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<th><strong>Benefits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended 3 Year Warranty</td>
<td>Extends the warranty to 3 years on Parker pneumatic components downstream of a Parker filter.</td>
<td>Security in knowing Parker products are backed with the best warranty in the industry.</td>
</tr>
<tr>
<td>Non-Rising Removable Knob</td>
<td>Standard tamper resistant feature.</td>
<td>Equipment settings can be maintained, reducing the risk of tampering.</td>
</tr>
<tr>
<td>Modular Design</td>
<td>With port blocks, units can be removed from installation without disturbing the plumbing.</td>
<td>Saves maintenance time and money during service and/or retrofit.</td>
</tr>
<tr>
<td>No Body Connectors</td>
<td>Units bolt together without adding space between components.</td>
<td>Saves space for machine design. Saves the cost of body connectors.</td>
</tr>
<tr>
<td>Modular Port Blocks</td>
<td>One size FRL body can be installed into a variety of port sizes.</td>
<td>Allows a smaller quantity of components to be stocked. Design flexibility.</td>
</tr>
<tr>
<td>Multiple Port Types</td>
<td>NPT and BSP porting available for flexible machine design.</td>
<td>Worldwide availability of units and service parts.</td>
</tr>
<tr>
<td>Global Product</td>
<td>Same product and part number worldwide.</td>
<td>Allows for high service levels for customers around the world.</td>
</tr>
<tr>
<td>“One Touch” Bowl</td>
<td>User friendly bowl retention method with locking latch.</td>
<td>Simple, fast bowl removal for time savings. Latch provides safe, secure bowl attachment.</td>
</tr>
<tr>
<td>High Efficiency Depth Filtration</td>
<td>40 &amp; 5 micron elements available for the most demanding applications.</td>
<td>Assures maximum protection, extending the life of equipment. Easy to detect dirty element.</td>
</tr>
<tr>
<td>Multiple Drain Options</td>
<td>Manual or automatic drains available for different uses.</td>
<td>Flexibility for custom applications.</td>
</tr>
</tbody>
</table>
## Features | Advantages | Benefits
--- | --- | ---
Large Filter Element Surface | Low pressure drop, increased element life. | Efficient filtration with high flow for excellent performance and cost savings.

Excellent Water Removal Efficiency | Provides pneumatic systems with clean, dry air for trouble free service. | Promotes maximum performance, extending the life of downstream components.

Pressure Differential Indicators | Give a visual indication of a 10 PSI pressure drop across a filter or coalescer. | Tells when to service the element, promoting maximum performance.

Two Grades of Coalescing Elements | Allows for various stages of particulate and oil removal, giving 99.97% efficiency. | Assures clean, dry compressed air for critical pneumatic applications.

Solid Regulator Control Piston | Durability. | Extends the service life of the regulator.

Pilot Operated Regulator | Allow the regulator to be adjusted from remote locations where space may be limited. | Flexibility in operation and machine design.

Piggyback Design Filter/Regulator | Combines the features of both a filter and a regulator into one component. | Provides a cost savings, space savings, and reduces potential leak points.

Proportional Oil Delivery | Oil delivery is proportional over a wide range of air flows for all applications. | Gives the user dependable oil delivery for all applications.
Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Excellent water removal efficiency.
- Metal bowl with sight gauge.
- Large filter element surface guarantees low pressure drop and increased element life.
- Manual drain as standard, optional auto drain.
- High Flow 300 SCFM.  

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT Manual Drain</th>
<th>BSPP Manual Drain</th>
<th>Auto Drain</th>
<th>Auto Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NFA96GSM</td>
<td>P3NFA16GSM</td>
<td>P3NFA96GSA</td>
<td>P3NFA16GSA</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NFA98GSM</td>
<td>P3NFA18GSM</td>
<td>P3NFA98GSA</td>
<td>P3NFA18GSA</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NFA9PGSM</td>
<td>P3NFA1PGSM</td>
<td>P3NFA9PGSA</td>
<td>P3NFA1PGSA</td>
</tr>
</tbody>
</table>

* 1" Port Body with 1-1/2" Port Block.
† For other models, refer to matrix.
§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop, with 40 micron element.

Operation

First Stage Filtration:
Air enters at inlet port and flows through deflector plate (A) which causes a swirling action. Liquids and coarse particles are forced to the bowl interior wall (B) by the centrifugal action of the swirling air. They then carry down the bowl wall by the force of gravity. Air passes directly through the filter element (D) until the large particles and liquids are removed. The baffle (E) separates the lower portion of the bowl into a “quiet zone” where the removed liquid and particles collect, unaffected by the swirling air, and are therefore not reentrained into the flowing air.

Second Stage Filtration:
After liquids and large particles are removed in the first stage of filtration, the air flows through element (D) where smaller particles are filtered out and retained. The filtered air then passes downstream. Collected liquids and particles in the “quiet zone” should be drained before their level reaches a height where they would be reentrained in the flowing air. This can be accomplished by the manual drain (F) which is actuated by twisting.
**Technical Specifications**

**“Hi-Flow” Series, Filters**

**3/4", 1", 1-1/2" – Basic 1" Body**

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**Ordering Information**

<table>
<thead>
<tr>
<th>Design Level</th>
<th>Port Type</th>
<th>Port Size</th>
<th>Element</th>
<th>Bowl</th>
<th>Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>G Thread (BSP) Female</td>
<td>3/4&quot; (w/o Port Blocks)</td>
<td>w/o DPI Indicator</td>
<td>S. Metal Bowl w/ Sight Gauge</td>
<td>M. Manual Twist Drain</td>
</tr>
<tr>
<td>1</td>
<td>Rc Thread (BSPT) Female</td>
<td>1&quot; (w/o Port Blocks)</td>
<td>A. Adsorber</td>
<td>A. Automatic Drain</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NPT Female</td>
<td>1-1/2&quot; Port Blocks (w/ 1&quot; Ported Body)</td>
<td>E. 5 Micron</td>
<td>F. 5 Micron</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Shaded items are standard.

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**Technical Information**

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**Filter Kits**

**Drain Kit –**

Automatic Drain – PS506P

Twist Drain – PS512P

**Filter Elements –**

- 40 Micron – P3NKA000ESE
- 5 Micron – P3NKA000ESE
- Adsorber – P3NKA000ESA

**Sight Gauge Kit** – P3NKA000PE

**DPI Kit** – PS781P

**Mounting Bracket Kit** – P3NKA000MW

---

**Specifications**

**Body** .................................................. Aluminum

**Bowl Capacity** ........................................ 18.0 Ounces

**Sump Capacity** ................................. 6.8 Ounces

**Deflector** ................................................. Plastic

**Drain** .................................................. Plastic

**Filter Elements –**

Standard: 40 Micron ........................................ Plastic

Optional: 5 Micron ........................................ Plastic

**Pressure & Temperature Rating**

0 to 250 PSIG (0 to 17 bar) 32°F to 175°F (0°C to 80°C)

**Seals** .................................................. Nitrile

**Sight Gauge** ............................................ Polyamide (Nylon)

**Weight –**

- 3/4" ........................................... 3.5 lb. (1.6 kg)
- 1" ........................................... 3.5 lb. (1.6 kg)
- 1-1/2" * ................................... 4.6 lb. (2.1 kg)

* 1" Port Body with 1-1/2" Port Block.
Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Metal bowl with sight gauge.
- Large filter element surface guarantees low pressure drop and increased element life.
- Manual drain as standard, optional auto drain.
- High Flow 140 SCFM $^\dagger$ – Grade 6 Element
  220 SCFM $^\ddagger$ – Grade 10 Element

Features & Operation

The contaminated air enters the element interior and is forced through a thick membrane of borosilicate glass fibers coated with epoxy (A). Flow then passes through an outer structural support and, at this stage, has removed up to 99.97% + of the sub-micron particles evident in the contaminated air. These tiny droplets coalesce together and are blotted from the filter surface by the drain and release layers of non-woven glass felt and rayon cloth. The drops now begin a gravitational passage to the filter sump (B) where they can be manually or automatically drained.

The clean, filtered air now passes through the outer screen plastic net and out into the pneumatic system. The Air Line Coalescing Filter removes liquid aerosols and sub-micron particulate matter.

Collected liquids and particles in the "quiet zone" should be drained before their level reaches a height where they would be reentrained in the flowing air. This can be accomplished by the manual drain (C) which is actuated by twisting knob (D) counterclockwise.

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Coalescing Filters

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT $^\ddagger$</th>
<th>BSPP $^\ddagger$</th>
<th>Coalescing Filter Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manual Drain</td>
<td>Auto Drain</td>
<td>Manual Drain</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>P3NFA96CSM</td>
<td>P3NFA96CSA</td>
<td>P3NFA16CSM</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NFA98CSM</td>
<td>P3NFA98CSA</td>
<td>P3NFA18CSM</td>
</tr>
<tr>
<td>1-1/2&quot; $^#$</td>
<td>P3NFA9PCSM</td>
<td>P3NFA9PCSA</td>
<td>P3NFA1PCSM</td>
</tr>
</tbody>
</table>

$^\ddagger$ Part numbers are with Grade 6 Elements; for Grade 10 Elements, replace "C" with "9" in the 8th position.

$^\#$ 1" Port Body with 1-1/2" Port Block.

$^\dagger$ For other models, refer to matrix.

$^\ddagger$ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.
Coalescing Filter Kits

Drain Kit –
Automatic Drain .............................................. PS506P
Twist Drain ...................................................... PS512P

Filter Elements –
Grade 6 ......................................................... P3NKA00ESC
Grade 10 ......................................................... P3NKA00ES9

Sight Gauge Kit ............................................ P3NKA00PE
DPI Kit ........................................................ PS781P
Mounting Bracket Kit .............................. P3NKA00MW

Specifications

Body & Bowl ................................................. Aluminum
Bowl Capacity .............................................. 18.0 Ounces
Sump Capacity ............................................. 6.8 Ounces
Deflector ......................................................... Plastic
Drain ............................................................... Plastic
Coalescing Elements –
Standard: 0.3 micron, Grade 6 .................. Plastic
Optional: 0.7 micron, Grade 10 ............... Plastic

Pressure & Temperature Rating .............. 0 to 250 PSIG (0 to 17 bar)
32°F to 175°F (0°C to 80°C)

Seals ............................................................... Nitrile
Sight Gauge ...................................................... Polyamide (Nylon)

Weight –
3/4" .............................................................. 3.5 lb. (1.6 kg)
1” ................................................................. 3.5 lb. (1.6 kg)
1-1/2” # ....................................................... 4.6 lb. (2.1 kg)
# 1" Port Body with 1-1/2" Port Block.
**Regulators**

**Features**

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow 300 SCFM. \[\text{SCFM} = \text{Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG setting and 10 PSIG pressure drop.}\]

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT - 125 PSI, RELIEVING with Gauge</th>
<th>NPT - 125 PSI, RELIEVING without Gauge</th>
<th>BSPP - 125 PSI, RELIEVING with Gauge</th>
<th>BSPP - 125 PSI, RELIEVING without Gauge</th>
<th>Regulator Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NRA96BNG</td>
<td>P3NRA96BNN</td>
<td>P3NRA16BNG</td>
<td>P3NRA16BNN</td>
<td>A: 3.62 in (92mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A (PB): 5.59 in (142mm)</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NRA98BNG</td>
<td>P3NRA98BNN</td>
<td>P3NRA18BNG</td>
<td>P3NRA18BNN</td>
<td>B: 3.62 in (92mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C: 6.38 in (162mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D: 2.08 in (53mm)</td>
</tr>
<tr>
<td>1-1/2&quot;*</td>
<td>P3NRA9PBNG</td>
<td>P3NRA9PBNN</td>
<td>P3NRA1PBNG</td>
<td>P3NRA1PBNN</td>
<td>E: 8.46 in (215mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 1" Port Body with 1-1/2" Port Block.
† For other models, refer to matrix section.
‡ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG setting and 10 PSIG pressure drop.

**WARNING**

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

**Operation**

With the Knob turned fully counterclockwise (no spring load), and pressure supplied to the regulator inlet port, the valve poppet assembly (A) is closed. Turning the Knob clockwise applies a load to control spring (C). This load causes the piston (B) and the valve poppet assembly (A) to move downward allowing flow across the seat area (E) created between the poppet assembly and the body. Pressure in the downstream line is sensed below the control piston (B) and offsets the load of spring (C). As downstream pressure rises, poppet assembly (A) and control piston (B) move upward until the area (E) is closed and the load of the spring (C) and pressure under piston (B) are in balance. A reduced outlet pressure has now been obtained, depending on spring load. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the control piston (B). The load of control spring (C) now causes the poppet assembly to move downward opening seat area (E) and allowing air to flow to meet the downstream demand. The flow of downstream air is metered by the amount of opening (E).

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

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the control piston (B) to move upward against control spring (C), open vent hole (D), and vent the excess pressure to atmosphere through the hole in the bonnet (F). (This occurs in the standard relieving type regulator only.)
Technical Specifications

“Hi-Flow” Series, Regulators
3/4”, 1”, 1-1/2” – Basic 1” Body

Ordering Information

<table>
<thead>
<tr>
<th>Design Level</th>
<th>Port Type</th>
<th>Port Size</th>
<th>Type Seal</th>
<th>Adjustment</th>
<th>Pressure Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G Thread (BSP)</td>
<td>3/4” (w/o Port Blocks)</td>
<td>B. Relieving</td>
<td>N. Non-Rising</td>
<td>w/o Gauge</td>
</tr>
<tr>
<td></td>
<td>Rc Thread (BSPT)</td>
<td>1” (w/o Port Blocks)</td>
<td></td>
<td></td>
<td>N. 125 PSI</td>
</tr>
<tr>
<td></td>
<td>NPT Female</td>
<td>1-1/2” Port Blocks (w/ 1” Ported Body)</td>
<td></td>
<td></td>
<td>H. 250 PSI</td>
</tr>
</tbody>
</table>

NOTE:
Shaded items are standard.

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

Technical Information

Specifications

Adjusting Stem ........................................................................ Steel
Body ......................................................................................... Aluminum
Bonnet ....................................................................................... Aluminum
Knob ......................................................................................... Plastic
Piston ......................................................................................... Plastic
Gauge Ports ............................................................................... Two Ports 1/4"
Poppet Assembly ....................................................................... Brass
Port Threads ............................................................................. 3/4”, 1”, 1-1/2” *
Primary Pressure Rating – Maximum Primary Pressure .............. 250 PSIG (17 bar) Max. For Secondary Pressure Ranges see above charts.
Seals .......................................................................................... Nitrile
Springs – Poppet & Control ..................................................... Steel
Temperature Rating ............................................................... 32°F to 175°F (0°C to 80°C)
Weight – 3/4” ........................................................................... 4.2 lb. (1.9 kg)
1” ......................................................................................... 4.2 lb. (1.9 kg)
1-1/2” * ................................................................................ 5.3 lb. (2.4 kg)
* 1” Port Body with 1-1/2” Port Block.
**Air Pilot Regulators**

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

**Operation**

With pressure supplied to the regulator inlet port and no pilot signal, the valve poppet assembly (B) is closed. Pressurizing the pilot port applies a load to control piston (A). This load causes the piston (A) and the valve poppet assembly (B) to move downward allowing flow across the seat area (F) created between the poppet assembly and the body. Pressure in the downstream line is sensed below the control piston (A) and offsets the load of piston (A). As downstream pressure rises, poppet assembly (B) and control piston (A) move upward until the area (F) is closed and the load of the piston (A) and pressure under piston (A) are in balance. A reduced outlet pressure has now been obtained. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the control piston (A). The load of control piston (A) now causes the poppet assembly to move downward opening seat area (F) and allowing air to flow downstream. The flow of downstream air is metered by the amount of opening (F).

During low flow requirements, the amount of opening at the seat (F) is small, while at high flows it is large. The downstream pressure signal, which regulates the amount of opening, requires an adjustment over this range, in order to attempt a constant output. This adjustment is called aspiration and its effect is to maintain downstream pressure nearly constant over a wide range of flow demands.

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the control piston (A) to move upward against opening vent hole (D) and vent the excess pressure to atmosphere through the hole in the bonnet (C). (This occurs in the relieving type regulator only.)

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**Features & Operation**

"Hi-Flow" Series, Air Pilot Regulators
3/4", 1", 1-1/2" – Basic 1" Body

**Catalog 0709/USA**

**Parker Hannifin Corporation**

Pneumatic Division North America
Richland, Michigan

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

**Operation**

With pressure supplied to the regulator inlet port and no pilot signal, the valve poppet assembly (B) is closed. Pressurizing the pilot port applies a load to control piston (A). This load causes the piston (A) and the valve poppet assembly (B) to move downward allowing flow across the seat area (F) created between the poppet assembly and the body. Pressure in the downstream line is sensed below the control piston (A) and offsets the load of piston (A). As downstream pressure rises, poppet assembly (B) and control piston (A) move upward until the area (F) is closed and the load of the piston (A) and pressure under piston (A) are in balance. A reduced outlet pressure has now been obtained. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the control piston (A). The load of control piston (A) now causes the poppet assembly to move downward opening seat area (F) and allowing air to flow downstream. The flow of downstream air is metered by the amount of opening (F).

During low flow requirements, the amount of opening at the seat (F) is small, while at high flows it is large. The downstream pressure signal, which regulates the amount of opening, requires an adjustment over this range, in order to attempt a constant output. This adjustment is called aspiration and its effect is to maintain downstream pressure nearly constant over a wide range of flow demands.

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the control piston (A) to move upward against opening vent hole (D) and vent the excess pressure to atmosphere through the hole in the bonnet (C). (This occurs in the relieving type regulator only.)
“Hi-Flow” Series, Air Pilot Regulators  
3/4”, 1”, 1-1/2” – Basic 1” Body

Ordering Information

Design Level
1. G Thread (BSP) Female
2. Rc Thread (BSPT) Female
3. NPT Female

Port Type
6. 3/4” (w/o Port Blocks)
8. 1” (w/o Port Blocks)

Port Size
9. P. 1-1/2” Port Blocks (w/ 1” Ported Body)

Type Seal
B. Relieving
N. Non-Relieving

Adjustment
P. Pilot Operated

Pressure Gauge
w/o Gauge
M. 60 PSI (0 to 4 bar)
G. 125 PSI (0 to 8 bar)
J. 250 PSI (0 to 17 bar)

NOTE: Shaded items are standard.

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

Technical Information

Flow and Flow Characteristics

Flow - dm³/s

3/4 Inch Ports
Primary Pressure 100 PSIG (6.9 bar)

Flow - SCFM

1 Inch Ports
Primary Pressure 100 PSIG (6.9 bar)

1-1/2 Inch Ports
Primary Pressure 100 PSIG (6.9 bar)

Flow and Flow Characteristics

Air Pilot Regulator Kits

Gauges –
60 PSIG ................................................. P781641
160 PSIG ............................................. P781642
300 PSIG ............................................... P781643

Mounting Bracket Kit ......................... P3NKA00MW
Repair Kit
Relieving .............................................. P3NKA00RR
Non-Relieving ..................................... P3NKA00RN

Specifications

Adjusting Stem ................................................. Steel
Body .......................................................... Aluminum
Bonnet .......................................................... Aluminum
Piston .......................................................... Plastic
Gauge Ports ...................................................... Two Ports 1/4”
Poppet Assembly ........................................ Brass
Port Threads ..................................................... 3/4”, 1”, 1-1/2” *

Primary Pressure Rating –
Maximum Primary Pressure .................... 250 PSIG (17 bar) Max.
For Secondary Pressure Ranges see above charts.

Seals .......................................................... Nitrile
Springs – Poppet ............................................ Steel
Temperature Rating .......................... 32°F to 175°F (0°C to 80°C)

Weight –
3/4” .......................................................... 3.3 lb. (1.5 kg)
1” .............................................................. 3.6 lb. (1.6 kg)
1-1/2” * ...................................................... 4.4 lb. (2.0 kg)

* 1” Port Body with 1-1/2” Port Block.
Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Excellent water removal efficiency.
- Metal bowl with sight gauge.
- Large filter element surface guarantees low pressure drop and increased element life.
- Manual drain as standard, optional auto drain.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow 250 SCFM. §

Operation

Turning the knob (A) clockwise applies a load to control spring (F) which forces the piston (H) and valve poppet assembly (C) to move downward allowing filtered air to flow through the seat area (I) created between the poppet assembly and the seat. “First stage filtration” begins when air pressure supplied to the inlet port is directed through deflector plate (D) causing a swirling centrifugal action forcing liquids and coarse particles to the inner bowl wall (E) and down below the lower baffle to the quiet zone. After liquids and large particles are removed in the first stage of filtration “second stage filtration” occurs as air flows through element (J) where smaller particles are filtered out and retained. The air flow now passes through seat area (I) to the outlet port of the unit. Pressure in the downstream line is sensed below the diaphragm (H) and offsets the load of spring (F). When downstream pressure reaches the set-point, poppet valve assembly (C) and diaphragm (H) move upward closing seat area (I). Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the diaphragm (H) to move upward opening vent hole (B) venting the excess pressure to atmosphere through the hole in the bonnet (G). (This occurs in the standard relieving type regulator only.)

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Manual Drain NPT</th>
<th>Auto Drain NPT</th>
<th>Manual Drain BSPP</th>
<th>Auto Drain BSPP</th>
<th>Piggyback Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NEA96GSMBNN</td>
<td>P3NEA96GSABNN</td>
<td>P3NEA16GSMBNN</td>
<td>P3NEA16GSABNN</td>
<td>A 3.62 B 5.59 C 6.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92mm 142mm 162mm</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NEA98GSMBNN</td>
<td>P3NEA98GSABNN</td>
<td>P3NEA18GSMBNN</td>
<td>P3NEA18GSABNN</td>
<td>A 3.62 B 5.9 C 6.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92mm 162mm</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NEA9PGSBNN</td>
<td>P3NEA9PGSABNN</td>
<td>P3NEA1PGSMBNN</td>
<td>P3NEA1PGSABNN</td>
<td>A 3.62 B 5.9 C 6.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92mm 162mm</td>
</tr>
</tbody>
</table>

* 1" Port Body with 1-1/2" Port Block.
† For other models, refer to matrix.
§ SCFM = Standard cubic feet per minute at 100 PSIG inlet and 10 PSIG pressure drop.
## Ordering Information

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Port Size</th>
<th>Element</th>
<th>Bowl</th>
<th>Drains</th>
<th>Type</th>
<th>Pressure Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. G Thread (BSP)</td>
<td>3/4&quot; (w/o Port Blocks)</td>
<td>A. Adsorber</td>
<td>S. Metal Bow w/ Sight Gauge</td>
<td>M. Manual Twist Drain</td>
<td>B. Relieving</td>
<td>w/o Gauge</td>
</tr>
<tr>
<td>2. Rc Thread (BSP)</td>
<td>1&quot; (w/o Port Blocks)</td>
<td>E. 5 Micron</td>
<td>P. Push N' Drain</td>
<td>A. Automatic Drain</td>
<td>N. Non-Relieving</td>
<td>L. 60 PSI (0 to 4 bar)</td>
</tr>
<tr>
<td>9. NPT</td>
<td>1-1/2&quot; Port Blocks (w/ 1&quot; Ported Body)</td>
<td>G. 40 Micron</td>
<td></td>
<td></td>
<td></td>
<td>N. 125 PSI (0 to 8 bar)</td>
</tr>
</tbody>
</table>

NOTE: Shaded items are standard.

### Technical Information

#### Flow and Flow Characteristics

**3/4" Ports**
- Primary Pressure: 100 PSIG (6.9 bar)
- Flow (SCFM): 0 to 200
- Flow (dm³/s): 0 to 50

**1" Ports**
- Primary Pressure: 100 PSIG (6.9 bar)
- Flow (SCFM): 0 to 200
- Flow (dm³/s): 0 to 50

**1-1/2" Ports**
- Primary Pressure: 100 PSIG (6.9 bar)
- Flow (SCFM): 0 to 200
- Flow (dm³/s): 0 to 50

### Piggyback Kits

- **Drain Kit** – Automatic Drain: PS506P
- **Twist Drain Kit** – Steel: PS512P
- **Filter Element Kits** – 40 Micron: P3NKA00ESG
  - 5 Micron: P3NKA00ESE
- **Sight Gauge Kit**
  - **Gauges**
    - 60 PSIG: P781641
    - 160 PSIG: P781642
    - 300 PSIG: P781643
  - **Mounting Bracket Kit** – Plastic: P3NKA00MW
- **Springs** – 1-60 PSIG Range: C10A1304
  - 2-125 PSIG Range: C10A1308
  - 5-250 PSIG Range: C10A1317
- **Repair Kit** – Relieving: P3NKA00RR
  - Non-Relieving: P3NKA00RN
- **Control Knob** – Rising: Plastic
  - Non-Rising: Plastic

### Specifications

- **Adjusting Stem** – Steel
- **Body, Bonnet, Bowl** – Aluminum
- **Bowl Capacity** – 18.0 Ounces
- **Sump Capacity** – 6.8 Ounces
- **Piston** – Plastic
- **Drain** – Plastic
- **Filter Elements** – 40 Micron Standard
- **Filter Elements** – 5 Micron Optional: Plastic
- **Knob** – Plastic
- **Port Threads** – 3/4", 1", 1-1/2" *
- **Pressure & Temperature Rating** – 0 to 250 PSIG (0 to 17 bar) 32°F to 175°F (0°C to 80°C)
- **Seals** – Nitrile
- **Sight Gauge** – Polyamide (Nylon)
- **Springs – Poppet & Control** – Steel
- **Weight** –
  - 3/4": 5.3 lb. (2.4 kg)
  - 1": 5.3 lb. (2.4 kg)
  - 1-1/2": 6.43 lb. (2.9 kg)

* 1" Port Body with 1-1/2" Port Block.
Mist Lubricators

Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Proportional oil delivery over a wide range of air flows.
- Bowl can be filled while air line is under pressure.
- Transparent sight dome for 360° visibility.
- High Flow 260 SCFM.  

Operation

Air flowing through the unit goes through two paths. At low air flow rates, the majority of the air flows through venturi section (B). The rest of the air slightly deflects and flows by the flapper (A). The velocity of the air flowing through venturi section (B) creates a pressure drop at throat section (F). This lower pressure allows oil to be forced from the reservoir through the pickup tube (E) past the check ball (J), to the dome assembly where the rate of oil flow is controlled by knob (G). Rotation of the knob (G) in the counterclockwise direction increases the oil flow rate; in the clockwise direction decreases the oil flow rate. Oil then flows through the clearance between inner and outer sight domes (H) where drops are formed and drip into the throat section (I). Here it is then broken into fine particles and mixed with the swirling air to be carried to the venturi outlet where it joins the air by passing the flapper (A). As air flow rate increases, the flapper (A) deflects, allowing a greater part of the additional air to bypass the venturi section (B). This assures the oil delivery rate increases linearly with increased air flow rate. The check ball (J) assures that when there is no flow, the oil in the pickup tube does not return to the reservoir.

The bowl can be filled under pressure due to the action of the check ball (C). When the fill cap is removed, air in the bowl escapes and pressure forces the check ball (C) to nearly seal at (D). When the fill cap is replaced, the small amount of air flow past check ball (C) builds up pressure and together with the spring forces the check ball (C) off seat (D), letting full line pressure into the bowl.

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Features & Operation

"Hi-Flow" Series, Mist Lubricators

3/4", 1", 1-1/2" – Basic 1” Body

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT No Drain</th>
<th>BSPP No Drain</th>
<th>Lubricator Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NLA96LSN</td>
<td>P3NLA16LSN</td>
<td>A  3.62 B 5.59 C 3.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>D 92mm E 142mm F 71.3mm</td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NLA98LSN</td>
<td>P3NLA18LSN</td>
<td>A 3.62 B 5.69 C 2.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>D 92mm E 142mm F 71.3mm</td>
</tr>
<tr>
<td>1-1/2&quot;#</td>
<td>P3NLA9PLSN</td>
<td>P3NLA1PLSN</td>
<td>A 3.62 B 5.59 C 2.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>D 92mm E 142mm F 71.3mm</td>
</tr>
</tbody>
</table>

# 1" Port Body with 1-1/2" Port Block.
† For other models, refer to matrix.
§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.
Ordering Information

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Port Size</th>
<th>Type</th>
<th>Bowl</th>
<th>Drain / Fill Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. G Thread (BSP) Female</td>
<td>3/4” (w/o Port Blocks)</td>
<td>Oil Mist</td>
<td>S. Metal Bowl w/ Sight Gauge</td>
<td>N. No Drain, Solid Bowl / Fill Plug</td>
</tr>
<tr>
<td>2. Rc Thread (BSPT) Female</td>
<td>1” (w/o Port Blocks)</td>
<td></td>
<td></td>
<td>M. Manual Twist Drain / Fill Plug</td>
</tr>
<tr>
<td>9. NPT Female</td>
<td>P. 1-1/2” Port Blocks (w/ 1” Ported Body)</td>
<td></td>
<td></td>
<td>H. No Drain / Body Pressure Fill</td>
</tr>
</tbody>
</table>

NOTE: Shaded items are standard.

Technical Information

Lubricator Kits
Twist Drain Kit ................................................. PS512P
Sight Dome Kit
Polycarbonate ............................................. PS740P
Nylon .......................................................... PS740N
Sight Gauge Kit ............................................ P3NKA00PE
Pressure Fill Adapter Kit ......................... P3NKA00PK
Service Kit .................................................. P3NKA00RL
Mounting Bracket Kit ................................. P3NKA00MW

Specifications

Body, Bowl ........................... Aluminum
Bowl Capacity ................................................. 18.0 Ounces
Drains: Manual Twist Drain (Optional) .................. Plastic
Injector Meter Block & Base Assembly .................. Plastic
Pressure & Temperature Rating ........... 0 to 250 PSIG (0 to 17 bar)
32°F to 175°F (0°C to 80°C)
Seals .......................................................... Nitrile
Sight Dome .............................................. Polycarbonate
Sight Gauge ......................................... Polyamide (Nylon)
Suggested Lubricant ......................... F442 Oil
Weight -
3/4” .................................................. 3.5 lb. (1.6 kg)
1” .......................................................... 3.5 lb. (1.6 kg)
1-1/2” ................................................. 4.6 lb. (2.1 kg)

* 1” Port Body with 1-1/2” Port Block.
Modular Combinations

- Regulator can be mounted with knob in up or down position.
- See individual component pages for details.

### Two-Unit Combo

- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NCA96SGMNNLNA</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NCA98SGMNNLNA</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NCA9PSGNNLNA</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- All Combo part numbers are with regulator knob in up position.
- Regulator Pressure Adjustment Caution on page 19.
- 1" Port Body with 1-1/2" Port Block.
- For other models, refer to matrix section.

### Three-Unit Combo

- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>P3NCB96SGMNNLNA</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>P3NCB98SGMNNLNA</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>P3NCB9PSGNNLNA</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- All Combo part numbers are with regulator knob in up position.
- Regulator Pressure Adjustment Caution on page 19.
- 1" Port Body with 1-1/2" Port Block.
- For other models, refer to matrix section.
**Ordering Information**

<table>
<thead>
<tr>
<th>P3N</th>
<th>C</th>
<th>A</th>
<th>9</th>
<th>6</th>
<th>S</th>
<th>G</th>
<th>M</th>
<th>N</th>
<th>N</th>
<th>L</th>
<th>N</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**Series**
- C. Combination - Modular
- 3. Combinations w/ Pipe Nipples

**Type**
- 2-Unit
  - A. Piggyback F/R + Lubricator
- 3-Unit
  - B. Filter + Regulator + Lubricator

**Combination**

**Port Type**
- 1. G Thread (BSP) Female
- 2. Rc Thread (BSPT) Female
- 9. NPT Female

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

**Filter Elements**
- E. 5 Micron
- G. 40 Micron
- J. 25 Micron, Porous Bronze

**Filter Drains**
- M. Manual Twist Drain
- A. Automatic Drain
- P. Push ‘N’ Drain

**Bowl**
- S. Metal Bowl w/ Sight Gauge

**Regulator Adjustment Type**
- Relieving
  - N. Non-Rising Knob
- Non-Relieving
  - M. Non-Rising Knob

**Regulator Pressure Range & Gauges**
- w/o Gauge
  - L. 60 PSI (0 to 4 bar)
  - N. 125 PSI (0 to 8 bar)
  - H. 250 PSI (0 to 17 bar)
- w/ Gauge
  - M. 60 PSI (0 to 4 bar)
  - G. 125 PSI (0 to 8 bar)
  - J. 250 PSI (0 to 17 bar)

**Mounting Options**
- A. No Brackets or Kits
- B. Wall Bracket

**Regulator Drain / Fill Devices**
- N. No Drain, Solid Bowl / Fill Plug
- M. Manual Twist Drain / Fill Plug
- A. Automatic Fill / Fill Plug
- S. Semi-Auto Fill / Fill Plug
- H. No Drain / Body Pressure Fill
- J. Manual Twist Drain / Body Pressure Fill

**Lubricator Type**
- L. w/ Polycarbonate Sight Dome
- A. w/ Nylon Sight Dome

**Oil Mist**
- L. w/ Polycarbonate Sight Dome

**Kits & Accessories**

Wall Mounting Kit: P3NKA00MW
Port Block Kits: 3/4" P3NKA96CP, 1" P3NKA98CP, 1-1/2" P3NKA9PCP
NPT: P3NKA16CP, P3NKA18CP, BSPP: P3NKA1PCP

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**NOTE:** Shaded items are standard.
Mounting Brackets

P3NKA00MW

Replacement Body Covers

P3NKA00PM

Each Kit contains two covers.
All units are shipped with body covers.
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.
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3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller’s plant. Regardless of the method of delivery, however, shall pass to Buyer upon Seller’s delivery to Buyer. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 18 months from the date of shipment from Parker Hannifin Corporation. THIS WARRANTY COMPRIS ES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.

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6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller’s discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitations, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller’s property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus accepted by Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer’s Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer, or any other items which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller’s possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges hereunder for the sale, use, manufacture, occupation or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller the amount of such taxes on receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter “Intellectual Property Rights”), Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller’s obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller’s sole and exclusive liability and Buyer’s sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller’s obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter “Events of Force Majeure”). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller’s control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.
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Parker's Charter
To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

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North American customers seeking product information, the location of a nearby distributor, or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In Europe, call 00800-C-PARKER-H (00800-272-7537).

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designs, manufactures and markets system-control and fluid-handling components and systems to refrigeration, air-conditioning and industrial customers worldwide.

The Fluid Connectors Group
designs, manufactures and markets rigid and flexible connectors, and associated products used in pneumatic and fluid systems.

The Seal Group
designs, manufactures and distributes industrial and commercial sealing devices and related products by providing superior quality and total customer satisfaction.

The Hydraulics Group
designs, produces and markets a full spectrum of hydraulic components and systems to builders and users of industrial and mobile machinery and equipment.

The Filtration Group
designs, manufactures and markets quality filtration and clarification products, providing customers with the best value, quality, technical support, and global availability.

The Automation Group
is a leading supplier of pneumatic and electromechanical components and systems to automation customers worldwide.

The Instrumentation Group
is a global leader in the design, manufacture and distribution of high-quality critical flow components for worldwide process instrumentation, ultra-high-purity, medical and analytical applications.