Global FRL
Air Preparation System
Fully Modular 1/4" to 3/4" Body Ports
Catalogue PDE2676TCUK  September 2020
Parker Global Air Preparation System

DECLARATION OF COMPLIANCE (ROHS)

European Directive 2011/65/EU – RoHS (Restriction us of certain Hazardous Substances in electrical and electronic equipment), restricts the use of the 6 substances in the manufacture of specified electrical equipment.

- **Lead:** Product containing lead and its compound (except for applications of lead as an alloying element by weight in steel up to 0.35%, in aluminium up to 0.4% and in copper alloys up to 4% and in circuit board solder) must not exceed 0.1% by weight.
- **Mercury:** The concentration level must not exceed 0.1% by volume.
- **Cadmium:** The concentration level must not exceed 0.01% by volume.
- **Hexavalent Chromium:**
  - This is a corrosive protective finish used on our product line. Where this finish is utilized the Chromate solution is Hexavalent (Chrome 6) free.
- **Polybrominated Biphenyls (PBB):**
  - The concentration level must not exceed 0.1% by weight. This substance is not to be in any of our products.
- **Polybrominated Diphenyl Esters (PBDE):**
  - The concentration level must not exceed 0.1% by weight. This substance is not to be in any of our products.

Global Air Preparation products supplied by Parker Hannifin have been designed and manufactured in accordance with "sound engineering practice", as defined by Article 3 of Pressure Equipment Directive 97/23/EC.

Global Air Preparation product range is in compliance with REACH to ensure continued compliance additions to the list of SVHC (Substance of Very High Concern) are reviewed periodically.

Global Air Preparation product range has been third party Shock & Vibration tested independently in accordance to EN 61373 : 1999, Category 2.

Global Air Preparation product range has been designed and tested in accordance with ISO flow testing, envelope integrity, and catalog data presented.


The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

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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 or NPT to accommodate thread type requirements.

Individual units can easily be assembled into various combinations, utilizing patented modular lightweight body connectors.
A completely modular air preparation system

Easy to adjust non-rising knob with snap-lock, preventing accidental change of set pressure

Optional Tamperproof Kits

- One facilitates the permanent tamperproofing of the Regulator and Filter/Regulator units
- Hinged black part clamps over control knob and is locked in place after sliding yellow cover over it
- Other allows for removable lockout/tagout tamperproofing
  - Four pad lock location holes tagout
  - Hinged locking clamp secures over existing knob via yellow cover which is slid over into place

Additional Options (Consult factory for availability)

- T-Handle (P32 only)
- Preset
- Pressure Limiter
- Preset and Tamperproof
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 System

Stage 1: 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).

Stage 2: 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.

Stage 3: The excess moisture condenses and collects in the receiver tank and distribution lines. This condensate must be removed.

Stage 4: Bulk liquid separators remove condensed liquids after the aftercooler, receiver, or anywhere within the distribution system.

Stage 5: Particulate filters are used for the removal of solid particle contaminants down to 5 micron, as well as the removal of condensed liquids.

Coalescing filters are designed to remove water and oil aerosols (not vapor) and particulate from air streams down to 0.01 micron in size.

Key
- Particulate
- Oil
- Water
- Oil Vapor
- Water Vapor

Note: Water and oil, in vapor form, pass through general purpose particulate filters. This type of filter should be used as a prefilter for the coalescing (oil removal) filter.

Installed in pairs, Particulate and Coalescing filters ensure a continuous supply of high quality air.
Refrigeration, membrane and desiccant dryers lower the air’s dew point by removing water vapor, providing appropriately dry air for the downstream application.

Hydrocarbon and oil vapors are removed using filters utilizing activated carbon. These airborne hydrocarbons are often left over from the compressor oils.
Specifying air quality (purity) in accordance with ISO8573-1:2010, the international standard for compressed air quality

ISO8573-1 is the primary document used from the ISO8573 series as it is this document which specifies the amount of contamination allowed in each cubic metre of compressed air.

ISO8573-1 lists the main contaminants as Solid Particulate, Water and Oil. The purity levels for each contaminant are shown separately in tabular form, however for ease of use, this document combines all three contaminants into one easy to use table.

<table>
<thead>
<tr>
<th>ISO8573-1:2010 Class</th>
<th>Solid Particulate</th>
<th>Water</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum number of particles per m³</td>
<td>Mass Concentration mg/m³</td>
<td>Vapour Pressure Dewpoint °C</td>
</tr>
<tr>
<td>0</td>
<td>As specified by the equipment user or supplier and more stringent than Class 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>≤ 20 000</td>
<td>≤ 400</td>
<td>≤ 10</td>
</tr>
<tr>
<td>2</td>
<td>≤ 400 000</td>
<td>≤ 6 000</td>
<td>≤ 100</td>
</tr>
<tr>
<td>3</td>
<td>≤ 90 000</td>
<td>≤ 1 000</td>
<td>≤ 100</td>
</tr>
<tr>
<td>4</td>
<td>≤ 10 000</td>
<td>≤ 10 000</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>≤ 100 000</td>
<td>≤ 100 000</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>-</td>
<td>≤ 5</td>
</tr>
<tr>
<td>7</td>
<td>-</td>
<td>-</td>
<td>5 - 10</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>X</td>
<td>-</td>
<td>-</td>
<td>&gt; 10</td>
</tr>
</tbody>
</table>

Specifying air purity in accordance with ISO8573-1:2010

When specifying the purity of air required, the standard must always be referenced, followed by the purity class selected for each contaminant (a different purity class can be selected for each contamination if required).

An example of how to write an air quality specification is shown below:

ISO 8573-1:2010 Class 1.2.1
ISO 8573-1:2010 refers to the standard document and its revision, the three digits refer to the purity classifications selected for solid particulate, water and total oil. Selecting an air purity class of 1.2.1 would specify the following air quality when operating at the standard’s reference conditions:

**Class 1 - Particulate**

In each cubic metre of compressed air, the particulate count should not exceed 20,000 particles in the 0.1 - 0.5 micron size range, 400 particles in the 0.5 - 1 micron size range and 10 particles in the 1 - 5 micron size range.

**Class 2 - Water**

A pressure dewpoint (PDP) of -40°C or better is required and no liquid water is allowed.

**Class 1 - Oil**

In each cubic metre of compressed air, not more than 0.01 mg of oil is allowed. This is a total level for liquid oil, oil aerosol and oil vapour.

ISO8573-1:2010 Class zero
- Class 0 does not mean zero contamination.
- Class 0 requires the user and the equipment manufacturer to agree contamination levels as part of a written specification.
- The agreed contamination levels for a Class 0 specification should be within the measurement capabilities of the test equipment and test methods shown in ISO8573 Pt 2 to Pt 9.
- The agreed Class 0 specification must be written on all documentation to be in accordance with the standard.
- Stating Class 0 without the agreed specification is meaningless and not in accordance with the standard.
- A number of compressor manufacturers claim that the delivered air from their oil-free compressors is in compliance with Class 0.
- If the compressor was tested in clean room conditions, the contamination detected at the outlet will be minimal. Should the same compressor now be installed in typical urban environment, the level of contamination will be dependent upon what is drawn into the compressor intake, rendering the Class 0 claim invalid.
- A compressor delivering air to Class 0 will still require purification equipment in both the compressor room and at the point of use for the Class 0 purity to be maintained at the application.
- Air for critical applications such as breathing, medical, food, etc typically only requires air quality to Class 2.2.1 or Class 2.1.1.
- Purification of air to meet a Class 0 specification is only cost effective if carried out at the point of use.
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>Number of valves that would actuate at once</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31 Mini Series</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>P32 Compact Series</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>P33 Standard Series</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</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.*

**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.
Comprehensive Offering

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
- Ball style lockout / shutoff valve
- Repair kits, gauges, etc.
Air Preparation

P31 Mini Series

40mm body width
1/4" Ported

Flows up to: \( \text{dm}^3/\text{s} \) (scfm)
- Filter: 12 (25)
- Coalescer: 3.6 (7.5)
- Regulator: 32 (68)
- Filter/Regulator: 35 (74)
- Lubricator: 25 (52)

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: \( \text{dm}^3/\text{s} \) (scfm)
- Filter: 39 (82)
- Coalescer: 17 (36)
- Regulator: 78 (165)
- Filter/Regulator: 77 (164)
- Lubricator: 42 (90)

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: \( \text{dm}^3/\text{s} \) (scfm)
- Filter: 48 (102)
- Coalescer: 20 (42)
- Regulator: 110 (233)
- Filter/Regulator: 109 (235)
- Lubricator: 71 (150)

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

**Filter + Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Pulse drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>13 dm³/s</td>
<td>27 (scfm)</td>
<td>0.47 kg (1.04 lbs)</td>
<td>P31CB12GEMTLNW</td>
<td>0.47 kg (1.04 lbs)</td>
</tr>
</tbody>
</table>

**Filter/Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Pulse drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>14 dm³/s</td>
<td>28 (scfm)</td>
<td>0.45 kg (1.0 lbs)</td>
<td>P31CA12GEMTLNW</td>
<td>0.45 kg (1.0 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter + Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Pulse drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>13 dm³/s</td>
<td>27 (scfm)</td>
<td>0.62 kg (1.37 lbs)</td>
<td>P31QB12GEMSLNW</td>
<td>0.62 kg (1.37 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter/Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Pulse drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>14 dm³/s</td>
<td>28 (scfm)</td>
<td>0.53 kg (1.17 lbs)</td>
<td>P31QA12GEMTLNW</td>
<td>0.53 kg (1.17 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter/Regulator Combinations + Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and Wall Mounting Brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Pulse drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>14 dm³/s</td>
<td>28 (scfm)</td>
<td>0.37 kg (0.82 lbs)</td>
<td>P31QN12GEMTW</td>
<td>0.37 kg (0.82 lbs)</td>
</tr>
</tbody>
</table>

Options:

<table>
<thead>
<tr>
<th>Combination</th>
<th>Thread type</th>
<th>Port size</th>
<th>Drain type</th>
<th>Adjustment range</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>BSPP</td>
<td>1/4</td>
<td>M</td>
<td>2 bar **</td>
</tr>
<tr>
<td>Q</td>
<td>NPT</td>
<td>9</td>
<td>B</td>
<td>8 bar **</td>
</tr>
<tr>
<td>F/R+L</td>
<td>A</td>
<td></td>
<td></td>
<td>With square gauge</td>
</tr>
<tr>
<td>F/R+L</td>
<td>B</td>
<td></td>
<td></td>
<td>4 bar **</td>
</tr>
<tr>
<td>F/R</td>
<td>N</td>
<td></td>
<td></td>
<td>2 bar **</td>
</tr>
</tbody>
</table>

Note: All bowl types are the same for each component. Example: If a “G” is specified for a F+L, both units would get a poly bowl with bowl guard.

Standard order code shown in bold.

Flow with inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig), 1 bar (14.5 psig) pressure drop.
Popular Combinations:

**Filter + Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 42 (scfm)</td>
<td>P32CB12GEMGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
<td>P32CB12GEANGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>32 dm³/s 68 (scfm)</td>
<td>P32CB13GEMGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
<td>P32CB13GEANGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>40 dm³/s 85 (scfm)</td>
<td>P32CB14GEMGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
<td>P32CB14GEANGLNW</td>
<td>1.38 kg (3.04 lbs)</td>
</tr>
</tbody>
</table>

**Filter/Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 45 (scfm)</td>
<td>P32CA12GEMGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
<td>P32CA12GEANGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>33 dm³/s 70 (scfm)</td>
<td>P32CA13GEMGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
<td>P32CA13GEANGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>43 dm³/s 90 (scfm)</td>
<td>P32CA14GEMGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
<td>P32CA14GEANGLNW</td>
<td>1.03 kg (2.27 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter + Regulator + Lubricator Combinations, poly bowl**
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 42 (scfm)</td>
<td>P32QA12GEMGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
<td>P32QA12GEANGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>32 dm³/s 68 (scfm)</td>
<td>P32QA13GEMGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
<td>P32QA13GEANGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>40 dm³/s 85 (scfm)</td>
<td>P32QA14GEMGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
<td>P32QA14GEANGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter/Regulator + Lubricator Combinations, Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>33 dm³/s 70 (scfm)</td>
<td>P32QB12GEMGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
<td>P32QB12GEANGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>43 dm³/s 90 (scfm)</td>
<td>P32QB14GEMGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
<td>P32QB14GEANGLNW</td>
<td>1.58 kg (3.48 lbs)</td>
</tr>
</tbody>
</table>

**Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**
5 micron element, 8 bar (116 psig) regulator + gauge and Wall Mounting Brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</th>
<th>Manual drain</th>
<th>Weight</th>
<th>Auto drain</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>33 dm³/s 70 (scfm)</td>
<td>P32QN13GEMNGW</td>
<td>1.08 kg (2.38 lbs)</td>
<td>P32QN13GEANGW</td>
<td>1.08 kg (2.38 lbs)</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>43 dm³/s 90 (scfm)</td>
<td>P32QN14GEMNGW</td>
<td>1.08 kg (2.38 lbs)</td>
<td>P32QN14GEANGW</td>
<td>1.08 kg (2.38 lbs)</td>
</tr>
</tbody>
</table>

**Options:**

- **P 3 2**
- **Thread type**
  - BSPP 1
  - NPT 9
- **Port size**
  - 1/4" 2
  - 3/8" 3
  - 1/2" 4
- **Drain type**
  - Auto drain A
  - Manual drain M
- **Adjustment range**
  - With round gauge
    - 2 bar; 0-30 psi; 0.2 MPa Z
    - 4 bar; 60 psi; 0.4 MPa M
    - 8 bar; 125 psi; 0.8 MPa G
  - Without gauge
    - 2 bar Y
    - 4 bar L
    - 8 bar N
    - 17 bar H
- **Bowl type**
  - Poly bowl with bowl guard G
  - Metal bowl with sight glass S

**Note:** All bowl types are the same for each component.

**Example:** If a "G" is specified for a F+R+L, both units would get a poly bowl with bowl guard.

**Standard order code shown in bold.**

Flow with inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig), 1 bar (14.5 psig) pressure drop.
### Popular Combinations:

#### Filter + Regulator + Lubricator Combinations, Poly bowl
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 90 (scfm)</td>
<td>P33CB14GEMGLNW</td>
<td>1.93 kg (4.25 lbs)</td>
<td>P33CB14GEANGLNW</td>
<td>1.93 kg (4.25 lbs)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>52 dm³/s 110 (scfm)</td>
<td>P33CB16GEMGLNW</td>
<td>1.93 kg (4.25 lbs)</td>
<td>P33CB16GEANGLNW</td>
<td>1.93 kg (4.25 lbs)</td>
</tr>
</tbody>
</table>

#### Filter/Regulator Combinations, Poly bowl
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 110 (scfm)</td>
<td>P33CA14GEMGLNW</td>
<td>1.51 kg (3.33 lbs)</td>
<td>P33CA14GEANGLNW</td>
<td>1.51 kg (3.33 lbs)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>71 dm³/s 150 (scfm)</td>
<td>P33CA16GEMGLNW</td>
<td>1.51 kg (3.33 lbs)</td>
<td>P33CA16GEANGLNW</td>
<td>1.51 kg (3.33 lbs)</td>
</tr>
</tbody>
</table>

#### Ball Valve + Filter/Regulator Combinations, Poly bowl
5 micron element, 8 bar (116 psig) regulator + gauge and wall mounting brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 110 (scfm)</td>
<td>P33QA14GEMGLNW</td>
<td>2.25 kg (4.96 lbs)</td>
<td>P33QA14GEANGLNW</td>
<td>2.25 kg (4.96 lbs)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>71 dm³/s 150 (scfm)</td>
<td>P33QA16GEMGLNW</td>
<td>2.25 kg (4.96 lbs)</td>
<td>P33QA16GEANGLNW</td>
<td>2.25 kg (4.96 lbs)</td>
</tr>
</tbody>
</table>

### Ball Valve + Filter/Regulator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow</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 dm³/s 110 (scfm)</td>
<td>P33QN14GEMNGW</td>
<td>1.59 kg (3.51 lbs)</td>
<td>P33QN14GEANGW</td>
<td>1.59 kg (3.51 lbs)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>71 dm³/s 150 (scfm)</td>
<td>P33QN16GEMNGW</td>
<td>1.59 kg (3.51 lbs)</td>
<td>P33QN16GEANGW</td>
<td>1.59 kg (3.51 lbs)</td>
</tr>
</tbody>
</table>

### Options:

#### P 3 3

- **Combination**
  - C: Combination
  - Q: Shut off + Combination

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

- **Port size**
  - 1/2" 4
  - 3/4" 6

- **Bowl type**
  - G: Poly bowl with bowl guard
  - S: Metal bowl with sight glass

- **Drain type**
  - A: Auto drain
  - M: Manual drain

- **Adjustment range**
  - With round gauge
    - Z: 2 bar; 0-30 psi; 0.2 MPa
    - M: 4 bar; 60 psi; 0.4 MPa
    - G: 8 bar; 125 psi; 0.8 MPa
  - Without gauge
    - Y: 2 bar
    - L: 4 bar
    - N: 8 bar
    - H: 17 bar

- **Combination type**
  - F/R+L: A
  - F+R+L: B
  - F/R: N

**Note:** All bowl types are the same for each component.

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

**Standard order code shown in bold.**

Flow with inlet pressure 10 bar (145 psig), Secondary pressure 6.3 bar (91.3 psig), 1 bar (14.5 psig) pressure drop.
Popular Combination Dimensions: mm (inches)

### P31C

- **4mm (5/32") I.D. Tube Barb Fitting**
- **Bowl Removal Clearance**

### P32C

- **4mm (5/32") I.D. Tube Barb Fitting**
- **Bowl Removal Clearance**

### P33C

- **4.8mm (1/8") I.D. Tube Barb Fitting**
- **5.1mm (0.20") Bowl Removal Clearance**

---

**Parker Hannifin Corporation**
Pneumatic Division - Europe
Mini Particulate Filter - P31

Symbols

- Integral 1/4" ports (NPT & BSPP)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - manual drain</td>
<td>12 (25)</td>
<td>10 (150)</td>
<td>124.8 (4.91)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12EGMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - pulse drain</td>
<td>12 (25)</td>
<td>10 (150)</td>
<td>119.6 (4.71)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12EGBN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - manual drain</td>
<td>12 (25)</td>
<td>17 (250)</td>
<td>124.8 (4.91)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12EMMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - pulse drain</td>
<td>12 (25)</td>
<td>17 (250)</td>
<td>119.6 (4.71)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12EMBN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.
◊ For thread type: BSPP ₁ NPT ₂
Specifications

Flow capacity * 1/4 12 dm³/s (25 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)
Standard filtration Plastic bowl 5 micron
Metal bowl 12 cm³ (0.4 US oz.)
Useful retention † 12 cm³ (0.4 US oz.)
Port size BSPP / NPT 1/4
Weight 0.11 kg (0.24 lbs)

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

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2010 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)

Flow Charts

1/4 Filter

Pressure Drop - (bar) Primary Pressure - bar
Pressure Drop - (psig) Primary Pressure - psig
0 23.2
1 1.6
2 4.0
3 6.3
4 10
5 145
6 20
7 25
8 30
0 5 10 15 20 25 30
Flow - (dm³/s)
Flow - (scfm)

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P31KB00BGM
Metal bowl / w/o sight gauge manual drain P31KB00BMM
Plastic bowl / Bowl guard pulse drain P31KB00BGB
Metal bowl / w/o sight gauge pulse drain P31KB00BMB
5µ particle filter element P31KA00ESE
C-bracket (fits to body) P31KA00MW
T-bracket with body connector P31KA00MT
Body connector P31KA00CB

† Standard order code shown in bold.
Compartment Particulate Filter - P32

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow $^\dagger$ (dm$^3$/s, scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number $^\circ$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - manual drain</td>
<td>24 (50)</td>
<td>10 (150)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB12EGMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - auto drain</td>
<td>24 (50)</td>
<td>10 (150)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB12EGAN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - manual drain</td>
<td>24 (50)</td>
<td>17 (250)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB12ESMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - auto drain</td>
<td>24 (50)</td>
<td>17 (250)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB12ESAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - manual drain</td>
<td>37 (78)</td>
<td>10 (150)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13EGMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - auto drain</td>
<td>37 (78)</td>
<td>10 (150)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13EGAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - manual drain</td>
<td>37 (78)</td>
<td>17 (250)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13ESMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - auto drain</td>
<td>37 (78)</td>
<td>17 (250)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13ESAN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - manual drain</td>
<td>39 (82)</td>
<td>10 (150)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB14EGMN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - auto drain</td>
<td>39 (82)</td>
<td>10 (150)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB14EGAN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - manual drain</td>
<td>39 (82)</td>
<td>17 (250)</td>
<td>190.3 (7.49)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB14ESMN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - auto drain</td>
<td>39 (82)</td>
<td>17 (250)</td>
<td>184.3 (7.26)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB14ESAN</td>
</tr>
</tbody>
</table>

$^\dagger$ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.

$^\circ$ For thread type: BSPP 1 NPT 2

Symbols

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

<table>
<thead>
<tr>
<th>Flow capacity *</th>
<th>1/4</th>
<th>24 dm³/s (50 scfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3/8</td>
<td>37 dm³/s (78 scfm)</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>39 dm³/s (82 scfm)</td>
</tr>
</tbody>
</table>

- **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 †**: 51 cm³ (1.7 US oz.)
- **Port size**: BSPP / NPT 1/4, 3/8, 1/2
- **Weight**: 0.28 kg (0.62 lbs)

* 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.

**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 (Nylon)

**Dimensions** mm (inches)

**Flow Charts**

- **P32FB 1/4" Filter**
- **P32FB 3/8" Filter**
- **P32FB 1/2" Filter**

**Repair and Mounting Kits**

- Plastic bowl / Bowl guard manual drain: P32KB00BGM
- Metal bowl / Sight gauge manual drain: P32KB00BSM
- 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

† Standard order code shown in bold.

Air quality:
- Within ISO 8573-1: 1991 Class 3 (Particulates)
- Within ISO 8573-1: 2010 Class 6 (Particulates)
# Standard Particulate Filter - P33

![Image of Standard Particulate Filter - P33]

## Symbols

- Manual drain
- Auto drain

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

## Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number ³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - manual drain</td>
<td>40 (85)</td>
<td>10 (150)</td>
<td>213 (8.39)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA14EGMN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - auto drain</td>
<td>40 (85)</td>
<td>10 (150)</td>
<td>207 (8.15)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA14EGAN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - manual drain</td>
<td>40 (85)</td>
<td>17 (250)</td>
<td>213 (8.39)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA14ESMN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - auto drain</td>
<td>40 (85)</td>
<td>17 (250)</td>
<td>207 (8.15)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA14ESAN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - manual drain</td>
<td>48 (102)</td>
<td>10 (150)</td>
<td>213 (8.39)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16EGMN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - auto drain</td>
<td>48 (102)</td>
<td>10 (150)</td>
<td>207 (8.15)</td>
<td>73 (2.87)</td>
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<td>P33FA16EGAN</td>
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<td>Metal bowl - manual drain</td>
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<td>Metal bowl - auto drain</td>
<td>48 (102)</td>
<td>17 (250)</td>
<td>207 (8.15)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16ESAN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 (4.9 psig) pressure drop.
³ For thread type: BSPP ¹ NPT ⁹
**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 / NPT 1/2, 3/4
- **Weight**: 0.46 kg (1.01 lbs)

*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: 2010 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** mm (inches)

**Flow Charts**

**1/2 Filter**

- Primary Pressure - bar: 1.6, 4.0, 6.3, 10
- Primary Pressure - psig: 23.2, 58, 91.4, 145

**3/4 Filter**

- Primary Pressure - bar: 1.6, 4.0, 6.3, 10
- Primary Pressure - psig: 23.2, 58, 91.4, 145

**Repair and Mounting 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 †

† Standard order code shown in bold.
Mini Coalescing and Adsorber Filters - P31

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number ◊</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 0.01 micron - manual drain - with DPI</td>
<td>3.6 (7.5)</td>
<td>10 (150)</td>
<td>136.9 (5.39)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12DGMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 0.01 micron - pulse drain - with DPI</td>
<td>3.6 (7.5)</td>
<td>10 (150)</td>
<td>131.7 (5.19)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12DGBN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 0.01 micron - manual drain - with DPI</td>
<td>3.6 (7.5)</td>
<td>10 (150)</td>
<td>136.9 (5.39)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12DMMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 0.01 micron - pulse drain - with DPI</td>
<td>3.6 (7.5)</td>
<td>10 (150)</td>
<td>131.7 (5.19)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12DMBN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 1 micron - manual drain - with DPI</td>
<td>5.5 (12)</td>
<td>10 (150)</td>
<td>136.9 (5.39)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12QGMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - 1 micron - pulse drain - with DPI</td>
<td>5.5 (12)</td>
<td>10 (150)</td>
<td>131.7 (5.19)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12QGBN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 1 micron - manual drain - with DPI</td>
<td>5.5 (12)</td>
<td>10 (150)</td>
<td>136.9 (5.39)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12QMMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - 1 micron - pulse drain - with DPI</td>
<td>5.5 (12)</td>
<td>10 (150)</td>
<td>131.7 (5.19)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12QMBN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - Adsorber - manual drain</td>
<td>6 (12.7)</td>
<td>10 (150)</td>
<td>136.9 (5.39)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12AGMN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - Adsorber - manual drain</td>
<td>6 (12.7)</td>
<td>10 (150)</td>
<td>131.7 (5.19)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31FB12AMMN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.
◊ For thread type: BSPP ¹ NPT ²

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.

Symbol

- Integral 1/4" ports (NPT & BSPP)
- 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 and safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons
**Specifications**

Flow capacity
- 1.0 micron coalescing: 5.5 dm³/s (12 scfm)
- 0.01 micron coalescing: 3.6 dm³/s (7.5 scfm)
- Activated carbon adsorber: 6 dm³/s (12.7 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: 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 †
- 12 cm³ (0.4 US oz.)

Port size
- BSPP / NPT: 1/4

Weight
- 0.11 kg (0.24 lbs)

Inlet pressure 6.3 bar (91.3 psig), Pressure drop 0.2 bar (3 psig),
Saturated Element.

† Useful retention refers to volume below the quiet zone baffle.

§ Without pressure indicator (DPI) – max. pressure for metal bowl version is 17 bar (250 psig).

**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)**

- Manual Drain
  - 40 (1.58)
  - 12.1 (0.48)
  - 12.1 (0.48)

- Pulse Drain
  - 20 (0.79)
  - 21.4 (0.84)

**Flow Charts**

**P31 - 1.0 micron flow**

- Primary Pressure - bar: 1.6
- Primary Pressure - psig: 23.2
- Flow - (dm³/s): 0 to 7

**P31 - 0.01 micron flow**

- Primary Pressure - bar: 1.6
- Primary Pressure - psig: 23.2
- Flow - (dm³/s): 0 to 5

**Repair and Mounting Kits**

- Plastic bowl / Bowl guard manual drain: P31KB00BGM
- Metal bowl / w/o sight gauge manual drain: P31KB00BMM
- Plastic bowl / Bowl guard pulse drain: P31KB00BGB
- Metal bowl / w/o sight gauge pulse drain: P31KB00BMB
- 1µ coalescing filter element: P31KA00ES9 †
- 0.01µ coalescing filter element: P31KA00ESC †
- Activated carbon adsorber filter element: P31KA00ESA †
- C-bracket (fits to body): P31KA00MWM †
- T-bracket with body connector: P31KA00MT †
- Body connector: P31KA00CB †
- Differential pressure indicator (replacement): P31KB00RQ

† Standard order code shown in bold.
## Compact Coalescing and Adsorber Filter - P32

### Symbol

- Integral 1/4", 3/8" or 1/2" ports (NPT & BSPP)
- 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.

### Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ‡</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number ◊</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 0.01 micron - manual drain - with DPI</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>212.3 (8.36)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13DGMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 0.01 micron - auto drain - with DPI</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>206.3 (8.12)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13DGAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 0.01 micron - manual drain - with DPI</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>212.3 (8.36)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13DMMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 0.01 micron - auto drain - with DPI</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>206.3 (8.12)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13DMAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 1 micron - manual drain - with DPI</td>
<td>25 (53)</td>
<td>10 (150)</td>
<td>212.3 (8.36)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13QGMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - 1 micron - auto drain - with DPI</td>
<td>25 (53)</td>
<td>10 (150)</td>
<td>206.3 (8.12)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13QGAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 1 micron - manual drain - with DPI</td>
<td>25 (53)</td>
<td>17 (250)</td>
<td>212.3 (8.36)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13QMMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - 1 micron - auto drain - with DPI</td>
<td>25 (53)</td>
<td>17 (250)</td>
<td>206.3 (8.12)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13QMAN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - Adsorber - manual drain</td>
<td>40 (85)</td>
<td>10 (150)</td>
<td>212.3 (8.36)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13AGMN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - Adsorber - manual drain</td>
<td>40 (85)</td>
<td>17 (250)</td>
<td>206.3 (8.12)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32FB13AMMN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.
◊ For thread type: BSPP 1, NPT 9
Replace 3 with 2 for 1/4", 5 with 4 for 1/2" ports

---

**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.
Specifications

Flow capacity

- 1.0 micron coalescing: 25 dm³/s (53 scfm)
- 0.01 micron coalescing: 17 dm³/s (36 scfm)
- Activated carbon adsorber: 40 dm³/s (85 scfm)

Operating temperature

- Plastic bowl: -25°C to 52°C (-13°F to 122°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

- 1.0 and 0.01 micron

Adsorber

- Maximum oil carryover (ppm w/w): 0.003 @ 21°C (70°F)

Useful retention

1.0 and 0.01 micron: 51 cm³ (1.7 US oz.)

Port size

- BSPP / 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.

† Useful retention refers to volume below the quiet zone baffle.

§ Without pressure indicator (DPI) – max. pressure for metal bowl version is 17 bar (250 psig).

Material Specifications

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Body cap</td>
<td>ABS</td>
</tr>
<tr>
<td>Bowls</td>
<td>Plastic bowl</td>
</tr>
<tr>
<td></td>
<td>Polycarbonate</td>
</tr>
<tr>
<td></td>
<td>Metal bowl</td>
</tr>
<tr>
<td></td>
<td>Aluminum</td>
</tr>
<tr>
<td>Filter element</td>
<td>1.0 and .01 micron Borosilicate cloth</td>
</tr>
<tr>
<td>Adsorber</td>
<td>Activated carbon</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
<tr>
<td>Sight gauge</td>
<td>Metal bowl</td>
</tr>
<tr>
<td></td>
<td>Polycarbonate</td>
</tr>
</tbody>
</table>

Dimensions mm (inches)

Flow Charts

P32 - 1.0 micron flow

<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>10</td>
<td>6.3</td>
<td>91.4</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>145</td>
</tr>
</tbody>
</table>

P32 - 0.01 micron flow

<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>10</td>
<td>6.3</td>
<td>91.4</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>145</td>
</tr>
</tbody>
</table>

Repair and Mounting Kits

<table>
<thead>
<tr>
<th>Component</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic bowl / Bowl guard manual drain</td>
<td>P32KB00BGM</td>
</tr>
<tr>
<td>Metal bowl / Sight gauge manual drain</td>
<td>P32KB00BSM</td>
</tr>
<tr>
<td>Auto drain</td>
<td>P32KA00DA</td>
</tr>
<tr>
<td>1µ coalescing filter element</td>
<td>P32KA00ES9</td>
</tr>
<tr>
<td>0.01µ coalescing filter element</td>
<td>P32KA00ESC</td>
</tr>
<tr>
<td>Activated carbon adsorber filter element</td>
<td>P32KA00ESA</td>
</tr>
<tr>
<td>L-bracket (fits to body)</td>
<td>P32KA00ML</td>
</tr>
<tr>
<td>T-bracket (fits to body connector)</td>
<td>P32KA00MB</td>
</tr>
<tr>
<td>T-bracket with body connector</td>
<td>P32KA00MT</td>
</tr>
<tr>
<td>Body connector</td>
<td>P32KA00CB</td>
</tr>
<tr>
<td>Differential pressure indicator (replacement)</td>
<td>P32KA00RQ</td>
</tr>
</tbody>
</table>

† Standard order code shown in bold.
Standard Coalescing and Adsorber Filter - P33

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow $ ^{1}$</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number $ ^{2}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - 0.01 micron - manual drain with DPI</td>
<td>20 (42)</td>
<td>10 (150)</td>
<td>235 (9.25)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16GMN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - 0.01 micron - auto drain with DPI</td>
<td>20 (42)</td>
<td>10 (150)</td>
<td>229 (9.02)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16GAN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Metal bowl - 0.01 micron - manual drain with DPI</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>235 (9.25)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16DMNN</td>
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<tr>
<td>3/4&quot;</td>
<td>Metal bowl - 0.01 micron - auto drain with DPI</td>
<td>20 (42)</td>
<td>17 (250)</td>
<td>229 (9.02)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16DMAN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - 1 micron - manual drain with DPI</td>
<td>32 (68)</td>
<td>10 (150)</td>
<td>235 (9.25)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16GMMN</td>
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<tr>
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<td>Poly bowl - 1 micron - auto drain with DPI</td>
<td>32 (68)</td>
<td>10 (150)</td>
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<td>73 (2.87)</td>
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<tr>
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<td>32 (68)</td>
<td>17 (250)</td>
<td>229 (9.02)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16GQAN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - Adsorber - manual drain</td>
<td>34 (72)</td>
<td>10 (150)</td>
<td>235 (9.25)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16AGMN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Metal bowl - Adsorber - manual drain</td>
<td>34 (72)</td>
<td>17 (250)</td>
<td>229 (9.02)</td>
<td>73 (2.87)</td>
<td>73 (2.87)</td>
<td>P33FA16AMMN</td>
</tr>
</tbody>
</table>

$ ^{1}$ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.2 (3 psig) pressure drop.
$ ^{2}$ For thread type: BSPP 1 NPT 9
Replace 6 with 4 for 1/2" ports.

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.
Parker Global Air Preparation System

Specifications

Flow capacity
1.0 micron coalescing 32 dm³/s (68 scfm)
0.01 micron coalescing 20 dm³/s (42 scfm)
Activated carbon adsorber 34 dm³/s (72 scfm)

Operating temperature
-25°C to 52°C (-13°F to 125°F)
-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
1.0 and 0.01 micron

Useful retention
85 cm³ (2.8 US oz.)

Port size
BSPP / 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.

Material Specifications

Body
Aluminum

Body cap
ABS

Bows
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

Dimensions mm (inches)

Flow Charts

P33 - 1.0 micron flow

P33 - 0.01 micron flow

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P33KA00BGM

Metal bowl / Sight gauge manual drain P33KA00BSM

Auto drain P32KA00DA

1µ coalescing filter element P33KA00ES9

0.01µ coalescing filter element P33KA00ESC

Activated carbon adsorber filter element P33KA00ESA

L-bracket (fits to body) P33KA00ML

T-bracket (fits to body connector) P32KA00MB

T-bracket with body connector P32KA00MT

Body connector P32KA00CB

Differential pressure indicator (replacement) P32KA00RQ

† Standard order code shown in bold.

Use 10mm or 3/8” Flex Tubing

Manual Drain Automatic Drain

Useful retention refers to volume below the quiet zone baffle.

Without pressure indicator (DPI) – max. pressure for metal bowl version is 17 bar (250 psig).
Mini Regulator - P31

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow †</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>32 (68)</td>
<td>20 (300)</td>
<td>104.1 (4.1)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31RB12BNNP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) + gauge</td>
<td>32 (68)</td>
<td>20 (300)</td>
<td>104.1 (4.1)</td>
<td>40 (1.58)</td>
<td>61.3 (2.41)</td>
<td>P31RB12BNTP</td>
</tr>
</tbody>
</table>

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

Options:

- Integral 1/4" ports (NPT & BSPP)
- 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), 0-16 bar (0-232 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Relieving & Non-relieving types
- Non-rising knob

Symbols

- Self relieving regulator with gauge
- Reverse flow relieving regulator
- Non-relieving regulator

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.
Specifications

Flow capacity * 1/4 32 dm³/s (68 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)
0-16 bar (232 psig)

Port size  BSPP / NPT 1/4
Gauge port (2 ea.) ** BSPP / 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.
† Units with square gauges: -15°C to 65.5°C (5°F to 150°F)

Material Specifications

Body  Aluminum
Adjustment knob  Acetal
Bonnet  PBT
Diaphragm assembly  Brass / Nitrile
Valve assembly  Brass / Nitrile
Springs  Steel
Seals  Nitrile
Panel nut  Acetal

Dimensions  mm (inches)

NOTE: 30 mm (1.20 in.) hole required for panel nut mounting.

Flow Charts

1/4 Regulator

Repair and Mounting Kits

Diaphragm repair kit - relieving  P31KB00RB
Diaphragm repair kit - non-relieving  P31KB00RC
Panel mount nut - aluminum  P31KA00MM
Panel mount nut - plastic  P31KA00MP
Angle bracket (attaches via panel nut)  P31KB00MR
C-bracket (fits to body)  P31KA00MW
T-bracket with body connector  P31KA00MT
Body connector  P31KA00CB

Gauges

Square flush mount gauge

0-4 bar  K4511SCR04B
0-11 bar  K4511SCR11B
0-60 psig  K4511SCR060
0-160 psig  K4511SCR160

Square with adapter kit

0-4 bar  P6G-PR11040
0-11 bar  P6G-PR11110
0-60 psig  P6G-PR90060
0-160 psig  P6G-PR90160

40mm Round 1/8" center back mount

0-30 psig / 0-2 bar  P3D-KAB1AYN
0-60 psig / 0-4 bar  P3D-KAB1ALN
0-160 psig / 0-11 bar  P3D-KAB1ANN
0-300 psig / 0-20 bar  P3D-KAB1AHN

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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>20 (42)</td>
<td>20 (300)</td>
<td>104.1 (4.1)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31HB12BNNP</td>
</tr>
</tbody>
</table>

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

Options:

- Basic series
- Global modular mini common regulator
- P31HB
- Thread type
- BSPP 1
- NPT 9
- Port size ‡
- 1/4" 2
- Relief
- Relieving B
- Non-relieving N
- Reverse flow / Relieving R

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.

Symbols

- Self relieving regulator with gauge
- Reverse flow relieving regulator
- Non-relieving regulator

- Manifold style regulator with line pressure on both sides
- Pressure output is at front or rear
- Inlet port 1/4" (NPT & BSPP)
- Working port 1/8"
- Robust construction
- Secondary pressure ranges 0-2 bar (0-30 psig), 0-4 bar, (0-60 psig), 0-8 bar (0-125 psig), 0-16 bar (0-232 psig)
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & Non-relieving types
- Non-rising knob
**Specifications**

- **Flow capacity**: 1/4, 20 dm³/s (42 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), 0-16 bar (232 psig)

**P1 Port size (Inlet / Outlet)**
- BSPP / NPT
- 1/4

**P2 Regulated ports (2 ea.)**
- BSPP / NPT
- 1/8

**Weight**
- 0.30 kg (0.66 lbs)

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

**Materials of Construction**

- **Body**: Aluminum
- **Adjustment knob**: Acetal
- **Bonnet**: 33% Glass-filled PBT
- **Diaphragm assembly**: Brass / Nitrile
- **Valve assembly**: Brass / Nitrile

**Dimensions** mm (inches)

NOTE: 30 mm (1.20 in.) hole required for panel nut mounting.

**Flow Charts**

1/4 Common Regulator

**Repair and Mounting Kits**

- **Diaphragm repair kit - relieving**: P31KB00RB
- **Diaphragm repair kit - non-relieving**: P31KB00RC
- **Panel mount nut - aluminum**: P31KA00MM
- **Panel mount nut - plastic**: P31KA00MP
- **Angle bracket (attaches via panel nut)**: P31KB00MR
- **T-bracket with body connector**: P31KA00MT
- **Body connector**: P31KA00CB

**Gauges**

**Square with adapter kit**

- 0-4 bar: P6G-PR11040
- 0-11 bar: P6G-PR11110
- 0-60 psig: P6G-PR0060
- 0-160 psig: P6G-PR0160

**40mm Round 1/8” center back mount**

- 0-30 psig / 0-2 bar: P3D-KAB1AYN
- 0-60 psig / 0-4 bar: P3D-KAB1ALN
- 0-160 psig / 0-11 bar: P3D-KAB1ANN
- 0-300 psig / 0-20 bar: P3D-KAB1AHN

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

Symbols

- Integral 1/4", 3/8" or 1/2" ports (NPT & BSPP)
- 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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow 1 dm³/s (scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (Inches)</th>
<th>Width mm (Inches)</th>
<th>Depth mm (Inches)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>70 (148)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB12BNNP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>70 (148)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB12BNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>78 (165)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB13BNNP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>78 (165)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB13BNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>78 (165)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB14BNNP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>78 (165)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB14BNGP</td>
</tr>
</tbody>
</table>

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

Options:

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

Standard order code shown in bold.

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.
Specifications

- **Flow capacity**: 1/4, 70 dm³/s (148 scfm); 3/8, 78 dm³/s (165 scfm); 1/2, 78 dm³/s (165 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 / NPT 1/4, 3/8, 1/2
- **Gauge port (2 ea.)**: BSPP / 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
- **Bonnet**: 33% Glass-filled nylon
- **Diaphragm assembly**: Nitrile / Zinc
- **Valve assembly**: Brass / Nitrile
- **Seals**: Nitrile
- **Panel nut**: Acetal

Dimensions mm (inches)

- **NOTE**: 48 mm (1.90 in.) hole required for panel nut mounting.

Repair and Mounting Kits

- **Diaphragm repair kit - relieving**: P32KB00RB
- **Diaphragm repair kit - non-relieving**: P32KB00RC
- **Panel mount nut - aluminum**: P32KA00MM
- **Panel mount nut - plastic**: P32KA00MP
- **Angle bracket (attaches via panel nut)**: P32KB00MR
- **T-bracket with body connector**: P32KA00MT
- **T-bracket**: P32KA00MB
- **Body connector**: P32KA00CB

Flow Charts

1/4 Regulator

![Flow Chart 1/4 Regulator](image)

3/8 Regulator

![Flow Chart 3/8 Regulator](image)

1/2 Regulator

![Flow Chart 1/2 Regulator](image)

Gauges

- **50mm (2”) Round 1/4” center back mount**
  - 0-60 psig / 0-4 bar: P6G-ERB2040
  - 0-160 psig / 0-11 bar: P6G-ERB2110
  - 0-300 psig / 0-20 bar: P6G-ERB2200

Square with adapter kit

- **0-4 bar**: P6G-PR11040
- **0-11 bar**: P6G-PR11110
- **0-60 psig**: P6G-PR90060
- **0-160 psig**: P6G-PR90160

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Compact Semi-Precision Regulator – P32

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow (^1) (\text{dm}^3/\text{s} \text{ (scfm)})</th>
<th>Max. bar (psig)</th>
<th>Height (\text{mm (inches)})</th>
<th>Width (\text{mm (inches)})</th>
<th>Depth (\text{mm (inches)})</th>
<th>Part number (^\dagger)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB12PNNP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB12PNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB13PNNP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB13PNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32RB14PNNP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>25 (53)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32RB14PNGP</td>
</tr>
</tbody>
</table>

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

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

Options:

- **P32RB**
  - Basic series
  - Global modular compact regulator

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

- **Mounting**
  - P Plastic panel mount nut

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

- **Relief**
  - Relieving P
  - Non-relieving E

- **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

**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 - Europe

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Parker Hannifin Corporation
Pneumatic Division - Europe

**PDE2676TCUK**

**Parker Global Air Preparation System**

**Repair and Mounting Kits**

- Diaphragm repair kit - relieving: P32KB00RB
- Diaphragm repair kit - non-relieving: P32KB00RC
- Panel mount nut - aluminum: P32KA00MM
- Panel mount nut - plastic: P32KA00MP
- Angle bracket (attaches via panel nut): P32KB00MR
- T-bracket with body connector: P32KA00MT
- T-bracket: P32KA00MB
- Body connector: P32KA00CB

**Specifications**

- **Flow capacity**: 1/4 25 dm³/s (53 scfm)
- 3/8 25 dm³/s (53 scfm)
- 1/2 25 dm³/s (53 scfm)

- **Effect of supply pressure variation**: 0.04 bar (0.6 PSIG) for 1.7 bar (25 PSIG) change in P1

- **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 / NPT 1/4, 3/8, 1/2

- **Gauge port (2 ea.)**: BSPP / NPT 1/4

- **Weight**: 0.41 kg (0.90 lbs)

- **Material Specifications**
  - **Body**: Aluminum
  - **Adjustment knob**: Acetal
  - **Bonnet**: 33% Glass-filled nylon
  - **Diaphragm assembly**: Nitrile / Zinc
  - **Valve assembly**: Brass / Nitrile
  - **Spring, main regulating valve**: Steel, Stainless Steel
  - **Seals**: Nitrile
  - **Panel nut**: Acetal

**Flow Charts**

- **1/4 Regulator**
  - Inlet Pressure - 10 bar (145 psig)

- **3/8 Regulator**
  - Inlet Pressure - 10 bar (145 psig)

- **1/2 Regulator**
  - Inlet Pressure - 10 bar (145 psig)

**Gauges**

- **50mm (2") Round 1/4" center back mount**
  - 0-60 psig / 0-4 bar: P6G-ERB2040
  - 0-160 psig / 0-11 bar: P6G-ERB2110
  - 0-300 psig / 0-20 bar: P6G-ERB2200

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

**NOTE:** 48 mm (1.90 in.) hole required for panel nut mounting.

**Dimensions**

- **Round Gauge**: 38.5 mm (1.52 in.)
  - 30 mm (1.18 in.)
  - 60 mm (2.36 in.)

- **Square Gauge**: 93 mm (3.66 in.)
  - 60 mm (2.36 in.)

**Flow capacity**: *Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).**
Compact Common - P1 Regulator - P32

Symbols

- Self relieving regulator with gauge
- Reverse flow relieving regulator
- Non-relieving regulator

- Manifold style regulator with line pressure on both sides.
- Pressure output is at front or rear.
- Inlet ports 1/4", 3/8" or 1/2" (NPT & BSPP)
- Working port 1/4"
- 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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number †</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>30 (64)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32HB12BNNP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>30 (64)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32HB13BNNP</td>
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<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>30 (64)</td>
<td>20 (300)</td>
<td>136 (5.4)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32HB14BNNP</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.

Options:

- Basic series
- Global modular compact regulator
- P32HB
- Thread type
- BSPP 1
- NPT 3
- 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

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 - Europe

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Specifications

Flow capacity *  
1/4  30 dm³/s (64 scfm)  
3/8  30 dm³/s (64 scfm)  
1/2  30 dm³/s (64 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 / NPT  
1/4, 3/8, 1/2

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

Weight 0.50 kg (1.10 lbs)

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

Material Specifications

Body Aluminum

Adjustment knob Acetal

Bonnet 33% Glass-filled nylon

Diaphragm assembly Nitrile / Zinc

Valve assembly Brass / Nitrile

Spring, main regulating valve Steel, Stainless Steel

Seals Nitrile

Panel nut Acetal

Dimensions mm (inches)

NOTE: 48 mm (1.90 in.) hole required for panel nut mounting.

Flow Charts

P32 Common Port Regulator

Inlet Pressure - 10 bar (145 psig)

Repair and Mounting Kits

Diaphragm repair kit - relieving P32KB00RB
Diaphragm repair kit - non-relieving P32KB00RC
Panel mount nut - aluminum P32KA00MM
Panel mount nut - plastic P32KA00MP
Angle bracket (attaches via panel nut) P32KB00MR
T-bracket with body connector P32KA00MT
T-bracket P32KA00MB

Body connector P32KA00CB

Gauges

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

0-60 psig / 0-4 bar P6G-ERB2040
0-160 psig / 0-11 bar P6G-ERB2110
0-300 psig / 0-20 bar P6G-ERB2200

Square with adapter kit

0-4 bar P6G-PR11040
0-11 bar P6G-PR11110
0-60 psig P6G-PR90060
0-160 psig P6G-PR90160

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Standard Regulator - P33

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ‡ (dm³/s (scfm))</th>
<th>Max. bar (psig)</th>
<th>Height (mm (inches))</th>
<th>Width (mm (inches))</th>
<th>Part number †</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>110 (233)</td>
<td>20 (300)</td>
<td>149 (5.87)</td>
<td>73 (2.87)</td>
<td>P33RA14BNNP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>110 (233)</td>
<td>20 (300)</td>
<td>149 (5.87)</td>
<td>108 (4.27)</td>
<td>P33RA14BNGP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving</td>
<td>110 (233)</td>
<td>20 (300)</td>
<td>149 (5.87)</td>
<td>73 (2.87)</td>
<td>P33RA16BNNP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving + gauge</td>
<td>110 (233)</td>
<td>20 (300)</td>
<td>149 (5.87)</td>
<td>108 (4.27)</td>
<td>P33RA16BNGP</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.

Options:

- Basic series
- Thread type
  - BSPP
  - NPT
- Port size
  - 1/2
  - 3/4
- Relief
  - Relieving
  - Non-relieving
  - Reverse flow-relieving
- Mounting
  - 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

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.
Specifications

Flow capacity * 1/2 110 dm³/s (233 scfm)
3/4 110 dm³/s (233 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 / NPT 1/2, 3/4

Gauge port (2 ea.) BSPP / 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

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Adjustment knob</td>
<td>Acetal</td>
</tr>
<tr>
<td>Body cap</td>
<td>ABS</td>
</tr>
<tr>
<td>Bonnet</td>
<td>33% Glass-filled nylon</td>
</tr>
<tr>
<td>Diaphragm assembly</td>
<td>Nitrile / Zinc</td>
</tr>
<tr>
<td>Valve assembly</td>
<td>Brass / Nitrile</td>
</tr>
<tr>
<td>Spring, main regulating valve</td>
<td>Steel, Stainless Steel</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
<tr>
<td>Panel nut</td>
<td>Acetal</td>
</tr>
</tbody>
</table>

Dimensions mm (inches)

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>73 (2.87)</td>
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<tr>
<td>83.8 (3.29)</td>
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<tr>
<td>149 (5.87)</td>
<td></td>
</tr>
<tr>
<td>83.8 (3.30)</td>
<td></td>
</tr>
<tr>
<td>149 (5.87)</td>
<td></td>
</tr>
</tbody>
</table>

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

Flow Charts

1/2 Regulator

<table>
<thead>
<tr>
<th>Inlet Pressure - 10 bar (145 psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Pressure - (bar)</td>
</tr>
<tr>
<td>Secondary Pressure - (psig)</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>8.0 bar 116 psig</td>
</tr>
<tr>
<td>6.3 bar 91.4 psig</td>
</tr>
<tr>
<td>4.0 bar 58 psig</td>
</tr>
<tr>
<td>2.5 bar 36.3 psig</td>
</tr>
</tbody>
</table>

3/4 Regulator

<table>
<thead>
<tr>
<th>Inlet Pressure - 10 bar (145 psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Pressure - (bar)</td>
</tr>
<tr>
<td>Secondary Pressure - (psig)</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>8</td>
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<td>12</td>
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<tr>
<td>6.0 bar 116 psig</td>
</tr>
<tr>
<td>6.3 bar 91.4 psig</td>
</tr>
<tr>
<td>4.0 bar 58 psig</td>
</tr>
<tr>
<td>2.5 bar 36.3 psig</td>
</tr>
</tbody>
</table>

Repair and Mounting Kits

<table>
<thead>
<tr>
<th>Kit</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diaphragm repair kit</td>
<td>P33KA00RB</td>
</tr>
<tr>
<td>- relieving</td>
<td></td>
</tr>
<tr>
<td>Diaphragm repair kit</td>
<td>P33KA00RC</td>
</tr>
<tr>
<td>- non-relieving</td>
<td></td>
</tr>
<tr>
<td>Panel mount nut</td>
<td>P33KA00MM</td>
</tr>
<tr>
<td>- aluminum</td>
<td></td>
</tr>
<tr>
<td>Panel mount nut</td>
<td>P33KA00MP</td>
</tr>
<tr>
<td>- plastic</td>
<td></td>
</tr>
<tr>
<td>Angle bracket</td>
<td>P33KA00MR</td>
</tr>
<tr>
<td>(attaches via panel nut)</td>
<td></td>
</tr>
<tr>
<td>T-bracket with body connector</td>
<td>P32KA00MT</td>
</tr>
<tr>
<td>T-bracket</td>
<td>P32KA00MB</td>
</tr>
<tr>
<td>Body connector</td>
<td>P32KA00CB</td>
</tr>
</tbody>
</table>

Gauges

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-60 psig / 0-4 bar</td>
<td>P6G-ERB2040</td>
</tr>
<tr>
<td>0-160 psig / 0-11 bar</td>
<td>P6G-ERB2110</td>
</tr>
<tr>
<td>0-300 psig / 0-20 bar</td>
<td>P6G-ERB2200</td>
</tr>
</tbody>
</table>

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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ( \text{dm}^3/\text{s (scfm)} )</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number †</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>35 (74)</td>
<td>10 (150)</td>
<td>176.9 (6.96)</td>
<td>40 (1.58)</td>
<td>61.3 (2.41)</td>
<td>P31EB12EGMBNTP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - pulse drain</td>
<td>35 (74)</td>
<td>10 (150)</td>
<td>172.0 (6.77)</td>
<td>40 (1.58)</td>
<td>61.3 (2.41)</td>
<td>P31EB12EGBBNTP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>35 (74)</td>
<td>17 (250)</td>
<td>176.9 (6.96)</td>
<td>40 (1.58)</td>
<td>61.3 (2.41)</td>
<td>P31EB12EMMBNTP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - pulse drain</td>
<td>35 (74)</td>
<td>17 (250)</td>
<td>172.0 (6.77)</td>
<td>40 (1.58)</td>
<td>61.3 (2.41)</td>
<td>P31EB12EMBBNTP</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.

Options:

- Basic series
- Global modular mini filter / regulator
- P31EB
- Thread type
  - BSPP 1
  - NPT 9
- Element
  - 5µ Element E
- Adjustment range
  - With square gauge
    - 1 = 30 *
    - 3 = 60
    - 5 = 125
  - 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
  - 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 = 16 bar; 232 psig; 1.6 MPa

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 Global Air Preparation System

Specifications

Flow capacity * 1/4 35 dm³/s (74 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)
Standard filtration 5 micron
Useful retention 12 cm³ (0.4 US oz.)
Adjusting range pressure 0-2 bar (30 psig)
0-4 bar (60 psig)
0-8 bar (125 psig)
0-16 bar (232 psig)

Port size BSPP / NPT 1/4
Gauge port (2 ea.) ** BSPP / NPT 1/8
Weight 0.19 kg (0.42 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).
** Non-gauge option only.
† Units with square gauges: -15°C to 65.5°C (5°F to 150°F)

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

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P31KB00BGM
Plastic bowl / Bowl guard pulse drain P31KB00BGB
Metal bowl / w/o sight gauge pulse drain P31KB00BMB
5µ particle filter element P31KA00ESE †
Diaphragm repair kit - Relieving P31KB00RB †
Diaphragm repair kit - Non-relieving P31KB00RC †
Panel mount nut - aluminum P32KA00MM †
Panel mount nut - plastic P32KA00MP †
Angle bracket (attaches via panel nut) P31KB00MR †
C-bracket (fits to body) P31KA00MW †
T-bracket with body connector P31KA00MT †
Body connector P31KA00CB †

Gauges

Square flush mount gauge
0-4 bar K4511SCR04B
0-11 bar K4511SCR11B
0-60 psig K4511SCR060
0-160 psig K4511SCR160

Square with adapter kit
0-4 bar P6G-PR11040
0-11 bar P6G-PR11110
0-60 psig P6G-PR90060
0-160 psig P6G-PR90160

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2010 Class 6 (Particulates)

Flow Charts

1/4 Filter / Regulator

Inlet Pressure - 10 bar (145 psig)

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

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P31KB00BGM
Plastic bowl / Bowl guard pulse drain P31KB00BGB
Metal bowl / w/o sight gauge pulse drain P31KB00BMB
5µ particle filter element P31KA00ESE †
Diaphragm repair kit - Relieving P31KB00RB †
Diaphragm repair kit - Non-relieving P31KB00RC †
Panel mount nut - aluminum P32KA00MM †
Panel mount nut - plastic P32KA00MP †
Angle bracket (attaches via panel nut) P31KB00MR †
C-bracket (fits to body) P31KA00MW †
T-bracket with body connector P31KA00MT †
Body connector P31KA00CB †

Gauges

Square flush mount gauge
0-4 bar K4511SCR04B
0-11 bar K4511SCR11B
0-60 psig K4511SCR060
0-160 psig K4511SCR160

Square with adapter kit
0-4 bar P6G-PR11040
0-11 bar P6G-PR11110
0-60 psig P6G-PR90060
0-160 psig P6G-PR90160

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

Symbols

- Integral 1/4", 3/8" or 1/2" ports (NPT & BSPP)
- 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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow (^1)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number (^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>70 (148)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>70 (148)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>70 (148)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>70 (148)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>75 (158)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
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<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>75 (158)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
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<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>75 (158)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
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<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>75 (158)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>77 (164)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>77 (164)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>77 (164)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBMBNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>77 (164)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EBABNGP</td>
</tr>
</tbody>
</table>

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

Options:

- Basic series
- Global modular compact filter / regulator
- P32EB

- Thread type
- BSPP 1
- NPT 9

- Element
- 5µ Element E

- Relief
- B Relieving
- N Non-relieving

- Drain type
- M Manual drain
- A Auto drain

- Mounting
- P Plastic panel mount nut

- Adjustment range
- With round gauge
- psig bar
- T = 2 bar, 30 psig, 0.2 MPa
- U = 4 bar, 60 psig, 0.4 MPa
- G = 8 bar, 125 psig, 0.8 MPa
- With 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

- Bowl type
- Poly bowl with bowl guard G
- Metal bowl with sight gauge S

- Standard order code shown in bold.
Specifications

Flow capacity * 1/4 70 dm³/s (148 scfm)
       3/8 75 dm³/s (158 scfm)
       1/2 77 dm³/s (164 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† 51 cm³ (1.7 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 / NPT 1/4, 3/8, 1/2

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

Weight 0.53 kg (1.17 lbs)

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates); 2010 Class 6 (Particulates)

Material Specifications

Body Aluminum

Adjustment knob Acetal

Element retainer / Baffle Acetal

Bowl Plastic bowl Polycarbonate

Metal bowl Zinc

Bowl guard Nylon

Filter element Sintered polyethylene

Seals Nitrile

Springs Main regulating / valve Steel / S.S.

Valve assembly Brass / Nitrile

Diaphragm assembly Nitrile / Zinc

Panel nut Acetal

Sight gauge Metal bowl Polycarbonate

Dimensions mm (inches)

Flow Charts

1/4 Filter / Regulator

<table>
<thead>
<tr>
<th>Inlet Pressure - 10 bar (145 psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Pressure - (bar)</td>
</tr>
<tr>
<td>Secondary Pressure - (psig)</td>
</tr>
<tr>
<td>Flow - (dm³/s)</td>
</tr>
<tr>
<td>Flow - (SCFM)</td>
</tr>
</tbody>
</table>

3/8 Filter/Regulator

<table>
<thead>
<tr>
<th>Inlet Pressure - 10 bar (145 psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Pressure - (bar)</td>
</tr>
<tr>
<td>Secondary Pressure - (psig)</td>
</tr>
<tr>
<td>Flow - (dm³/s)</td>
</tr>
<tr>
<td>Flow - (SCFM)</td>
</tr>
</tbody>
</table>

1/2 Filter/Regulator

<table>
<thead>
<tr>
<th>Inlet Pressure - 10 bar (145 psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Pressure - (bar)</td>
</tr>
<tr>
<td>Secondary Pressure - (psig)</td>
</tr>
<tr>
<td>Flow - (dm³/s)</td>
</tr>
<tr>
<td>Flow - (SCFM)</td>
</tr>
</tbody>
</table>

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P32KB00BGM
Metal bowl / Sight gauge manual drain P32KB00BSD
Auto drain P32KA00DA
5µ particle filter element P32KA00ESE
Diaphragm repair kit - Relieving P32KB00RB
Diaphragm 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 P32KA00NT
Body connector P32KA00CB

† Standard order code shown in bold.

Gauges

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

0-60 psig / 0-4 bar P6G-ERB2040
0-160 psig / 0-11 bar P6G-ERB2110
0-300 psig / 0-20 bar P6G-ERB2200

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.
Parker Global Air Preparation System

Compact Semi-Precision Filter / Regulator - P32

Symbols

- Integral 1/4", 3/8" or 1/2" ports (NPT & BSPP)
- 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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number †</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EGMPNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12EGAPNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12ESMPNGP</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB12ESAPNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB13EGMPNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB13EGAPNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB13ESMPNGP</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB13ESAPNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB14EGMPNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>35 (75)</td>
<td>10 (150)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB14EGAPNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>261.6 (10.3)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB14ESMPNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>35 (75)</td>
<td>17 (250)</td>
<td>255.6 (10.1)</td>
<td>60 (2.36)</td>
<td>93 (3.66)</td>
<td>P32EB14ESAPNGP</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.

Options:

- Basic series
- Global modular compact filter / regulator
- P32EB
- Thread type
  - BSPP 1
  - NPT 9
- Element
  - 5µ Element E
- Relief
  - P Relieving
  - E Non-relieving
- Drain type
  - M Manual drain
  - A Auto drain
- Bowl type
  - Poly bowl with bowl guard G
  - Metal bowl with sight gauge S
- Mounting
  - Plastic panel mount nut P
- 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
    - J² 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
    - H² 17 bar; 250 psig; 1.7 MPa

Standard order code shown in bold.

Not available with poly bowl with bowl guard.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.

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Standard order code shown in bold.
Parker Global Air Preparation System

Specifications

Flow capacity: 1/4 35 dm³/s (75 scfm)
3/8 35 dm³/s (75 scfm)
1/2 35 dm³/s (75 scfm)

Effect of supply pressure variation: 0.04 bar (0.6 PSig) for 1.7 bar (25 PSig) change in P1

Operating temperature: Metal bowl -25°C to 52°C (-13°F to 125°F)
Plastic 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: 51 cm³ (1.7 US oz.)

Adjusting range pressure: 0-2 bar (30 psig)
0-4 bar (60 psig)
0-8 bar (125 psig)
0-12 bar (180 psig)
0-17 bar (250 psig)

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

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

Weight: 0.53 kg (1.17 lbs)

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates); 2010 Class 6 (Particulates)

Material Specifications

Body: Aluminum
Adjustment knob: Acetal
Element retainer / Baffle: Acetal
Bowl: Plastic bowl Polycarbonate
Metal bowl Polycarbonate
Bowl guard: Nylon
Filter element: Sintered polyethylene
Seals: Nitrile
Springs: Main regulating / Valve Steel / S.S.
Valve assembly: Brass / Nitrile
Diaphragm assembly: Nitrile / Zinc
Panel nut: Metal bowl Polycarbonate
Sight gauge: Polycarbonate

Dimensions mm (inches)

Flow Charts

1/4 Filter / Regulator

3/8 Filter/Regulator

1/2 Filter/Regulator

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P32KB00BGM
Metal bowl / Sight gauge manual drain P32KB00BSM
Auto drain P32KA00DA
5µ particle filter element P32KA00GE1
Diaphragm repair kit - Relieving P32KB00RB1
Diaphragm repair kit - Non-relieving P32KB00RC1
Panel mount nut - aluminum P32KA00MM1
Panel mount nut - plastic P32KA00MP1
Angle bracket (fits to panel mount threads) P32KB00MR1
T-bracket (fits to body connector) P32KA00MB1
T-bracket with body connector P32KA00MT1
Body connector P32KA00CB1

* Standard order code shown in bold.

Gauges

50mm [2"] Round 1/4" center back mount

0-60 psig / 0-4 bar P6G-ERB2040
0-160 psig / 0-11 bar P6G-ERB2110
0-300 psig / 0-20 bar P6G-ERB2200

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 - Europe
Standard Filter / Regulator - P33

Symbols

• Integral 1/2" or 3/4" ports (NPT & BSPP)
• 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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ‡</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number †</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>94 (200)</td>
<td>10 (150)</td>
<td>291 (11.44)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA14EGMBNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>94 (200)</td>
<td>10 (150)</td>
<td>285 (11.22)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA14EGABNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>94 (200)</td>
<td>17 (250)</td>
<td>291 (11.44)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA14ESMBNGP</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - auto drain</td>
<td>94 (200)</td>
<td>17 (250)</td>
<td>285 (11.22)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA14ESABNGP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - manual drain</td>
<td>109 (235)</td>
<td>10 (150)</td>
<td>291 (11.44)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA16EGMBNGP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - poly bowl - auto drain</td>
<td>109 (235)</td>
<td>10 (150)</td>
<td>285 (11.22)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA16EGABNGP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) relieving - metal bowl - manual drain</td>
<td>109 (235)</td>
<td>17 (250)</td>
<td>291 (11.44)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA16ESMBNGP</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>8 bar (125 psig) Relieving - Metal bowl - Auto drain</td>
<td>109 (235)</td>
<td>17 (250)</td>
<td>285 (11.22)</td>
<td>73 (2.87)</td>
<td>108 (4.27)</td>
<td>P33EA16ESABNGP</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.

Options:

- Basic series
- Global modular standard filter / regulator
- Port size 1/2" or 3/4"
- Thread type NPT or BSPP
- Element 5µ Element E
- Relieving N Non-relieving
- Drain type Manual drain M or Auto drain A
- Adjustment range With round gauge Z 2 bar; 30 psig; 0.2 MPa, 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
- Without gauge J 8 bar; 125 psig; 0.8 MPa

Standard order code shown in bold.
Specifications

Flow capacity * 1/2 94 dm³/s (200 scfm)
3/4 109 dm³/s (235 scfm)
Operating temperature Plastic bowl -25°C to 52°C (-13°F to 125°F)
Metal bowl -25°C to 85.5°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 1 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 / NPT 1/2, 3/4
Gauge port (2 ea.) BSPP / NPT 1/4
Weight 0.85 kg (1.87 lbs)

* Inlet pressure 10 bar (145 psig). Secondary pressure 6.3 bar (91.3 psig).
† Useful retention refers to volume below the quiet zone baffle.

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates); 2010 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.
Valve assembly Brass / Nitrile
Diaphragm assembly Nitrile / Zinc
Panel nut Acetal
Sight gauge Metal bowl Polycarbonate

Dimensions mm (inches)

Flow Charts

1/2 Filter / Regulator

3/4 Filter/Regulator

Repair and Mounting Kits

Plastic bowl / Bowl guard manual drain P33KA00BGM
Metal bowl / Sight gauge manual drain P33KA00BSM
Auto drain P32KA00DA
5µ particle filter element P33KA00ESE
Diaphragm repair kit - Relieving P33KB00RB
Diaphragm repair kit - Non-relieving P33KB00RC
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

† Standard order code shown in bold.

Gauges

50mm (2") Round 1/4" center back mount
0-60 psig / 0-4 bar P6G-ERB2040
0-160 psig / 0-11 bar P6G-ERB2110
0-300 psig / 0-20 bar P6G-ERB2200

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.
Mini Lubricator - P31

- Integral 1/4" ports (NPT & BSPP)
- 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
- Oil mist standard sight dome
- No drain closed end

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow (^1) dm(^3) /s (scfm)</th>
<th>Max. bar (psig)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>25 (52)</td>
<td>10 (150)</td>
<td>153.3 (6.04)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31LB12LGNN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>25 (52)</td>
<td>17 (250)</td>
<td>153.3 (6.04)</td>
<td>40 (1.58)</td>
<td>40 (1.58)</td>
<td>P31LB12LMNN</td>
</tr>
</tbody>
</table>

\(^1\) Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.
\(^2\) For thread type: BSPP, NPT
Specifications

Flow capacity *  1/4  19 dm³/s (40 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 / NPT 1/4
Weight 0.13 kg (0.29 lbs)

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

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)

Flow Charts

P31LB 1/4" Lubricator

Material Specifications

<table>
<thead>
<tr>
<th>Body</th>
<th>Aluminum</th>
</tr>
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<tbody>
<tr>
<td>Body cap</td>
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<tr>
<td>Bowl</td>
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<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>

Repair and Mounting Kits

| Plastic bowl / Bowl guard no drain | P31KB00BGN |
| Metal bowl / w/o sight gauge no drain | P31KB00BMN |
| Drip control assembly | P32KA00PG |
| Nylon drip control ass. | P32KA00PH |
| Fill plug | P31KA00PL |
| C-bracket (fits to body) | P31KA00MW ^ |
| T-bracket with body connector | P31KA00MT ^ |
| Body connector | P31KA00CB ^ |
| Lubricator oil - VG15: ISO 3448 - 100 ml | P3XKA00PPA ^ |
| Lubricator oil - VG32 - 1 litre | P3YKA00PPBB ^ |

^ Standard order code shown in bold.

(Do not use oils with additives, compounded oils containing solvents, graphite, detergents, or synthetic oils.)
Compact Lubricator - P32

- Integral 1/4", 3/8" or 1/2" ports (NPT & BSPP)
- 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
- Oil mist standard sight dome
- No drain closed end

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ‡ (dm³/h scfm)</th>
<th>Max. bar (psig)</th>
<th>Height (mm inches)</th>
<th>Width (mm inches)</th>
<th>Depth (mm inches)</th>
<th>Part number ◊</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>17 (38)</td>
<td>10 (150)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB12LGNN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>17 (38)</td>
<td>17 (250)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB12LSNN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Poly bowl - No drain</td>
<td>33 (70)</td>
<td>10 (150)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB13LGNN</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Metal bowl - No drain</td>
<td>33 (70)</td>
<td>17 (250)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB13LSNN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - No drain</td>
<td>42 (90)</td>
<td>10 (150)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB14LGNN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - No drain</td>
<td>42 (90)</td>
<td>17 (250)</td>
<td>217.3 (8.56)</td>
<td>60 (2.36)</td>
<td>60 (2.36)</td>
<td>P32LB14LSNN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.
◊ For thread type: BSPP 1 NPT 9
**Specifications**

**Flow capacity** *  
- 1/4: 17 dm³/s (38 scfm)  
- 3/8: 33 dm³/s (70 scfm)  
- 1/2: 42 dm³/s (90 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**  
- 121 cm³ (4.09 US oz.)

**Port size**  
- BSPP / 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  
- **Bowl**: 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)

**Flow Charts**

**1/4 Lubricator**

**3/8 Lubricator**

**1/2 Lubricator**

**Repair and Mounting Kits**

- Plastic bowl / Bowl guard no drain: P32KB00BGN  
- Metal bowl / w/o sight gauge no drain: P32KB00BMN  
- Metal bowl / Sight gauge no drain: P32KB00BSN  
- Drip control assembly: P32KA00PG  
- Nylon drip control ass.: P32KA00PH  
- 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

† Standard order code shown in bold.

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

![Lubricator with drain](image)

- Integral 1/2" or 3/4" ports (NPT & BSPP)
- 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
- Oil mist standard sight dome
- No drain closed end

### Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Part number ³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>Poly bowl - No drain</td>
<td>52 (110)</td>
<td>10 (150)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
<td>P33LA14LGNN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Metal bowl - No drain</td>
<td>52 (110)</td>
<td>17 (250)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
<td>P33LA14LSNN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Poly bowl - No drain</td>
<td>71 (150)</td>
<td>10 (150)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
<td>P33LA16LGNN</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Metal bowl - No drain</td>
<td>71 (150)</td>
<td>17 (250)</td>
<td>234 (9.21)</td>
<td>73 (2.9)</td>
<td>73 (2.9)</td>
<td>P33LA16LSNN</td>
</tr>
</tbody>
</table>

‡ Flow with 6.3 bar (91.3 psig) inlet pressure and 0.34 bar (4.9 psig) pressure drop.
³ For thread type: BSPP ¹ NPT ⁹

---

Parker Hannifin Corporation
Pneumatic Division - Europe
Parker Global Air Preparation System

Specifications

<table>
<thead>
<tr>
<th>Flow capacity</th>
<th>1/2</th>
<th>52 dm³/s (110 scfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4</td>
<td>71 dm³/s (150 scfm)</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>Plastic bowl</td>
<td>-10°C to 52°C (14°F to 125°F)</td>
</tr>
<tr>
<td>temperature</td>
<td>Metal Bowl</td>
<td>-10°C to 65.5°C (14°F to 150°F)</td>
</tr>
<tr>
<td>Max. supply</td>
<td>Plastic bowl</td>
<td>10 bar (150 psig)</td>
</tr>
<tr>
<td>pressure</td>
<td>Metal bowl</td>
<td>17 bar (250 psig)</td>
</tr>
<tr>
<td>Useful retention</td>
<td></td>
<td>181 cm³ (6.1 US oz.)</td>
</tr>
<tr>
<td>Port size</td>
<td>BSPP / NPT</td>
<td>1/2, 3/4</td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>0.47 kg (1.04 lbs)</td>
</tr>
</tbody>
</table>

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

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>Bowls</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>Sight gauge</td>
<td>Metal bowl</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>

Flow Charts

1/2 Lubricator

<table>
<thead>
<tr>
<th>Primary Pressure</th>
<th>Primary Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>bar</td>
<td>psig</td>
</tr>
<tr>
<td>1.6</td>
<td>23.2</td>
</tr>
<tr>
<td>4.0</td>
<td>58</td>
</tr>
<tr>
<td>6.3</td>
<td>91.4</td>
</tr>
<tr>
<td>10</td>
<td>145</td>
</tr>
</tbody>
</table>

3/4 Lubricator

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

Dimensions mm (inches)

| Plastic bowl / Bowl guard no drain | P33KA00BGN |
| Metal bowl / w/o sight gauge no drain | P33KA00BMN |
| Metal bowl / Sight gauge no drain | P33KA00BSN |
| Drip control assembly | P32KA00PG |
| Nylon drip control ass. | P32KA00PH |
| Fill plug | P33KA00PL |
| L-bracket (fits to body) | P33KA00ML |
| T-bracket (fits to body connector) | P32KA00MB |
| T-bracket with body connector | P32KA00MT |
| Body connector | P32KA00CB |
| Lubricator oil - VG15: ISO 3448 - 100 ml | P3XKA00PPA |
| Lubricator oil - VG32 - 1 litre | P3YKA00PPBB |

† Standard order code shown in bold.

(Do not use oils with additives, compounded oils containing solvents, graphite, detergents, or synthetic oils.)
Proportional Regulators

Man-Machine Interface
- High Visibility LED Display
- Easy to Read Characters
- All Controls on the Same Face

Total Flexibility
- User Friendly and Easily Accessible Software Control
- One Basic Unit Suits All Customer Requirements
- 0-10V Control Signal Standard
- 4-20mA Control Signal Software Selectable
- Modular Mounting
- 10, 7 & 2 bar Versions

Special Applications
- Clean Line Design
- Suitable for Washdown: IP65
- Forced Exhaust Option Available
- 4 Output Signal Versions Available

Compact and Light Weight
- 40 & 60 mm Body Sizes
- Light Weight Aluminum Bodies

Flexible Mounting Options
- Stand-alone or Modular Mounting
- Foot Bracket Mounting

Energy Saving
- Low Watt Power Consumption
- No Unnecessary Loss of Air in Steady State

Outstanding Performance
- Very Fast Response Times
- Full Flow Exhaust
- Excellent Linearity
- High Flow
Why Proportional Technology?

The Difference Between Open or Closed Circuit Control

Standard pressure regulators go a long way towards meeting customers needs. In most cases these regulators work well in general pneumatic and automation applications. However, sometimes the application calls for more precise pressure control. The effects of time, cycling, input, back pressure or pressure and flow variation can all cause inconsistencies in pneumatic systems. Proportional Regulators are designed to eliminate those inconsistencies.

Open Control Circuit

In a normal pressure regulated control system, the inlet pressure (p1) is converted into the output pressure (p2) by the regulator. The set pressure (set value) is usually manually set by adjusting the control knob and in normal circumstances the regulator maintains the output pressure (actual value).

No facility for monitoring the output pressure is provided and there is consequently no way of checking that the set value and the actual value are the same. Also, no account is taken of external influences such as air consumption by the system, which can drastically alter the actual value.

Closed Loop Control Circuit

The input signal (Electronic Control Signal) is converted into the output value (P2 Output Pressure). This output value is continuously measured and compared with the input signal. If they are different, the unit adjusts the output value to correspond to the set value, to close the loop.

Proportional Pressure Regulators

The Proportional Regulators provide all the advantages of a closed circuit regulated system. When a set value is defined via the input signal (e.g. 0-10 V), the pressure regulator sets the corresponding output pressure (e.g. 0-150 PSI/0-10 bar). At the same time the integrated pressure sensor measures the actual pressure at the unit’s outlet (actual value).

If the electronic regulation system finds that the actual value has deviated from the set value, it immediately corrects the actual value. This is a continuous process ensuring fast, accurate pressure regulation.

Typical Application in Automotive Body in White Welding Pressure Control
Proportional Regulators

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

Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</th>
<th>Flow ‡ dm³/s (scfm)</th>
<th>Max. bar (psi)</th>
<th>Height mm (inches)</th>
<th>Width mm (inches)</th>
<th>Depth mm (inches)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - Digital PNP</td>
<td>19 (40)</td>
<td>10 (150)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12AD2VD1A</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported exhaust (NC) - 4-20mA - Digital PNP</td>
<td>19 (40)</td>
<td>7 (100)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12AS2AD1A</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - Digital PNP</td>
<td>19 (40)</td>
<td>7 (100)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12AS2VD1A</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - PNP or 0-10V</td>
<td>19 (40)</td>
<td>10 (150)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12AD2VP1A</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported forced exhaust (NO) - 0-10V - PNP or 0-10V</td>
<td>19 (40)</td>
<td>10 (150)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12ED2VP1A</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Bottom ported forced exhaust (NO) - 0-10V - Digital PNP</td>
<td>19 (40)</td>
<td>10 (150)</td>
<td>126.25 (4.99)</td>
<td>57 (2.25)</td>
<td>40 (1.58)</td>
<td>P31PA12ED2VD1A</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - Digital PNP</td>
<td>57 (120)</td>
<td>10 (150)</td>
<td>175.7 (6.94)</td>
<td>75 (2.96)</td>
<td>57.2 (2.26)</td>
<td>P32PA14AD2VD1A</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - PNP or 0-10V</td>
<td>57 (120)</td>
<td>10 (150)</td>
<td>175.7 (6.94)</td>
<td>75 (2.96)</td>
<td>57.2 (2.26)</td>
<td>P32PA14AD2VM1A</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Bottom ported exhaust (NC) - 0-10V - PNP or 0-10V</td>
<td>57 (120)</td>
<td>10 (150)</td>
<td>175.7 (6.94)</td>
<td>75 (2.96)</td>
<td>57.2 (2.26)</td>
<td>P32PA14AD2VP1A</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Bottom ported forced exhaust (NO) - 0-10V - Digital PNP</td>
<td>57 (120)</td>
<td>10 (150)</td>
<td>175.7 (6.94)</td>
<td>75 (2.96)</td>
<td>57.2 (2.26)</td>
<td>P32PA14ED2VM1A</td>
</tr>
</tbody>
</table>

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

Options:

- Body size
  - Global modular mini (1/4") P31PA
  - Global modular compact (1/2") P32PA

- Thread type
  - BSPP 1
  - NPT 9

- Power supply
  - 2 24 volts

- Control signal
  - V 0-10V
  - A 4-20mA

- Input connector
  - 1 M12 (4-pin)

- Output signal
  - D Digital, PNP
  - P PNP or 0-10V
  - N NPN or 0-10V
  - M 4-20mA fixed

Standard order code shown in bold.

† When the supply voltage is lost the unit will automatically exhaust the regulated pressure to 0 bar (atmospheric pressure).

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

**Flow Capacity**
P31P flows to 19 dm³/s (40 scfm)
P32P flows to 57 dm³/s (120 scfm)

**Temperature range**
0°C up to +50°C (32°F up to 122°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 19)

**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 Ri = 100k Ω</td>
<td>White</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>

**Cables**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 mtr. cable with moulded straight M12x1 connector</td>
<td>P8L-MC04A2A-M12</td>
</tr>
<tr>
<td>2 mtr. cable with moulded 90 degree M12x1 connector</td>
<td>P8L-MC04R2A-M12</td>
</tr>
</tbody>
</table>

**P31P Mounting brackets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</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>

**P32P Mounting brackets**

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

**Note:**
These brackets fit both Proportional Regulators and Combined Soft Start & Dump Valves. Dimensions see page 60.
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 “0” 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) ...................... Aluminum
• Regulator Top Housing .............................................. Nylon
• Valve Head ................................................................. Brass & NBR
• Remaining Seals .......................................................... NBR

Advanced functionality

Pilot valve protection
When the required output pressure cannot 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>65 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
Parker Global Air Preparation System

P31P

L-Bracket

Foot Bracket

Dimensions are in mm (Inches)
Remotely 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.

**Order Code for Ordering**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Weight kg (lbs)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Solenoid operated (not included)</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>0.37 (0.8)</td>
<td>P31DA12SGN0000</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>24VDC Solenoid &amp; cable plug</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>1661 (6.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.41 (0.9)</td>
<td>P31DA12SGNC2CN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>External air pilot operated</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37 (0.8)</td>
<td>P31DA12PPN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Solenoid operated (not included)</td>
<td>51 (108)</td>
<td>10 (150)</td>
<td>162.5 (6.3)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.69 (1.5)</td>
<td>P32DA14SCN0000</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>24VDC 30mm coil &amp; cable plug incl.</td>
<td>51 (108)</td>
<td>10 (150)</td>
<td>227.5 (8.9)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.91 (2.0)</td>
<td>P32DA14SCNA2CN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot operated</td>
<td>51 (108)</td>
<td>17 (250)</td>
<td>162.5 (6.3)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.87 (1.9)</td>
<td>P32DA14PPN</td>
</tr>
</tbody>
</table>

‡ Includes exhaust silencer

**Options:**

- **Body size**: Dump valve (1/4") P31DA, Dump valve (1/2") P32DA
- **Thread type**: BSPP 1, NPT 9
- **Port size**: Global modular mini (1/4") 2, Global modular compact (1/2") 4
- **Actuator interface**: G 15mm solenoid (P31 only), C 30mm solenoid, P Threaded Air Pilot
- **Pilot type**: P External air pilot, S Solenoid pilot
- **Solenoid type only**: None (For P32 series - operator is fitted to valve), 15mm (P31 series only)
- **Solenoid voltage**:
  - 000 Solenoid / Coil not fitted
  - 2CN 24VDC non locking manual override
  - 3GN 120VAC non locking manual override
  - 1FN 120VAC non locking manual override (P31 series only)
  - A 30mm CNOMO coil (P32 only)
  - D 30mm CNOMO coil (M12 connection) (P32 only)

Standard order code shown in bold.

*Parker Hannifin Corporation*  
Pneumatic Division - Europe
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" G
Exhaust port: P31D - 1/4" / P32D - 1/2"
Gauge port: P31D - 1/8" / P32D - 1/4"

Typical flow with 6.3 bar inlet pressure and 1 bar pressure drop:
P31D 17 dm³/s (36 scfm)
P32D 51 dm³/s (108 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

Description | Part number
---|---
L-bracket mounting kit | P3HKA00ML
Foot bracket mounting kit | P3HKA00MC

Note: For solenoid operators and cable plugs (connectors) see pages 66 to 67.

Dimensions Pneumatic version dimensions without solenoid mm (inches)

For mounting brackets see page 77.
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.

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.

### Order Code for Ordering

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Weight kg (lbs)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Solenoid operated (not included)</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>0.37 (0.8)</td>
<td>000 Solenoid / Coil not fitted</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>24VDC Solenoid &amp; cable plug</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>166.0 (6.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.41 (0.9)</td>
<td>2CN 24VDC non locking manual override</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Internal air pilot operated</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37 (0.8)</td>
<td>15mm solenoid only</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot (1/8&quot; threaded)</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37 (0.8)</td>
<td>15mm solenoid only</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Solenoid operated (not included)</td>
<td>48 (101)</td>
<td>10 (150)</td>
<td>162.5 (6.3)</td>
<td>88 (3.4)</td>
<td>57.2 (2.2)</td>
<td>0.87 (1.5)</td>
<td>30mm solenoid only</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>24VDC 30mm coil &amp; cable plug</td>
<td>48 (101)</td>
<td>10 (150)</td>
<td>227.5 (8.9)</td>
<td>88 (3.4)</td>
<td>57.2 (2.2)</td>
<td>0.90 (2.0)</td>
<td>30mm solenoid only</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Internal air pilot operated</td>
<td>48 (101)</td>
<td>17 (250)</td>
<td>162.5 (6.3)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.90 (2.0)</td>
<td>30mm solenoid only</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot (1/8&quot; threaded)</td>
<td>48 (101)</td>
<td>17 (250)</td>
<td>162.5 (6.3)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.87 (1.5)</td>
<td>30mm solenoid only</td>
</tr>
</tbody>
</table>

### Options:

- **Solenoid type only**
- **Solenoid voltage**
  - 000 Solenoid / Coil not fitted
  - 2CN 24VDC non locking manual override
  - 3GN 120VAC non locking manual override
  - 1FN 120VAC non locking manual override
- **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
  - NPT 9
- **Port size**
  - Global modular mini (1/4") 2
  - Global modular compact (1/2") 4

**Standard order code shown in bold.**
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"
Gauge port: P31S - 1/8" / P32S - 1/4"

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>Part number</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 66 to 67.

Flow Charts

P31SA 1/4" Soft Start Valve

Flow Charts

P31SA 1/4" Soft Start Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Flow Charts

P32SA 1/2" Soft Start Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Flow Charts

For mounting brackets see page 77.
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.

**Order Code for Ordering**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Description</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>
<th>Weight kg (lbs)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Solenoid operated (not included)</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>0.37 (0.8)</td>
<td>P31TA12SGN0000</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>24VDC Solenoid &amp; cable plug</td>
<td>17 (36)</td>
<td>10 (150)</td>
<td>166.1 (6.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.41 (0.9)</td>
<td>P31TA12SGNC2CN</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>External air pilot operated</td>
<td>17 (36)</td>
<td>17 (250)</td>
<td>115.6 (4.5)</td>
<td>57 (2.2)</td>
<td>40 (1.5)</td>
<td>0.37 (0.8)</td>
<td>P31TA12PPN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Solenoid operated (not included)</td>
<td>46 (97)</td>
<td>10 (150)</td>
<td>162.5 (6.3)</td>
<td>88 (3.4)</td>
<td>57.2 (2.2)</td>
<td>0.87 (1.9)</td>
<td>P32TA14SCN0000</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>24VDC 30mm coil &amp; cable plug incl.</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>0.91 (2.0)</td>
<td>P32TA14SCNA2CN</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>External air pilot operated</td>
<td>46 (97)</td>
<td>17 (250)</td>
<td>162.5 (6.3)</td>
<td>75 (2.9)</td>
<td>57.2 (2.2)</td>
<td>0.87 (1.9)</td>
<td>P32TA14PPN</td>
</tr>
</tbody>
</table>

‡ Includes exhaust silencer. Flow with 6.3 bar (91.3) psig) inlet and 1 bar (14.5 psig) pressure drop.

**Options:**

- **Body size**
  - Soft start / dump valve (1/4") P31TA
  - Soft start / dump valve (1/2") P32TA

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

- **Actuator interface**
  - G 15mm solenoid (P31 only)
  - C 30mm solenoid
  - P Threaded air pilot

- **Pilot type**
  - P External air pilot
  - S Solenoid pilot

- **Solenoid only**
  - Solenoid / Coil not fitted
  - 2CN 24VDC non locking manual override
  - 3CN 120VAC non locking manual override
  - 1FN 120VAC non locking manual override (P31 series only)

- **Solenoid type**
  - None (For P32 series - Operator is fitted to valve)
  - 15mm (P31 series only)
  - 30mm CNOMO coil (P32 only)
  - 30mm CNOMO coil (M12 connection) (P32 only)

Standard order code shown in bold.
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”
Gauge port: P31T - 1/8” / P32T - 1/4”
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

Flow Charts

P31TA 1/4” Soft Start & Dump Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Flow - (dm³/s)

Secondary Pressure - (bar)

Secondary Pressure - (psig)

Flow - (scfm)

P32TA 1/2” Soft Start & Dump Valve

Inlet Pressure - 6.3 bar (91.3 psig)

Flow - (dm³/s)

Secondary Pressure - (bar)

Secondary Pressure - (psig)

Flow - (scfm)

Material Specifications

Body: Aluminum
Body cover: Polyester
Seals: Nitrile NBR

Mounting Brackets

Description

Part number

P31T

L-bracket mounting kit

P31TA00ML

Foot bracket mounting kit

P31TA00MC

Note:

For solenoid operators and cable plugs (connectors) see pages 66 to 67.

Dimensions

Pneumatic version dimensions without solenoid

P31T

P32T

For mounting brackets see page 77.
# Solenoid Operators

## Solenoid Operator - CNOMO

### Order Code for Ordering

<table>
<thead>
<tr>
<th>Operator Type</th>
<th>Pressure / Temp</th>
<th>Manual / Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>CNOMO 22 x 30 Plastic</td>
<td>B Non locking - monostable - Flush - Brass</td>
</tr>
</tbody>
</table>

### Technical data - Solenoid operators, coil combinations

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Din A</th>
<th>Weight (Kg)</th>
<th>Order code Industrial B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FCA445</td>
<td>0.105</td>
<td>P2FCB445</td>
<td>0.033</td>
</tr>
<tr>
<td>12V DC</td>
<td>P2FCA449</td>
<td>0.105</td>
<td>P2FCB449</td>
<td>0.033</td>
</tr>
<tr>
<td>24V DC</td>
<td>P2FCA453</td>
<td>0.105</td>
<td>P2FCB451</td>
<td>0.033</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:** Polymide
- **Armature tube:** Brass
- **Plunger & core:** Corrosion resistant Cr-Ni steel
- **Seals:** FKM (Viton™)
- **Screws:** Stainless steel

**Coil**

- **Encapsulation material:** Thermoplastic as standard Duroplast for M12 connection

### Solenoid coils with Din A or Industrial B connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Form A</th>
<th>Weight (Kg)</th>
<th>Order code Form B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FC6419</td>
<td>0.065</td>
<td>P2FC7419</td>
<td>0.065</td>
</tr>
</tbody>
</table>

### Solenoid operators with M12 connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Form A</th>
<th>Weight (Kg)</th>
<th>Order code Form B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FP23N4B</td>
<td>0.065</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Spare Solenoid Operators

**Solenoid pilot operator CNOMO NC**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard duty</td>
<td>P2FP23N4B</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.

---

**Translated Document**

### Solenoid Operators

#### Solenoid Operator - CNOMO

##### Order Code for Ordering

<table>
<thead>
<tr>
<th>Operator Type</th>
<th>Pressure / Temp</th>
<th>Manual / Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>CNOMO 22 x 30 Plastic</td>
<td>B Non locking - monostable - Flush - Brass</td>
</tr>
</tbody>
</table>

#### Technical data - Solenoid operators, coil combinations

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Din A</th>
<th>Weight (Kg)</th>
<th>Order code Industrial B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FCA445</td>
<td>0.105</td>
<td>P2FCB445</td>
<td>0.033</td>
</tr>
<tr>
<td>12V DC</td>
<td>P2FCA449</td>
<td>0.105</td>
<td>P2FCB449</td>
<td>0.033</td>
</tr>
<tr>
<td>24V DC</td>
<td>P2FCA453</td>
<td>0.105</td>
<td>P2FCB451</td>
<td>0.033</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:** Polymide
- **Armature tube:** Brass
- **Plunger & core:** Corrosion resistant Cr-Ni steel
- **Seals:** FKM (Viton™)
- **Screws:** Stainless steel

**Coil**

- **Encapsulation material:** Thermoplastic as standard Duroplast for M12 connection

#### Solenoid coils with Din A or Industrial B connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Form A</th>
<th>Weight (Kg)</th>
<th>Order code Form B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td>P2FC6419</td>
<td>0.065</td>
<td>P2FC7419</td>
<td>0.065</td>
</tr>
</tbody>
</table>

#### Solenoid operators with M12 connection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Order code Form A</th>
<th>Weight (Kg)</th>
<th>Order code Form B</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct current</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Spare Solenoid Operators

**Solenoid pilot operator CNOMO NC**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard duty</td>
<td>P2FP23N4B</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>Order code 15mm Form C</th>
<th>Order code 22mm Form B</th>
<th>Order code 30mm Form A</th>
</tr>
</thead>
<tbody>
<tr>
<td>With large headed screw suitable for mounting in inaccessible or recess position</td>
<td>P8C-C</td>
<td>P8C-C26C</td>
<td>P8C-C21E</td>
</tr>
<tr>
<td>Standard IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24V DC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED and protection IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED and protection IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With standard screw</td>
<td>P8C-D</td>
<td>3EV10V10</td>
<td>3EV290V10</td>
</tr>
<tr>
<td>Standard IP65 without flying lead</td>
<td>P8C-D26C</td>
<td>3EV10V20-24</td>
<td>3EV290V20-24</td>
</tr>
<tr>
<td>With LED and protection 24V AC/DC</td>
<td>P8C-D21E</td>
<td>3EV10V20-110</td>
<td>3EV290V20-110</td>
</tr>
<tr>
<td>With LED and protection 110V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With LED and protection 230V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With cable</td>
<td>P8L-C2</td>
<td>3EV10V20-230L5</td>
<td>3EV290V20-230L5</td>
</tr>
<tr>
<td>Standard with 2m cable IP65</td>
<td>P8L-C26C</td>
<td>3EV10V20-24L5</td>
<td>3EV290V20-24L5</td>
</tr>
<tr>
<td>Standard with 5m cable IP65</td>
<td>P8L-C5</td>
<td>3EV10V20-24L5</td>
<td>3EV290V20-24L5</td>
</tr>
<tr>
<td>24V AC/DC, 2m cable LED and protection IP65</td>
<td>P8L-C226C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24V AC/DC, 5m cable LED and protection IP65</td>
<td>P8L-C526C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24V AC/DC, 5m cable LED and protection IP65</td>
<td>P8L-C5226C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24V AC/DC, 10m cable LED and protection IP65</td>
<td>P8L-CA26C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110V AC/DC, 2m cable LED and protection IP65</td>
<td>P8L-C221E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110V AC/DC, 5m cable LED and protection IP65</td>
<td>P8L-C521E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230V AC, 5m cable LED and protection IP65</td>
<td>P8L-CA26C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard with 2m cable IP65</td>
<td>P8L-C221E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard with 5m cable IP65</td>
<td>P8L-C521E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard with 10m cable IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Solenoid Coil & Cable Plug Dimensions (mm)

**P2F - CNOMO - 22 x 30mm**

- P8C-C
- P8C-D
- P8L-C2
- P8L-C5
- P8L-C26C
- P8L-C226C
- P8L-C221E
- P8L-C526C
- P8L-C5226C
- P8L-C521E
- 3EV10V10
- 3EV290V10

---

**Form C Cable plugs**

- P8C-C
- P8C-C26C
- P8C-C21E
- P8C-D
- P8C-D26C
- P8C-D21E

**Form C Cable plugs**

- P8L-C2
- P8L-C5
- P8L-C26C
- P8L-C226C
- P8L-C526C
- P8L-C221E
- P8L-C521E

**Form B Cable plugs**

- 3EV10V10

**Form A Cable plugs**

- 3EV290V10
Safety Exhaust Valves

- Easy electrical interface with M12 connectors to safety circuit
- External monitoring provides a cost and space saving advantage
- Solid state pressure sensors provide accurate, fast fault detection
- Quick visual LED indicators on the front of the valve
- Superior seated seal design for longer life
- Safety exhaust outlet is no-maintenance and non-clog by design
- Suitable for stand alone use or modular mounting to P32 or P33 FRL assembly
- High B10 life value
- Fast exhaust times allow for smaller machine footprint

Operating information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>2 to 10 PSIG (30 to 150 bar)</td>
</tr>
<tr>
<td>Minimum operating pressure</td>
<td>30 PSIG (2 bar)</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>4° to 50°C (40° to 120°F)</td>
</tr>
<tr>
<td>Recommended filtration</td>
<td>40μ</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air</td>
</tr>
<tr>
<td>Ingress protection class</td>
<td>IP65</td>
</tr>
<tr>
<td>B10 (mio)</td>
<td>10 million switching cycles</td>
</tr>
<tr>
<td>B10 d (mio)</td>
<td>20 million switching cycles</td>
</tr>
<tr>
<td>Allowable discordance</td>
<td>150ms</td>
</tr>
<tr>
<td>Flow media</td>
<td>Compressed air to ISO 8573-1</td>
</tr>
<tr>
<td>Weight kg (lbs)</td>
<td>2.9 (6.5) with soft start</td>
</tr>
<tr>
<td></td>
<td>1.9 (4.2) without soft start</td>
</tr>
</tbody>
</table>

The soft start opens to full flow at approximately 60% of input pressure.

Order Code for Ordering:

- **P3** Global 3: Standard P3
- **B** Design 1: Current B
- **6** Port size 3/4": 6
- **E** Sensor Monitoring External E
- **N** Gauge: No gauge N

**D** Safety redundant (no soft start)

**T** Safety redundant (c/w soft start)

**Output for Solenoid, M12 Connector Pin**
- 2 & 4, common 3: A
- 3 & 4: C
- 2 & 4: D

**Output for Sensors, M12 Connector Pin**
- 1 & 2, 1 & 4, common 3: A
- 1 & 2, 5 & 4, common 3: B
- 5 & 2, 1 & 4, common 3: C

Notes:
1. For 1/2" connections use 1/2" port blocks on standard 3/4" housing.
2. Safety valve supplied with 1/8" gauge port in BSPP threads as specified for ports. Gauges shipped loose.

Note: Mounting and port blocks are sold separately.

Standard order code shown in bold.
Parker Global Air Preparation System

**General Technical Data**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve type</td>
<td>Externally monitored, redundant, dual poppet</td>
</tr>
<tr>
<td>Soft start</td>
<td>Optional</td>
</tr>
<tr>
<td>Valve function</td>
<td>3/2 way, normally closed</td>
</tr>
<tr>
<td>Housing material</td>
<td>Cast aluminum</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Stainless steel / brass</td>
</tr>
<tr>
<td>Silencer</td>
<td>Steel, non clog safety design</td>
</tr>
</tbody>
</table>

**Electrical Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating voltage</td>
<td>24V DC</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>Two M12 connectors</td>
</tr>
<tr>
<td>Switching time 1-2 (ms)</td>
<td>23.3</td>
</tr>
<tr>
<td>Switching time 2-3 (ms)</td>
<td>42.7</td>
</tr>
<tr>
<td>Duty cycle (%)</td>
<td>100%</td>
</tr>
<tr>
<td>Operating voltage (DC)</td>
<td>21.6 to 26.4</td>
</tr>
<tr>
<td>Nominal power</td>
<td></td>
</tr>
<tr>
<td>per solenoid coil at 24V DC (W) +/- 10%</td>
<td>1.2 W</td>
</tr>
<tr>
<td>per pressure sensor at 24V DC</td>
<td>1.2 W</td>
</tr>
</tbody>
</table>

In accordance with EN ISO 13849-1 this safety valve is suitable for use up to Category 4, Ple, sil 3. Certified to cCSAus and bears the CE mark.

A product Integration Guide is available to help connect your logic controller to the Parker Safety Exhaust Valve under the Product Support tab at www.parker.com/pdn/safetyvalve

**Mountings**

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Connector</td>
<td>P32KA00CB †</td>
</tr>
<tr>
<td>T-Bracket w / Body Connector</td>
<td>P32KA00MT †</td>
</tr>
<tr>
<td>T-Bracket (fits to body connector or port block)</td>
<td>P32KA00MB †</td>
</tr>
<tr>
<td>Port Block Kits (includes two)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; NPT</td>
<td>P32KA94CP †</td>
</tr>
<tr>
<td>1/2&quot; BSPP</td>
<td>P32KA114CP †</td>
</tr>
<tr>
<td>3/4&quot; NPT</td>
<td>P32KA96CP †</td>
</tr>
<tr>
<td>3/4&quot; BSPP</td>
<td>P32KA16CP †</td>
</tr>
</tbody>
</table>

† Standard order code shown in bold.

**Solenoid M12 Pinouts**

**Pressure Sensor M12 Pinouts**

**Externally Monitored (with Soft Start)**

**Externally Monitored (No Soft Start)**

**Dimensions mm (inches)**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Standard nominal flow rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 → 2 L/min (scfm) *</td>
</tr>
<tr>
<td></td>
<td>2 → 3 L/min (scfm) *</td>
</tr>
<tr>
<td>Externally Monitored with soft start</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

* Standard nominal flow rate is based on 6 bar input pressure with ∆P = 1 bar
**Safety Exhaust Valve Function**

When applications demand a safe environment you can count on safety valves from Parker Hannifin. The P33 family of safety exhaust valves are 3/2 normally closed valves designed to rapidly exhaust compressed air in the event of a fault condition and to provide monitored coverage ensuring safe function. The P33 is available in two distinct styles, internally * or externally monitored. The valve is suitable for use up to Category 4, performance level e. Monitoring is achieved externally via a two channel system connected to a safety interface device. Both valves are available with an adjustable soft start and high flow exhaust to shut your equipment down faster when needed. LED's provide clear status of main solenoid operation, sensor power and fault condition for quick visual reference.

**Externally Monitored Valve, Faults and Resets**

The externally monitored valve has the monitoring done via a PLC or relay which offers a size and cost advantage over internally monitored valves. The integration of a safety interface into the PLC or relay will help determined the achievable category and performance level of the control system. Customers are required to provide the logic function via the safety device. The valve will lock-out to the “safe state” if asynchronous movement of the valve elements occur which will be detected by solid state pressure sensors. To achieve the proper safety rating, the safety PLC or relay must monitor the solid state pressure sensors to ensure they are not in different states for more than 150ms. If the sensors are in different states for longer than 150ms then the programming logic must shut off power to the solenoids and consider it a fault condition. If during operation the externally monitored P33 enters a fault condition the valve will shut off. A separate reset signal must be incorporated into the logic sequence to avoid automatic restart of the valve. The safety exhaust valves are not for use with clutch or brake applications and are designed for use in conjunction with a safety relay or safety PLC for safe monitoring and fault detection.

**Achieving Desired Performance Level **

The category and performance level (PLr) needed for your machine is determined by a risk assessment of the machinery design and application based on EN ISO 13849-1. The Parker P33 safety valve is designed for those applications requiring a PL of d or e. Please note these levels require other aspects of the system to meet these requirements. As a guide: you can achieve a Cat 4 PL e system by integrating monitoring via a programmable safety rated device. Because the P33 is a mechanical fail-safe device, the monitoring could also be done via a standard PLC and still attain as high as a PL d rating.

**Conditions at Start**

The Safety exhaust valve starts with inlet 1 closed to outlet 2 by both valve elements A and B. Outlet 2 is open to exhaust 3. Pressure signals at both sensors SA and SB are exhausted and contacts 1 and 2 of sensors SA and SB are connected. The normally closed sensors both provide voltage feedback signals to the external monitoring system.

**Normal Operation**

During normal operation the two solenoids are simultaneously energized which actuates both pilots and causes valve elements A and B to shift. Inlet 1 is then connected to outlet 2 via crossflow passages C and D. Exhaust 3 is closed. Sensing pressure signals go to each pressure sensor and become equal to inlet pressure. Both sensors contacts open and no voltage signals are provided to the external monitoring system. This indicates that both sides of the valve actuated as expected.

**Detecting a Malfunction**

A malfunction in the system or the valve itself could cause one valve element to be open and the other closed. Air then flows past the inlet poppet on valve element A, into crossflow passage D, but is substantially blocked by the spool portion of element B. The large size of the open exhaust passage past element B keeps the pressure at the outlet port below 2% of inlet pressure. Full sensing air pressure from side A goes to sensor SA, and a reduced pressure goes to sensor SB. This full pressure signal causes SA to open. Sensor SB, with a reduced pressure signal, does not open. An external monitoring system can detect the malfunction by monitoring the outputs of the SA and SB sensors. The external monitor system must then react accordingly by shutting down the power to the valve solenoids and any other components deemed necessary to stop the machine.

---


An integration guide is available to provide further information on connecting the safety valve product to achieve the desired performance level. Please consult Parker and the standard EN ISO 13849-1 for more information.
Machinery Directive - Overview

The Machinery Directives’ goal is to protect people and the environment from accidents caused from all types of machinery. Based on the standard EN 13849 [safety of machines; safety-related parts of control systems] these standards build the procedure to assess safety-related control systems.

Required Performance Level (PLr) based on a risk assessment are now commonly used to determine the safety level required for the controls system, for the application of machinery.

Performance Level (PL) based on the original B, 1,2,3,4 safety categories, diagnostic capabilities, Mean time to dangerous failure (MTTFd), and common cause failure (CCF), define safety levels of a given safety function. This ensures that safety is not just focused on component reliability, but instead introduces common sense safety principles such as redundancy, diversity, and fail-safe behavior of safety related control parts.

The new EN 13849 standards of the Machinery Directive dictates the machine is safe when the Performance Level of the safety control circuit is equal to or greater than the Required Performance Level of the application. When determining the required performance level, the greater the risk, the higher the requirements of the control system.

\[ \text{PLr} \leq \text{PL} \]

Determining PLr According to EN 13849-1

The level of each hazardous situation is classified in five Performance levels from a to e. With PL a the control functions contribution to risk reduction is low, while at PL e it is high. The risk graph above can be used as a guideline to determine the required performance level PLr for safety function.

Determining PL According to EN 13849-1

Categories Defined by EN 13849-1

<table>
<thead>
<tr>
<th>Category</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category B</td>
<td>When a fault occurs it can lead to the loss of the safety function.</td>
</tr>
<tr>
<td>Category 1</td>
<td>Same as Category B, but loss of the safety function is less likely thanks to a good MTTFd of each channel.</td>
</tr>
<tr>
<td>Category 2</td>
<td>System behavior allow that the occurrence of a fault can lead to the loss of the safety function between the checks; the loss of the safety function is detected by the check.</td>
</tr>
<tr>
<td>Category 3</td>
<td>A single fault in any of safety related parts does not lead to the loss of the safety function. Whenever reasonably possible the single fault shall be detected at or before the next demand upon the safety function. (Means redundancy)</td>
</tr>
<tr>
<td>Category 4</td>
<td>Same as Category 3, but if detection of single fault is not possible on or before the next demand upon the safety, an accumulation of these undetected faults shall not lead to the loss of the safety function. (Means redundancy &amp; check)</td>
</tr>
</tbody>
</table>
### 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.

### Symbol
![Symbol Image]

### Specifications

- **Operating temperature:** -40°C to 80°C (-40°F to 176°F)
- **Max. supply pressure:** 17 bar (250 psig)
- **Port size:** BSPP / 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)

### Ordering Information

<table>
<thead>
<tr>
<th>Model type</th>
<th>Port size 1</th>
<th>Port size 2</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>1/4&quot; BSPP</td>
<td>20</td>
<td>(42.4)</td>
<td>P31VB12LBNN</td>
</tr>
<tr>
<td>P32</td>
<td>3/8&quot;</td>
<td>1/4&quot;</td>
<td>1/4&quot; BSPP</td>
<td>90</td>
<td>(190.7)</td>
<td>P32VB13LBNN</td>
</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
<td>1/4&quot;</td>
<td>1/4&quot; BSPP</td>
<td>122</td>
<td>(258.5)</td>
<td>P32VB14LBNN</td>
</tr>
<tr>
<td>P33</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>1/4&quot; BSPP</td>
<td>265</td>
<td>(661.5)</td>
<td>P33VB14LBNN</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>1/2&quot;</td>
<td>1/4&quot; BSPP</td>
<td>320</td>
<td>(678)</td>
<td>P33VB16LBNN</td>
</tr>
</tbody>
</table>

*D For thread type: BSPP 1 NPT 2

### Material Specifications

- **Body:** Aluminum
- **Seals:** PTFE
- **Ball:** Stainless Steel
- **Lockout Tab:** Zinc Plated Steel
- **Screw:** Zinc Plated Steel

### Dimensions mm (inches)

#### P31

![P31 Dimensions Image]

#### P32

![P32 Dimensions Image]

#### P33

![P33 Dimensions Image]
Parker Hannifin Corporation
Pneumatic Division - Europe

PDE2676TCUK
Parker Global Air Preparation System

Features
- Available in 1/4, 1/2 & 3/4 threaded inlet / outlet ports
- Two additional top and bottom auxiliary ports standard
- Can be mounted anywhere in the FRL system
- Flow capacity: ¼ 66 dm³/s, ½ 189 dm³/s, ¾ 305 dm³/s

Materials of Construction

Specifications

Max Operating Temperature 65.5°C (150°F)
Max Supply Pressure 20.7 bar (300 psi)
Weight
- P31: 0.19 kg (0.42 lbs)
- P32: 0.30 kg (0.66 lbs)
- P33: 0.34 kg (0.75 lbs)

Flow Capacity Manifold and Branch Blocks

<table>
<thead>
<tr>
<th>Flow Capacity</th>
<th>Manifold</th>
<th>Branch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4”</td>
<td>66 dm³/s (140 scfm)</td>
<td></td>
</tr>
<tr>
<td>1/2”</td>
<td>189 dm³/s (400 scfm)</td>
<td></td>
</tr>
<tr>
<td>3/4”</td>
<td>305 dm³/s (646 scfm)</td>
<td></td>
</tr>
</tbody>
</table>

Manifold and Branch Blocks

Manifold Blocks

<table>
<thead>
<tr>
<th>Model</th>
<th>In/Out Port Size</th>
<th>Auxiliary Port Size</th>
<th>Thread Type</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31</td>
<td>1/4” 1/4”</td>
<td>1/4”</td>
<td>BSPP</td>
<td>P31MA12022N</td>
</tr>
<tr>
<td>P32</td>
<td>1/2” 1/4”</td>
<td>1/4”</td>
<td>BSPP</td>
<td>P32MA14024N</td>
</tr>
<tr>
<td>P33</td>
<td>3/4” 1/4”</td>
<td>1/2”</td>
<td>BSPP</td>
<td>P33MA16024N</td>
</tr>
</tbody>
</table>

For thread type: BSPP 1 NPT 9

Manifold Block - Dimensions

P31, P32, P33

Branch Blocks

| P32  | 1/2” 1/4” 1/4” BSPP P32MD14022N |
| P32  | 1/4” 1/4” 1/4” BSPP P32MD12022N |

Materials of Construction

Specifications

Max Operating Temperature 65.5°C (150°F)
Max Supply Pressure 20.7 bar (300 psi)
Weight 0.14 kg (0.31 lbs)

Flow Capacity Manifold and Branch Blocks

<table>
<thead>
<tr>
<th>Flow Capacity</th>
<th>Manifold</th>
<th>Branch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4”</td>
<td>66 dm³/s (140 scfm)</td>
<td></td>
</tr>
<tr>
<td>1/2”</td>
<td>189 dm³/s (400 scfm)</td>
<td></td>
</tr>
<tr>
<td>3/4”</td>
<td>305 dm³/s (646 scfm)</td>
<td></td>
</tr>
</tbody>
</table>

Parker Hannifin Corporation
Pneumatic Division - Europe
Digital Pressure Sensor

- Sensor output:
  - PNP Open collector
    - Transistor output, 30VDC, 125mA with Analog output, 4 to 20mA
- Output response time less than 2.0 milliseconds
- RoHS
- Air and non-corrosive gases
- Sensor face includes icons to show sensor programming status

Programming options

<table>
<thead>
<tr>
<th>Outputs change N.O. / N.C.</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units of measure change</td>
<td>4</td>
</tr>
<tr>
<td>Hysteresis mode</td>
<td>4</td>
</tr>
<tr>
<td>Window comparator mode</td>
<td>4</td>
</tr>
<tr>
<td>Auto teach mode</td>
<td>4</td>
</tr>
<tr>
<td>Output response time</td>
<td>4</td>
</tr>
<tr>
<td>Lockout option</td>
<td>4</td>
</tr>
<tr>
<td>Password lockout</td>
<td>—</td>
</tr>
<tr>
<td>Max. value display</td>
<td>4</td>
</tr>
<tr>
<td>Min. value display</td>
<td>4</td>
</tr>
<tr>
<td>Zero reset</td>
<td>4</td>
</tr>
<tr>
<td>Red / Green LED display options</td>
<td>4</td>
</tr>
<tr>
<td>Error output mode</td>
<td>4</td>
</tr>
</tbody>
</table>

MPS-34 Sensor Only Order Codes

<table>
<thead>
<tr>
<th>Pressure range</th>
<th>Electrical output</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30 inHg</td>
<td>(1) PNP with (1) 4-20ma</td>
<td>M8, 4 Pin</td>
</tr>
<tr>
<td>0-145 PSI</td>
<td>(1) PNP with (1) 4-20ma</td>
<td>M8, 4 Pin</td>
</tr>
</tbody>
</table>

MPS-34 Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8, 4-pin, 2 meter cable</td>
<td>CB-M8-4P-2M-PUR</td>
</tr>
<tr>
<td>M8, 4-pin, 5 meter cable</td>
<td>CB-M8-4P-5M-PUR</td>
</tr>
</tbody>
</table>

Reducer Male/Female BSPP for MPS-34

<table>
<thead>
<tr>
<th>Gauge port</th>
<th>Gauge port size</th>
<th>C1</th>
<th>C2</th>
<th>E</th>
<th>F</th>
<th>L</th>
<th>Weight (kg)</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>P31R/P31H/P31E</td>
<td>1/8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not concerned</td>
<td>0178 13 10</td>
</tr>
<tr>
<td>P32R/P32H/P32E</td>
<td>1/4 G1/4 G1/8 5.5 16 9.5 0.006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0178 13 10</td>
<td></td>
</tr>
<tr>
<td>P33R/P33E</td>
<td>1/4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0178 13 10</td>
</tr>
</tbody>
</table>

With integrated O-Ring seal

Internal circuit for open collector and analog output wiring

Sensor pin out with analog output

<table>
<thead>
<tr>
<th>Pin #</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Brown</td>
<td>24VDC</td>
</tr>
<tr>
<td>2 White</td>
<td>4 to 20mA</td>
</tr>
<tr>
<td>3 Blue</td>
<td>0VDC</td>
</tr>
<tr>
<td>4 Black</td>
<td>PNP Open Collector Output 1</td>
</tr>
</tbody>
</table>
Parker Global Air Preparation System

Specifications

<table>
<thead>
<tr>
<th></th>
<th>Vacuum (V)</th>
<th>Positive (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure range</td>
<td>-101.3 to 0 kPa (-14.5 to 0 PSI)</td>
<td>-0.1 to 1 Mpa (0 to 145 PSI)</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>0.3 Mpa (44PSI)</td>
<td>1.5 Mpa (218 PSI)</td>
</tr>
<tr>
<td>Display resolution,</td>
<td>0.1, kPa</td>
<td>1, kPa</td>
</tr>
<tr>
<td>Units of measure</td>
<td>0.001, kgf/cm²</td>
<td>0.01, kgf/cm²</td>
</tr>
<tr>
<td></td>
<td>0.01, bar</td>
<td>0.1, bar</td>
</tr>
<tr>
<td></td>
<td>0.1, PSI</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1, mmHg</td>
<td>-</td>
</tr>
<tr>
<td>Media</td>
<td>Air &amp; non-corrosive gases</td>
<td></td>
</tr>
<tr>
<td>Pressure port</td>
<td>(N) 1/8&quot; NPT male, (G) 1/8 BSPP male both with M5 female port</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>32 to 122°F (0 to 50°C)</td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-4 to 140°F (-20 to 60°C)</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>35 to 85% RH (no condensation)</td>
<td></td>
</tr>
<tr>
<td>Electrical connection</td>
<td>(C) 4-pin, M8 connector on 150mm lead wire</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>12 to 24VDC ±10%, Ripple (P-P) 10% or less</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>3 + 1/2 digit, 2 color, 7-segment RED / GREEN LED</td>
<td></td>
</tr>
<tr>
<td>Display refresh</td>
<td>Timing update : 0.1 ~ 3 sec. (Factory Set Unit: 0.1 sec.)</td>
<td></td>
</tr>
<tr>
<td>Switch output</td>
<td>Output signal, PNP; Normally open or closed, LED indicator, 125 mA max. output load</td>
<td></td>
</tr>
<tr>
<td>Output modes</td>
<td>Hysteresis or Window Comparator</td>
<td></td>
</tr>
<tr>
<td>Response time</td>
<td>≤ 2.5ms (chattering-proof function: 24ms, 250ms, 500ms, 1000ms and 1500ms selections)</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.2% of F.S. ± 1 digit</td>
<td></td>
</tr>
<tr>
<td>Output current</td>
<td>Output current 4 to 20mA; Linearity ±1.0% of F.S.; Maximum load impedance 3000Ω at power supply of 12V; 600Ω at power supply of 12V; Minimum load impedance 50Ω</td>
<td></td>
</tr>
<tr>
<td>Thermal error</td>
<td>32 to 122°F (0 to 50°C) 25°C (77°C) + 2% of F.S. or less at range of 32 to 122°F (0 to 50°C)</td>
<td></td>
</tr>
<tr>
<td>General protection</td>
<td>IP40, CE marked, EMC-EN61000-6-2: 2001</td>
<td></td>
</tr>
<tr>
<td>Current consumption</td>
<td>45mA (with no load)</td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 150Hz; Double amplitude 1.5mm, XYZ, 2 hrs.</td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>980 m/s² (about 106G), 3 times/each directions X, Y, Z</td>
<td></td>
</tr>
<tr>
<td>Noise Resistance</td>
<td>Vp-p400V, 10 ms, 0.5μs noise simulator</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Housing: ABS (gray) , Pressure port: Zinc die-cast, Diaphragm: Silicon</td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td>1.45 oz. (45g) with M8 connector</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions mm (inches)
**Analog Pressure Sensors**

**Characteristics**

- **Safety pressure relief** $P_{\text{max}}$: 300 bar
- **Port size**: G1/8, G1/4
- **Medium and ambient temperature range**: $+100 \, ^{\circ}\text{C}$
- **Switch back difference**: Max. 5 - 15%
- **Voltage**: Max. 48 V
- **Current**: 0.5 A
- **Degree of protection**: IP 65
- **Switching frequency**: Max. 200 s/min

**Material**

- **Housing**: Passivated steel
- **Diaphragm**: Buna N

**Switching function**

- **Make contact**: Closes the circuit when the set pressure is reached
- **Break contact**: Interrupts the circuit when the set pressure is reached

**Order Code for Ordering**

<table>
<thead>
<tr>
<th>Order instructions</th>
<th>Port size</th>
<th>Function</th>
<th>Setting range (bar)</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR / 0.1-1 NC ST 1/4 48</td>
<td>G1/4</td>
<td>Break contact</td>
<td>0.1-1</td>
<td>KL3439</td>
</tr>
<tr>
<td>PR / 0.1-1 NO ST 1/4 48</td>
<td>G1/4</td>
<td>Make contact</td>
<td>0.1-1</td>
<td>KL3440</td>
</tr>
<tr>
<td>PR / 1-10 NC ST 1/8 48</td>
<td>G1/8</td>
<td>Break contact</td>
<td>1-10</td>
<td>KL3437</td>
</tr>
<tr>
<td>PR / 1-10 NO ST 1/8 48</td>
<td>G1/8</td>
<td>Make contact</td>
<td>1-10</td>
<td>KL3438</td>
</tr>
<tr>
<td>PR / 1-10 NO ST 1/4 48</td>
<td>G1/4</td>
<td>Make contact</td>
<td>1-10</td>
<td>KL3435</td>
</tr>
</tbody>
</table>

**Order instructions**

<table>
<thead>
<tr>
<th>Order instructions</th>
<th>Port size</th>
<th>Function</th>
<th>Setting range (bar)</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR / 0.2-1 NO SR 1/4 48</td>
<td>G1/4</td>
<td>Make contact</td>
<td>0.2-1</td>
<td>KL3445</td>
</tr>
<tr>
<td>PR / 0.1-1 NC SR 1/4 48</td>
<td>G1/4</td>
<td>Break contact</td>
<td>0.1-1</td>
<td>KL3454</td>
</tr>
<tr>
<td>PR / 0.1-1 NO SR 1/4 48</td>
<td>G1/4</td>
<td>Make contact</td>
<td>0.1-1</td>
<td>KL3455</td>
</tr>
<tr>
<td>PR / 1-10 NC SR 1/8 48</td>
<td>G1/8</td>
<td>Break contact</td>
<td>1-10</td>
<td>KL3452</td>
</tr>
<tr>
<td>PR / 1-10 NC SR 1/4 48</td>
<td>G1/4</td>
<td>Break contact</td>
<td>1-10</td>
<td>KL3451</td>
</tr>
<tr>
<td>PR / 1-10 NO SR 1/8 48</td>
<td>G1/8</td>
<td>Make contact</td>
<td>1-10</td>
<td>KL3453</td>
</tr>
<tr>
<td>PR / 1-10 NO SR 1/4 48</td>
<td>G1/4</td>
<td>Make contact</td>
<td>1-10</td>
<td>KL3450</td>
</tr>
</tbody>
</table>

**Dimensions in mm**

**View A**

- Protective cap can be turned 6 x 60°
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)

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

Angle Bracket
(Fits to regulator and filter/regulator body)
P31KB00MR - with Plastic Nut
P31KB00MS - with Metal Nut
Accessories - P32 Series

T-Bracket w/ Body Connector

**P32KA00MT** (0.19kg)

<table>
<thead>
<tr>
<th>Port Block Kit</th>
<th>Angle Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT.........</td>
<td>(Fits to regulator and filter/regulator bonnet)</td>
</tr>
<tr>
<td>3/8 NPT.........</td>
<td><strong>P32KB00MR</strong> - with Plastic Nut</td>
</tr>
<tr>
<td>1/2 NPT.........</td>
<td><strong>P32KB00MS</strong> - with Metal Nut</td>
</tr>
<tr>
<td>3/4 NPT.........</td>
<td><strong>P32KA00ML</strong></td>
</tr>
<tr>
<td>1/4 BSPP........</td>
<td><strong>P32KA00MB</strong></td>
</tr>
<tr>
<td>3/8 BSPP........</td>
<td><strong>P32KA12CP</strong>†</td>
</tr>
<tr>
<td>1/2 BSPP........</td>
<td><strong>P32KA13CP</strong>†</td>
</tr>
<tr>
<td>3/4 BSPP........</td>
<td><strong>P32KA14CP</strong>†</td>
</tr>
<tr>
<td>† Standard order code shown in bold.</td>
<td></td>
</tr>
</tbody>
</table>

L-Bracket
(Fits to filter and lubricator body)

**P32KA00ML**

T-Bracket
(fits to body connector or port block)

**P32KA00MB**
Accessories - P33 Series

T-Bracket w/ Body Connector

<table>
<thead>
<tr>
<th>Port Block Kit</th>
<th>Angle Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT.........</td>
<td>Fits to regulator and filter/regulator bonnet</td>
</tr>
<tr>
<td>3/8 NPT.........</td>
<td>P33KA00MR</td>
</tr>
<tr>
<td>1/2 NPT.........</td>
<td></td>
</tr>
<tr>
<td>3/4 NPT.........</td>
<td></td>
</tr>
<tr>
<td>1/4 BSPP.........</td>
<td></td>
</tr>
<tr>
<td>3/8 BSPP.........</td>
<td></td>
</tr>
<tr>
<td>1/2 BSPP.........</td>
<td></td>
</tr>
<tr>
<td>3/4 BSPP.........</td>
<td></td>
</tr>
<tr>
<td>† Standard order code shown in bold.</td>
<td></td>
</tr>
</tbody>
</table>

L-Bracket
(Fits to filter and lubricator body)

T-Bracket
(fits to body connector or port block)
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 Gauges: To avoid potential polycarbonate bowl failures:

- Do not locate polycarbonate bowls or sight gauges 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, ketones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight gauges in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.
Parker Global Air Preparation System

2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

2.8. Product Rupture: Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
- Do not exceed the Maximum primary pressure rating of any pressure regulator or any system component.
- Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1. 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.

3.2. Installation Instructions: Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.

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 any 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.


4.4. 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:
- 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.
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