Air Preparation Products
Filters, Regulators, Lubricators, & Airline Accessories
Catalog 0700P-E
Distribution Network

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ENGINEERING YOUR SUCCESS.

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## Filters, Regulators, Lubricators

### Global Air Preparation System

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**Bold items are most popular.**

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**Parker Hannifin Corporation**

Pneumatic Division

Richland, Michigan

www.parker.com/pneumatics

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(Revised 5-19-2014)
Global. Modular.

Performance you need, wherever you need it.

Full featured particulate and coalescing filters, regulators, filter/regulators, and lubricators are available with a wide range of standard options to meet air preparation needs.

The comprehensive Global Air Preparation System is available in three body sizes with either BSPP, BSPT, or NPT to accommodate thread type requirements.

Individual units can easily be assembled into various combinations, utilizing patented modular lightweight body connectors.

www.parker.com/globalfrl
Introduction

Comprehensive Offering

P31 Mini Series
- 1/4" ports
- 40mm body width

P32 Compact Series
- 1/4", 3/8" and 1/2*
- 60mm body width

P33 Standard Series
- 1/2" and 3/4*
- 73mm body width

Filters
- 5µ particulate, 1.0µ and 0.01µ coalescing, and adsorber available as standard
- Transparent or metal bowl with manual or auto float drains standard

Regulators
- Available as stand alone, common port and electronic proportional
- Both relieving and non-relieving versions available

Filter / Regulators
- Compact design for space savings
- Available with all the same standard options as the filters and regulators

Lubricators
- Proportional oil delivery over a wide range of air flows
- Fill under pressure

Combinations
- Compact design for space savings
- Easily assembled
- Many configurations available

Accessories
- Solenoid operated soft start, quick dump, and soft start/quick dump valves
- Manifold blocks
- Shut-off valves (both slide and ball type)
- Repair kits, gauges, etc.
Together we can power your application with clean, dry air

Fast cycle times, high product quality, and low downtime all require a clean, dry pneumatic system to function properly. Parker has what it takes to make sure pneumatic systems perform at their best.

Clean, dry pneumatic systems with Parker Global Air Preparation

As air is compressed to 7 bar (100 psig) and higher, the relative humidity quickly reaches 100% RH and air temperatures can reach between 110°C and 200°C (230°F and 392°F).

For every 11°C (20°F) that the air cools after leaving the heat of the compressor, 50% of the moisture condenses into liquid into the system. The excess moisture condenses and collects in the receiver tank and distribution lines. This condensate must be removed.

Bulk liquid separators remove condensed liquids after the aftercooler, receiver, or anywhere within the distribution system. Bulk liquid separators also help protect downstream filters in the system where excess cooling takes place.

Particulate filters are used for the removal of solid particle contaminants down to 5 micron, as well as the removal of condensed liquids. Particulate filters should be used as a prefilter for the coalescing (oil removal) filter.

Coalescing filters are designed to remove water and oil aerosols (not vapor) and particulate from air streams down to 0.01 micron in size. Installed in pairs, Particulate and Coalescing filters ensure a continuous supply of high quality air.
# Parker Global Air Preparation System

## Introduction

### Stages

<table>
<thead>
<tr>
<th>Stages</th>
<th>Function</th>
<th>Application</th>
<th>Description</th>
<th>Parker Global Air Preparation Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air Compressor</td>
<td>All pneumatic systems</td>
<td>Air leaving the compressor room at 93°C (200°F) releases 95% of its moisture into the piping system when it cools to 38°C (100°F)</td>
<td>Customer supplied</td>
</tr>
<tr>
<td>2</td>
<td>Bulk Liquid Removal</td>
<td>Basic pneumatic systems</td>
<td>Removes bulk liquid contamination and protects filters where excess cooling takes place in the distribution piping</td>
<td>P3TF Bulk Liquid Separator</td>
</tr>
<tr>
<td>3</td>
<td>Particulate Filtration</td>
<td>Basic pneumatic systems</td>
<td>Removes solid particulates down to 5 micron, and the separation of bulk contaminants</td>
<td>P31, P32, P33 Particulate Filter</td>
</tr>
<tr>
<td>4</td>
<td>Coalescing Filtration</td>
<td>Basic pneumatic systems</td>
<td>Removes liquid aerosols and submicron particulates (not vapor) down to 0.01 micron</td>
<td>P31, P32, P33 Coalescing Filter</td>
</tr>
<tr>
<td>5</td>
<td>Air Dryers</td>
<td>Systems requiring highest quality air</td>
<td>Removes water vapor from air stream. Dew point reduced down to 4°C (40°F) (refrigeration) or -40°C (-40°F) (desiccant)</td>
<td>PDRD Refrigeration Dryer P3TJ Regenerative Desiccant Dryer</td>
</tr>
<tr>
<td>6</td>
<td>Hydrocarbon Removal</td>
<td>Systems requiring air with reduced moisture content</td>
<td>Removes hydrocarbons and trace vapors for critical applications</td>
<td>P31, P32, P33 Activated Carbon (Adsorber) Filter</td>
</tr>
<tr>
<td>7</td>
<td>Clean Dry Air</td>
<td>Systems requiring highest quality air for critical applications</td>
<td>Airborne hydrocarbons are often left over from the compressor oils</td>
<td></td>
</tr>
</tbody>
</table>

### Functions

- **Bull Liquid Removal**
- **Particulate Filtration**
- **Coalescing Filtration**
- **Air Dryers**
- **Hydrocarbon Removal**

### Application

- Basic pneumatic systems
- Basic pneumatic systems
- Basic pneumatic systems
- Basic pneumatic systems
- Basic pneumatic systems
- Basic pneumatic systems
- Basic pneumatic systems

### Description

- Removes bulk liquid contamination and protects filters where excess cooling takes place in the distribution piping.
- Removes solid particulates down to 5 micron, and the separation of bulk contaminants.
- Removes liquid aerosols and submicron particulates (not vapor) down to 0.01 micron.
- Removes water vapor from air stream. Dew point reduced down to 4°C (40°F) (refrigeration) or -40°C (-40°F) (desiccant).
- Removes hydrocarbons and trace vapors for critical applications.

### Parker Global Air Preparation Solution

- P3TF Bulk Liquid Separator
- P31, P32, P33 Particulate Filter
- P31, P32, P33 Coalescing Filter
- PDRD Refrigeration Dryer P3TJ Regenerative Desiccant Dryer
- P31, P32, P33 Activated Carbon (Adsorber) Filter
A completely modular air preparation system

Ball Valve

Filter / Regulator

- Easy to adjust non-rising knob with snap-lock, preventing accidental change of set pressure
- Pressure gauge
- Bowl guard with multiple viewing slots
- Manual drain with pipe-away, auto drain available

Quick release bayonet-type integral bowl and bowl guard assembly

Padlock slide

Introduction

Combos

Filters

Coalescers

Regulators

Filter / Regulators

Lubricators

Accessories
Air Preparation

P31 Mini Series

40mm body width
1/4" Ported

Flows up to: dm³/s (SCFM)
- Filter: 12 (25)
- Coalescer: 2 (4.2)
- Regulator: 30 (64)
- Filter/Regulator: 14 (30)
- Lubricator: 13 (26)

Features:
- Space saving integral gauge
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator

P32 Compact Series

60mm body width
1/4", 3/8", & 1/2" Ported

Flows up to: dm³/s (SCFM)
- Filter: 38 (80)
- Coalescer: 11 (23)
- Regulator: 67 (142)
- Filter/Regulator: 64 (136)
- Lubricator: 47 (100)

Features:
- Manifold style regulators available
- OSHA Compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator

P33 Standard Series

73mm body width
1/2" & 3/4" Ported

Flows up to: dm³/s (SCFM)
- Filter: 48 (102)
- Coalescer: 20 (42)
- Regulator: 100 (212)
- Filter/Regulator: 98 (208)
- Lubricator: 68 (144)

Features:
- OSHA Compliant shut-off valves
- Soft-Start & Quick Dump valves (Utilizes P32 size only)
- Electronic proportional regulator (Utilizes P32 size only)
Valves and Actuators

Mini Series Complimentary Products

The P31 Mini Series FRL’s and accessories are well matched for use with these Parker valves and actuators.

Compact Series Complimentary Products

The P32 Series FRL’s & accessories are well matched for use with these Parker valves and actuators.

Standard Series Complimentary Products

The P33 Series FRL’s & accessories are well matched for use with these Parker valves and actuators.
Complete Pneumatic System

Regulators

- Multiple output pressures (P2, P3, P4, etc.) with common inlet (P1)
- Available in two sizes P31 and P32
- Balanced valve design for accurate pressure regulation
- Outlet pressure ports in front and rear of unit.
- Four spring ranges available

Electronic Proportional Regulator

- Electro-Pneumatic regulator
- Integrated systems control
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65
**Application Guide**

**FRL to Valve:** The chart below contains recommendations for the correct selection of Global Air Preparation units to suit the number and size of valves in a typical application.

<table>
<thead>
<tr>
<th>Moduflex 1</th>
<th>Isys Micro</th>
<th>HB / Viking Xtreme</th>
<th>Moduflex 2</th>
<th>HA / Global ISO</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of valves that would actuate at once</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Actuator to FRL:** The chart below contains recommendations for the correct selection of Global Air Preparation units suitable for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than the chart. The table is based on a Maximum cylinder speed of 0.5 m/s.

<table>
<thead>
<tr>
<th>Cyl Ø mm</th>
<th>Cyl Ø inches</th>
<th>Cylinder bore size</th>
<th>Tube Ø mm</th>
<th>Tube Ø inches</th>
<th>Tube diameter external</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 (5/16)</td>
<td>10 (7/16)</td>
<td>16 (9/16)</td>
<td>20 (3/4)</td>
<td>25 (1)</td>
<td>28 (1-1/8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 (1-1/4)</td>
<td>40 (1-1/2)</td>
<td>45 (1-3/4)</td>
<td>50 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 (2-1/2)</td>
<td>75 (3)</td>
<td>80 (3-1/4)</td>
<td>100 (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of cylinders actuating at once</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** Data listed above is simply a guideline for a typical application only. Proper sizing and correct flow requirements must be taken into account.
# Product Selection Chart

<table>
<thead>
<tr>
<th>Basic Unit</th>
<th>Series</th>
<th>Port Size</th>
<th>Bowls</th>
<th>Elements (Micron)</th>
<th>Adsorter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filters</td>
<td>P31</td>
<td>1/4 3/8 1/2 3/4</td>
<td>Poly with Bowl Guard</td>
<td>Metal without SG</td>
<td>Metal SG</td>
<td>0.01 1 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X — — —</td>
<td>X X</td>
<td>— — Std.</td>
<td>— B18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>X X X</td>
<td>— — Std.</td>
<td>— B20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P33</td>
<td>— — X X</td>
<td>X X X</td>
<td>— — Std.</td>
<td>— B22</td>
<td></td>
</tr>
<tr>
<td>Coalescing Filters</td>
<td>P31</td>
<td>X — — —</td>
<td>X X</td>
<td>— Std. Std.</td>
<td>Std. B24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>X X X</td>
<td>Std. Std.</td>
<td>— Std. B26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P33</td>
<td>— — X X</td>
<td>X X X</td>
<td>Std. Std.</td>
<td>— Std. B28</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Unit</th>
<th>Series</th>
<th>Port Size</th>
<th>Adjustment Range</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Regulators</td>
<td>P31</td>
<td>1/4 3/8 1/2 3/4</td>
<td>30 psig 2 bar 60 psig 4 bar 125 psig 8 bar 250 psig 17 bar</td>
<td>— B30</td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>Std. Std. Std. Std.</td>
<td>— B34</td>
</tr>
<tr>
<td></td>
<td>P33</td>
<td>— — X X</td>
<td>Std. Std. Std. Std.</td>
<td>— B38</td>
</tr>
<tr>
<td>Common Pilot</td>
<td>P31</td>
<td>X — — —</td>
<td>Std. Std. Std.</td>
<td>— B32</td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>Std. Std. Std.</td>
<td>— B36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Unit</th>
<th>Series</th>
<th>Port Size</th>
<th>Bowls</th>
<th>Elements (Micron)</th>
<th>Adjustment Range</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filters</td>
<td>P31</td>
<td>1/4 3/8 1/2 3/4</td>
<td>Poly with Bowl Guard</td>
<td>Metal without SG</td>
<td>Metal SG</td>
<td>5 15 25 30 60</td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>X X X</td>
<td>Std. — — Opt. Std.</td>
<td>— B40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P32</td>
<td>X X X —</td>
<td>X X</td>
<td>Can be filled under pressure</td>
<td>— B46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P33</td>
<td>— — X X</td>
<td>X X</td>
<td>Can be filled under pressure</td>
<td>— B48</td>
<td></td>
</tr>
</tbody>
</table>

| Lubricators | P31    | X X — — | X — X | Can be filled under pressure | — B46 |
|            | P32    | X X X — | X — X | Can be filled under pressure | — B48 |
|            | P33    | — — X X | X X | Can be filled under pressure | — B50 |
### Popular Combinations

**Filter + Regulator + Lubricator Combinations + Poly bowl**
- 5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
- Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig), 1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight (kg)</th>
<th>Pulse drain</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>13</td>
<td>27</td>
<td>P31CB92GEMN5LNW 0.46 kg (1.01 lbs)</td>
<td>P31CB92GEBN5LNW 0.46 kg (1.01 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

**Filter/Regulator + Lubricator Combinations + Poly bowl**
- 5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
- Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig), 1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight (kg)</th>
<th>Pulse drain</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>14</td>
<td>28</td>
<td>P31CA92GEMN5LNW 0.35 kg (0.77 lbs)</td>
<td>P31CA92GEBN5LNW 0.35 kg (0.77 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

---

**Filter / Regulator coding** (use with codes: A M)
- Filter coding (use with combo codes: B F G). For multiple filters, repeat as needed
- Regulator coding (use with combo code: B)
- Lubricator coding (use with combo codes: A B)
- Assembly configuration

---

**P 3 1**

**Combination**
- B/V + Combination + B/V

**Thread type**
- BSPP 1
- BSPT 2
- NPT 9

**Combination type**
- F/R+L A F+Fc+Fa G
- F+RcL B F/Rc M
- F+Fc F F+Fc1+Fc Q

**Port size**
- 1/4" 2

**Bowl type**
- Poly bowl with bowl guard G
- Metal bowl without sight gauge M

**Element**
- 5µ Element E
- 0.01µ Element C
- 1µ Element 9
- Adsorber A

**Drain type**
- Manual drain M
- Pulse drain B

**Relief / Adjustment**
- Non-rising knob N

**Lub type**
- Oil mist standard sight dome L

**Mounting**
- No bracket A
- Port blocks C*
- Port blocks & wall brkt D*
- Wall bracket W

**With round gauge**
- 2 bar; 30 psig; 0.2 MPa Z
- 4 bar; 60 psig; 0.4 MPa M
- 8 bar; 125 psig; 0.8 MPa G
- 17 bar; 250 psig; 1.7 MPa J

**Without gauge**
- 2 bar; 30 psig; 0.2 MPa Y
- 4 bar; 60 psig; 0.4 MPa L
- 8 bar; 125 psig; 0.8 MPa N
- 17 bar; 250 psig; 1.7 MPa H

**With square gauge**
- 30" = 1 2" = V
- 60 = 3 4 = S
- 125 = 5 8 = T

* Unit comes with 0-4 bar or 0-60 psig gauge respectively. Not available with poly bowl with bowl guard.

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**Parker Hannifin Corporation**
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics
Catalog 0700P-E
Global Air Preparation System
P32 Series
Combinations

Popular Combinations

Filter + Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>20</td>
<td>42</td>
<td>P32CB92GEMGLNW 1.29 kg (2.84 lbs)</td>
<td>P32CB92GEANGLNW 1.29 kg (2.84 lbs)</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>32</td>
<td>68</td>
<td>P32CB93GEMGLNW 1.29 kg (2.84 lbs)</td>
<td>P32CB93GEANGLNW 1.29 kg (2.84 lbs)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>40</td>
<td>85</td>
<td>P32CB94GEMGLNW 1.29 kg (2.84 lbs)</td>
<td>P32CB94GEANGLNW 1.29 kg (2.84 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>22</td>
<td>45</td>
<td>P32CA92GEMGLNW 1.03 kg (2.27 lbs)</td>
<td>P32CA92GEANGLNW 1.03 kg (2.27 lbs)</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>33</td>
<td>70</td>
<td>P32CA93GEMGLNW 1.03 kg (2.27 lbs)</td>
<td>P32CA93GEANGLNW 1.03 kg (2.27 lbs)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>43</td>
<td>90</td>
<td>P32CA94GEMGLNW 1.03 kg (2.27 lbs)</td>
<td>P32CA94GEANGLNW 1.03 kg (2.27 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

**Filter/Regulator + Lubricator Combinations + Poly bowl**
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

**Filter/Regulator + Lubricator Combinations**
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

*Combination type
F = 5µ
Fc = 1µ
Fa = Adsorber

**Example:** If a “G” is specified for a F+L, both units would get a poly bowl with bowl guard.
Popular Combinations

Filter + Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>43</td>
<td>90</td>
<td>P33CB94GEMNLNW</td>
<td>1.84 kg (4.06 lbs)</td>
<td>P33CB94GEANLNW</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>52</td>
<td>110</td>
<td>P33CB96GEMNLNW</td>
<td>1.84 kg (4.06 lbs)</td>
<td>P33CB96GEANLNW</td>
</tr>
</tbody>
</table>

Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar (116 psig) Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig),
1 bar (14.5 psig) pressure drop.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (dm³/s)</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>52</td>
<td>110</td>
<td>P33CA94GEMNLNW</td>
<td>1.51 kg (3.33 lbs)</td>
<td>P33CA94GEANLNW</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>71</td>
<td>150</td>
<td>P33CA96GEMNLNW</td>
<td>1.51 kg (3.33 lbs)</td>
<td>P33CA96GEANLNW</td>
</tr>
</tbody>
</table>

Filter / Regulator coding
(use with combo codes: A M)

Filter coding (use with combo codes: B F G). For multiple filters, repeat as needed
Regulator coding (use with combo code: B)
Lubricator coding (use with combo codes: A B)
Assembly configuration

Bowl type
Poly bowl with bowl guard G
Metal bowl without sight gauge M
Metal bowl with sight gauge S

* Not available when using lubricator.

Example: If a *G* is specified for a F+L, both units would get a poly bowl with bowl guard.
## Global Air Preparation System

### P31, P32 & P33 Series

#### Combination Dimensions

**Popular Combination Dimensions**

**P31C**

- **4mm (5/32") I.D. Tube Barb fitting**
- Bowl Removal Clearance: 33.3 mm (1.31"")
- **Bowl removal clearance. (Manual and Auto Drain.)**

**P32C**

- **4mm (5/32") I.D. Tube Barb fitting**
- Bowl Removal Clearance: 40 mm (1.57"")
- **Bowl removal clearance. (Manual and Auto Drain.)**

**P33C**

- **4.8 mm (.19") I.D. Tube Barb fitting**
- Bowl Removal Clearance: 51.5 mm (2.03"")
- **Bowl removal clearance. (Manual and Auto Drain.)**
Mini Particulate Filter - P31

Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ dm³/s (scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; Poly bowl - manual drain</td>
<td>P31FA92EGMN</td>
<td>12 (25)</td>
<td>10 (150)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
<td></td>
</tr>
<tr>
<td>1/4&quot; Poly bowl - pulse drain</td>
<td>P31FA92EGBN</td>
<td>12 (25)</td>
<td>10 (150)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
<td></td>
</tr>
<tr>
<td>1/4&quot; Metal bowl - manual drain</td>
<td>P31FA92EMMN</td>
<td>12 (25)</td>
<td>17 (250)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
<td></td>
</tr>
<tr>
<td>1/4&quot; Metal bowl - pulse drain</td>
<td>P31FA92EMBN</td>
<td>12 (25)</td>
<td>17 (250)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
<td></td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.
**Global Air Preparation System**

**P31 Series Mini Particulate Filters**

### Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Plastic bowl</th>
<th>Metal bowl</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow capacity</strong></td>
<td>1/4</td>
<td>12 dm³/s (25 scfm)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10°C to 52°C (14°F to 125°F)</td>
<td>-10°C to 65.5°C (14°F to 150°F)</td>
</tr>
<tr>
<td><strong>Max. supply pressure</strong></td>
<td>10 bar (150 psig)</td>
<td>17 bar (250 psig)</td>
</tr>
<tr>
<td><strong>Standard filtration</strong></td>
<td>5 micron</td>
<td></td>
</tr>
<tr>
<td><strong>Useful retention†</strong></td>
<td>12 cm³ (0.4 US oz.)</td>
<td></td>
</tr>
<tr>
<td><strong>Port size</strong></td>
<td>BSPP / BSPT / NPT</td>
<td>1/4</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>0.11 kg (0.24 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

* Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.34 bar (4.9 psig).
† Useful retention refers to volume below the quiet zone baffle.

**Air quality:**
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

### Material Specifications

- **Body**: Aluminum
- **Body cap**: ABS
- **Bowl**: Polycarbonate
- **Bowl guard**: Nylon
- **Element retainer**: Acetal
- **Baffle**: Acetal
- **Filter element**: Sintered polyethylene
- **Seals**: Nitrile

### Dimensions mm (inches)

**Manual Drain**
- 40 (1.58)
- 20 (0.79)
- 124.8 (4.91)
- 4mm (5/32) i.d. tube barb fitting
- 33 (1.30) bowl removal clearance

**Pulse Drain**
- 40 (1.58)
- 21.4 (0.84)

### Repair and Service Kits

- Plastic bowl / Bowl guard manual drain: P31KA00BGM
- Metal bowl / w/o sight gauge manual drain: P31KA00BMM
- Plastic bowl / Bowl guard pulse drain: P31KA00BGB
- Metal bowl / w/o sight gauge pulse drain: P31KA00BMB
- 5µ particle filter element: P31KA00ESE
- C-bracket (fits to body): P31KA00MW
- T-bracket with body connector: P31KA00MT
- Body connector: P31KA00CB
## Compact Particulate Filter - P32

### Symbols

<table>
<thead>
<tr>
<th>Manual drain</th>
<th>Auto drain</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Manual drain" /></td>
<td><img src="image" alt="Auto drain" /></td>
</tr>
</tbody>
</table>

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting

### Options: Compact Particulate Filter P32 Series

<table>
<thead>
<tr>
<th>Basic series</th>
<th>Global modular compact particulate filter P32F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr level</td>
<td>Current A</td>
</tr>
<tr>
<td>Flow‡</td>
<td>Max. bar (psig)</td>
</tr>
<tr>
<td>Port size</td>
<td>1/4</td>
</tr>
<tr>
<td>Element</td>
<td>Sp Element E</td>
</tr>
<tr>
<td>Drain type</td>
<td>Manual</td>
</tr>
<tr>
<td>Bowl type</td>
<td>Poly bowl</td>
</tr>
<tr>
<td>Mounting</td>
<td>No bracket</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ (dm³/s (scfm))</th>
<th>Max. bar (psig)</th>
<th>Height (inches)</th>
<th>Width (inches)</th>
<th>Depth (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - manual drain</td>
<td>P32FA92EGMN</td>
<td>18 (38)</td>
<td>10 (150)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - auto drain</td>
<td>P32FA92EGAN</td>
<td>18 (38)</td>
<td>10 (150)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - manual drain</td>
<td>P32FA92ESMN</td>
<td>18 (38)</td>
<td>17 (250)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - auto drain</td>
<td>P32FA92ESAN</td>
<td>18 (38)</td>
<td>17 (250)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - manual drain</td>
<td>P32FA93EGMN</td>
<td>30 (64)</td>
<td>10 (150)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - auto drain</td>
<td>P32FA93EGAN</td>
<td>30 (64)</td>
<td>10 (150)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
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</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - manual drain</td>
<td>P32FA93ESMN</td>
<td>30 (64)</td>
<td>17 (250)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - auto drain</td>
<td>P32FA93ESAN</td>
<td>30 (64)</td>
<td>17 (250)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - manual drain</td>
<td>P32FA94EGMN</td>
<td>38 (80)</td>
<td>10 (150)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - auto drain</td>
<td>P32FA94EGAN</td>
<td>38 (80)</td>
<td>10 (150)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - manual drain</td>
<td>P32FA94ESMN</td>
<td>38 (80)</td>
<td>17 (250)</td>
<td>188 (7.4)</td>
<td>60 (2.36)</td>
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</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - auto drain</td>
<td>P32FA94ESAN</td>
<td>38 (80)</td>
<td>17 (250)</td>
<td>182 (7.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.
**P32 Series Compact Particulate Filters**

### Flow Charts

#### 1/4 Filter

<table>
<thead>
<tr>
<th>Primary Pressure - bar</th>
<th>1.6</th>
<th>4.0</th>
<th>6.3</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Pressure - psig</td>
<td>23.2</td>
<td>58</td>
<td>91.4</td>
<td>146</td>
</tr>
</tbody>
</table>

#### 3/8 Filter

<table>
<thead>
<tr>
<th>Primary Pressure - bar</th>
<th>1.6</th>
<th>4.0</th>
<th>6.3</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Pressure - psig</td>
<td>23.2</td>
<td>58</td>
<td>91.4</td>
<td>146</td>
</tr>
</tbody>
</table>

#### 1/2 Filter

<table>
<thead>
<tr>
<th>Primary Pressure - bar</th>
<th>1.6</th>
<th>4.0</th>
<th>6.3</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Pressure - psig</td>
<td>23.2</td>
<td>58</td>
<td>91.4</td>
<td>146</td>
</tr>
</tbody>
</table>

### Repair and Service Kits

- Plastic bowl / Bowl guard manual drain: P32KA00BGM
- Metal bowl / Sight gauge manual drain: P32KA00BSM
- Auto drain: P32KA00DA
- 5µ particle filter element: P32KA00ESE
- L-bracket (fits to body): P32KA00ML
- T-bracket (fits to body connector): P32KA00MB
- T-bracket with body connector: P32KA00MT
- Body connector: P32KA00CB
- Differential pressure indicator (replacement): P32KA00RQ

### Specifications

- **Flow capacity**: 1/4 18 dm³/s (38 scfm)
- 3/8 30 dm³/s (64 scfm)
- 1/2 38 dm³/s (80 scfm)

- **Operating temperature**: Plastic bowl -25°C to 52°C (-13°F to 125°F)
- Metal bowl -25°C to 65.5°C (-13°F to 150°F)

- **Max. supply pressure**: Plastic bowl 10 bar (150 psig)
- Metal bowl 17 bar (250 psig)

- **Standard filtration**: 5 micron

- **Useful retention**: Plastic bowl 51 cm³ (1.7 US oz.), Metal bowl 70 cm³ (2.4 US oz.)

- **Port size**: BSPP / BSPT / NPT 1/4, 3/8, 1/2

- **Weight**: 0.28 kg (0.62 lbs)

- **Air quality**: Within ISO 8573-1: 1991 Class 3 (Particulates)
- Within ISO 8573-1: 2001 Class 6 (Particulates)

### Material Specifications

- **Body**: Aluminum
- **Body cap**: ABS
- **Bowl**: Plastic bowl Polycarbonate, Metal bowl Aluminum
- **Bowl guard**: Nylon
- **Deflector**: Polypropylene
- **Element retainer / Baffle**: Acetal
- **Filter element**: Sintered polyethylene
- **Seals**: Nitrile
- **Sight gauge**: Metal bowl Polycarbonate

### Dimensions

<table>
<thead>
<tr>
<th>Metric</th>
<th>Inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>2.36</td>
</tr>
<tr>
<td>30</td>
<td>1.18</td>
</tr>
<tr>
<td>26.3</td>
<td>1.04</td>
</tr>
<tr>
<td>190.3</td>
<td>7.49</td>
</tr>
</tbody>
</table>

Manual Drain: 4mm (5/32) I.D. tube barb fitting

Automatic Drain: 5/8 (1.28) Bowl removal clearance

---

**Notes:**

- Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.34 bar (4.9 psig).
- Useful retention refers to volume below the quiet zone baffle.

---

**Catalog 0700P-E**

Global Air Preparation System

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics
Standard Particulate Filter - P33

Options:

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting

Symbols

- Manual drain
- Auto drain

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Description</th>
<th>Order Code</th>
<th>Flow² dm³/s (scfm)</th>
<th>Max. Bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - manual drain</td>
<td>P33FA94EGMN</td>
<td>40 (85)</td>
<td>10 (150)</td>
<td>213 (8.4)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - auto drain</td>
<td>P33FA94EGAN</td>
<td>40 (85)</td>
<td>10 (150)</td>
<td>207 (8.2)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - manual drain</td>
<td>P33FA94ESMN</td>
<td>40 (85)</td>
<td>17 (250)</td>
<td>213 (8.4)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - auto drain</td>
<td>P33FA94ESAN</td>
<td>40 (85)</td>
<td>17 (250)</td>
<td>207 (8.2)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - manual drain</td>
<td>P33FA96EGMN</td>
<td>48 (102)</td>
<td>10 (150)</td>
<td>213 (8.4)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - auto drain</td>
<td>P33FA96EGAN</td>
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<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.
Global Air Preparation System

P33 Series
Standard Particulate Filters

### Specifications

- **Flow capacity**
  - 1/2: 40 dm³/s (85 scfm)
  - 3/4: 48 dm³/s (102 scfm)

- **Operating temperature**
  - Plastic bowl: -25°C to 52°C (-13°F to 125°F)
  - Metal bowl: -25°C to 65.5°C (-13°F to 150°F)

- **Max. supply pressure**
  - Plastic bowl: 10 bar (150 psig)
  - Metal bowl: 17 bar (250 psig)

- **Standard filtration**
  - 5 micron

- **Useful retention**
  - 85 cm³ (2.8 US oz.)

- **Port size**
  - BSPP / BSPT / NPT: 1/2, 3/4

- **Weight**
  - 0.46 kg (1.01 lbs)

### Flow Charts

**1/2 Filter**

<table>
<thead>
<tr>
<th>Flow (dm³/s)</th>
<th>Pressure Drop (bar)</th>
<th>Pressure Drop (psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>0.1</td>
<td>1.6</td>
</tr>
<tr>
<td>60</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>90</td>
<td>0.3</td>
<td>4.8</td>
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<tr>
<td>120</td>
<td>0.4</td>
<td>6.3</td>
</tr>
<tr>
<td>150</td>
<td>0.5</td>
<td>7.9</td>
</tr>
</tbody>
</table>

**3/4 Filter**

<table>
<thead>
<tr>
<th>Flow (dm³/s)</th>
<th>Pressure Drop (bar)</th>
<th>Pressure Drop (psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>0.1</td>
<td>2.3</td>
</tr>
<tr>
<td>60</td>
<td>0.2</td>
<td>4.0</td>
</tr>
<tr>
<td>90</td>
<td>0.3</td>
<td>5.7</td>
</tr>
<tr>
<td>120</td>
<td>0.4</td>
<td>7.4</td>
</tr>
<tr>
<td>150</td>
<td>0.5</td>
<td>9.1</td>
</tr>
</tbody>
</table>

### Air quality:

- Within ISO 8573-1: 1991 Class 3 (Particulates)
- Within ISO 8573-1: 2001 Class 6 (Particulates)

### Material Specifications

- **Body**: Aluminum
- **Body cap**: ABS
- **Bowl**: Plastic bowl - Polycarbonate, Metal bowl - Aluminum
- **Bowl guard**: Nylon
- **Deflector**: Polypropylene
- **Element retainer / Baffle**: Acetal
- **Filter element**: Sintered polyethylene
- **Seals**: Nitrile
- **Sight gauge**: Metal bowl - Polycarbonate

### Dimensions

**Manual Drain**

- 4mm (5/32) I.D. tube barb fitting
- 213 (8.39) bowl removal clearance

**Automatic Drain**

- 51 (2.00)

### Repair and Service Kits

- **Plastic bowl / Bowl guard manual drain**: P33KA00BGM
- **Metal bowl / Sight gauge manual drain**: P33KA00BSM
- **Auto drain**: P32KA00DA
- **5µ particle filter element**: P33KA00ESE
- **L-bracket (fits to body)**: P33KA00ML
- **T-bracket (fits to body connector)**: P32KA00MB
- **T-bracket with body connector**: P33KA00MT
- **Body connector**: P32KA00CB
- **Differential pressure indicator (replacement)**: P32KA00RQ
P31 Series
Mini Coalescing & Adsorber Filters

Mini Coalescing and Adsorber Filters - P31

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Positive bayonet latch to ensure correct & safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons

Note: To optimize the life of coalescing element, it is advisable to install a P31F pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of an Adsorber it is advisable to install a P31 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.

Options:

**Symbol**

<table>
<thead>
<tr>
<th>P31F</th>
<th>A</th>
<th>9</th>
<th>2</th>
<th>C</th>
<th>G</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic series</td>
<td>Global modular mini coalescing filter</td>
<td>Engr level</td>
<td>Current</td>
<td>A</td>
<td>Thread type</td>
<td>BSPP</td>
<td>1</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>BSPT</td>
<td>2</td>
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<td></td>
<td></td>
<td>NPT</td>
<td>9</td>
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<tr>
<td>Port size</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
<td></td>
<td></td>
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<tr>
<td>Element</td>
<td>0.01µ Element</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01µ Element with DPI</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1µ Element</td>
<td>9</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1µ Element with DPI</td>
<td>Q</td>
<td></td>
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<tr>
<td></td>
<td>Adsorber</td>
<td>A</td>
<td></td>
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<tr>
<td>Mounting</td>
<td>N</td>
<td>No bracket</td>
<td></td>
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<tr>
<td>Drain type</td>
<td>B</td>
<td>Pulse drain</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Manual drain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowl type</td>
<td>G</td>
<td>Poly bowl with bowl guard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Metal bowl without sight gauge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Port size**

- **1/4"** Poly bowl - 0.01 micron - manual drain
- **1/4"** Poly bowl - 0.01 micron - pulse drain
- **1/4"** Metal bowl - 0.01 micron - manual drain
- **1/4"** Metal bowl - 0.01 micron - pulse drain

**Order code**

- P31FA92DGMN
- P31FA92DGBN
- P31FA92DMMN
- P31FA92DMBN

<table>
<thead>
<tr>
<th>Flow²</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (4.2)</td>
<td>10 (150)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
<tr>
<td>2 (4.2)</td>
<td>10 (150)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
<tr>
<td>2 (4.2)</td>
<td>17 (250)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
<tr>
<td>2 (4.2)</td>
<td>17 (250)</td>
<td>116.3 (4.58)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
</tbody>
</table>

1 Standard part numbers shown in bold. For other models refer to Options chart above.

2 Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.

---

Bold items are most common.
Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>1.0 micron coalescing</th>
<th>0.01 micron coalescing</th>
<th>Activated carbon adsorber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow capacity</td>
<td>1.0 dm³/s (scfm)</td>
<td>0.01 dm³/s (scfm)</td>
<td></td>
</tr>
<tr>
<td>Energy efficient flow*</td>
<td>3.8 (8)</td>
<td>2 (4.2)</td>
<td></td>
</tr>
<tr>
<td>Maximum flow**</td>
<td>6 (13)</td>
<td>3.8 (8)</td>
<td></td>
</tr>
<tr>
<td>Air supply pressure</td>
<td>Plastic bowl</td>
<td>Metal bowl</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>10 bar (150 psig)</td>
<td>17 bar (250 psig)</td>
<td></td>
</tr>
<tr>
<td>Standard filtration</td>
<td>1.0 and 0.01 micron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adsorber Max. oil carryover (ppm w/w)</td>
<td>0.003 @ 21°C (70°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Useful retention†</td>
<td>12 cm³ (0.4 US oz.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>BSPP / BSPT / NPT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.11 kg (0.24 lbs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.2 bar (3 psig), Saturated Element.
** Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.4 bar (6 psig), Saturated Element.
† Useful retention refers to volume below the quiet zone baffle.

Material Specifications

- **Body**: Aluminum
- **Body cap**: ABS
- **Bowl**: Plastic bowl Polycarbonate
- **Metal bowl**: Aluminum
- **Filter element**: 1.0 and 0.01 micron Borosilicate cloth
- **Adsorber**: Activated carbon
- **Seals**: Nitrile

Dimensions mm (inches)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>mm</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body height</td>
<td>214</td>
<td>8.4</td>
</tr>
<tr>
<td>Body diameter</td>
<td>124.8</td>
<td>4.91</td>
</tr>
<tr>
<td>Bowl removal clearance</td>
<td>33</td>
<td>1.30</td>
</tr>
<tr>
<td>4mm (5/32) I.D. tube barb fitting</td>
<td>20</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Flow Charts

**P31 - 1.0 micron flow**

- Primary Pressure - bar: 2.0, 4.0, 6.3
- Primary Pressure - psig: 29, 58, 91.4

**P31 - 0.01 micron flow**

- Primary Pressure - bar: 2.0, 4.0, 6.3
- Primary Pressure - psig: 29, 58, 91.4

Repair and Service Kits

- Plastic bowl / Bowl guard manual drain: P31KA00BGM
- Plastic bowl / Bowl guard pulse drain: P31KA00BGB
- Metal bowl / w/o sight gauge manual drain: P31KA00BMM
- Metal bowl / w/o sight gauge pulse drain: P31KA00BMB
- 1µ coalescing filter element: P31KA00ES9
- 0.01µ coalescing filter element: P31KA00ESC
- Activated carbon adsorber filter element: P31KA00ESA
- C-bracket (fits to body): P31KA00MW
- T-bracket with body connector: P31KA00MT
- Body connector: P31KA00CB
**Compact Coalescing and Adsorber Filter - P32**

**Symbol**

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Differential Pressure Indicator (DPI) standard on Coalescing Filters
- Positive bayonet latch to ensure correct & safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons

**Note:** To optimize the life of coalescing element, it is advisable to install a P32F pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of an Adsorber it is advisable to install a P32 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.

**Options:**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max. bar (psig)</th>
<th>Height (mm) (inches)</th>
<th>Width (mm) (inches)</th>
<th>Depth (mm) (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 0.01 micron, manual drain</td>
<td>P32FA92DGMN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 0.01 micron, auto drain</td>
<td>P32FA92DGAN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 0.01 micron, manual drain</td>
<td>P32FA92DSMN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 0.01 micron, auto drain</td>
<td>P32FA92DSAN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 0.01 micron, manual drain</td>
<td>P32FA93DGMN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 0.01 micron, auto drain</td>
<td>P32FA93DGAN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 0.01 micron, manual drain</td>
<td>P32FA93DSMN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 0.01 micron, auto drain</td>
<td>P32FA93DSAN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - 0.01 micron, manual drain</td>
<td>P32FA94DGMN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - 0.01 micron, auto drain</td>
<td>P32FA94DGAN</td>
<td>11 (23)</td>
<td>10 (150)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - 0.01 micron, manual drain</td>
<td>P32FA94DSMN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>209 (8.2)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - 0.01 micron, auto drain</td>
<td>P32FA94DSAN</td>
<td>11 (23)</td>
<td>17 (250)</td>
<td>203 (8.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.
Global Air Preparation System

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

Introduction
Combos
Filters
Accessories

Catalog 0700P-E

B27

P32 Series
Compact Coalescing & Adsorber Filters

Specifications

Flow capacity
1.0 micron coalescing Energy efficient flow* 17 (36)
Maximum flow** 27 (57)
0.01 micron coalescing Energy efficient flow* 11 (23)
Maximum flow** 28 (38)
Activated carbon adsorber Rated flow* 27 (57)

Operating temperature Plastic bowl -25°C to 52°C (-13°F to 125°F)
Metal bowl -25°C to 65.5°C (-13°F to 150°F)

Max. supply pressure Plastic bowl 10 bar (150 psig)§
Metal bowl 10 bar (150 psig)§

Standard filtration 1.0 and 0.01 micron

Adsorber Max. oil carryover (ppm w/w) 0.003 @ 21°C (70°F)

Useful retention† 51 cm³ (1.7 US oz.)

Port size BSP / BSPT / NPT 1/4, 3/8, 1/2

Weight 0.32 kg (0.71 lbs)

* Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.2 bar (3 psig), Saturated Element.
** Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.4 bar (6 psig), Saturated Element.
† Useful retention refers to volume below the quiet zone baffle.
§ Without pressure indicator (DPI) – max. supply pressure for metal bowl version is 17 bar (250 psig).

Dimensions mm (inches)

Flow Charts

P32 - 1.0 micron flow

P32 - 0.01 micron flow

Material Specifications

Body Aluminum
Body cap ABS
Bowls Plastic bowl Polycarbonate
Metal bowl Aluminum
Filter element 1.0 and 0.01 micron Borosilicate cloth
Adsorber Activated carbon
Seals Nitrile
Sight gauge Metal bowl Polycarbonate

Repair and Service Kits

Plastic bowl / Bowl guard manual drain P32KA00BGM
Metal bowl / Sight gauge manual drain P32KA00BSM
Auto drain P32KA00DA
1µ coalescing filter element P32KA00ES9
0.01µ coalescing filter element P32KA00ESC
Activated carbon adsorber filter element P32KA00ESA
L-bracket (fits to body) P32KA00ML
T-bracket (fits to body connector) P32KA00MB
T-bracket with body connector P32KA00MT
Body connector P32KA00CB
Differential pressure indicator (replacement) P32KA00RQ

B27
Standard Coalescing and Adsorber Filter - P33

Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code1</th>
<th>Flow2 (dm³/s (scfm))</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - 0.01 micron, manual drain</td>
<td>P33FA94DGAN</td>
<td>20 (42)</td>
<td>10 (150)</td>
<td>229 (9.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - 0.01 micron, auto drain</td>
<td>P33FA94DGAN</td>
<td>20 (42)</td>
<td>10 (150)</td>
<td>229 (9.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - 0.01 micron, manual drain</td>
<td>P33FA94DSMN</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>235 (9.3)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - 0.01 micron, auto drain</td>
<td>P33FA94DSAN</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>229 (9.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - 0.01 micron, manual drain</td>
<td>P33FA96DGAN</td>
<td>20 (42)</td>
<td>10 (150)</td>
<td>229 (9.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - 0.01 micron, auto drain</td>
<td>P33FA96DGAN</td>
<td>20 (42)</td>
<td>10 (150)</td>
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<td>73 (2.9)</td>
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<tr>
<td>3/4&quot;</td>
<td>Metal bowl - 0.01 micron, manual drain</td>
<td>P33FA96DSMN</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>235 (9.3)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Metal bowl - 0.01 micron, auto drain</td>
<td>P33FA96DSAN</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>229 (9.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
</tbody>
</table>

1 Standard part numbers shown in bold. For other models refer to Options chart above.
2 Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.

Note: To optimize the life of coalescing element, it is advisable to install a P33F pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of an Adsorber it is advisable to install a P33 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.
Global Air Preparation System

P33 Series
Standard Coalescing & Adsorber Filters

Specifications

Flow capacity dm³/s scfm
1.0 micron coalescing Energy efficient flow* 32 (68)
Maximum flow** 44 (93)
0.01 micron coalescing Energy efficient flow* 20 (42)
Maximum flow** 34 (72)
Activated carbon adsorber Rated flow* 44 (93)
Operating temperature Plastic bowl -25°C to 52°C (-13°F to 125°F)
Metal bowl -25°C to 65.5°C (-13°F to 150°F)
Max. supply pressure Plastic bowl 10 bar (150 psig)§
Metal bowl 10 bar (150 psig)§
Standard filtration 1.0 and 0.01 micron
Adsorber Max. oil carryover (ppm w/w) 0.003 @ 21°C (70°F)
Useful retention† 85 cm³ (2.8 US oz.)
Port size BSPP / BSPT / NPT 1/2, 3/4
Weight 0.50 kg (1.10 lbs)

* Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.2 bar (3 psig), Saturated Element.
** Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.4 bar (6 psig), Saturated Element.
† Useful retention refers to volume below the quiet zone baffle.
§ Without pressure indicator (DPI) – max. supply pressure for metal bowl version is 17 bar (250 psig).

Flow Charts

P33 - 1.0 micron flow

P33 - 0.01 micron flow

Material Specifications

Body Aluminum
Body cap ABS
Bowls Plastic bowl Polycarbonate
Metal bowl Aluminum
Filter element 1.0 and .01 micron Borosilicate cloth
Adsorber Activated carbon
Seals Nitrile
Sight gauge Metal bowl Polycarbonate

Repair and Service Kits

Plastic bowl / Bowl guard manual drain P33K0A00BGM
Metal bowl / Sight gauge manual drain P33K0A00BSM
Auto drain P32K0A0DA
1μ coalescing filter element P33K0A00ES9
0.01μ coalescing filter element P33K0A00ESC
Activated carbon adsorber filter element P33K0A0ESA
L-bracket (fits to body) P33K0A00ML
T-bracket (fits to body connector) P32K0A00MB
T-bracket with body connector P32K0A00MT
Body connector P32K0A00CB
Differential pressure indicator (replacement) P32K0A00RQ

Dimensions mm (inches)
Mini Regulator - P31

Symbols

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Relieving & Non-relieving types
- Non-rising knob

Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P31RA92BNNP</td>
<td>30 (64)</td>
<td>20 (300)</td>
<td>100.1 (3.94)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) + gauge</td>
<td>P31RA92BN5P</td>
<td>30 (64)</td>
<td>20 (300)</td>
<td>100.1 (3.94)</td>
<td>40 (1.58)</td>
<td>64.3 (2.53)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3) psig set pressure and 1 bar (14.5 psig) pressure drop.

Notes:
- Unit comes with 0-4 bar or 0-60 psig gauge respectively.
- Not available with poly bowl with bowl guard.

Bold items are most common.

---

P31 Series

Mini Regulator

Catalog 0700P-E

Global Air Preparation System

Introduction Combos Filters Coalescers Regulators Accessories

B30
**P31 Series Mini Regulator**

### Specifications

- **Flow capacity**: 1/4, 30 dm³/s (64 scfm)
- **Operating temperature**: -20°C to 65.5°C (-4°F to 150°F)
- **Max. supply pressure**: 20 bar (300 psig)
- **Adjusting range pressure**: 0-2 bar (30 psig), 0-4 bar (60 psig), 0-8 bar (125 psig), 0-17 bar (250 psig)
- **Port size**: BSPP / BSPT / NPT 1/4
- **Gauge port (2 ea.)**: BSPP / BSPT / NPT 1/8
- **Weight**: 0.17 kg (0.37 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).
** Non-gauge option only.

### Flow Charts

**1/4 Regulator**

![Flow Chart](image)

**0-60 psig / 0-4 bar**

K4515N18060

**0-160 psig / 0-11 bar**

K4515N18160

### Repair and Service Kits

- Regulator repair kit - relieving: P31KA00RB
- Regulator repair kit - non-relieving: P31KA00RC
- Panel mount nut - aluminum: P31KA00MM
- Panel mount nut - plastic: P31KA00MP
- Angle bracket (uses panel mount threads): P31KA00MR
- C-bracket (fits to body): P31KA00MW
- T-bracket with body connector: P31KA00MT
- Body connector: P31KA00CB

### Gauges

- **Square flush mount gauge**
  - 0-4 bar: K4511SCR04B
  - 0-10 bar: K4511SCR11B
  - 0-60 psig: K4511SCR060
  - 0-150 psig: K4511SCR150

- **Square with adapter kit**
  - 0-4 bar: P6G-PR11040
  - 0-10 bar: P6G-PR11100
  - 0-60 psig: P6G-PR11P06
  - 0-150 psig: P6G-PR11P15

### Dimensions

**mm (inches)**

- 30.6 (1.20)
- 56.8 (2.24)
- 76.3 (3.00)
- 61.3 (2.41)
- 40 (1.58)
- 20 (0.79)
- 104.1 (4.10)

### Material Specifications

- **Body**: Aluminum
- **Adjustment knob**: Acetal
- **Body cap**: ABS
- **Bonnet**: PBT
- **Diaphragm assembly**: Brass / Nitrile
- **Bottom plug**: 33% glass-filled nylon
- **Valve assembly**: Brass / Nitrile
- **Springs**: Steel
- **Seals**: Nitrile
- **Panel nut**: Acetal

### WARNING

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

### 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. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Mini Common - P1 Regulator - P31

Symbols

- Self relieving regulator with gauge
- Non relieving regulator

- Manifold style regulator with line pressure on both sides.
- Pressure output is at front or rear.
- Integral 1/4" ports (NPT, BSPP & BSPT)
- Robust construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & Non-relieving types
- Non-rising knob

Options:

<table>
<thead>
<tr>
<th>P31H</th>
<th>A</th>
<th>9</th>
<th>2</th>
<th>B</th>
<th>N</th>
<th>N</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic series</td>
<td>Engr level</td>
<td>Thread type</td>
<td>Port size</td>
<td>Relief</td>
<td>Adjustment range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global modular mini common regulator</td>
<td>Current</td>
<td>BSPP</td>
<td>1/4&quot;</td>
<td>2</td>
<td>Relief</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSPT</td>
<td></td>
<td></td>
<td>N</td>
<td>2 bar; 30 psig; 0.2 MPa</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NPT</td>
<td></td>
<td></td>
<td>B</td>
<td>4 bar; 60 psig; 0.4 MPa</td>
<td></td>
</tr>
</tbody>
</table>

- Bold items are most common.

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max. bar (psig)</th>
<th>Height (mm) (inches)</th>
<th>Width (mm) (inches)</th>
<th>Depth (mm) (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P31HA92BNNP</td>
<td>18 (38)</td>
<td>20 (300)</td>
<td>100.1 (3.94)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3) psig set pressure and 1 bar (14.5 psig) pressure drop.
§ Not available with poly bowl with bowl guard.
Parker Hannifin Corporation  
Pneumatic Division  
Richland, Michigan  
www.parker.com/pneumatics

Global Air Preparation System

## Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow capacity*</td>
<td>1/4, 18 dm³/s (38 scfm)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-20°C to 65.5°C (-4°F to 150°F)</td>
</tr>
<tr>
<td>Max. supply pressure</td>
<td>20 bar (300 psig)</td>
</tr>
<tr>
<td>Adjusting range pressure</td>
<td>0-2 bar (30 psig), 0-4 bar (60 psig), 0-8 bar (125 psig), 0-17 bar (250 psig)</td>
</tr>
<tr>
<td>P1 Port size (Inlet / Outlet)</td>
<td>BSPP / BSPT / NPT, 1/4</td>
</tr>
<tr>
<td>P2 Regulated ports (2 ea.)</td>
<td>BSPP / BSPT / NPT, 1/8</td>
</tr>
<tr>
<td>Weight</td>
<td>0.30 kg (0.66 lbs)</td>
</tr>
</tbody>
</table>

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).

## Materials of Construction

- **Body**: Zinc
- **Adjustment knob**: Acetal
- **Body cap**: ABS
- **Bonnet**: 33% Glass-filled PBT
- **Diaphragm assembly**: Brass / Nitrile
- **Bottom plug**: 33% Glass-filled nylon
- **Valve assembly**: Brass / Nitrile

## Dimensions (mm / inches)

- **Overall dimensions**: 56.8 (2.24) mm
- **Nut dimensions**: 30.6 (1.20) mm

**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. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

**WARNING**

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

---

### Flow Charts

#### 1/4 Common Regulator

![Flow Chart Image]

*Inlet Pressure - 10 bar (145 psig)*

- **Secondary Pressure (bar)**
  - 0.1 bar
  - 3.3 bar
  - 6.3 bar
  - 9.0 bar

- **Secondary Pressure (psig)**
  - 1.5 bar
  - 58 psig
  - 91.4 psig

### Repair and Service Kits

- **Regulator repair kit - relieving**: P31KA00RB
- **Regulator repair kit - non-relieving**: P31KA00RC
- **Panel mount nut - aluminum**: P31KA00MM
- **Panel mount nut - plastic**: P31KA00MP
- **Angle bracket (uses panel mount threads)**: P31KA00MR
- **T-bracket with body connector**: P31KA00MT
- **Body connector**: P31KA00CB

### Gauges

**1.00" Round 1/8" center back mount**

- **0-60 psig / 0-4 bar**: K4510N18060
- **0-160 psig / 0-11 bar**: K4510N18160

### Square with adapter kit

- **0-4 bar**: P6G-PR11040
- **0-10 bar**: P6G-PR11100
- **0-60 psig**: P6G-PR11P06
- **0-150 psig**: P6G-PR11P15

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Introduction Combos Filters Coalescers Regulators Filter / Lubricators Accessories

Catalog 0700P-E
Global Air Preparation System

Compact Regulator – P32

Symbols

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & Non-relieving types
- Non-rising knob

Options:

- **Port size**
  - 1/4" 2
  - 3/8" 3
  - 1/2" 4

- **Relief**
  - Relieving R
  - Non-relieving N
  - Reverse flow-relieving ¬

- **Order code**
  - P32RA92BNNP
  - P32RA92BNGP
  - P32RA93BNNP
  - P32RA93BNGP
  - P32RA94BNNP
  - P32RA94BNGP

- **Adjustment range**
  - With round gauge
    - psig: 2 bar; 30 psig; 0.2 MPa
    - bar: 30* V = 2* M
    - 4 bar; 60 psig; 0.4 MPa
    - 8 bar; 125 psig; 0.8 MPa
    - 17 bar; 250 psig; 1.7 MPa
  - Without gauge
    - Y 2 bar; 30 psig; 0.2 MPa
    - L 4 bar; 60 psig; 0.4 MPa
    - N 8 bar; 125 psig; 0.8 MPa

- **With square gauge**
  - 2 bar; 30 psig; 0.2 MPa
  - 4 bar; 60 psig; 0.4 MPa
  - 8 bar; 125 psig; 0.8 MPa
  - 17 bar; 250 psig; 1.7 MPa

- **Flow**
  - 41 (81)
  - 65 (138)
  - 67 (142)

- **Max. bar (psig)**
  - 20 (300)
  - 20 (300)
  - 20 (300)

- **Height (mm) (inches)**
  - 136 (5.4)
  - 136 (5.4)
  - 136 (5.4)

- **Width (mm) (inches)**
  - 60 (2.36)
  - 60 (2.36)
  - 60 (2.36)

- **Depth (mm) (inches)**
  - 60 (2.36)
  - 60 (2.36)
  - 60 (2.36)

**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. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

**WARNING**

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

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

B34
Global Air Preparation System

P32 Series Compact Regulator

Specifications

Flow capacity*  
1/4  41 dm³/s (81 scfm)  
3/8  65 dm³/s (138 scfm)  
1/2  67 dm³/s (142 scfm)

Operating temperature  
-25°C to 65.5°C (-13°F to 150°F)

Max. supply pressure  20 bar (300 psig)

Adjusting range pressure  
0-2 bar (30 psig)  
0-4 bar (60 psig)  
0-8 bar (125 psig)  
0-17 bar (250 psig)

Port size  BSPP / BSPT / NPT  1/4, 3/8, 1/2

Gauge port (2 ea.)  BSPP / BSPT / NPT  1/4

Weight  0.41 kg (0.90 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).

Material Specifications

Body  Aluminum

Adjustment knob  Acetal

Body cap  ABS

Bonnet  33% Glass-filled nylon

Diaphragm assembly  Nitrile / Zinc

Bottom plug  33% Glass-filled nylon

Valve assembly  Brass / Nitrile

Springs  Main regulating valve  Steel S.S.

Seals  Nitrile

Panel nut  Acetal

Dimensions mm (inches)

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

Repair and Service Kits

Regulator repair kit - relieving  P32KA00RB

Regulator repair kit - non-relieving  P32KA00RC

Panel mount nut - aluminum  P32KA00MM

Panel mount nut - plastic  P32KA00MP

Angle bracket (uses panel mount threads)  P32KA00MR

T-bracket with body connector  P32KA00MT

T-bracket  P32KA00MB

Body connector  P32KA00CB

Flow Charts

1/4 Regulator

3/8 Regulator

1/2 Regulator

Inlet Pressure - 10 bar (145 psig)

Gauges

50mm (2") Round 1/4” center back mount

0-30 psig / 0-2 bar  K4520N14030

0-60 psig / 0-4 bar  K4520N14060

0-160 psig / 0-11 bar  K4520N14160

0-300 psig / 0-20 bar  K4520N14300

Square flush mount gauge

0-4 bar  K4511SCR04B

0-10 bar  K4511SCR11B

0-60 psig  K4511SCR060

0-150 psig  K4511SCR150

Square with adapter kit

0-4 bar  P6G-PR11040

0-10 bar  P6G-PR11100

0-60 psig  P6G-PR11P06

0-150 psig  P6G-PR11P15

Digital 1.75” Round 1/8” center back mount

0-160 psig / 0-11 bar  K4517N14160D

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
**Compact Common - P1 Regulator - P32**

**Symbols**

- Self relieving regulator with gauge
- Non relieving regulator

- Manifold style regulator with line pressure on both sides.
- Pressure output is at front or rear.
- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Robust construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & Non-relieving types
- Non-rising knob

**Options:**

- Basic series
  - Global modular compact regulator
  - P32H
- Engr level
  - Current
- A
- Thread type
  - BSPP
  - 1
- BSPT
  - 2
- NPT
  - 9
- Port size
  - 1/4
  - 2
  - 3/8
  - 3
  - 1/2
  - 4
- Relief
  - Relieving
  - B
  - Non-relieving
  - N
- Mounting
  - P Plastic panel mount nut

**Options Chart:**

<table>
<thead>
<tr>
<th>Adjustment range</th>
<th>With square gauge</th>
<th>With round gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>psig</td>
<td>bar</td>
</tr>
<tr>
<td>1 = 30</td>
<td>V = 2</td>
<td>Z 2 bar; 30 psig; 0.2 MPa</td>
</tr>
<tr>
<td>3 = 60</td>
<td>S = 4</td>
<td>M 4 bar; 60 psig; 0.4 MPa</td>
</tr>
<tr>
<td>5 = 125</td>
<td>T = 8</td>
<td>G 8 bar; 125 psig; 0.8 MPa</td>
</tr>
<tr>
<td>H§ 17 bar</td>
<td></td>
<td>J§ 17 bar; 250 psig; 1.7 MPa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Without gauge</td>
</tr>
<tr>
<td>Y 2 bar</td>
<td></td>
<td>30; 0.2 MPa</td>
</tr>
<tr>
<td>L 4 bar</td>
<td></td>
<td>60; 0.4 MPa</td>
</tr>
<tr>
<td>N 8 bar</td>
<td></td>
<td>125; 0.8 MPa</td>
</tr>
<tr>
<td>H§ 17 bar</td>
<td></td>
<td>250; 1.7 MPa</td>
</tr>
</tbody>
</table>

*Unit comes with 0-4 bar or 0-60 psig gauge respectively.*

§Not available with poly bowl with bowl guard.

**Symbols Legend:**

- **B**
- **P**
- **B**
- **B**
- **B**
- **B**
- **B**

**Bold Items are most common.**

**Options Chart Details:**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max.</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P32HA92BNNP</td>
<td>28 (59)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P32HA93BNNP</td>
<td>28 (59)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P32HA94BNNP</td>
<td>28 (59)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3 psig) set pressure and 1 bar (14.5 psig) pressure drop.
Specifications

Flow capacity*  
1/4  28 dm³/s (59 scfm)  
3/8  28 dm³/s (59 scfm)  
1/2  28 dm³/s (59 scfm)

Operating temperature  
-25°C to 65.5°C (-13°F to 150°F)

Max. supply pressure  
20 bar (300 psig)

Adjusting range pressure  
0-2 bar (30 psig)  
0-4 bar (60 psig)  
0-8 bar (125 psig)  
0-17 bar (250 psig)

Port size  
BSPP / BSPT / NPT  
1/4, 3/8, 1/2

Gauge port (2 ea.)  
BSPP / BSPT / NPT  
1/4

Weight  
0.50 kg (1.10 lbs)

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

Material Specifications

Body  
Zinc

Adjustment knob  
Acetal

Body cap  
ABS

Bonnet  
33% Glass-filled nylon

Diaphragm assembly  
Nitrile / Zinc

Bottom plug  
33% Glass-filled nylon

Valve assembly  
Brass / Nitrile

Springs  
Main regulating valve  
Steel S.S.

Seals  
Nitrile

Panel nut  
Acetal

Dimensions mm (inches)

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

Flow Charts

Flow capacity

<table>
<thead>
<tr>
<th>Size</th>
<th>Flow capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>28 dm³/s (59 scfm)</td>
</tr>
<tr>
<td>3/8</td>
<td>28 dm³/s (59 scfm)</td>
</tr>
<tr>
<td>1/2</td>
<td>28 dm³/s (59 scfm)</td>
</tr>
</tbody>
</table>

Operating temperature

-25°C to 65.5°C (-13°F to 150°F)

Max. supply pressure

20 bar (300 psig)

Adjusting range pressure

0-2 bar (30 psig)  
0-4 bar (60 psig)  
0-8 bar (125 psig)  
0-17 bar (250 psig)

Port size  
BSPP / BSPT / NPT  
1/4, 3/8, 1/2

Gauge port (2 ea.)  
BSPP / BSPT / NPT  
1/4

Weight  
0.50 kg (1.10 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).

Repair and Service Kits

Regulator repair kit - relieving  
P32KA00RB

Regulator repair kit - non-relieving  
P32KA00RC

Panel mount nut - aluminum  
P32KA00MM

Panel mount nut - plastic  
P32KA00MP

Angle bracket (uses panel mount threads)  
P32KA00MR

T-bracket with body connector  
P32KA00MT

T-bracket  
P32KA00MB

Body connector  
P32KA00CB

Gauges

50mm (2") Round 1/4" center back mount

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Gauge Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30 psig / 0-2 bar</td>
<td>K4520N14030</td>
</tr>
<tr>
<td>0-60 psig / 0-4 bar</td>
<td>K4520N14060</td>
</tr>
<tr>
<td>0-160 psig / 0-11 bar</td>
<td>K4520N14160</td>
</tr>
<tr>
<td>0-300 psig / 0-20 bar</td>
<td>K4520N14300</td>
</tr>
</tbody>
</table>

Square flush mount gauge

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Gauge Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 bar</td>
<td>K4511SCR04B</td>
</tr>
<tr>
<td>0-10 bar</td>
<td>K4511SCR11B</td>
</tr>
<tr>
<td>0-60 psig</td>
<td>K4511SCR060</td>
</tr>
<tr>
<td>0-150 psig</td>
<td>K4511SCR150</td>
</tr>
</tbody>
</table>

Square with adapter kit

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Gauge Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 bar</td>
<td>P6G-PR11040</td>
</tr>
<tr>
<td>0-10 bar</td>
<td>P6G-PR11100</td>
</tr>
<tr>
<td>0-60 psig</td>
<td>P6G-PR11P06</td>
</tr>
<tr>
<td>0-150 psig</td>
<td>P6G-PR11P15</td>
</tr>
</tbody>
</table>

Digital 1.75" Round 1/8" center back mount

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Gauge Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-160 psig / 0-11 bar</td>
<td>K4517N14160D</td>
</tr>
</tbody>
</table>

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

WARNING

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

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. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Globally Air Preparation System

P32 Series

Compact Common Regulator

Inlet Pressure - 10 bar (145 psig)

Secondary Pressure - bar

Secondary Pressure - (psig)

Flow - dm³/s

Flow - (scfm)
# P33 Series Standard Regulator

## Standard Regulator - P33

![Regulator Image]

### Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ dm³/s (scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P33RA94BNNP</td>
<td>100 (212)</td>
<td>20 (300)</td>
<td>149 (5.9)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>P33RA94BNGP</td>
<td>100 (212)</td>
<td>20 (300)</td>
<td>149 (5.9)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>P33RA96BNNP</td>
<td>100 (212)</td>
<td>20 (300)</td>
<td>149 (5.9)</td>
<td>73 (2.9)</td>
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</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>P33RA96BNGP</td>
<td>100 (212)</td>
<td>20 (300)</td>
<td>149 (5.9)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.

‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3 psig) set pressure and 1 bar (14.5 psig) pressure drop.

### Symbols

- Self relieving regulator with gauge
- Non relieving regulator

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & Non-relieving types
- Non-rising knob

### Options:

- Basic series
- Global modular standard regulator P33R
- Engr level Current A
- Thread type BSPP 1
  - BSPT 2
  - NPT 9
- Port size 1/2" 4
  - 3/4" 6
- Relief Relieving B
  - Non-relieving N
  - Reverse flow-relieving R
- Mounting P Plastic panel mount nut

- Adjustment range
- With round gauge
  - Z 2 bar; 30 psig; 0.2 MPa
  - M 4 bar; 60 psig; 0.4 MPa
  - G 8 bar; 125 psig; 0.8 MPa
  - J 17 bar; 250 psig; 1.7 MPa
- Without gauge
  - Y 2 bar; 30 psig; 0.2 MPa
  - L 4 bar; 60 psig; 0.4 MPa
  - N 8 bar; 125 psig; 0.8 MPa
  - H 17 bar; 250 psig; 1.7 MPa

Bold items are most common.
Global Air Preparation System

P33 Series
Standard Regulator

Specifications

Flow capacity*  
1/2  100 dm³/s (212 scfm)  
3/4  100 dm³/s (212 scfm)

Operating temperature  
-25°C to 65.5°C (-13°F to 150°F)

Max. supply pressure  
20 bar (300 psig)

Adjusting range pressure  
0-2 bar (30 psig)  
0-4 bar (60 psig)  
0-8 bar (125 psig)  
0-17 bar (250 psig)

Port size  
BSPP / BSPT / NPT 1/2, 3/4

Gauge port (2 ea.)  
BSPP / BSPT / NPT 1/4

Weight  
0.62 kg (1.37 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).

Material Specifications

Body  
Aluminum

Adjustment knob  
Acetal

Body cap  
ABS

Bonnet  
33% Glass-filled nylon

Diaphragm assembly  
Nitrile / Zinc

Valve assembly  
Brass / Nitrile / Acetal

Springs  
Main regulating valve Steel S.S.

Seals  
Nitrile

Panel nut  
Acetal

Dimensions mm (inches)

NOTE: 61 mm (2.40 in.) hole required for panel nut mounting.

<table>
<thead>
<tr>
<th>Body cap</th>
<th>BSPP / BSPT / NPT</th>
<th>1/2, 3/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonnet</td>
<td>33% Glass-filled nylon</td>
<td></td>
</tr>
<tr>
<td>Diaphragm assembly</td>
<td>Nitrile / Zinc</td>
<td></td>
</tr>
<tr>
<td>Valve assembly</td>
<td>Brass / Nitrile / Acetal</td>
<td></td>
</tr>
<tr>
<td>Springs</td>
<td>Main regulating valve Steel S.S.</td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
<td></td>
</tr>
<tr>
<td>Panel nut</td>
<td>Acetal</td>
<td></td>
</tr>
</tbody>
</table>

WARNING

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

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. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

CAUTION:

Warning: Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed Maximum primary pressure rating.

Repair and Service Kits

Regulator repair kit - relieving  
P33KA00RB

Regulator repair kit - non-relieving  
P33KA00RC

Panel mount nut - aluminum  
P33KA00MM

Panel mount nut - plastic  
P33KA00MP

Angle bracket (uses panel mount threads)  
P33KA00MR

T-bracket with body connector  
P32KA00MT

T-bracket  
P32KA00MB

Body connector  
P32KA00CB

Gauges

50mm (2") Round 1/4" center back mount

0-30 psig / 0-2 bar  K4520N14030
0-60 psig / 0-4 bar  K4520N14060
0-160 psig / 0-11 bar K4520N14160
0-300 psig / 0-20 bar K4520N14300

Digital 1.75" Round 1/8" center back mount

0-160 psig / 0-11 bar  K4517N14160D

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Mini Filter / Regulator - P31

Symbols

- Integral 1/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation

Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ (dm³/s (scfm))</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P31EA92EGMBBN5P</td>
<td>14 (30)</td>
<td>10 (150)</td>
<td>164.1 (6.46)</td>
<td>40 (1.58)</td>
<td>64 (2.53)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - pulse drain</td>
<td>P31EA92EGBBN5P</td>
<td>14 (30)</td>
<td>10 (150)</td>
<td>164.1 (6.46)</td>
<td>40 (1.58)</td>
<td>64 (2.53)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>P31EA92EMMBBN5P</td>
<td>14 (30)</td>
<td>17 (250)</td>
<td>164.1 (6.46)</td>
<td>40 (1.58)</td>
<td>64 (2.53)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - pulse drain</td>
<td>P31EA92EMBBN5P</td>
<td>14 (30)</td>
<td>17 (250)</td>
<td>164.1 (6.46)</td>
<td>40 (1.58)</td>
<td>64 (2.53)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3) psig set pressure and 1 bar (14.5 psig) pressure drop.
Global Air Preparation System

P31 Series
Mini Filter / Regulator

Specifications

Flow capacity* 1/4 14 dm³/s (30.0 scfm)
Operating temperature Plastic bowl -10°C to 52°C (-14°F to 125°F)
Max. supply Plastic bowl 10 bar (150 psig)
Standard filtration 5 micron

Lubricators
Accessories

Catalog 0700P-E

Material Specifications

Body Aluminum
Adjustment knob Acetal
Body cap ABS
Bonnet PBT
Bowl Plastic bowl Polycarbonate
Metal bowl Aluminum
Bowl guard Nylon
Filter element Polyethylene
Seals Nitrile
Springs Steel
Valve assembly Brass / Nitrile
Diaphragm assembly Brass / Nitrile
Panel nut Acetal

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Repair and Service Kits

Plastic bowl / Bowl guard manual drain P31KA00BGM
Metal bowl / w/o sight gauge manual drain P31KA00BM
Plastic bowl / Bowl guard pulse drain P31KA00BGB
Metal bowl / w/o sight gauge pulse drain P31KA00BMB
5µ particle filter element P31KA00ESE
Regulator repair kit - relieving P31KA00RB
Regulator repair kit - non-relieving P31KA00RC
Panel mount nut - aluminum P31KA00MM
Panel mount nut - plastic P31KA00MP
Angle bracket (uses panel mount threads) P31KA00MR
C-bracket (fits to body) P31KA00MW
T-bracket with body connector P31KA00MT
Body connector P31KA00CB

Gauges

Square flush mount gauge

0-4 bar K4511SCR04B
0-10 bar K4511SCR11B
0-60 psig K4511SCR060
0-150 psig K4511SCR150

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

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

Dimensions mm (inches)

Flow Charts

1/4 Filter / Regulator

Flow - dm³/s

0 5 10 15 20 25 30 35

0 2 3 4 5 6 7 8 9 10

Secondary Pressure - bar

2.5 bar
8.0 bar
14.0 bar
6.3 bar
9.4 bar
11.6 bar
16.8 psig
116.0 psig
250.0 psig

Flow - (scfm)

0 10 20 30 40 50 60 70

Gauges

Square flush mount gauge

0-4 bar K4511SCR04B
0-10 bar K4511SCR11B
0-60 psig K4511SCR060
0-150 psig K4511SCR150
**B42**

**Introduction Combos Filters Coalescers Regulators Filter / Regulators**

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**Symbols**

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation

---

**Options:**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max. bar (psig)</th>
<th>Height (mm)</th>
<th>Width (mm)</th>
<th>Depth (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P32EA92EGMBNGP</td>
<td>42 (89)</td>
<td>10 (150)</td>
<td>254 (10.0)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>P32EA92EGABNGP</td>
<td>42 (89)</td>
<td>10 (150)</td>
<td>248 (9.76)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>P32EA92ESMBNGP</td>
<td>42 (89)</td>
<td>17 (250)</td>
<td>245 (9.66)</td>
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<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>P32EA92ESABNGP</td>
<td>42 (89)</td>
<td>17 (250)</td>
<td>254 (10.0)</td>
<td>95 (3.74)</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P32EA93EGMBNGP</td>
<td>58 (123)</td>
<td>10 (150)</td>
<td>254 (10.0)</td>
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<td>17 (250)</td>
<td>254 (10.0)</td>
<td>95 (3.74)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P32EA94EGMBNGP</td>
<td>64 (136)</td>
<td>10 (150)</td>
<td>245 (9.66)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>P32EA94EGABNGP</td>
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<td>60 (2.36)</td>
<td>60 (2.36)</td>
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</tbody>
</table>

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‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3 psig) set pressure and 1 bar (14.5 psig) pressure drop.

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**Parker Hannifin Corporation**
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

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**Compact Filter / Regulator - P32**

**Global Air Preparation System**

---

**Symbols**

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
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**Options:**

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### Material Specifications

<table>
<thead>
<tr>
<th>Body</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment knob</td>
<td>Acetal</td>
</tr>
<tr>
<td>Body cap</td>
<td>ABS</td>
</tr>
<tr>
<td>Element retainer / Baffle</td>
<td>Acetal</td>
</tr>
<tr>
<td>Bowl</td>
<td>Plastic bowl</td>
</tr>
<tr>
<td>Bowel guard</td>
<td>Nylon</td>
</tr>
<tr>
<td>Filter element</td>
<td>Sintered polyethylene</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
<tr>
<td>Springs</td>
<td>Main regulating / valve Steel / S.S.</td>
</tr>
<tr>
<td>Valve assembly</td>
<td>Brass / Nitrile</td>
</tr>
<tr>
<td>Diaphragm assembly</td>
<td>Nitrile / Zinc</td>
</tr>
<tr>
<td>Panel nut</td>
<td>Acetal</td>
</tr>
<tr>
<td>Sight gauge</td>
<td>Metal bowl</td>
</tr>
</tbody>
</table>

### Dimensions mm (inches)

![Image of filter/regulator dimensions]

**WARNING**

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

### Flow Charts

#### 1/4 Filter / Regulator

- **Inlet Pressure**: 10 bar (145 psig)
- **Secondary Pressure**
  - 0 bar (0 psig)
  - 2 bar (30 psig)
  - 4 bar (60 psig)
  - 8 bar (125 psig)
  - 16 bar (250 psig)

#### 3/8 Filter/Regulator

- **Inlet Pressure**: 10 bar (145 psig)
- **Secondary Pressure**
  - 0 bar (0 psig)
  - 2 bar (30 psig)
  - 4 bar (60 psig)
  - 8 bar (125 psig)
  - 16 bar (250 psig)

#### 1/2 Filter/Regulator

- **Inlet Pressure**: 10 bar (145 psig)
- **Secondary Pressure**
  - 0 bar (0 psig)
  - 2 bar (30 psig)
  - 4 bar (60 psig)
  - 8 bar (125 psig)
  - 16 bar (250 psig)

### Repair and Service Kits

- Plastic bowl / Bowl guard manual drain: P32KA00BGM
- Metal bowl / Sight gauge manual drain: P32KA00BSM
- Auto drain: P32KA00DA
- 5µ particle filter element: P32KA00ESE
- Regulator repair kit - relieving: P32KB00RB
- Regulator repair kit - non-relieving: P32KB00RC
- Panel mount nut - aluminum: P32KA00MM
- Panel mount nut - plastic: P32KA00MP
- Angle bracket (fits to panel mount threads): P32KB00MR
- T-bracket (fits to body connector): P32KA00MB
- T-bracket with body connector: P32KA00MT
- Body connector: P32KA00CB

### Gauges

- **50mm (2") Round 1/4" center back mount**
  - 0-30 psig / 0-2 bar: K4520N14030
  - 0-60 psig / 0-4 bar: K4520N14060
  - 0-160 psig / 0-11 bar: K4520N14160
  - 0-300 psig / 0-20 bar: K4520N14300

- **Digital 1.75" Round 1/8" center back mount**
  - 0-160 psig / 0-11 bar: K4517N14160D

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
## Catalog 0700P-E
### Global Air Preparation System

## Standard Filter / Regulator - P33

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-17 bar (0-250 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation

### Options:

#### Basic series
- Global modular standard filter / regulator P33E

#### Engr level
- Current A

#### Thread type
- BSPP 1
- BSPT 2
- NPT 9

#### Element
- Sp Element E

#### Relief
- B Relieving
- N Non-relieving

#### Drain type
- M Manual drain
- A Auto drain

#### Adjustment range
- With round gauge
  - Z 2 bar; 30 psig; 0.2 MPa
  - M 4 bar; 60 psig; 0.4 MPa
  - G 8 bar; 125 psig; 0.8 MPa
  - J 17 bar; 250 psig; 1.7 MPa
- Without gauge
  - Y 2 bar; 30 psig; 0.2 MPa
  - L 4 bar; 60 psig; 0.4 MPa
  - N 8 bar; 125 psig; 0.8 MPa
  - H 17 bar; 250 psig; 1.7 MPa

#### Port size
- 1/2"
- 3/4"

#### Bowl type
- Poly bowl with bowl guard G
- Metal bowl without sight gauge M
- Metal bowl with sight gauge S

#### Mounting
- Plastic panel mount nut P

---

### Symbols

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max. bar (psig)</th>
<th>Height (mm)</th>
<th>Width (mm)</th>
<th>Depth (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P33EA94EGMBNGP</td>
<td>90 (191)</td>
<td>10 (150)</td>
<td>291 (11.44)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>P33EA94EGABNGP</td>
<td>90 (191)</td>
<td>10 (150)</td>
<td>285 (11.22)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>P33EA94ESMBNGP</td>
<td>90 (191)</td>
<td>17 (250)</td>
<td>282 (11.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>P33EA94ESABNGP</td>
<td>90 (191)</td>
<td>17 (250)</td>
<td>291 (11.44)</td>
<td>73 (2.9)</td>
<td>108 (4.27)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>P33EA96EGMBNGP</td>
<td>98 (208)</td>
<td>10 (150)</td>
<td>282 (11.0)</td>
<td>73 (2.9)</td>
<td>108 (4.27)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>P33EA96EGABNGP</td>
<td>98 (208)</td>
<td>10 (150)</td>
<td>285 (11.22)</td>
<td>73 (2.9)</td>
<td>108 (4.27)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>P33EA96ESMBNGP</td>
<td>98 (208)</td>
<td>17 (250)</td>
<td>291 (11.44)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>P33EA96ESABNGP</td>
<td>98 (208)</td>
<td>17 (250)</td>
<td>282 (11.0)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.

‡ Flow with 10 bar (145 psig) inlet pressure, 6.3 bar (91.3 psig) set pressure and 1 bar (14.5 psig) pressure drop.

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**B44**

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics
Catalog 0700P-E (Revised 05-13-14)

Global Air Preparation System

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

B45

Introduction

Combos
Filters
Coalescers
Regulators
Lubricators
Accessories

Catalog 0700P-E

P33 Series
Standard Filter / Regulator

Specifications

Flow capacity*  1/2  90 dm³/s (191 scfm)
               3/4  98 dm³/s (208 scfm)
Operating temperature
Plastic bowl  -25°C to 52°C (-13°F to 125°F)
Metal bowl    -25°C to 65.5°C (-13°F to 150°F)
Supply pressure
Plastic bowl  10 bar (150 psig)
Metal bowl    17 bar (250 psig)
Standard filtration  5 micron
Useful retention†  85 cm³ (2.8 US oz.)
Adjusting range pressure
0-2 bar (30 psig)
0-4 bar (60 psig)
0-8 bar (125 psig)
0-17 bar (250 psig)

Port size  BSPP / BSPT / NPT  1/2, 3/4
Gauge port (2 ea.)  BSPP / BSPT / NPT  1/4
Weight  0.85 kg (1.87 lbs)

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

Material Specifications

Body  Aluminum
Adjustment knob  Acetal
Body cap  ABS
Element retainer / Baffle  Acetal
Bowls  Plastic bowl  Polycarbonate
        Metal bowl  Aluminum
Filter element  Sintered Polyethylene
Seals  Nitrile
Springs  Main regulating / Valve  Steel / S.S.
          Diaphragm assembly  Nitrile / Zinc
Panel nut  Acetal
Sight gauge  Metal bowl  Polycarbonate

Dimensions mm (inches)

Flow Charts

1/2 Filter / Regulator

Inlet Pressure - 10 bar (145 psig)

Flow Charts

3/4 Filter/Regulator

Inlet Pressure - 10 bar (145 psig)

Repair and Service Kits

Plastic bowl / Bowl guard manual drain  P33KA00BGM
Metal bowl / Sight gauge manual drain  P33KA00BSM
Auto drain  P32KA00DA
5µ particle filter element  P33KA00ESE
Regulator repair kit - Relieving  P33KA00RB
Regulator repair kit - Non-relieving  P33KA00RC
Panel mount nut - Aluminum  P33KA00MM
Panel mount nut - Plastic  P33KA00MP
Angle bracket (fits to panel mount threads)  P33KA00MR
T-bracket (fits to body connector)  P32KA00MB
T-bracket with body connector  P32KA00MT
Body connector  P32KA00CB

Gauges

50mm (2") Round 1/4" center back mount
0-30 psig / 0-2 bar  K4520N14030
0-60 psig / 0-4 bar  K4520N14060
0-160 psig / 0-11 bar  K4520N14160
0-300 psig / 0-20 bar  K4520N14300

Digital 1.75" Round 1/8" center back mount
0-160 psig / 0-11 bar  K4517N14160D

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

WARNING

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

![Manual Drain](image1)

![Automatic Drain](image2)
Mini Lubricator - P31

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment

Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code</th>
<th>Flow‡</th>
<th>Max. pressure (bar)</th>
<th>Height (mm)</th>
<th>Width (mm)</th>
<th>Depth (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>P31LA92LGN</td>
<td>13 (28)</td>
<td>10 (150)</td>
<td>147.5 (5.80)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>P31LA92LM</td>
<td>13 (28)</td>
<td>17 (250)</td>
<td>147.5 (5.80)</td>
<td>40 (1.58)</td>
<td>42.7 (1.68)</td>
</tr>
</tbody>
</table>

1 Standard part numbers shown in bold. For other models refer to Options chart above.
2 Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.
Catalog 0700P-E
Global Air Preparation System

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

P31 Series
Mini Lubricator

Specifications
Flow capacity* 1/4 13 dm³/s (28 scfm)
Operating temperature Plastic bowl -10°C to 52°C (14°F to 125°F)
Metal bowl -10°C to 65.5°C (14°F to 150°F)
Max. supply pressure Plastic bowl 10 bar (150 psig)
Metal bowl 17 bar (250 psig)
Useful retention 18 cm³ (0.6 US oz.)
Port size BSPP / BSPT / NPT 1/4
Weight 0.13 kg (0.29 lbs)

Flow Charts

Material Specifications

<table>
<thead>
<tr>
<th>Body</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body cap</td>
<td>ABS</td>
</tr>
<tr>
<td>Bowl</td>
<td>Plastic bowl</td>
</tr>
<tr>
<td></td>
<td>Metal bowl</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
<tr>
<td>Sight dome</td>
<td>Polycarbonate</td>
</tr>
<tr>
<td>Suggested lubricant</td>
<td>ISO / ASTM VG32</td>
</tr>
<tr>
<td>Pick-up filter</td>
<td>Sintered bronze</td>
</tr>
</tbody>
</table>

Dimensions mm (inches)

Repair and Service Kits

Plastic bowl / Bowl guard no drain P31KA00BGN
Drip control assembly P32KA00PG
Fill plug P31KA00PL
C-bracket (fits to body) P31KA00MW
T-bracket with body connector P31KA00MT
Body connector P31KA00CB

Suggested Lubricant F442 Oil
Petroleum based oil of 100 to 200 SUS viscosity at 38°C (100°F) and an aniline point greater than 93°C (200°F)
(Do not use oils with additives, compounded oils containing solvents, graphite, detergents, or synthetic oils.)
## Catalog 0700P-E

**Global Air Preparation System**

**Compact Lubricator - P32**

### Symbol

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure

### Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ (dm³/s (scfm))</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>P32LA92LGNN</td>
<td>18 (38)</td>
<td>10 (150)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>P32LA92LSNN</td>
<td>18 (38)</td>
<td>17 (250)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - No drain</td>
<td>P32LA93LGNN</td>
<td>32 (68)</td>
<td>10 (150)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - No drain</td>
<td>P32LA93LSNN</td>
<td>32 (68)</td>
<td>17 (250)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - No drain</td>
<td>P32LA94LGNN</td>
<td>47 (100)</td>
<td>10 (150)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - No drain</td>
<td>P32LA94LSNN</td>
<td>47 (100)</td>
<td>17 (250)</td>
<td>211 (8.30)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 0.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.
Catalog 0700P-E
Global Air Preparation System

**Specifications**

<table>
<thead>
<tr>
<th>Flow capacity*</th>
<th>1/4</th>
<th>18 dm³/s (38 scfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>32 dm³/s (68 scfm)</td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>47 dm³/s (100 scfm)</td>
<td></td>
</tr>
</tbody>
</table>

**Operating temperature**
-10°C to 52°C (14°F to 125°F)
-10°C to 65.5°C (14°F to 150°F)

Max. supply pressure
- Plastic bowl: 10 bar (150 psig)
- Metal bowl: 17 bar (250 psig)

Useful retention: 121 cm³ (4.09 US oz.)

Port size: BSPP / BSPT / NPT: 1/4, 3/8, 1/2

Weight: 0.31 kg (0.68 lbs)

*Inlet pressure 6.3 bar (91.3 psig). Pressure drop 0.34 bar (4.9 psig).

**Material Specifications**

- **Body**: Aluminum
- **Body cap**: ABS
- **Bowls**: Plastic bowl - Polycarbonate, Metal bowl - Aluminum
- **Seals**: Nitrile
- **Sight dome**: Polycarbonate
- **Sight gauge**: Metal bowl - Polycarbonate
- **Suggested lubricant**: ISO / ASTM VG32
- **Pick-up filter**: Sintered bronze

**Dimensions**

<table>
<thead>
<tr>
<th>Flow capacity</th>
<th>1/4</th>
<th>3/8</th>
<th>1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>L (inches)</td>
<td>2.36</td>
<td>2.45</td>
<td>2.56</td>
</tr>
<tr>
<td>W (inches)</td>
<td>1.18</td>
<td>1.18</td>
<td>1.18</td>
</tr>
<tr>
<td>T (inches)</td>
<td>1.18</td>
<td>1.18</td>
<td>1.18</td>
</tr>
</tbody>
</table>

**Flow Charts**

- **1/4 Lubricator**
- **3/8 Lubricator**
- **1/2 Lubricator**

**Repair and Service Kits**

- Plastic bowl / Bowl guard no drain: P32KA00BGN
- Drip control assembly: P32KA00PG
- Fill plug: P32KA00PL
- L-bracket (fits to body): P32KA00ML
- T-bracket (fits to body connector): P32KA00MB
- T-bracket with body connector: P32KA00MT
- Body connector: P32KA00CB

**Suggested Lubricant**

F442 Oil

Petroleum based oil of 100 to 200 SUS viscosity at 38°C (100°F) and an aniline point greater than 93°C (200°F)

(Do not use oils with additives, compounded oils containing solvents, graphite, detergents, or synthetic oils.)
**Standard Lubricator - P33**

### Options:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡ dm³/s (scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - No drain</td>
<td>P33LA94LGNN</td>
<td>48 (102)</td>
<td>10 (150)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - No drain</td>
<td>P33LA94LSNN</td>
<td>48 (102)</td>
<td>17 (250)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>P33LA96LGNN</td>
<td>68 (144)</td>
<td>10 (150)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>P33LA96LSNN</td>
<td>68 (144)</td>
<td>17 (250)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
</tr>
</tbody>
</table>

† Standard part numbers shown in bold. For other models refer to Options chart above.
‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure
Global Air Preparation System

P33 Series
Standard Lubricator

Specifications

Flow capacity* 1/2 48 dm³/s (102 scfm)
3/4 68 dm³/s (144 scfm)

Operating temperature
Plastic bowl -10°C to 52°C (14°F to 125°F)
Metal Bowl -10°C to 65.5°C (14°F to 150°F)

Max. supply pressure
Plastic bowl 10 bar (150 psig)
Metal bowl 17 bar (250 psig)

Useful retention 181 cm³ (6.1 US oz.)

Port size BSPP / BSPT / NPT 1/2, 3/4

Weight 0.47 kg (1.04 lbs)

* Inlet pressure 6.3 bar (91.3 psig). Pressure drop 0.34 bar (4.9 psig).

Material Specifications

Body Aluminum
Body cap ABS
Bowls Plastic bowl Polycarbonate
Metal bowl Aluminum
Seals Nitrile
Sight dome Polycarbonate
Sight gauge Metal bowl Polycarbonate
Suggested lubricant ISO / ASTM VG32
Pick-up filter Sintered bronze

Dimensions mm (inches)

Repair and Service Kits

Plastic bowl / Bowl guard no drain P33KA00BGN
Drip control assembly P32KA00PG
Fill plug P32KA00PL
L-bracket (fits to body) P33KA00ML
T-bracket (fits to body connector) P32KA00MB
T-bracket with body connector P32KA00MT
Body connector P32KA00CB

Suggested Lubricant .............................................. F442 Oil
Petroleum based oil of 100 to 200 SUS viscosity at 38°C (100°F) and an aniline point greater than 93°C (200°F)
(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS,
OR SYNTHETIC OILS.)
Proportional Regulators - P31P & P32P

- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65
- P31P flows to 19 dm3/s (40 scfm)
- P32P flows to 57 dm3/s (120 scfm)

Options:

**P31P**

- **Body size**: Global modular mini (1/4’’), Global modular compact (1/2’’)
- **Engr level**: Current A
- **Thread type**: BSPP 1, BSPT 2, NPT 9
- **Port size**: Global modular mini (1/4’’), Global modular compact (1/2’’)
- **Version**: Bottom ported exhaust (NC) A, Bottom ported forced exhaust (NO) E

**P32P**

- **Body size**: Global modular compact (1/2’’)
- **Thread type**: BSPT 2

**P31P Mounting brackets**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3HKA00ML</td>
<td>L-Bracket mounting kit</td>
</tr>
<tr>
<td>P3HKA00MC</td>
<td>Foot bracket mounting kit</td>
</tr>
</tbody>
</table>

**P32P Mounting brackets**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3KKA00ML</td>
<td>L-Bracket mounting kit</td>
</tr>
<tr>
<td>P3KKA00MC</td>
<td>Foot bracket mounting kit</td>
</tr>
</tbody>
</table>

**Cables**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-M12-4P-2M</td>
<td>2 mtr. cable with moulded straight M12x1 connector</td>
</tr>
</tbody>
</table>
Technical Information

Working medium
Compressed air or inert gasses, filtered to 40µ.

Supply pressure
Max. Operating Pressure:
2 bar unit: ...................... 3 bar (43.5 psig)
10 bar unit: .......................... 10.5 bar (152 psig)
Min. Operating Pressure ...... P2 Pressure + 0.5 bar (7.3 psig)

Pressure control range
Available in three pressure ranges, 0-2 bar (0-29 psig), 0-7 bar (0-101.5 psig) or 0-10 bar (0-145 psig). Pressure range can be changed through the software at all times. (parameter 19)

Temperature range
0°C up to +50°C (32°F up to122°F)

Weights:
P31P = 0.291 kg (0.64 lbs)
P32P = 0.645 kg (1.42 lbs)

Air consumption
No consumption in stable regulated situation.

Display
The regulator is provided with a digital display, indicating the output pressure, either in bar or psig.
The factory setting is as indicated on the label, can be changed through to software at all times (parameter 14)

Supply voltage
24 VDC +/- 10%

Power consumption
Max. 1.1W with unloaded signal outputs

Control signals
The electronic pressure regulator can be externally controlled through an analogue control signal of either 0-10V or 4-20mA. (parameter 4).

Output signals
As soon as the output pressure is within the signal band a signal is given of 24VDC, PNP Ri = 1 kOhm
Outside the signal band this connection is 0V.

Connections
(In case of output signal (Option D)
Central M12 connector 4-pole
The electrical connections are as follows:

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 V Supply</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>0 to 10 V Control Signal</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Ri = 100k Ω</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0 V (GND) Supply</td>
<td>Blue</td>
</tr>
<tr>
<td>4</td>
<td>24 V Alarm Output Signal</td>
<td>Black</td>
</tr>
</tbody>
</table>

Supply voltage
24 VDC +/- 10%

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</tr>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>0 V (GND) Supply</td>
<td>Blue</td>
</tr>
<tr>
<td>4</td>
<td>24 V Alarm Output Signal</td>
<td>Black</td>
</tr>
</tbody>
</table>
Technical information

Dead band
The dead band is preset at 1.3% of Full Scale*, adjustable via parameter 13.

Accuracy
Linearity: = < 0.3% of Full Scale.*

Proportional band
The proportional band is preset at 10% of Full Scale.*

Fail safe operation
- If the P31P / P32P unit has an “O” or “A” in the 12th digit of the model number
  - When the supply voltage drops, the electronic control reverts to the fail safe mode. The last known output pressure is maintained at approximately the same level depending upon air consumption. The digital display indicates the last known pressure setting.
  - When the supply voltage is reinstated to the correct level, the valve moves from the fail safe mode and the output pressure immediately follows the control signal requirement. The display indicates the actual output pressure.
  - Note: In the event of loss of both power and inlet pressure the unit will exhaust downstream pressure.
- If the P31P / P32P unit has an “E” in the 12th digit of the model number
  - When the supply voltage drops, the electronic control reverts to “Forced Exhaust Mode” and will automatically exhaust the downstream (regulated) pressure.
  - When the supply voltage is reinstated to the correct level the unit will return to normal operation and follows the control signal requirement. The display indicates the actual pressure.
- If the unit has been programmed in manual mode (not with a control signal) the unit will EXHAUST and the regulator will need to be reset when power is applied.

Full exhaust
Complete exhaust of the regulator is defined as
P2 ≤ 1% Full Scale

* Full scale (F.S.)
For 2 bar (29 psig) versions this will be 2 bar (29 psig), for the 10 bar (145 psig) version full scale will be 10 bar (145 psig).

Degree of protection
IP65

EU conformity
CE: standard
EMC: according to directive 89/336/EEC
The new pressure regulator is in accordance with:
EN 61000-6-1:2001
EN 61000-6-2:2001
EN 61000-6-3:2001
EN 61000-6-4:2001

These standards ensure that this unit meets the highest level of EMC protection.

Mounting position
Preferably vertical, with the cable gland on top.

Materials: P31P & P32P
- Magnet Core .................................................. Steel
- Solenoid Valve Poppet .................................... FPM
- Solenoid Valve Housing ................................... Techno Polymer
- Regulator Body (P31P & P32P versions) .............. Aluminium
- Regulator Top Housing ..................................... Nylon
- Valve Head .................................................... Brass & NBR
- Remaining Seals .............................................. NBR

Advanced functionality
Pilot valve protection
When the required output pressure can not be achieved because of a lack of input pressure the unit will open fully and will display NoP. Approximately every 10 seconds the unit will retry. The output pressure will then be approximately equal to the inlet pressure. As soon as the input pressure is back on the required level, the normal control function follows.

Safety exhaust
Should the control signal fall below 0.1 volts the valve will automatically dump downstream system pressure.

Input protection
The unit has built-in protection against failure and burnout resulting from incorrect input value, typically:
The 24VDC supply is incorrectly connected to the setpoint input, the display will show ‘OL’, as an overload indication. The unit will need to be rewired and when correctly connected will operate normally.
The overload indicator ‘OL’ will also appear should the wrong input value be applied or the wrong input value be programmed: 4 - 20mA instead of 0 - 10V. To correct this a different set point value should be input or the unit reprogrammed to correct the set point value acceptance. (via parameter 4).

Response time

<table>
<thead>
<tr>
<th>Response time</th>
<th>P31P</th>
<th>P32P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 4 bar</td>
<td>25 msecs</td>
<td>35 msecs</td>
</tr>
<tr>
<td>1 to 6 bar</td>
<td>55 msecs</td>
<td>135 msecs</td>
</tr>
<tr>
<td>4 to 2 bar</td>
<td>70 msecs</td>
<td>85 msecs</td>
</tr>
<tr>
<td>6 to 1 bar</td>
<td>80 msecs</td>
<td>225 msecs</td>
</tr>
</tbody>
</table>

To fill volume of:
100cm³ - P31P
330cm³ - P32P
connected to the outlet of the regulator.

Settings
The regulator is pre-set at the factory. If required, adjustments can be made.

Flow Charts

P31P Regulator 1/4” Ports

P32P Regulator 1/2” Ports
How to change parameters
Pressing the Accept key "acc" for more than 3 seconds, will activate parameter change mode. The user can then select the parameters by pressing up or down key. (display will show Pxx). When parameter number is correct, pressing accept again will enter parameter number,(display will show parameter value).

Pressing the up or down key will change the parameter itself. (display will flash indicating parameter editing mode). Pressing the accept key will accept the new parameter value. (all digits will flash whilst being accepted).

After releasing all keys, the next parameter number will be presented on the display. (you may step to the next parameter). When no key is pressed, after 3 seconds the display will show the actual output pressure.

Back to Factory Setting
After start up. (Power is on)
Entering this value in parameter 0 will store the calibrated factory data into the working parameters. (Default calibration data is used)

<table>
<thead>
<tr>
<th>Parameter Number 0 – Reset Back to Factory Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step</strong></td>
</tr>
<tr>
<td>Press</td>
</tr>
<tr>
<td>3-6 seconds</td>
</tr>
<tr>
<td>Until Display Reads</td>
</tr>
<tr>
<td>Description</td>
</tr>
</tbody>
</table>

Set Control Signal
The unit is factory set for 0-10 V control signal. If 4-20 mA control signal is required, change parameter 4.

<table>
<thead>
<tr>
<th>Parameter Number 4 – Set Control Signal in Volts or Milliamps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step</strong></td>
</tr>
<tr>
<td>Press</td>
</tr>
<tr>
<td>3-6 seconds</td>
</tr>
<tr>
<td>Until Display Reads</td>
</tr>
<tr>
<td>Description</td>
</tr>
</tbody>
</table>
Set Output Signal
Parameter 6 is used to set the type of output signal to your PLC. This parameter is used as follows:
Output Signal option “0” = Digital Output – PNP
  - Factory set at “0” Non Adjustable
Output Signal option “P” = Digital PNP or Analog 1-10V
  - Factory set at “1” for Analog Signal
  - Convert to Digital PNP by changing parameter to “0” setting
Output Signal option “N” = Digital NPN or Analog 1-10V
  - Factory set at “1” Analog Signal
  - Convert to Digital NPN by changing parameter to “0”
Output Signal option “M” = Analog 4-20 mA
  - Factory set at “2” Non Adjustable

Parameter Number 6 – Set Output Signal

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flashes Decimal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value between 0 and 130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequences to next parameter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adjust Span Analog Output Signal
Set value is a % of Full Analog range. As an example for a 0-10V output signal, the original factory setting of 100% will give you an adjustment of 0-10V. If you reset Parameter 8 to 50%, the new output range would be 0-5V or 50% of the full range.
In the event that the output signal is too low, in a certain application, you can adjust it by increasing Parameter 8 to a maximum value of 130% of scale.
Note that all values are nominal and that an actual measurement may be required to ensure signal strength.

Parameter Number 8 – Adjust Span Analog Output Signal

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flashes Decimal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value between 0 and 130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequences to next parameter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Adjust Digital Display

If necessary, adjustments can be made to the digital display when using an external pressure sensor.

#### Parameter Number 9 – Adjust Digital Display Value (Pressure Calibration)

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
</tr>
<tr>
<td>Until Display Reads</td>
<td>Pxx</td>
<td>P09</td>
<td>###</td>
<td>###</td>
<td>P10</td>
</tr>
<tr>
<td>Description</td>
<td>Accesses changeable parameters.</td>
<td>Accesses parameter no. 9.</td>
<td>Displays current digital display</td>
<td>Use up or down arrows and accept to adjust the display value if using an external pressure sensor.</td>
<td>Accepts and saves new parameter setting.</td>
</tr>
</tbody>
</table>

### Set Pressure Scale

Units with NPT port threads are supplied with a factory set psig pressure scale. Use parameter 14 to change scale to bar.

#### Parameter Number 14 – Set Pressure Scale in psig or bar

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
</tr>
<tr>
<td>Until Display Reads</td>
<td>Pxx</td>
<td>P14</td>
<td>00</td>
<td>000</td>
<td>000</td>
</tr>
</tbody>
</table>
### Preset Minimum Pressure

If there is a need for a pre-set Minimum pressure, use parameter 18. (Note: preset pressure is affected by % P19.)

#### Parameter Number 18 – Set Minimum Preset Pressure

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Press</strong></td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Until Display Reads</strong></td>
<td>P×x</td>
<td>P18</td>
<td>000</td>
<td># # #</td>
<td>P19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing Decimal</td>
<td></td>
<td>Flashing Decimal (value between 0 and 200)</td>
<td></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Accesses changeable parameters.</td>
<td>Accesses parameter no. 18.</td>
<td>Displays current parameter value. Incremental value is: 2 bar unit: x 2 mbar x % P19. 10 bar unit: x 10 mbar x % P19.</td>
<td>Edits parameter.</td>
<td>Accepts and saves new parameter setting.</td>
</tr>
</tbody>
</table>

#### Set Pressure Correction

Pressure correction allows the user to set a Maximum pressure as a percentage of secondary pressure F.S.

Example: If F.S. is 10 bar, set parameter 19 to 50 for Maximum preset pressure of 5 bar.

Pressure correction also affects the Minimum preset pressure in parameter 18.

Example: If F.S. is 10 bar and parameter 18 is set to a value of 100 (1 bar), and parameter 19 is set to 50%, then the actual Minimum preset pressure seen is 0.5 bar.

#### Parameter Number 19 – Set Maximum Preset Pressure

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Press</strong></td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
<td>▼ or ▲</td>
<td>acc</td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Until Display Reads</strong></td>
<td>P×x</td>
<td>P19</td>
<td>100</td>
<td># # #</td>
<td>P20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing Decimal</td>
<td></td>
<td>Flashing Decimal (value between 0 and 100)</td>
<td></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Accesses changeable parameters.</td>
<td>Accesses parameter no. 19.</td>
<td>Displays current parameter value. Incremental value is: % of F.S.</td>
<td>Edits parameter.</td>
<td>Accepts and saves new parameter setting.</td>
</tr>
</tbody>
</table>
Behavior Control
The regulation speed of the pressure regulator can be modified by means of one parameter. (P 20)
The value in this parameter has a range from 0-5. A higher value indicates slower regulation speed, but will be more stable.

Parameter Number 20 – Set Behavior Control

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td><img src="#" alt="Acc" /></td>
<td><img src="#" alt="Down Arrow" /> or <img src="#" alt="Up Arrow" /></td>
<td><img src="#" alt="Acc" /></td>
<td><img src="#" alt="Down Arrow" /> or <img src="#" alt="Up Arrow" /></td>
<td><img src="#" alt="Acc" /></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td><img src="#" alt="P.x" /></td>
<td><img src="#" alt="P20" /></td>
<td><img src="#" alt="003" /></td>
<td><img src="#" alt="Flashing Decimal" /> (value between 0 and 5)</td>
<td><img src="#" alt="Flashing" /></td>
</tr>
</tbody>
</table>

**Description**
- Accesses changeable parameters.
- Accesses parameter no. 20.
- Displays current parameter value.
- Edits parameter:
  - 0 = custom set*
  - 1 = fastest (narrow proportional band)
  - 2 = fast
  - 3 = normal
  - 4 = slow
  - 5 = slowest (proportional band is broad)
- Accepts and saves new parameter setting.
- Sequences to next parameter.

*When the value 0 is entered, you are able to create your own custom settings true parameters 12, 13 and 21.

Fine Settings
Set Proportional Band
Proportional band is used for setting the reaction sensitivity of the regulator. The displayed value is X 10 mbar and has a range between 50 (0.5 bar) and 250 (2.5 bar).

Parameter Number 12 – Set Proportional Band (P20 Must be Set to 0)

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td><img src="#" alt="Acc" /></td>
<td><img src="#" alt="Down Arrow" /> or <img src="#" alt="Up Arrow" /></td>
<td><img src="#" alt="Acc" /></td>
<td><img src="#" alt="Down Arrow" /> or <img src="#" alt="Up Arrow" /></td>
<td><img src="#" alt="Acc" /></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td><img src="#" alt="P.x" /></td>
<td><img src="#" alt="P12" /></td>
<td><img src="#" alt="100" /></td>
<td><img src="#" alt="Flashing Decimal" /> (value between 50 and 250)</td>
<td><img src="#" alt="Flashing" /></td>
</tr>
</tbody>
</table>

**Description**
- Accesses changeable parameters.
- Accesses parameter no. 12.
- Displays current parameter value.
- Incremental value is: x 10 mbar
- Edits parameter.
- Accepts and saves new parameter setting.
- Sequences to next parameter.
Set Deadband

Deadband is the Minimum limit of accuracy at which the regulator is set for normal operation. The displayed value is X 10 mbar and has a range between 4 (40 mbar) and 40 (400 mbar).

Parameter Number 13 – Set Deadband (P20 Must be Set to 0)

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>![acc]</td>
<td>![or]</td>
<td>![acc]</td>
<td>![or]</td>
<td>![acc]</td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td>![Pxx]</td>
<td>![P13]</td>
<td>O15</td>
<td>![###]</td>
<td>![###]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flashing Decimal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Accesses changeable parameters.</td>
<td>Accesses parameter no. 13.</td>
<td>Displays current parameter value. Incremental value is x 10 mbar</td>
<td>Edits parameter.</td>
<td>Accepts and saves new parameter setting.</td>
</tr>
</tbody>
</table>

Proportional Effect

Parameter Number 21 – Set Proportional Effect (P20 Must be Set to 0)

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>![acc]</td>
<td>![or]</td>
<td>![acc]</td>
<td>![or]</td>
<td>![acc]</td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td>![Pxx]</td>
<td>![P21]</td>
<td>O10</td>
<td>![###]</td>
<td>![###]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flashing Decimal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parameter Number 39 – Displays Current Software Version

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>![acc]</td>
<td>![or]</td>
<td>![acc]</td>
</tr>
<tr>
<td>3-6 seconds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Until Display Reads</td>
<td>![Pxx]</td>
<td>![P39]</td>
<td>![###]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing Decimal</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Accesses changeable parameters.</td>
<td>Accesses parameter no. 39.</td>
<td>Displays current parameter value. XXX = current software version</td>
</tr>
</tbody>
</table>
Catalog 0700P-E
Global Air Preparation System

P31P / P32P Series
Electronic Proportional Regulators

Dimensions are in mm (Inches)
Parker Global Series Combined Soft Start / Dump Valves, provide for the safe introduction of pressure to machines or systems. Soft Start / Dump Valves when set, allow the pressure to gradually build to the set point before fully opening to deliver full flow at line pressure.

The controlled introduction of pressure can be an important safety factor and prevent damage to tooling when air pressure is introduced at machine or system start up. To maintain these units in the open position a pilot supply to the air pilot operated version or an electrical signal to the solenoid operated version must be maintained. The valve will automatically dump when the holding signal is removed.

Options:

- Modular design with 1/4" or 1/2" integral ports (NPT, BSPP & BSPT)
- Provides for the safe introduction of pressure
- The 3-way, 2-position function automatically dumps downstream pressure on the loss of pilot signal
- Adjustable slow start
- Solenoid or air pilot options
- High flow & exhaust capability
- Silencer included

The table below provides the specifications for the Combined Soft Start / Dump Valve:

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
<th>Flow‡</th>
<th>Max.</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>120VAC Solenoid &amp; cable plug</td>
<td>P31TA92SGC1FN</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37kg (0.8lbs)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>24VDC Solenoid &amp; cable plug</td>
<td>P31TA92SGC2CN</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>166 (6.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.41kg (0.9lbs)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>External air pilot operated</td>
<td>P31TA92PPN</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37kg (0.8lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>120VAC 30mm coil &amp; cable plug included</td>
<td>P32TA94SCA3GN</td>
<td>46 (97)</td>
<td>10 (150)</td>
<td>162.5 (6.4)</td>
<td>88 (3.4)</td>
<td>57.2 (2.2)</td>
<td>0.87kg (1.9lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>24VDC 30mm coil &amp; cable plug included</td>
<td>P32TA94SCA2CN</td>
<td>46 (97)</td>
<td>10 (150)</td>
<td>227.5 (8.9)</td>
<td>88 (3.4)</td>
<td>57.2 (2.2)</td>
<td>0.91kg (2.0lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot operated</td>
<td>P32TA94PPN</td>
<td>46 (97)</td>
<td>17 (250)</td>
<td>162.5 (6.4)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.87kg (1.9lbs)</td>
</tr>
</tbody>
</table>

† Includes exhaust silencer. Flow with 6.3 bar (91.3 psig) inlet and 1 bar (14.5 psig) pressure drop.
‡ Standard part numbers shown in bold. For other models refer to Options chart above.
Global Air Preparation System

Technical Information

Fluid: Compressed air
Max. pressure solenoid operated: 10 bar (150 psig)
Max. pressure air pilot operated: 17 bar (250 psig)
Min. operating pressure: 3 bar (44 psig)
Temperature Max.* solenoid operated: -10°C to 50°C (14°F to 122°F)
Temperature Max.* air pilot operated: -20°C to 80°C (-4°F to 176°F)

Air pilot port: 1/8 *
Exhaust port: P31T - 1/4" / P32T - 1/2"

Typical flow with 6.3 bar inlet pressure and 1 bar pressure drop:
P31T 17 dm³/s (36 scfm)
P32T 48 dm³/s (101 scfm)

* Air supply must be dry enough to avoid ice formation at temperatures below +2°C
Snap pressure: Full flow when downstream pressure reaches 50% of the inlet pressure

Material Specifications

Body: Aluminum
Body cover: Polyester
Seals: Nitrile NBR

Mounting Brackets

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-bracket mounting kit</td>
<td>P31HKA00ML</td>
</tr>
<tr>
<td>Foot bracket mounting kit</td>
<td>P31HKA00MC</td>
</tr>
</tbody>
</table>

Note:
For solenoid operators and cable plugs (connectors) see pages 68 to 69.

Dimensions mm (inches)

P31T

<table>
<thead>
<tr>
<th>Description</th>
<th>P31T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>166 (6.53)</td>
</tr>
<tr>
<td></td>
<td>30.5 (1.20)</td>
</tr>
<tr>
<td></td>
<td>50.5 (2.00)</td>
</tr>
<tr>
<td></td>
<td>104 (4.10)</td>
</tr>
<tr>
<td></td>
<td>20 (0.79)</td>
</tr>
</tbody>
</table>

Flow Charts

1/4 Soft Start & Dump Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Secondary Pressure - bar

0 20 40 60 80 100

Secondary Pressure - psi

0 2 4 6 8

Flow - dm³/s

0 20 40 60 80 120

Flow - scfm

0 20 40 60 80 120

1/2 Soft Start & Dump Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Secondary Pressure - bar

0 20 40 60 80 100

Secondary Pressure - psi

0 2 4 6 8

Flow - dm³/s

0 20 40 60 80 120

Flow - scfm

0 20 40 60 80 120

For mounting brackets see page 52
Remote operated dump valves automatically shut off upstream pressure and exhaust the downstream pressure when the pilot pressure is released.

To maintain these units in the open position a pilot supply to the air pilot operated version or an electrical signal to the solenoid operated version must be maintained. The valve will automatically dump when the holding signal is removed.

**Options:**

- Modular design with 1/4" or 1/2" integral ports (NPT, BSPP & BSPT)
- Provides for the safe introduction of pressure
- The 3-way, 2-position function automatically dumps downstream pressure on the loss of pilot signal
- Solenoid or air pilot options
- High flow & exhaust capability
- Silencer included

**Port size**

- Global modular mini (1/4"
- Global modular compact (1/2"

**Order code**

- 1/4" 120VAC Solenoid & cable plug: P31DA92SGNC1FN
- 1/4" 24VDC Solenoid & cable plug: P31DA92SGNC2CN
- 1/4" External air pilot operated: P31DA92PPN
- 1/2" 120VAC 30mm coil & cable plug included: P32DA94SCNA3GN
- 1/2" 24VDC 30mm coil & cable plug included: P32DA94SCNA2CN
- 1/2" External air pilot operated: P32DA94PPN

**Flow** dm³/s (scfm)

- 17 (36)
- 17 (36)
- 17 (36)
- 51 (108)
- 51 (108)
- 51 (108)

**Max. bar (psig)**

- 10 (150)
- 10 (150)
- 10 (150)
- 10 (150)
- 10 (150)
- 10 (150)

**Height** mm (inches)

- 115.6 (4.5)
- 115.6 (4.5)
- 115.6 (4.5)
- 162.5 (6.3)
- 162.5 (6.3)
- 162.5 (6.3)

**Width** mm (inches)

- 57 (2.2)
- 57 (2.2)
- 57 (2.2)
- 75 (2.9)
- 75 (2.9)
- 75 (2.9)

**Depth** mm (inches)

- 40 (1.5)
- 40 (1.5)
- 40 (1.5)
- 57.2 (2.2)
- 57.2 (2.2)
- 57.2 (2.2)

**Weight** kg (lbs)

- 0.37 (0.8)
- 0.41 (0.9)
- 0.37 (0.8)
- 0.69 (1.5)
- 0.91 (2.0)
- 0.87 (1.9)

**Engr Level**

- A
- A
- A
- A
- A

**Thread type**

- BSPP
- BSPP
- BSPT
- BSPT
- BSPT

**Actuator interface**

- G
- G
- G
- G
- G

**Pilot Type**

- P
- S
- S
- D
- D

**Solenoid Voltage**

- 2CN
- 2CN
- 2CN
- 2CN

**Solenoid Type**

- C
- C
- C
- C

Note:

- P32 unit used for both P32 & P33 series
- Bold items are most common.

† Includes exhaust silencer

† Standard part numbers shown in bold. For other models refer to Options chart above.
Global Air Preparation System

**Technical Information**

- **Fluid:** Compressed air
- **Max. pressure solenoid operated:** 10 bar (150 psig)
- **Max. pressure air pilot operated:** 17 bar (250 psig)
- **Min. operating pressure:** 3 bar (44 psig)
- **Temperature Max.* solenoid operated:** -10°C to 50°C (14°F to 122°F)
- **Temperature Max.* air pilot operated:** -20°C to 80°C (-4°F to 176°F)
- **Air pilot port:** 1/8"
- **Exhaust port:** P31D - 1/4" / P32D - 1/2"

**Flow Charts**

**1/4 Remote Dump Valve**

**1/2 Remote Dump Valve**

**Material Specifications**

- **Body:** Aluminum
- **Body cover:** Polyester
- **Seals:** Nitrile NBR

**Mounting Brackets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-bracket mounting kit</td>
<td>P3HKA00ML</td>
</tr>
<tr>
<td>Foot bracket mounting kit</td>
<td>P3HKA00MC</td>
</tr>
</tbody>
</table>

**Note:**

For solenoid operators and cable plugs (connectors) see pages 68 to 69.

**Dimensions mm (inches)**

**P31D**

**P32D**

For mounting brackets see page 52.
Parker Global Series Soft Start Valves, provide for the safe introduction of pressure to machines or systems. Soft Start Valves, allow the pressure to gradually build to the set point before fully opening to deliver full flow at line pressure.

**Options:**

**P31S**

<table>
<thead>
<tr>
<th>Body size</th>
<th>Order code†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; Soft start (1/4&quot;)</td>
<td>P31SA92SGNC1FN</td>
</tr>
<tr>
<td>1/2&quot; Soft start (1/2&quot;)</td>
<td>P32SA94SCNA3GN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Order code†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>120VAC Solenoid &amp; cable plug</td>
<td>P31SA92SGNC1FN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>24VDC Solenoid &amp; cable plug</td>
<td>P31SA92SGNC2CN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>External air pilot operated</td>
<td>P31SA92Y0N</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>External air pilot (1/8&quot; threaded)</td>
<td>P31SA92PPN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>120VAC 30mm coil &amp; cable plug incl.</td>
<td>P32SA94SCNA3GN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>24VDC 30mm coil &amp; cable plug</td>
<td>P32SA94SCNA2CN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Internal air pilot operated</td>
<td>P32SA94Y0N</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot (1/8 threaded)</td>
<td>P32SA94PPN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solenoid type only</th>
</tr>
</thead>
<tbody>
<tr>
<td>C 24VDC non locking manual override</td>
</tr>
<tr>
<td>G 120VAC non locking manual override</td>
</tr>
<tr>
<td>N 120VAC non locking manual override (P31 series only)</td>
</tr>
</tbody>
</table>

**Solenoid voltage**

- **C** 15mm solenoid (P31 series only)
- **A** 30mm N1000 coil (P32 only)
- **D** 30mm N1000 coil (M12 connection) (P32 only)

**Actuator interface**

- **0** Internal Pilot
- **G** 15mm solenoid (P31 only)
- **C** 30mm solenoid
- **P** Threaded air pilot

**Pilot type**

- **P** External air pilot
- **S** Solenoid pilot
- **Y** Internal air pilot

**Thread type**

- **BSPP** 1
- **BSPT** 2
- **NPT** 9

**Body size**

- **P31S**
- **P32S**

**Engr level**

- **Current** A

**Note:**

- P32 unit used for both P32 & P33 series
- Bold items are most common.

The controlled introduction of pressure can be an important safety factor and prevent damage to tooling when air pressure is introduced at machine or system start up.

**Note:** Soft Start Valves must be installed downstream of a 3/2 valve with exhaust capability.

"Symbol" section details the valve symbols and some features:

- Modular design with 1/4" or 1/2" integral ports (NPT, BSPP & BSPT)
- The 2-way, 2-position function provides for the safe introduction of pressure
- Adjustable slow start
- Solenoid or air pilot options
- High flow
Global Air Preparation System

P31S, P32S Series
Soft Start Valves

Technical Information

Fluid: Compressed air
Max. pressure solenoid operated: 10 bar (150 psig)
Max. pressure air pilot operated: 17 bar (250 psig)
Min. operating pressure: 3 bar (44 psig)
Temperature Max.* solenoid operated: -10°C to 50°C
(14°F to 122°F)
Temperature Max.* air pilot operated: -20°C to 80°C
(-4°F to 176°F)
Air pilot port: 1/8"

Typical flow with 6.3 bar inlet pressure and 1 bar pressure drop:
P31S 17 dm³/s (36 scfm)
P32S 48 dm³/s (101 scfm)

* Air supply must be dry enough to avoid ice formation at temperatures below +2°C
Snap pressure: Full flow when downstream pressure reaches 50% of the inlet pressure

Material Specifications

Body: Aluminum
Body cover: Polyester
Seals: Nitrile NBR

Mounting Brackets

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-bracket mounting kit</td>
<td>P3HKA00ML</td>
</tr>
<tr>
<td>Foot bracket mounting kit</td>
<td>P3HKA00MC</td>
</tr>
</tbody>
</table>

Note:
For solenoid operators and cable plugs (connectors) see pages 68 to 69.

Flow Charts

1/4 Soft Start Valve

P31S

Inlet Pressure - 6.3 bar (91.3 psig)

Secondary Pressure - bar

Secondary Pressure - (psig)

Flow - dm³/s

Flow - (scfm)

1/2 Soft Start Valve

P32S

Inlet Pressure - 6.3 bar (91.3 psig)

Secondary Pressure - bar

Secondary Pressure - (psig)

Flow - dm³/s

Flow - (scfm)

Dimensions mm (inches)

P31S

For mounting brackets see page 52
Redundant Safety Exhaust Valve

Symbol

- Proven control reliable technology with integrated soft start
- Soft start application of air to the system when energized: can be adjusted for slower or faster buildup of system pressure
- Rapid exhaust of downstream air when de-energized to remove stored energy and allow safe access
- Memory, monitoring, and air flow control functions are integrated into two identical valve elements. Valves lock-out if asynchronous movement of valve elements occurs during actuation or de-actuation, resulting in a residual outlet pressure of less than 1% of supply.
- Reset can only be accomplished by the integrated electrical (solenoid) reset. Cannot be reset by removing and re-applying supply pressure.
- Basic 3/2 normally closed valve function: Dirt tolerant, wear compensating poppet design for quick response and high flow capacity.
- LED indicators of main solenoid operation, reset solenoid operation, and status indicator condition.
- Optional transducer for monitoring of downstream pressure in the system.
- Dual exhaust silencers included.
- Not for use with clutch / brake applications.
- For use in conjunction with a safety relay or safety PLC.

Options:

<table>
<thead>
<tr>
<th>P33TA</th>
<th>9</th>
<th>6</th>
<th>R</th>
<th>G</th>
<th>4</th>
<th>F</th>
<th>2CN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body size</td>
<td>Standard P33T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>3/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Solenoid pilot + gauge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>Cat 4 w/bracket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solenoid</td>
<td>Dual M12 connector without transducer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>24VDC with manual override</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part number*</td>
<td>P33TA96RG4F2CN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Port size

<table>
<thead>
<tr>
<th>Inlet</th>
<th>Outlet</th>
<th>Transducer</th>
<th>1 to 2</th>
<th>2 to 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4</td>
<td>3/4</td>
<td>w/o transducer</td>
<td>3.7</td>
<td>8.5</td>
</tr>
<tr>
<td>3/4</td>
<td>3/4</td>
<td>w/ transducer</td>
<td>3.7</td>
<td>8.5</td>
</tr>
</tbody>
</table>

* NPT port threads. For BSPP threads, replace "2" in the part number with a "1".
**Parker Hannifin Corporation**

**Pneumatic Division**

**Richland, Michigan**

**www.parker.com/pneumatics**

---

**B69**

---

**Technical Information**

Pilot Solenoids: According to VDE 0580

Enclosure rating: According to DIN 400 50 IP 65

Connector socket: According to DIN 43650 Form A

Three solenoids, rated for continuous duty

---

**Power consumption (each solenoid):**

- For primary and reset solenoids: 1.2 Watts on DC

---

**Enclosure rating:**

- IP65, IEC 60529

---

**Electrical connection:**

- M12, 5-pin

---

**Ambient temperature:**

- 15°F to 122°F (-10°C to 50°C)

---

**Media temperature:**

- 40°F to 175°F (4°C to 80°C)

---

**Flow media:**

- Compressed Air, Filtered to Minimum 40 Micron

---

**Inlet pressure:**

- 30 to 150 PSIG (2 to 10 bar)

---

**Pressure switch rating (Status indicator):**

- 5 Amps at 30 Volts DC

---

**Monitoring:**

Dynamically, cyclically, internally during each actuating and de-actuating movement. Monitoring function has memory and requires an overt act to reset unit after lockout.

---

**Mounting orientation:**

Vertically with pilot solenoids on top

---

**Port threads:**

- 3/4 NPT, 3/4 BSPP

---

**Control reliable:**

Category 4 (Cat 4); performance Level e (PLe) in accordance with Machine directive - EN ISO 13849-1

(Certification pending)

---

**Valve Wiring**

---

**Dimensions** mm (inches)

---

**Accessories - P33T Series**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black grill</td>
<td>1834C05-001</td>
</tr>
<tr>
<td>Body connector</td>
<td>P32KA00CB</td>
</tr>
</tbody>
</table>

---

**Cables**

- M12, 5-pin female to flying lead cable, TPE; 2 m (6.6 ft).............. RKC 4.5-2/S1587
- M12, 5-pin male to flying lead cable, TPE; 2 m (6.6 ft).............. RSC 4.5-2/S1587

---

**Port block kit**

- 1/2 NPT........................................ P32KA94CP
- 3/4 NPT........................................ P32KA96CP
- 1/2 BSPP...................................... P32KA14CP
- 3/4 BSPP...................................... P32KA16CP
- 1/2 BSPT...................................... P32KA24CP
- 3/4 BSPT...................................... P32KA26CP

---

**Pressure switch**

- 1227A30-001

---

**Pressure transducer (Optional)**

- 1232H30-001

---

**T-bracket w/ body connector**

- P32KA00MT

---

**T-bracket (Fits to body connector or port block)**

- P32KA00MB

---

**Silencer(s) 3/4"**

- 5500A5013

---

**Solenoid (Main & reset)**

- 1527B7916-001

---

**Square flush mounting gauge kit, 0-160 psig**

- K4511SCR160

---

**Note:** Mounting bracket and installation screws included and required to install unit in the system.
Global Air Preparation System

**Valve De-actuated (ready-to-run):**

The flow of inlet air pressure to the inlet chamber of the main valve internals is restricted by a fixed orifice and an adjustable flow control as well as an air piloted 2-way normally closed poppet valve. The flow of inlet air pressure into the crossover passages is restricted by the size of the passage between the stem and the valve body opening. Flow is sufficient to quickly pressurize pilot supply / timing chambers 1 and 2. The inlet poppets prevent air flow from crossover passages into the outlet chamber. Air pressure acting on the inlet poppets and return pistons securely hold the valve elements in the closed position. (Reset adapter omitted for clarity.)

The green “Status” LED will be illuminated indicating the valve is operational.

**Valve Actuated:**

Energizing the pilot valves simultaneously applies pressure to both pistons, forcing the internal parts to move to their actuated (open) position, where inlet air flow to crossover passages is fully open, inlet poppets are fully open and exhaust poppets are fully closed. The outlet is then pressurized at a rate allowed by the fixed orifice and the adjusted flow control. Once the air pressure in the outlet chamber reaches approximately 60% of inlet pressure, the air piloted 2-way normally closed poppet valve opens fully and the pressure in the inlet, crossovers, outlet, and timing chambers are quickly equalized. The adjustable flow control will control the time it takes for the outlet air pressure to reach approximately 60% of inlet pressure.

De-energizing the pilots quickly causes the valve elements to return to the ready-to-run position.

Solenoid 1, Solenoid 2 and the green “Status” LED’s will be illuminated indicating the valve is operating properly.

**Soft Start Function:**

- Start signal
- Switching time delay
- Gradual pressure build up
- Operating pressure $p_1 = [p_1']$

---

Introduction Combos Filters Coalescers Regulators Filter / Lubricators Accessories
Valve Fault and Lock-out:

Whenever the valve elements operate in a sufficiently asynchronous manner, either on actuation or de-actuation, the valve will move to a locked-out position. In the locked-out position, one crossover and its related timing chamber will be exhausted, and the other crossover and its related timing chamber will be fully pressurized. The valve element (side 2) that is partially actuated has pilot air available to fully actuate it, but no air pressure on the return piston to fully de-actuate the valve element.

Air pressure in the crossover acts on the differential of side 2 stem diameters creating a latching force. Side 1 is in a fully closed position, and has no pilot air available to actuate, but has full pressure on the inlet poppet and return piston to hold the element in the fully closed position. Inlet air flow on side 1 into its crossover is restricted, and flows through the open inlet poppet on side 2, through the outlet into the exhaust port, and from the exhaust port to atmosphere. Residual pressure in the outlet is less than 1% of inlet pressure. The return springs are limited in travel, and can only return the valve elements to the intermediate (locked-out) position. Sufficient air pressure acting on the return pistons is needed to return the valve elements to a fully closed position.

The red “Status” LED will be illuminated indicating the valve in fault and lock-out must be reset.

Valve Reset (electrical or manual):

The reset procedure is as follows:

- Remove the electrical signals to the main coils
- Ensure there is air supplied to the valve
- Energize the reset solenoid for a minimum of 200 ms
- Allow a 200 ms delay after de-energizing the reset solenoid and re-energizing the main solenoids

The valve will remain in the locked-out position, even if the inlet air supply is removed and re-applied.

A remote reset signal must be applied to reset the valve. A momentary, remote electrical signal must be applied to the reset solenoid to apply pressure to the reset pistons in the valve. Actuation of the reset piston physically pushes the main valve elements to their closed position. Inlet air fully pressurizes the crossovers and holds the inlet poppets on seat. Actuation of the reset piston opens the reset poppet, thereby, immediately exhausting pilot supply air, thus, preventing valve operation during reset (Reset adapter added to illustration.). De-actuation of reset pistons causes the reset poppets to close and pilot supply to fully pressurize. Reset air pressure is applied by a 3/2 normally closed solenoid, or a manual push button mounted on the reset adapter in the top valve cover.

The green “Status” LED will be illuminated once the valve is reset.
Solenoid Operators - CNOMO

Technical data -

Solenoid operators, coil combinations

<table>
<thead>
<tr>
<th></th>
<th>NC Normal Operator with 22 x 30 standard coil</th>
<th>NC Normal Operator with 30 x 30 standard coil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working pressure</td>
<td>0 to 10 bar</td>
<td>0 to 10 bar</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-10°C to 60°C *</td>
<td>-10°C to 60°C *</td>
</tr>
<tr>
<td>Power (DC)</td>
<td>4.8W</td>
<td>2.7W</td>
</tr>
<tr>
<td>Power (AC)</td>
<td>8.5VA</td>
<td>4.9VA</td>
</tr>
<tr>
<td>Voltage tolerance</td>
<td>+/-10%</td>
<td>+/-10%</td>
</tr>
<tr>
<td>Duty cycle</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Insulation class</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Electric connection</td>
<td>B Industrial</td>
<td>DIN 43650A</td>
</tr>
<tr>
<td>Protection</td>
<td>IP65</td>
<td>IP65</td>
</tr>
<tr>
<td>Approval</td>
<td>UL/CSA</td>
<td></td>
</tr>
<tr>
<td>Working media</td>
<td>All neutral media such as compressed air</td>
<td></td>
</tr>
</tbody>
</table>

* Limited to 50°C if use with 100% duty cycle

Solenoid Coils with M12 Connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FCB449</td>
<td>0.065</td>
</tr>
</tbody>
</table>

Solenoid Coils with DIN A or Industrial B Connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>22mm x 30mm Order code</th>
<th>Weight (Kg)</th>
<th>30mm x 30mm Order code</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FCB449</td>
<td>0.093</td>
<td>P2FCA449</td>
<td>0.105</td>
</tr>
<tr>
<td>Alternative current</td>
<td>110V 50Hz, 120V 60Hz</td>
<td>P2FCB453</td>
<td>0.093</td>
<td>P2FCA453</td>
</tr>
</tbody>
</table>

Transients

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavourable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the Maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All connectors/cable plugs EN175301-803 with LED’s include this type of circuit protection.

Materials

Pilot Valve

Body: Polyamide
Armature tube: Brass
Plunger & core: Corrosion resistant Cr-Ni steel
Seals: Fluorocarbon
Screws: Stainless steel

Coil

Encapsualtion material: Thermoplastic as standard Duroplast for M12 connection

Spare Base Solenoid Pilot Operator CNOMO NC

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code non-lock manual override</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Duty</td>
<td>P2FP23N4B</td>
<td>0.065</td>
</tr>
<tr>
<td>No Override</td>
<td>P2FP23N4A</td>
<td>0.065</td>
</tr>
</tbody>
</table>

Note: Solenoid pilot operators are fitted to the Global range. Order the above part numbers for spares. The operators are supplied with mounting screws and interface ‘O’ rings. Coils and connectors must be ordered separately.
Solenoid Connectors / Cable Plugs EN175301-803

<table>
<thead>
<tr>
<th>Description</th>
<th>22mm Form B Industrial</th>
<th>Order code</th>
<th>30mm Form A DIN 43650A</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>With standard screw</td>
<td>Standard IP65 without flying lead</td>
<td>PS2429BP</td>
<td>PS2028BP</td>
<td></td>
</tr>
<tr>
<td>With LED and protection 24VAC/DC</td>
<td>PS243079BP</td>
<td>PS203279BP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With LED and protection 110VAC</td>
<td>PS243083BP</td>
<td>PS203283BP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With cable</td>
<td>Standard with 2m cable IP65</td>
<td>PS2429JBP</td>
<td>PS2028JCP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24VAC/DC, 2m cable LED and protection IP65</td>
<td>PS2430J79BP</td>
<td>PS2032J79CP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>110VAC/DC, 2m cable LED and protection IP65</td>
<td>PS2430J83BP</td>
<td>PS2032J83CP</td>
<td></td>
</tr>
</tbody>
</table>

Solenoid coil dimensions mm (inches)

22 x 30mm

30 x 30mm

Cable plug dimensions mm (inches)

22mm Form B Industrial

PS2429BP

30mm DIN 43650A

PS2028BP
Introduction Combos Filters  Coalescers Regulators Filter /
Slide Valve / Lockout Valve

Features
• The Safety Lockout valve is a manually operated, slide-type, 2-position, 3-way valve. In the closed position, downstream air pressure is exhausted to atmosphere.
• The valve slide can be locked in the closed position with a customer supplied padlock.
• The Safety Lockout valves conform to OSHA #29 CFR part 1910 – control of hazardous energy source (lockout /
tagout).
• Left to right flow — orange slide
• Right to left — yellow slide

Ordering Information

<table>
<thead>
<tr>
<th>Model type</th>
<th>Port size</th>
<th>Thread type</th>
<th>Flow dm³/s (scfm)</th>
<th>Safety Lockout Valve Flow from left to right</th>
<th>Safety Lockout Valve Flow from right to left</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>47.2 (100)</td>
<td>P31VA92LSAN</td>
<td></td>
</tr>
<tr>
<td>P32</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>66.5 (141)</td>
<td>P32VA92LSAN</td>
<td>P32VA92LSBN</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
<td>NPT</td>
<td>101.9 (216)</td>
<td>P32VA93LSAN</td>
<td>P32VA93LSBN</td>
</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>128.4 (272)</td>
<td>P32VA94LSAN</td>
<td>P32VA94LSBN</td>
</tr>
<tr>
<td>P33</td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>138.9 (290)</td>
<td>P33VA94LSAN</td>
<td>P33VA94LSBN</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>NPT</td>
<td>141.6 (300)</td>
<td>P33VA96LSAN</td>
<td>P33VA96LSBN</td>
</tr>
</tbody>
</table>

For thread type:  BSPP 1
  BSPT 2
  NPT 9

Material Specifications

<table>
<thead>
<tr>
<th>Material</th>
<th>P31</th>
<th>P32</th>
<th>P33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Zinc</td>
<td>Zinc</td>
<td>Zinc</td>
</tr>
<tr>
<td>Blade</td>
<td>Acetal</td>
<td>Acetal</td>
<td>Acetal</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
<td>Nitrile</td>
<td>Nitrile</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>P31</th>
<th>P32/P33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-10°C to 65.5°C (14°F to 150°F)</td>
<td>-25°C to 65.5°C (-13°F to 150°F)</td>
</tr>
<tr>
<td>Max. supply pressure</td>
<td>10 bar (150 psig)</td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>BSPP / BSPT / NPT</td>
<td>1/4, 3/8, 1/2, 3/4</td>
</tr>
<tr>
<td>Weight (P31)</td>
<td>0.30 kg (0.66 lbs)</td>
<td></td>
</tr>
<tr>
<td>Weight (P32)</td>
<td>0.34 kg (0.74 lbs)</td>
<td></td>
</tr>
<tr>
<td>Weight (P33)</td>
<td>0.41 kg (0.90 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions mm (inches)
Ball Valve / Lockout Valve

**Features**

The Ball / Lockout Valve shuts off downstream line pressure in the closed position with a 90° turn of the handle. In the closed position, inlet air pressure is blocked and downstream / system air is exhausted through a threaded port. To prevent unauthorized adjustment, the padlock slide may be assembled on either side. It is recommended that this slide is installed after final system assembly.

**Note:** This padlock slide is a permanent assembly and may not be removed later, any unauthorized tampering will void any warranty claims. The valve can only be locked in the closed position.

**Ordering Information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Exhaust port</th>
<th>Thread type</th>
<th>Flow dm³/s (scfm)</th>
<th>Modular ball valve flow from left to right</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>20 (42.4)</td>
<td>P31VA92LBNN</td>
</tr>
<tr>
<td>P32</td>
<td>3/8&quot;</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>90 (190.7)</td>
<td>P32VA93LBNN</td>
</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>122 (258.5)</td>
<td>P32VA94LBNN</td>
</tr>
<tr>
<td>P33</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>265 (561.5)</td>
<td>P33VA94LBNN</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>320 (678)</td>
<td>P33VA96LBNN</td>
</tr>
</tbody>
</table>

For thread type:  
- BSPP  
- BSPT  
- NPT

**Material Specifications**

- **Body:** Aluminum  
- **Seals:** PTFE  
- **Ball:**  
  - P31: Brass  
  - P32 / P33: Chrome plated brass

**Specifications**

- **Operating temperature:** -40°C to 80°C (-40°F to 176°F)  
- **Max. supply pressure:** 17 bar (250 psig)  
- **Port size:** BSPP / BSPT / NPT  
  - 1/4", 3/8", 1/2", 3/4"  
- **Weight:**  
  - P31: 0.15 kg (0.33 lbs)  
  - P32: 0.36 kg (0.79 lbs)  
  - P33: 0.55 kg (1.21 lbs)

**Dimensions (mm [inches])**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td></td>
<td><img src="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>P32</td>
<td></td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
<tr>
<td>P33</td>
<td></td>
<td><img src="image3" alt="Diagram" /></td>
</tr>
</tbody>
</table>
Catalog 0700P-E

Global Air Preparation System

P31, P32, P33 Series
Manifold Blocks

Ordering Information

<table>
<thead>
<tr>
<th>Model type</th>
<th>In / Out port size</th>
<th>Auxiliary port size top</th>
<th>Auxiliary port size bottom</th>
<th>Thread type</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>1/4&quot; 1/4&quot;</td>
<td>1/4&quot;</td>
<td>NPT</td>
<td>P31MA92022N</td>
<td></td>
</tr>
<tr>
<td>P32</td>
<td>1/2&quot; 1/4&quot;</td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>P32MA94024N</td>
<td></td>
</tr>
<tr>
<td>P33</td>
<td>3/4&quot; 1/4&quot;</td>
<td>1/2&quot;</td>
<td>NPT</td>
<td>P33MA96024N</td>
<td></td>
</tr>
</tbody>
</table>

For thread type: BSPP 1, BSPT 2, NPT 9

Material Specifications

Body: Aluminum

Specifications

Operating temperature: -40°C to 65.5°C (-40°F to 150°F)
Max. supply pressure: 20.7 bar (300 psig)
Weight:
  - P31: 0.19 kg (0.26 lbs)
  - P33: 0.34 kg (0.42 lbs)

Features

- Available in 1/4" or 3/4" threaded inlet / outlet ports
- Two additional top and bottom auxiliary ports standard
- Can be mounted anywhere in the FRL system

Dimensions mm (inches)
**Accessories - P31 Series**

**C-Bracket**
(Fits to filter and lubricator body)
P31KA00MW

**T-Bracket w/ Body Connector**
(O-ring not shown)
P31KA00MT

**Body Connector**
(O-ring not shown)
P31KA00CB

**Port Block Kit**
(O-ring not shown)

<table>
<thead>
<tr>
<th>Size</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 NPT</td>
<td>P31KA91CN</td>
<td>Port Block Kit w/ T-Bracket</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>P31KA92CN</td>
<td>1/8 BSPT P31KA21CN</td>
</tr>
<tr>
<td>3/8 NPT</td>
<td>P31KA93CN</td>
<td>1/4 BSPT P31KA22CN</td>
</tr>
<tr>
<td>1/8 BSPP</td>
<td>P31KA11CN</td>
<td>3/8 BSPT P31KA23CN</td>
</tr>
<tr>
<td>1/4 BSPP</td>
<td>P31KA12CN</td>
<td></td>
</tr>
<tr>
<td>3/8 BSPP</td>
<td>P31KA13CN</td>
<td></td>
</tr>
</tbody>
</table>

**Port Block Kit w/ T-Bracket**
(O-ring not shown)

<table>
<thead>
<tr>
<th>Size</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 NPT</td>
<td>P31KA91CN</td>
<td>Port Block Kit w/ T-Bracket</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>P31KA92CN</td>
<td>1/8 BSPT P31KA21CN</td>
</tr>
<tr>
<td>3/8 NPT</td>
<td>P31KA93CN</td>
<td>1/4 BSPT P31KA22CN</td>
</tr>
<tr>
<td>1/8 BSPP</td>
<td>P31KA11CN</td>
<td>3/8 BSPT P31KA23CN</td>
</tr>
<tr>
<td>1/4 BSPP</td>
<td>P31KA12CN</td>
<td></td>
</tr>
<tr>
<td>3/8 BSPP</td>
<td>P31KA13CN</td>
<td></td>
</tr>
</tbody>
</table>

**Angle Bracket**
(Fits to regulator and filter/regulator body)
P31KA00MR
# Accessories - P32 Series

## T-Bracket w/ Body Connector

<table>
<thead>
<tr>
<th>Port Block Kit</th>
<th>Accessories - P32 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT .......... P32KA92CP</td>
<td>1/4 BSPT .......... P32KA22CP</td>
</tr>
<tr>
<td>3/8 NPT .......... P32KA93CP</td>
<td>3/8 BSPT .......... P32KA23CP</td>
</tr>
<tr>
<td>1/2 NPT .......... P32KA94CP</td>
<td>1/2 BSPT .......... P32KA24CP</td>
</tr>
<tr>
<td>3/4 NPT .......... P32KA96CP</td>
<td>3/4 BSPT .......... P32KA26CP</td>
</tr>
<tr>
<td>1/4 BSPP .......... P32KA12CP</td>
<td></td>
</tr>
<tr>
<td>3/8 BSPP .......... P32KA13CP</td>
<td></td>
</tr>
<tr>
<td>1/2 BSPP .......... P32KA14CP</td>
<td></td>
</tr>
<tr>
<td>3/4 BSPP .......... P32KA16CP</td>
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</table>

## T-Bracket

<table>
<thead>
<tr>
<th>L-Bracket</th>
<th>Accessories - P32 Series</th>
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<tbody>
<tr>
<td>(Fits to filter and lubricator body) P32KA00ML</td>
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</tr>
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</table>

## Body Connector

<table>
<thead>
<tr>
<th>Angle Bracket</th>
<th>Accessories - P32 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Fits to regulator and filter/regulator bonnet) P32KA00MR</td>
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</tbody>
</table>

## Body Connector

<table>
<thead>
<tr>
<th>Body Connector</th>
<th>Accessories - P32 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>P32KA00CB</td>
<td></td>
</tr>
</tbody>
</table>
Accessories - P33 Series

**T-Bracket w/ Body Connector**
P32KA00MT

**Body Connector**
P32KA00CB

**Port Block Kit**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>P32KA92CP</td>
<td>1/4 BSPT P32KA22CP</td>
</tr>
<tr>
<td>3/8 NPT</td>
<td>P32KA93CP</td>
<td>3/8 BSPT P32KA23CP</td>
</tr>
<tr>
<td>1/2 NPT</td>
<td>P32KA94CP</td>
<td>1/2 BSPT P32KA24CP</td>
</tr>
<tr>
<td>3/4 NPT</td>
<td>P32KA96CP</td>
<td>3/4 BSPT P32KA26CP</td>
</tr>
<tr>
<td>1/4 BSPP</td>
<td>P32KA12CP</td>
<td></td>
</tr>
<tr>
<td>3/8 BSPP</td>
<td>P32KA13CP</td>
<td></td>
</tr>
<tr>
<td>1/2 BSPP</td>
<td>P32KA14CP</td>
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</tr>
<tr>
<td>3/4 BSPP</td>
<td>P32KA16CP</td>
<td></td>
</tr>
</tbody>
</table>

**Angle Bracket**
(Fits to regulator and filter/regulator bonnet)
P33KA00MR

**L-Bracket**
(Fits to filter and lubricator body)
P33KA00ML

**T-Bracket**
(fits to body connector or port block)
P32KA00MB
Pressure Switch – PPS1

• Long life elastomer diaphragm
• High quality snap action switch
• Field adjustable
• Compact design
• Easily customized
• Quick delivery
• NEMA 4, 13

Operation
The pressure switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point pressure, an electrical output is given.

Options:

<table>
<thead>
<tr>
<th>PPS1</th>
<th>1</th>
<th>C</th>
<th>3</th>
<th>R</th>
<th>HM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread</td>
<td>1/4&quot; NPT male</td>
<td>1</td>
<td>1/8&quot; NPT male</td>
<td>2</td>
<td>1/4&quot; BSPP male</td>
</tr>
<tr>
<td>Set Point Direction</td>
<td>SPDT</td>
<td>C</td>
<td>Rising</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Range*</td>
<td>1</td>
<td>3-10 PSI</td>
<td>2</td>
<td>6-30 PSI</td>
<td>3</td>
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<tr>
<td>Electrical Connection</td>
<td>DIN 9.4mm</td>
<td>HM</td>
<td>Wire leads 18&quot;</td>
<td>WL</td>
<td></td>
</tr>
</tbody>
</table>

Note: Switch is field adjustable.

Definitions and Terminology
Repeatability — Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.

Single Pole Double Throw (SPDT) Switching element — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (NO), or normally closed (NC), or both.

Dead Band — The dead band, sometimes referred to as “differential” or “hysteresis”, is the change in pressure between actuation and deactuation set points.

Specifications
Set point tolerance ±1 PSI or 5% (.07 bar)
Temperature range -40°F to 220°F (-40°C to 105°C)
Max. operating pressure (Ranges 1, 2, 3) 250 PSI (17.2 bar)
Max. operating pressure (Range 4) 2000 PSI (137.9 bar)
Deadband 10 - 20% of set pressure
Current rating 3A @ 125 VAC
2A @ 30 VDC (Resistive)
Circuit form SPDT Standard
Cycle life 1 Million

Material Specifications
Adjustment knob Anodized aluminum
Body Brass
Diaphragm Nitrile

† Only available in 1/4" NPT
### P31, P32, P33 Series Kits

#### Description

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>Panel Mount Nut (Plastic)</td>
<td>P31KA00MP, P32KA00MP, P33KA00MP</td>
</tr>
<tr>
<td>P31</td>
<td>Panel Mount Nut (Aluminum)</td>
<td>P31KA00MM, P32KA00MM, P33KA00MM</td>
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<tr>
<td>P31</td>
<td>5µ Element Kit</td>
<td>P31KA00ESE, P32KA00ESE, P33KA00ESE</td>
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<td>P31</td>
<td>1µ Element Kit</td>
<td>P31KA00ES9, P32KA00ES9, P33KA00ES9</td>
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<tr>
<td>P31</td>
<td>0.01µ Element Kit</td>
<td>P31KA00ESC, P32KA00ESC, P33KA00ESC</td>
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<td>P31</td>
<td>Adsorber Element Kit</td>
<td>P31KA00ESA, P32KA00ESA, P33KA00ESA</td>
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<tr>
<td>P32</td>
<td>Auto Drain Kit</td>
<td>P32KA00DA</td>
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<tr>
<td>P31</td>
<td>Differential Pressure Indicator Kit</td>
<td>P31KA00RQ</td>
</tr>
<tr>
<td>P32</td>
<td>Fill Plug Kit</td>
<td>P31KA00PL, P32KA00PL</td>
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<td>P31</td>
<td>Drip Control Assembly Kit</td>
<td>P32KA00PH</td>
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<tr>
<td>P31</td>
<td>Plastic Bowl w/ Bowl Guard &amp; Manual Drain</td>
<td>P31KA00BGM, P32KA00BGM, P33KA00BGM</td>
</tr>
</tbody>
</table>

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**Note:**
- **Catalog 0700P-E**
- **Global Air Preparation System**
- **P31, P32, P33 Series**
- **Kits**
### Global Air Preparation System

#### P31, P32, P33 Series Kits

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>Plastic Bowl w/ Bowl Guard &amp; Pulse Drain</td>
<td>P31KA00BGB</td>
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<tr>
<td>P32</td>
<td>Plastic Bowl w/ Bowl Guard &amp; Auto Drain</td>
<td>P32KA00BGA</td>
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<tr>
<td>P33</td>
<td>Plastic Bowl w/ Bowl Guard &amp; Auto Drain</td>
<td>P33KA00BGA</td>
</tr>
<tr>
<td>P31</td>
<td>Metal Bowl w/o Sight Gauge &amp; Manual Drain</td>
<td>P31KA00BMM</td>
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<tr>
<td>P32</td>
<td>Metal Bowl w/o Sight Gauge &amp; Manual Drain</td>
<td>P32KA00BMM</td>
</tr>
<tr>
<td>P33</td>
<td>Metal Bowl w/o Sight Gauge &amp; Manual Drain</td>
<td>P33KA00BMM</td>
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<tr>
<td>P31</td>
<td>Metal Bowl w/o Sight Gauge &amp; Pulse Drain</td>
<td>P31KA00BMB</td>
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<td>P32</td>
<td>Metal Bowl w/o Sight Gauge &amp; Auto Drain</td>
<td>P32KA00BMA</td>
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<td>P33</td>
<td>Metal Bowl w/o Sight Gauge &amp; Auto Drain</td>
<td>P33KA00BMA</td>
</tr>
<tr>
<td>P32</td>
<td>Metal Bowl w/ Sight Gauge &amp; Manual Drain</td>
<td>P32KA00BSM</td>
</tr>
<tr>
<td>P33</td>
<td>Metal Bowl w/ Sight Gauge &amp; Manual Drain</td>
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<td>Metal Bowl w/ Sight Gauge &amp; Auto Drain</td>
<td>P32KA00BSA</td>
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<td>P33</td>
<td>Metal Bowl w/ Sight Gauge &amp; Auto Drain</td>
<td>P33KA00BSA</td>
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<tr>
<td>P31</td>
<td>Lubricator - Plastic Bowl w/ Bowl Guard No Drain</td>
<td>P31KA00BGN</td>
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<tr>
<td>P32</td>
<td>Lubricator - Plastic Bowl w/ Bowl Guard No Drain</td>
<td>P32KA00BGN</td>
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<td>Lubricator - Plastic Bowl w/ Bowl Guard No Drain</td>
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<td>Lubricator - Metal Bowl w/o Sight Gauge No Drain</td>
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<td>Lubricator - Metal Bowl w/o Sight Gauge No Drain</td>
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<td>P33</td>
<td>Lubricator - Metal Bowl w/ Sight Gauge No Drain</td>
<td>P33KA00BSN</td>
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<td>Regulator - Relieving Repair Kit</td>
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<td>Regulator - Relieving Repair Kit</td>
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<tr>
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<td>Regulator - Relieving Repair Kit</td>
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<tr>
<td>P31</td>
<td>Regulator - Non Relieving Repair Kit</td>
<td>P31KA00RC</td>
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<td>Regulator - Non Relieving Repair Kit</td>
<td>P32KA00RC</td>
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<tr>
<td>P31</td>
<td>Regulator - Main Adjusting Spring 0-2 bar (0-30 psig) Kit</td>
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<tr>
<td>P32</td>
<td>Regulator - Main Adjusting Spring 0-4.1 bar (0-60 psig) Kit</td>
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<tr>
<td>P33</td>
<td>Regulator - Main Adjusting Spring 0-8.6 bar (0-125 psig) Kit</td>
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<td>P32</td>
<td>Regulator - Main Adjusting Spring 0-17 bar (0-250 psig) Kit</td>
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<td>P31</td>
<td>Square Flush Mounting Gauge Kit</td>
<td>0-4 bar 0-11 bar 0-60 psig 0-160 psig</td>
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<tr>
<td>P31</td>
<td>1&quot; Round Gauge</td>
<td>0-60 psig / 0-4.1 bar 0-160 psig / 0-10 bar</td>
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<td>P31</td>
<td>40mm Round Gauge</td>
<td>0-30 psig / 0-2 bar 0-60 psig / 0-4.1 bar 0-160 psig / 0-10 bar</td>
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<td>50mm Round Gauge</td>
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<td>P32 / P33</td>
<td>44mm Round Gauge</td>
<td>0-160 psig / 0-10 bar</td>
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<td>P31</td>
<td>Body Connector O-ring (Spares kit) (Pack of 10)</td>
<td></td>
</tr>
<tr>
<td>P31</td>
<td>Tamperproof Knob Kit</td>
<td></td>
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</table>
Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

⚠️ WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS (“PRODUCTS”) CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

1.1. Scope: This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.

1.2. Fail-Safe: Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.


1.4. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.5. User Responsibility: Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
- Assuring that all user’s performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
- Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
- Assuring compliance with all applicable government and industry standards.

1.6. Safety Devices: Safety devices should not be removed, or defeated.

1.7. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.

1.8. Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

2.1. Flow Rate: The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.

2.2. Pressure Rating: Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.

2.3. Temperature Rating: Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.

2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.

2.5. Lubrication and Compressor Carryover: Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:

- Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
- Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.
4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

Safety Guide

3.2. Component Inspection: Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

3.3. Air Supply: The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing.

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1. Maintenance: Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.10.

4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.

4.3. Lockout / Tagout Procedures: Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard -- 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy -- (Lockout / Tagout)

4.4. Visual Inspection: Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:

- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:

- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test: Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals: It is the user’s responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:

- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

4.8. Servicing or Replacing of any Worn or Damaged Parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:

- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard -- 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy -- Lockout / Tagout).
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.
The items described in this document and other documents and descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors ("Sellers") are hereby offered for sale at prices to be established by Seller. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Offer for any item described in this document, when communicated to Seller verbally, or in writing, shall constitute acceptance of this offer. All goods or work described will be referred to as "Products".

1. Terms and Conditions. Seller’s willingness to offer Products, or accept an order for Products, to or from Buyer is subject to these Terms and Conditions or any newer version of the terms and conditions found on-line at www.parker.com/saleterms/. Seller objects to the use of any additional terms or conditions of Buyer’s order or any other document issued by Buyer.

2. Price Adjustments; Payments. Prices stated on Seller’s quote or other documentation offered by Seller are valid for 30 days, and do not include any sales, use, or other tax. Upon delivery of the Products, unless otherwise specified by Seller, all amounts due are F.C.A. Seller’s facility (INCOTERMS 2010). Payment is subject to credit approval and is due 30 days from the date of invoice or such other term as required by Seller’s Credit Department. Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.

3. Delivery Dates; Title and Risk; Shipments. All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon placement of the products with the shipment carrier at Seller’s facility. Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No delivery of shipment at Buyer’s request beyond the respective dates indicated above shall be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer’s acts or omissions.

4. Warranty. Seller warrants that the Products sold hereunder shall be free from defects in material and workmanship for a period of one year from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. The prices charged for Seller’s Products are based upon the exclusive limited warranty stated above, and upon the express understanding that Buyer shall pay the costs and expenses of warranty service. Seller does not vary, modify or amend the warranties set forth in the foregoing paragraph.

5. Limitation of Liability. Upon notification, Seller will, at its option, repair or replace a defective Product, or, if it determines that such Product is defective, refund the purchase price. In no event shall Seller be liable to Buyer for any special, indirect, incidental or consequential damages arising out of, or as the result of, the sale, delivery, non-delivery, servicing, use or inability to use Products, or any part thereof, or for any charges or expenses of any nature incurred without Seller’s written consent, even if Seller has been negligent, whether in connection with the sale or delivery of Products, or use thereof. In no event shall Seller be liable under any claim made by Buyer exceed the purchase price of the Products.

6. User Responsibility. The user, through its own analysis and testing, is solely responsible for the final selection of the Product. If a Product is selected based on information provided by Seller, Buyer shall be responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.

7. Loss to Buyer’s Property. Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller’s possession or control.

8. Special Tooling. A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such tooling will be paid for in advance. Any such tooling and any S/N specified by Buyer or another item which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller’s possession or control.

9. Improper use and Indemnity. Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer’s employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, by Seller; or (c) Buyer’s use of patterns, plans, designs, or specifications furnished by Buyer to manufacture Product; or (d) Buyer’s failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as herein provided.

10. Cancellations and Changes. Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller’s written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, indirect and consequential losses or damages resulting from or relating to a change in product features, specifications, designs and availability with notice to Buyer.

11. Limitation on Assignment. Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

12. Force Majeure. Seller does not assume the risk and shall not be liable for delay or partial delivery resulting from acts of God, war, riot, civil insurrection, strikes, labor disputes or other Events of Force Majeure.

13. Waiver and Severability. Failure to enforce any provision of this agreement will not be construed as a waiver of any provision of this agreement. Seller will only such failure provide the Buyer’s right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will not be affected.

14. Governing Law. This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

15. Indemnity for Infringement of Intellectual Property Rights. Seller shall have no liability for infringement of any patent, copyright, trademark or other right except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, dress trademarks and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense any infringement claim brought against Buyer based on an alleged infringement of Seller’s Intellectual Property Rights. Seller has no liability for any infringement claim based on the sale of Products to Buyer.

16. Compliance with Laws. Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which the Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, the U.K. Proceeds of Crime Act, and the United States Anti-Kickback Act (the “Anti-Kickback Act”), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act and the U.S. Foreign Corrupt Practices Act. Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, the U.K. Proceeds of Crime Act, and the United States Anti-Kickback Act (the “Anti-Kickback Act”), and agrees to indemnify and hold harmless Buyer from the consequences of any violation of such provisions by Buyer, its employees or agents.