure: 1 to 15 PSIG (6.9 to 104 kPa)

**Temperature Ratings**

- 32°F to 125°F (0°C to 52°C)

**Weight**

- 0.5 lb. (.23 kg)

**Materials of Construction**

- **Adjusting Nut & Stem**: Steel
- **Body, Valve Poppet, Bottom Plug, Diaphragm Button**: Brass
- **Bonnet, Knob**: Plastic
- **Seals, Diaphragm**: Buna N
- **Springs**: Steel

### 20R Regulator Kits & Accessories

- **Bonnet Kit**: PCKR364Y
- **Bonnet Tamperproof Kit**: PCKR364T
- **Panel Mount Nut**: PR05X51
- **Mounting Bracket Kit**: SA161X57
- **Repair Kits –**
  - Relieving: PRKR164Y
  - Non-Relieving: PRKR163Y

---

**Prep-Air® II, 20R Series**

**Miniature Water Regulators**

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
05R Regulators – Economy

Features
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Removable non-rising knob for panel mounting and tamper resistance.
- Easily serviced.
- Reverse Flow.
- High Flow: 1/4” – 30 SCFM
  3/8” – 40 SCFM

Port Size | NPT | BSPP
---|---|---
Without Gauge
1/4” | 05R113AD | 05R113AD1
3/8” | 05R213AD | 05R213AD1
With 160 PSI Gauge
1/4” | 05R118AD | 05R118AD1
3/8” | 05R218AD | 05R218AD1

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting.

SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

**WARNING**
Do not connect regulator to bottled gas. 
Do not exceed maximum primary pressure rating. 
Product rupture can cause serious injury.

Ordering Information

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Pressure Range</th>
<th>Adjustment &amp; Relieving</th>
<th>Engineering Level</th>
<th>Port Type</th>
<th>Options</th>
</tr>
</thead>
</table>
| 1/4” | 10. 30 PSIG 
11. 60 PSIG 
13. 125 PSIG 
14. 200 PSIG 
*With Gauge 15. 30 PSIG 
16. 60 PSIG 
17. 125 PSIG 
18. 200 PSIG | A. Non-Rising Knob, Relieving 
L. Non-Rising Knob, Non-Relieving 
V. Non-Adjustable, Relieving | D. Current | Blank. NPT 1. BSPP 2. BSPT | Blank. No Options 
P.† Preset 
S.† Pressure Limiting Adjustable 
T.† Pressure Limiting Tamperproof 
V. Fluorocarbon |

* Includes 2-1/2” Dial Face Gauge
† Specify inlet and outlet (set) pressures.
‡ Specify inlet and limited pressures.

NOTE: BOLD OPTIONS ARE STANDARD.

**CAUTION:**
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.
**Technical Information**

### Relief and Flow Characteristics

#### 05R113AD

<table>
<thead>
<tr>
<th>Flow (SCFM)</th>
<th>Flow (dm³/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>1.10</td>
</tr>
<tr>
<td>20</td>
<td>2.10</td>
</tr>
<tr>
<td>30</td>
<td>3.10</td>
</tr>
<tr>
<td>40</td>
<td>4.10</td>
</tr>
<tr>
<td>50</td>
<td>5.10</td>
</tr>
<tr>
<td>60</td>
<td>6.10</td>
</tr>
<tr>
<td>70</td>
<td>7.10</td>
</tr>
<tr>
<td>80</td>
<td>8.10</td>
</tr>
</tbody>
</table>

#### 05R213AD

<table>
<thead>
<tr>
<th>Flow (SCFM)</th>
<th>Flow (dm³/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>1.10</td>
</tr>
<tr>
<td>20</td>
<td>2.10</td>
</tr>
<tr>
<td>30</td>
<td>3.10</td>
</tr>
<tr>
<td>40</td>
<td>4.10</td>
</tr>
<tr>
<td>50</td>
<td>5.10</td>
</tr>
<tr>
<td>60</td>
<td>6.10</td>
</tr>
<tr>
<td>70</td>
<td>7.10</td>
</tr>
<tr>
<td>80</td>
<td>8.10</td>
</tr>
</tbody>
</table>

### 05R Regulator Kits & Accessories

- **Bonnet Assembly Kit** ........................................ PS915P
- **Control Knob** .................................................. P04420
- **Gauges** – 1-1/2” Dial Face
  - 30 PSIG (0 to 200 kPa) .................................. RRP-96-663
  - 60 PSIG (0 to 400 kPa) .................................. RRP-96-664
  - 160 PSIG (0 to 1100 kPa) .............................. RRP-96-665
  - 300 PSIG (0 to 2000 kPa) .............................. RRP-96-666
- **2” Dial Face**
  - 60 PSIG (0 to 400 kPa) .......................... P781641
  - 160 PSIG (0 to 1100 kPa) ...................... P781642
  - 300 PSIG (0 to 2000 kPa) ...................... P781643
- **Mounting Bracket Kit** .................................. PS963P
- **Panel Mount Nut** – Metal .......................... PS964P
- **Springs** – 1-30 PSIG Range .................. P04427
  - 1-60 PSIG Range .................................. P04428
  - 2-125 PSIG Range .............................. P04425
  - 2-200 PSIG .................................. P02934
- **Service Kit** – Relieving .................. PS909P
  - Relieving (Fluorocarbon) ...................... PS909VP
  - Non-Relieving .................................. PS909P
  - Non-Relieving (Fluorocarbon) .......... PS909VP

### Specifications

- **Gauge Ports** ........................................ Two Ports 1/4”
- **Port Threads** ........................................ 1/4”, 3/8”
- **Primary Pressure Rating** –
  - Maximum Primary Pressure .......................... 250 PSIG (17.2 bar) Max.
  - For Secondary Pressure Ranges see above charts.
- **Temperature Rating** ................................ 32°F to 175°F (0°C to 80°C)
- **Weight** ................................................. 1.1 lb. (0.49 kg)

### Materials of Construction

- **Adjusting Stem** ........................................ Brass
- **Bonnet** .................................................. Plastic
- **Body** ..................................................... Zinc
- **Collar, Knob** .......................................... Plastic
- **Diaphragm** ............................................. Nitrile
- **Seals** .................................................... Nitrile
- **Springs – Poppet & Control** .................. Steel
06R Regulators – Compact

Features
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Two high flow 1/4" gauge ports can be used as additional outlets.
- Easily serviced.
- Removable non-rising knob for panel mounting and tamper resistance.
- High Flow: 1/4" – 53 SCFM
  3/8" – 60 SCFM
  1/2" – 75 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>06R113AC</td>
<td>06R113AC1</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>06R213AC</td>
<td>06R213AC1</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>06R313AC</td>
<td>06R313AC1</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>06R118AC</td>
<td>06R118AC1</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>06R218AC</td>
<td>06R218AC1</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>06R318AC</td>
<td>06R318AC1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.
Technical Information

Relief And Flow Characteristics

06R113AC

06R213AC

06R313AC

06R Regulator Kits & Accessories

Bonnet Assembly Kit ............................................. PS715P
Control Knob .......................................................... P04069B
Gauges – 60 PSIG (0 to 400 kPa) ................................ P781641
160 PSIG (0 to 1100 kPa) ........................................... P781642
300 PSIG (0 to 2000 kPa) ......................................... P781643
Mounting Bracket Kit (Includes Panel Mount Nut) .... PS707P
Panel Mount Nut – Plastic ............................................. P04082
Metal ................................................................. P04079B
Reverse Flow Service Conversion Kit – Relieving ..... PS708RP
Non-Relieving ..................................................... PS709RP
Service Kit – Relieving (Includes Poppet) .............. PS708P
Non-Relieving (Includes Poppet) .......................... PS709P
Springs – 1-30 PSIG Range ....................................... P01698
1-60 PSIG Range .................................................... P04062
2-125 PSIG Range ................................................... P04063
5-250 PSIG Range ................................................... P04064
Tamperproof Kit .................................................... PS737P

Specifications

Gauge Ports ................................................................. Two Ports 1/4”
(Can be used as additional High Flow 1/4 Inch Outlet Ports)
Port Threads .................................................................. 1/4”, 3/8”, 1/2”
Primary Pressure Rating –
Maximum Primary Pressure ............................ 250 PSIG (1725 kPa)
Secondary Pressure Ranges –
Standard Pressure ........................................... 2 to 125 PSIG (14 to 863 kPa)
Low Pressure .......................................................... 1 to 60 PSIG (6.9 to 414 kPa)
High Pressure .......................................................... 5 to 250 PSIG (35 to 1725 kPa)
Temperature Rating ............................................. 32°F to 175°F (0°C to 80°C)
Weight ................................................................. 1.6 lb. (.7 kg)

Materials of Construction

Adjusting Stem .......................................................... Steel
Body ................................................................. Zinc
Bonnet, Piston Stem, Valve Poppet & Cap .................. Plastic
Collar, Knob .......................................................... Plastic
Diaphragm .......................................................... Nitrile
Seals ................................................................. Nitrile
Springs – Poppet .................................................... Stainless
Control ............................................................. Steel
07R Regulators – Standard

Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Two high flow 1/4” gauge ports can be used as additional outlets.
- Easily serviced.
- Removable non-rising knob for panel mounting and tamper resistance.
- High Flow: 3/8” – 70 SCFM §
  1/2” – 90 SCFM §
  3/4” – 90 SCFM §

| Port Size | NPT      | BSPP
|-----------|----------|------|
| Without Gauge
| 3/8”      | 07R213AC | 07R213AC1 |
| 1/2”      | 07R313AC | 07R313AC1 |
| 3/4”      | 07R413AC | 07R413AC1 |
| With 160 PSI Gauge
| 3/8”      | 07R218AC | 07R218AC1 |
| 1/2”      | 07R318AC | 07R318AC1 |
| 3/4”      | 07R418AC | 07R418AC1 |

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

07R Regulator Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.24</td>
<td>2.74</td>
<td>4.79</td>
</tr>
<tr>
<td>82mm</td>
<td>70mm</td>
<td>122mm</td>
</tr>
<tr>
<td>D</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>1.61</td>
<td>6.40</td>
<td></td>
</tr>
<tr>
<td>41mm</td>
<td>163mm</td>
<td></td>
</tr>
</tbody>
</table>

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information

Port Size | Pressure Range | Adjustment & Relieving | Engineering Level | Options
--- | --- | --- | --- | ---
2. 3/8 Inch
3. 1/2 Inch
4. 3/4 Inch | Without Gauge
10. 30 PSIG
11. 60 PSIG
13. 125 PSIG
15. 250 PSIG
24. 30 PSIG | With Gauge
17. 30 PSIG
16. 60 PSIG
18. 125 PSIG
21. 250 PSIG | A, Non-Rising Knob, Relieving
L, Non-Rising Knob, Non-Relieving
V, Non-Adjustable, Relieving | C, Current
Blank, NPT
1. BSPP
2. BSPT
R, Reverse Flow

NOTE: Shaded items are standard.

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.
Technical Information

Relief And Flow Characteristics

07R213A

Relief And Flow Characteristics

07R313A

Relief And Flow Characteristics

07R413A

07R Regulator Kits & Accessories

Bonnet Assembly Kit .......................................................... PS715P
Control Knob ....................................................................... P04069B
Gauges – 60 PSIG (0 to 400 kPa) ........................................... P781641
160 PSIG (0 to 1100 kPa) ...................................................... P781642
300 PSIG (0 to 2000 kPa) ...................................................... P781643
Mounting Bracket Kit (Includes Panel Mount Nut) .......... PS807P
Panel Mount Nut – Plastic ..................................................... P04082
Metal .......................................................... P04079B
Reverse Flow Service Conversion Kit – Relieving .......... PS808RP
Non-Relieving ...... PS809RP
Service Kit – Relieving (Includes Poppet) ......................... PS808P
Non-Relieving (Includes Poppet) ........................................ PS809P
Springs – 1-30 PSIG Range ................................................... P01698
1-60 PSIG Range ............................................................. P04062
2-125 PSIG Range .......................................................... P04063
5-250 PSIG Range .......................................................... P04064
Tamperproof Kit .............................................................. PS737P

Specifications

Gauge Ports .............................................................................. Two Ports 1/4"
(Can be used as additional High Flow 1/4 Inch Outlet Ports)
Port Threads ........................................................................ 3/8", 1/2", 3/4"
Primary Pressure Rating –
Maximum Primary Pressure .............................................. 250 PSIG (1725 kPa)
Secondary Pressure Ranges –
Standard Pressure ......................................................... 2 to 125 PSIG (14 to 863 kPa)
Low Pressure .......................................................... 1 to 60 PSIG (6.9 to 414 kPa)
High Pressure ........................................................... 5 to 250 PSIG (35 to 1725 kPa)
Temperature Rating .................................................... 32°F to 175°F (0°C to 80°C)
Weight ................................................................................. 2.5 lb. (1.1 kg)

Materials of Construction

Adjusting Stem ................................................................. Steel
Body .................................................................................. Zinc
Bonnet, Piston Stem, Valve Poppet & Cap ......................... Plastic
Collar, Knob ................................................................. Plastic
Diaphragm ........................................................................ Nitrile
Seals ............................................................................... Nitrile
Springs – Poppet .......................................................... Stainless
Control ................................................................. Stainless
Steel
P3NR Regulators – Hi-Flow

Features

- Port blocks (PB) available to provide 1-1/2” port extension to 1” ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow: 3/4” – 200 SCFM
  1” – 300 SCFM
  1-1/2” – 300 SCFM

Ordering Information

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4”</td>
<td>P3NRA96BNN</td>
<td>P3NRA16BNN</td>
</tr>
<tr>
<td>1”</td>
<td>P3NRA98BNN</td>
<td>P3NRA18BNN</td>
</tr>
<tr>
<td>1-1/2” #</td>
<td>P3NRA9PBNN</td>
<td>P3NRA1PBNN</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4”</td>
<td>P3NRA96BNG</td>
<td>P3NRA16BNG</td>
</tr>
<tr>
<td>1”</td>
<td>P3NRA98BNG</td>
<td>P3NRA18BNG</td>
</tr>
<tr>
<td>1-1/2” #</td>
<td>P3NRA9PBNG</td>
<td>P3NRA1PBNG</td>
</tr>
</tbody>
</table>

P3NR Regulator Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.62</td>
<td>5.59</td>
<td>6.38</td>
<td>2.08</td>
<td>3.62</td>
</tr>
<tr>
<td>92mm</td>
<td>142mm</td>
<td>162mm</td>
<td>53mm</td>
<td>92mm</td>
</tr>
</tbody>
</table>

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.
Technical Information

P3NR Regulator Kits & Accessories

Control Knob .................................................... P3NKA00PN
Gauges – 60 PSIG (0 to 400 kPa) ....................... P781641
160 PSIG (0 to 1100 kPa) ................................. P781642
300 PSIG (0 to 2000 kPa) ................................. P781643
Mounting Bracket Kit ......................................... P3NKA00MW
Service Kit – Relieving ...................................... P3NKA00RR
Non-Relieving .................................................. P3NKA00RN
Springs – 1-60 PSIG Range .............................. C10A1304
2-125 PSIG Range ............................................. C10A1308
5-250 PSIG Range ............................................. C10A1317

Specifications

Gauge Ports .................................................... Two Ports 1/4"
(Can be used as additional High Flow 1/4 Inch Outlet Ports)
Port Threads .................................................. 3/4", 1", 1-1/2"
Primary Pressure Rating –
Maximum Primary Pressure ......................... 250 PSIG (1725 kPa)
Temperature Rating ................................. 32°F to 175°F (0°C to 80°C)
Weight – 3/4" ...................................................... 4.2 lb. (1.9 kg)
1" ................................................................... 4.2 lb. (1.9 kg)
1-1/2" ............................................................. 5.3 lb. (2.4 kg)

Materials of Construction

Adjusting Stem ................................................ Steel
Body ........................................................... Aluminum
Bonnet .......................................................... Aluminum
Knob ............................................................ Plastic
Piston ............................................................ Plastic
Poppet Assembly .............................................. Brass
Seals ............................................................. Nitrile
Springs – Poppet & Control .............................. Steel
# 1" Port Body with 1-1/2" Port Block.
09R Regulators – Hi-Flow

Features
- Piston design for reduced downtime.
- High flow.
- Balanced poppet for quick and accurate regulation.
- Two full flow 1/4" gauge ports which can be used as additional outlets.
- Self relieving piston standard.
- High Flow: 2" – 1000 SCFM

Features
- Piston design for reduced downtime.
- High flow.
- Balanced poppet for quick and accurate regulation.
- Two full flow 1/4" gauge ports which can be used as additional outlets.
- Self relieving piston standard.
- High Flow: 2" – 1000 SCFM

**WARNING**
- Do not connect regulator to bottled gas.
- Do not exceed maximum primary pressure rating.
- Product rupture can cause serious injury.

**09R Regulator Dimensions**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td>09R813BA</td>
</tr>
<tr>
<td>2&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Port Size**

- 8. 2 Inch

**Bowl Options**

- 13. 125 PSIG

**Elements**

- B. Knob, Relieving
- M. Knob, Non-Relieving

**Engineering Level**

- A. Current

**CAUTION:**

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.
Technical Information

09R Regulator Kits & Accessories

<table>
<thead>
<tr>
<th>Kit</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Service Kit</td>
<td>PS603P</td>
</tr>
<tr>
<td>Gauges – 160 PSIG (0 to 1100 kPa)</td>
<td>P781642</td>
</tr>
<tr>
<td>Mounting Bracket Kit</td>
<td>PS605P</td>
</tr>
<tr>
<td>Service Kit – Non-Relieving</td>
<td>PS604P</td>
</tr>
<tr>
<td>Springs – 2-125 PSIG Range</td>
<td>PS602P</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Ports</td>
<td>Two Ports 1/4&quot; (Can be used as additional Full Flow 1/4 Inch Outlet Ports)</td>
</tr>
<tr>
<td>Port Threads</td>
<td>2&quot;</td>
</tr>
<tr>
<td>Primary Pressure Rating</td>
<td>Maximum Primary Pressure 250 PSIG (1725 kPa)</td>
</tr>
<tr>
<td>Secondary Pressure Range</td>
<td>10 to 125 PSIG (69 to 863 kPa)</td>
</tr>
<tr>
<td>Temperature Rating</td>
<td>32°F to 150°F (0°C to 66°C)</td>
</tr>
<tr>
<td>Weight</td>
<td>10.82 lb. (53 kg)</td>
</tr>
</tbody>
</table>

Materials of Construction

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusting Stem &amp; Springs</td>
<td>Steel</td>
</tr>
<tr>
<td>Body</td>
<td>Zinc Alloy, Die Cast</td>
</tr>
<tr>
<td>Bonnet, Piston Stem, Valve Poppet &amp; Cap</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Piston, Cap</td>
<td>Plastic</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
</tbody>
</table>
10R Pilot Controlled Regulator – Economy

Features
- Unique balanced poppet valve minimizes secondary pressure fluctuations.
- Solid control piston with resilient seat for service-free operation.
- Easily serviced.
- High Flow: 1/4" – 50 SCFM
  3/8" – 50 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>10R115PB</td>
<td>10R115PB1</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>10R215PB</td>
<td>10R215PB1</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>10R121PB</td>
<td>10R121PB1</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>10R221PB</td>
<td>10R221PB1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting.

\

\* SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

**WARNING**
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

**CAUTION:**
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: BOLD OPTIONS ARE STANDARD.
Technical Information

10R Pilot Regulator Kits & Accessories

Gauges – 1-1/2" Dial Face
- 30 PSIG (0 to 200 kPa) .................................. RRP-96-663
- 60 PSIG (0 to 400 kPa) .................................. RRP-96-664
- 160 PSIG (0 to 1100 kPa) .......................... RRP-96-665
- 300 PSIG (0 to 2000 kPa) .......................... RRP-96-666

2" Dial Face
- 60 PSIG (0 to 400 kPa) ............................ P781641
- 160 PSIG (0 to 1100 kPa) ......................... P781642
- 300 PSIG (0 to 2000 kPa) ......................... P781643

Mounting Bracket Kit ................................ P5963P
Non-Relieving Service Kit ......................... P5947P
Panel Mount Nut – Metal ......................... P5964P
Pilot Conversion Kit ................................. P5945P
Relieving Service Kit ............................... P5949P

Specifications

Gauge Ports ......................................................... 1/4"
Port Threads ...................................................... 1/4", 3/8"
Pressure & Temperature Rating – 0 to 250 PSIG (0 to 17.2 bar) 32°F to 175°F (0°C to 80°C)
Weight ......................................................... .90 lb (.41 kg)

Materials of Construction

Body ................................................................. Zinc
Piston & Poppet ................................................ Plastic
Seals ............................................................... Nitrile
Spring – Poppet ............................................... Steel
11R Pilot Controlled Regulator – Compact

Features

- Balanced poppet provides quick response and accurate pressure regulation.
- Pilot controlled regulators can be mounted “out of reach” with pilot regulator installed in a convenient location.
- Solid control piston for extended life.
- Two full flow 1/4” gauge ports can be used as additional outlets.
- Pilot port 1/4 Inch.
- High Flow: 1/4” – 85 SCFM
  3/8” – 95 SCFM
  1/2” – 95 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td>11R115PC</td>
<td>11R115PC1</td>
</tr>
<tr>
<td>3/8”</td>
<td>11R215PC</td>
<td>11R215PC1</td>
</tr>
<tr>
<td>1/2”</td>
<td>11R315PC</td>
<td>11R315PC1</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td>11R121PC</td>
<td>11R121PC1</td>
</tr>
<tr>
<td>3/8”</td>
<td>11R221PC</td>
<td>11R221PC1</td>
</tr>
<tr>
<td>1/2”</td>
<td>11R321PC</td>
<td>11R321PC1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (50.8mm) hole required for panel mounting.

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

11R Regulator Dimensions

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.81</td>
<td>2.74</td>
<td>3.05</td>
<td></td>
</tr>
<tr>
<td>71mm</td>
<td>70mm</td>
<td>77mm</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.39</td>
<td>4.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35mm</td>
<td>113mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Port Size Options

- Without Gauge
- With Gauge
- 14. Non-Relieving Piston
- 15. Relieving Piston
- 19. Non-Relieving Piston
- 21. Relieving Piston

NOTE: Shaded items are standard.

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.
11R Pilot Regulator Kits & Accessories

Body Service Kits – Seat Insert Kit ........................................ PS713P
Gauges – 60 PSIG (0 to 400 kPa) ........................................ P781641
          160 PSIG (0 to 1100 kPa) ........................................ P781642
          300 PSIG (0 to 2000 kPa) ........................................ P781643
Mounting Bracket Kit (Includes Panel Mount Nut) ........ PS707P
Panel Mount Nut – Plastic ................................................. P04082
                             Metal ................................................. P04079
Pilot Conversion Kit – Relieving ....................................... PS745
Service Kits – Non-Relieving ............................................ PS747P
                             Relieving ............................................... PS749P

Specifications

Gauge Ports ................................................................. Two Ports 1/4" (Can be used as additional Full Flow 1/4 Inch Outlet Ports)
Port Threads ................................................................. 1/4", 3/8", 1/2"
Pressure & Temperature Rating – 0 to 250 PSIG (0 to 1725 kPa)
                             32°F to 175°F (0°C to 80°C)
Weight ................................................................. 1.3 lb. (.58 kg.)

Materials of Construction

Body & Pilot Cap ............................................................ Zinc
Piston, Valve Poppet, & Collar ........................................ Plastic
Seals ................................................................. Nitrile
Springs ................................................................. Steel
12R Pilot Controlled Regulator – Standard

Features

- Balanced poppet provides quick response and accurate pressure regulation.
- Pilot controlled regulators can be mounted “out of reach” with pilot regulator installed in a convenient location.
- Solid control piston for extended life.
- Two full flow 1/4” gauge ports can be used as additional outlets.
- Pilot port 1/4 Inch.
- High Flow: 3/8” – 120 SCFM
  1/2” – 140 SCFM
  3/4” – 140 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8”</td>
<td>12R215PB</td>
<td>12R215PB1</td>
</tr>
<tr>
<td>1/2”</td>
<td>12R315PB</td>
<td>12R315PB1</td>
</tr>
<tr>
<td>3/4”</td>
<td>12R415PB</td>
<td>12R415PB1</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8”</td>
<td>12R221PB</td>
<td>12R221PB1</td>
</tr>
<tr>
<td>1/2”</td>
<td>12R321PB</td>
<td>12R321PB1</td>
</tr>
<tr>
<td>3/4”</td>
<td>12R421PB</td>
<td>12R421PB1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (50.8mm) hole required for panel mounting.

SCFM = Standard cubic feet per minute at 150 PSIG inlet, 90 PSIG no flow secondary setting and 5 PSIG pressure drop.

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.
Technical Information

12R Pilot Regulator Kits & Accessories

Body Service Kits – Seat Insert Kit ........................................ PS813P
Gauges – 60 PSIG (0 to 400 kPa) ............................................. P781641
160 PSIG (0 to 1100 kPa) ...................................................... P781642
300 PSIG (0 to 2000 kPa) ...................................................... P781643
Mounting Bracket Kit (Includes Panel Mount Nut) ............ PS807P
Panel Mount Nut – Plastic .................................................... P04082
Metal .......................................................... P04079
Pilot Conversion Kit – Relieving ........................................ PS745P
Service Kits – Non-Relieving .............................................. PS847P
Relieving .......................................................... PS849P

Specifications

Gauge Ports .......................................................... Two Ports 1/4"
(Can be used as additional Full Flow 1/4 Inch Outlet Ports)
Port Threads ......................................................... 3/8", 1/2", 3/4"
Pressure & Temperature Rating – 0 to 250 PSIG (0 to 1725 kPa)
32°F to 175°F (0°C to 80°C)
Weight ........................................................... 2.0 lb (.91 kg)

Materials of Construction

Body & Pilot Cap .......................................................... Zinc
Piston, Valve Poppet, & Collar ............................................ Plastic
Seals .......................................................... Nitrile
Springs .......................................................... Steel
P3NR Pilot Controlled Regulator - Hi-Flow

Features
- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow: 3/4" - 300 SCFM\(^a\)
  1" - 300 SCFM\(^a\)
  1-1/2" - 350 SCFM\(^a\)

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>P3NRA96BPP</td>
<td>P3NRA16BPP</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NRA98BPP</td>
<td>P3NRA18BPP</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NRA9PBPP</td>
<td>P3NRA1PBPP</td>
</tr>
<tr>
<td>With 160 PSI Gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>P3NRA96BPG</td>
<td>P3NRA16BPG</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NRA98BPG</td>
<td>P3NRA18BPG</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NRA9PBPG</td>
<td>P3NRA1PBPG</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

\(^a\) 1" Port Body with 1-1/2" Port Block.
\(^b\) SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG setting and 10 PSIG pressure drop.

**Ordering Information**

<table>
<thead>
<tr>
<th>P3N</th>
<th>R</th>
<th>A</th>
<th>9</th>
<th>8</th>
<th>B</th>
<th>P</th>
<th>P</th>
</tr>
</thead>
</table>

**Design Level**
1. G Thread (BSPP) Female
2. Rc Thread (BSPT) Female
9. NPT Female

**Port Size**
6. 3/4" (w/o Port Blocks)
8. 1" (w/o Port Blocks)
P. 1-1/2" Port Blocks (w/ 1" Ported Body)

**Type Seal**
B. Relieving
N. Non-Relieving

**Adjustment**
P. Pilot Operated

**Pressure Gauge**
Without Gauge
P. Pilot Operator
With Gauge
M. 60 PSI (0 to 4 bar)
G. 125 PSI (0 to 8 bar)
J. 250 PSI (0 to 17.2 bar)

**CAUTION:**
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

**WARNING**
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

**NOTE:** Shaded items are standard.
Technical Information

Relief And Flow Characteristics

P3NR Pilot Regulator Kits & Accessories

Gauges – 60 PSIG (0 to 400 kPa) ........................................... P781641
160 PSIG (0 to 1100 kPa) ............................................... P781642
300 PSIG (0 to 2000 kPa) ............................................... P781643
Mounting Bracket Kit ............................................ P3NKA00MW
Service Kit – Relieving ........................................ P3NKA00RR
Non-Relieving ................................................ P3NKA00RN

Specifications

Gauge Ports ................................................................. Two Ports 1/4"
Port Threads ............................................................. 3/4", 1", 1-1/2" *
Primary Pressure Rating –
Maximum Primary Pressure .......................... 250 PSIG (17.2 bar) Max.
Temperature Rating .............................................. 32°F to 175°F (0°C to 80°C)

Weight –
3/4" ...................................................................... 3.3 lb. (1.5 kg)
1" .......................................................................... 3.3 lb. (1.5 kg)
1-1/2" * ................................................................. 4.4 lb. (2.0 kg)

Materials of Construction

Adjusting Stem ......................................................... Steel
Body ................................................................. Aluminum
Bonnet ................................................................. Aluminum
Piston ........................................................................ Plastic
Poppet Assembly ...................................................... Brass
Seals ........................................................................ Nitrile
Springs – Poppet ................................................... Steel

* 1" Port Body with 1-1/2" Port Block.
27R Regulator – Precision

Features
- Fine adjustment sensitivity.
- Good repeatability and minimal pressure drop.
- High flow capacity.
- Two 1/8" gauge ports.
- Brass Poppet for long life.
- High Flow: 25 SCFM
- Modular with 05 Series FRL.
- Non-rising, removable knob.
- Multiple porting options.

<table>
<thead>
<tr>
<th>Pressure</th>
<th>1/4&quot; NPT</th>
<th>1/4&quot; BSPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 PSIG</td>
<td>27R112AD</td>
<td>27R112AD1</td>
</tr>
<tr>
<td>30 PSIG</td>
<td>27R110AD</td>
<td>27R110AD1</td>
</tr>
<tr>
<td>60 PSIG</td>
<td>27R114AD</td>
<td>27R114AD1</td>
</tr>
<tr>
<td>125 PSIG</td>
<td>27R113AD</td>
<td>27R113AD1</td>
</tr>
</tbody>
</table>

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting. Maximum panel thickness 1/4"

\[ \text{SCFM} = \text{Standard cubic feet per minute at 150 PSIG inlet, 90 PSIG no flow secondary setting and 5 PSIG pressure drop.} \]

27R Regulator Dimensions

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2.00</td>
<td>2.06</td>
<td>3.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>51mm</td>
<td>52mm</td>
<td>80mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.28</td>
<td>4.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>32mm</td>
<td>113mm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information

Port Size
1. 1/4 Inch
2. 3/8 Inch

Pressure Range
10. 30 PSIG
12. 15 PSIG
13. 125 PSIG
14. 60 PSIG

Adjustment
A. Non-Rising Knob/Relieving

Engineering Level
D. Current

Port Type
Blank. NPT
1. BSPP
2. BSPT

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: BOLD OPTIONS ARE STANDARD.
Technical Information

27R Regulator Kits & Accessories
Bonnet Assembly Kit ................................................. PS910P
Control Knob .......................................................... P0442001
Gauges – 1-1/2" Dial Face
30 PSIG (0 to 200 kPa) ........................................... RRP-96-663
60 PSIG (0 to 400 kPa) ........................................... RRP-96-664
160 PSIG (0 to 1100 kPa) ...................................... RRP-96-665
300 PSIG (0 to 2000 kPa) ...................................... RRP-96-666
2" Dial Face
60 PSIG (0 to 400 kPa) ........................................... P781641
160 PSIG (0 to 1100 kPa) ...................................... P781642
300 PSIG (0 to 2000 kPa) ...................................... P781643
Mounting Bracket Kit ............................................. PS963P
Panel Mount Nut – Metal ........................................ PS964P
Service Kit .............................................................. PS907P
Springs – 1-30 PSIG Range ..................................... P04427
1-15 PSIG Range ................................................... P04428
0-60 PSIG Range ................................................... P04426
2-125 PSIG Range ................................................ P04425
Specifications
Bleed Rate ......................................................... 2.0 SCFH
Gauge Ports ......................................................... Two Ports 1/4"
Effect of Supply Pressure Variation –
0.5 PSIG (3.5 kPa) for 25 PSIG (173 kPa) change in P1
Relief Capacity –
0.5 SCFM (0.24 dm³/s) @ 5 PSIG (35 kPa) increase in P2
Flow Capacity –
28 SCFM (13.2 dm³/s) @ 100 PSIG (690 kPa) P1
and 20 PSIG (138 kPa) P2
Port Threads 1/4", 3/8"
Maximum Inlet Pressure ................................. 250 PSIG (1725 kPa)
Relief Flow .............................................................. 5.0 SCFM
Repeatability ...................................................... ±.14 PSIG (±0.97 kPa)
Response – ............................................................ 510 ms
Temperature Rating ................................. 32°F to 175°F (0°C to 80°C)
Weight ............................................................... 1.0 lb. (.45 kg)

Materials of Construction
Poppet ................................................................. Brass
Bonnet .............................................................. Plastic
Body ................................................................. Zinc
Collar, Knob ......................................................... Plastic
Diaphragm .......................................................... Nitrile
Bottom Cap ........................................................ Plastic
Seals ................................................................. Nitrile
Springs – Poppet & Control ............................... Steel

Flow Characteristics
27R110AD 1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure

Flow Characteristics
27R113AD 1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure

Flow Characteristics
27R114AD 1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure
3550 Regulator – Compact Precision

Features

- Adjusting knob.
- Diaphragm design for good repeatability, response and sensitivity.
- Balanced poppet.
- Two full flow gauge ports.
- Precise regulation; will sense a decrease in downstream pressure as small as 1/8" of water.
- High flow capacity; flows of 40 SCFM attainable with minimal drop.
- Sensitive relief. Downstream pressure buildup, down to 0.01 PSIG above the set pressure, is automatically vented through an integral relief valve.
- Superior flow response, quick reaction to high flow demands. Desired downstream pressure levels maintained through the use of a venturi type aspirator tube.

WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information

<table>
<thead>
<tr>
<th>Port Size</th>
<th>1/2 to 30 PSIG Relieving</th>
<th>1/2 to 30 PSIG Non-Relieving</th>
<th>1 to 60 PSIG Relieving</th>
<th>1 to 60 PSIG Non-Relieving</th>
<th>2 to 150 PSIG Relieving</th>
<th>2 to 150 PSIG Non-Relieving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 Inch</td>
<td>03550 1020</td>
<td>03550 3020</td>
<td>03550 1030</td>
<td>03550 3030</td>
<td>03550 1040</td>
<td>03550 3040</td>
</tr>
</tbody>
</table>

CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.
Technical Information

### 3550 Regulator Kits & Accessories

<table>
<thead>
<tr>
<th>Mounting Bracket Kit</th>
<th>035500400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Kit – Non-Relieving</td>
<td>035508009</td>
</tr>
<tr>
<td>Relieving</td>
<td>035508000</td>
</tr>
</tbody>
</table>

### Specifications

**Bleed Rate** ........................................... 0.02 SCFM

**Gauge Ports** ........................................ Two Ports 1/4"

(Can be used as additional Full Flow 1/4 Inch Outlet Ports)

**Effect of Supply Pressure Variation** –

Less than 0.1 PSIG for 100 PSIG change

**Exhaust Capacity** –

5.5 SCFM with downstream pressure 5 PSIG above set pressure.

Exhaust commences at 0.01 PSIG above set pressure.

**Flow Capacity** –

27 SCFM (12.7 dm³/s) @ 100 PSIG (690 kPa) P₁ and 20 PSIG (138 kPa) P₂

**Operating Temperature Range** – -40°F to 200°F (-4°C to 93°C)

**Operating Pressure Range** –

<table>
<thead>
<tr>
<th>PSIG</th>
<th>kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>500</td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
</tr>
<tr>
<td>30 PSIG Spring Minimum</td>
<td>0.5</td>
</tr>
<tr>
<td>Maximum</td>
<td>30</td>
</tr>
<tr>
<td>60 PSIG Spring Minimum</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>60</td>
</tr>
<tr>
<td>150 PSIG Spring Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>150</td>
</tr>
</tbody>
</table>

### Port Specifications

- **Port Threads** ........................................ 1/4"
- **Pressure Rating** ................................... 0 to 250 PSIG (0 to 1725 kPa)
- **Relief Flow** ........................................ 1.0 SCFM
- **Repeatability** ....................................... ±0.02 PSIG (±0.014 bar)
- **Response** ............................................. 250 ms

The valve will open to full flow and fill a volume of 1250 cm²

**Sensitivity** ........................................ 0.125” Water Column

**Weight** ................................................ 1.6 lb. (.73 kg)

### Materials of Construction

- **Adjusting Stem & Spring** .......................... Steel
- **Biased Spring** ........................................ Stainless Steel
- **Body, Bonnet** ........................................... Aluminum
- **Control Knob** ......................................... Plastic
- **Diaphragm** ........................................... Nitrile and Dacron, Convoluted
- **Seals** ................................................. Nitrile
- **Valve Poppet** ......................................... Brass
- **Valve Poppet Seat** .................................. Fluorocarbon