Watts Air Preparation Systems & Accessories

QUBE, General Line, QIX, Miniature, Stainless, Injection Lubricators & Accessories

Catalog 0305-2
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<td>Safety Guide, Offer of Sale</td>
<td>G</td>
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</tbody>
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QUBE Modular FRL System

Air Preparation Units

General Line, QIX, High Efficiency Filters, Dial & Precision Regulators

Miniature FRLs

Stainless Steel FRLs

Injection Lubricators

Flow Controls & Accessories, Control Panel Products, Sensing, “LV” / “EZ”, Ball Valves / Plug Valves / Drain Cocks, Safety Blow Guns, Fittings & Hose, Fittings & Tubing, Quick Couplings

Accessories

Safety Guide, Offer of Sale
Miniature FRL Series

Section C
CAUTION:
Polycarbonate bowls and sight dome, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls and sight dome should not be exposed to chlorinated hydro-carbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and di-ester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Metal bowl guards are recommended for all applications.
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14F Filters – Miniature

Features
- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Easily Disassembled for Servicing Without the Use of Tools
- 5 Micron Element Standard
- Interchangeable Twist and Automatic Pulse Drains
- High Flow: 1/8" – 22 SCFM\(^\text{§}\)
  1/4" – 24 SCFM\(^\text{§}\)

Twist Drain
Automated Drain

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Twist Drain</th>
<th>Automatic Pulse Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly Bowl</td>
<td>Blank NPT</td>
<td>14F01B*</td>
<td>14F05B*</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>Blank NPT</td>
<td>14F11B*</td>
<td>14F15B*</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Blank NPT</td>
<td>14F13B*</td>
<td>14F17B*</td>
</tr>
<tr>
<td>Metal Bowl without Sight Gauge</td>
<td>Blank NPT</td>
<td>14F03B*</td>
<td>14F07B*</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>Blank NPT</td>
<td>14F13B*</td>
<td>14F17B*</td>
</tr>
</tbody>
</table>

Bold Items are Most Popular.
For other models refer to ordering information below.

\(^\text{‡}\) For polycarbonate bowl see Caution on page C2.
\(^\text{§}\) SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

14F Filter Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.69</td>
<td>1.53</td>
<td>.39</td>
</tr>
<tr>
<td>(43)</td>
<td>(39)</td>
<td>(10)</td>
</tr>
<tr>
<td>D</td>
<td>D(^\text{†})</td>
<td>E</td>
</tr>
<tr>
<td>3.82</td>
<td>3.87</td>
<td>4.21</td>
</tr>
<tr>
<td>(97)</td>
<td>(99)</td>
<td>(107)</td>
</tr>
<tr>
<td>E(^\text{†})</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>4.26</td>
<td>1.60</td>
<td></td>
</tr>
<tr>
<td>(108)</td>
<td>(41)</td>
<td></td>
</tr>
</tbody>
</table>

Inches (mm)

\(^\text{†}\) With Automatic Pulse Drain.

Ordering Information

14F 1 1 B *

Port Size
- 0 1/8 Inch
- 1 1/4 Inch

Bowl Options
- Polycarbonate Bowl
  - 1 Twist Drain
  - 5 Automatic Pulse Drain
- Metal Bowl
  - 3 Twist Drain
  - 7 Automatic Pulse Drain

Elements
- A 40 Micron
- B 5 Micron
- Z Adsorber

Engineering Level
- * Will be Entered at Factory

Port Type
- Blank NPT
  - 1 BSPP
  - 2 BSPT

BOLD ITEMS ARE MOST POPULAR.
14F Filter Kits & Accessories

Bowl Kits –
- Poly Bowl –
  - Automatic Pulse Drain ........................................ PS408P
  - Twist Drain ....................................................... PS404P
- Metal Bowl –
  - Automatic Pulse Drain ........................................ PS451P
  - Twist Drain ....................................................... PS447BP

Filter Element Kits –
- 40 Micron ............................................................... PS401P
- 5 Micron ................................................................. PS403P
- 5 Micron Cartridge Kit .......................................... PS407P
- Adsorber .............................................................. PS452P

Mounting Bracket Kit ................................................ PS417BP

Specifications
- Automatic Pulse Drain Tube Barb ........................... 1/8 inch
- Bowl Capacity ......................................................... 1 Ounce
- Port Threads .......................................................... 1/8, 1/4 inch

Pressure & Temperature Ratings –
- Polycarbonate Bowl .............................................. 0 to 150 PSIG (0 to 10.3 bar)
  - 32°F to 125°F (0°C to 52°C)
- Metal Bowl ............................................................ 0 to 250 PSIG (0 to 17.2 bar)
  - 32°F to 175°F (0°C to 80°C)
- Automatic Pulse Drain ...................................... 10 to 250 PSIG (0.7 to 17.2 bar)
  - at 125°F (52°C) or less

Materials of Construction

Body ......................................................................... Zinc
Bowls ................................................................. Transparent Polycarbonate
- Metal (Zinc) Bowl w/o Sight Gauge
Deflector, Element Holder & Baffle ......................... Plastic
Drains –
- Twist Drain –
  - Body & Stem ......................................................... Plastic
  - Seals ..................................................................... Nitrile
  - Automatic Pulse Drain –
  - Piston & Seals ..................................................... Nitrile
  - Stem, Seat, Adaptor & Washers ......................... Aluminum
Filter Elements –
- 5 Micron (Standard) ............................................. Plastic
- 40 Micron (Optional) .............................................. Plastic
- Adsorber (Optional) .............................................. Activated Charcoal
Seals ....................................................................... Nitrile

Weight ..................................................................... 0.41 lb. (0.18 kg)

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Metal bowl guards are recommended for all applications.
F504 Filters – Miniature

Features

- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Easily Disassembled for Servicing Without the Use of Tools
- Interchangeable Twist and Automatic Pulse Drains
- High Flow: 22 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twist Drain</td>
</tr>
<tr>
<td>Poly carbonate</td>
<td>F504-01AH</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>F504-02AH</td>
</tr>
<tr>
<td>Metal bowl</td>
<td>F504-01DH</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>F504-02DH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycarbonate</td>
<td>G 5 Micron</td>
</tr>
<tr>
<td>D Metal</td>
<td>H 20 Micron</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance Required To Remove All Bowls Regardless Of Drain Option</th>
</tr>
</thead>
</table>

Port Size | NPT | Twist Drain | Automatic Pulse Drain |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly carbonate bowl</td>
<td>F504-01AH</td>
<td>F504-01AHS</td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>F504-02AH</td>
<td>F504-02AHS</td>
<td></td>
</tr>
<tr>
<td>Metal bowl without sight gauge</td>
<td>F504-01DH</td>
<td>F504-01DHS</td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>F504-02DH</td>
<td>F504-02DHS</td>
<td></td>
</tr>
</tbody>
</table>

Bold Items are Most Popular. For other models refer to ordering information below.

<table>
<thead>
<tr>
<th>Items</th>
<th>Size</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>F504-01AH</td>
<td>F504-01AHS</td>
<td>For polycarbonate bowl see Caution on page C2.</td>
</tr>
<tr>
<td>F504-02AH</td>
<td>F504-02AHS</td>
<td></td>
</tr>
<tr>
<td>F504-01DH</td>
<td>F504-01DHS</td>
<td></td>
</tr>
<tr>
<td>F504-02DH</td>
<td>F504-02DHS</td>
<td></td>
</tr>
</tbody>
</table>

SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

Ordering Information

<table>
<thead>
<tr>
<th>Port Threads</th>
<th>Port Size</th>
<th>Bowl</th>
<th>Elements</th>
<th>Drains and Options</th>
<th>Engineering Change Designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPT G BSPP</td>
<td>01 1/8 Inch</td>
<td>A</td>
<td>G 5 Micron</td>
<td>Blank Manual Twist Drain</td>
<td>Will be entered at factory.</td>
</tr>
<tr>
<td></td>
<td>02 1/4 Inch</td>
<td>D</td>
<td>H 20 Micron</td>
<td>Automatic Pulse Drain</td>
<td></td>
</tr>
</tbody>
</table>

BOLD ITEMS ARE MOST POPULAR.
Technical Information

F504 Filter Kits & Accessories

**Bowl Kits**
- Metal (D) .......................................................... BK505Y
- Metal (D) with Automatic Pulse Drain .............. BK505SY
- Polycarbonate (A) ............................................. BK504Y
- Polycarbonate (A) with Automatic Pulse Drain .... BK504SY

**Drain Kits**
- Automatic Pulse Drain .................................. RK504SY
- Manual Twist Drain ........................................ SA600Y7-1
- Semi-Automatic “Overnight” Drain ...................... SA602A7
  (Drains automatically under zero pressure)

**Filter Element Kits**
- 5 Micron (All) .................................................. EK504VY
- 20 Micron (All) .................................................. EK504Y

**Mounting Bracket Kit**
Must be Ordered with Filter

( ) = BOWL TYPE

---

**Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowl Capacity</td>
<td>1 Ounce</td>
</tr>
<tr>
<td>Port Threads</td>
<td>1/8, 1/4 Inch</td>
</tr>
</tbody>
</table>

**Pressure & Temperature Ratings**

- **Polycarbonate Bowl**
  - 0 to 150 PSIG (0 to 10.2 bar)
  - 40°F to 125°F (4.4°C to 52°C)
- **Metal Bowl**
  - 0 to 300 PSIG (0 to 20.4 bar)
  - 40°F to 180°F (4.4°C to 82.2°C)
- **With Automatic Pulse Drain**
  - 175 PSIG Max. Press. (11.9 bar)

**Weight**

- **Polycarbonate Bowl**
  - 0.3 lb. (0.14 kg) / Unit
  - 7 lb. (3.18 kg) / 24-Unit Master Pack
- **Metal Bowl**
  - 0.5 lb. (0.23 kg) / Unit
  - 12 lb. (5.44 kg) / 24-Unit Master Pack

**Materials of Construction**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Bowls</td>
<td>Polycarbonate</td>
</tr>
<tr>
<td></td>
<td>Metal (Zinc)</td>
</tr>
<tr>
<td>Drains</td>
<td>Brass</td>
</tr>
<tr>
<td>Filter Elements</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile</td>
</tr>
</tbody>
</table>
10F Coalescing Filters – Miniature

Features

• Removes Liquid Aerosols and Sub-micron Particles
• Liquids Gravitate to the Bottom of the Element and Will Not Re-enter the Airstream
• Oil Free Air for Critical Applications, such as Air Gauging and Pneumatic Instrumentation and Controls
• Interchangeable Twist and Automatic Pulse Drains
• Grade 6 Element, 99.97% DOP Efficiency

High Flow:
Grade 6 Element
1/8” – 17 SCFM
1/4” – 20 SCFM

Grade 10 Element
1/8” – 19 SCFM
1/4” – 24 SCFM

Accepts 1/8” Tubing

Automatic Drain

Interchangeable Twist and Automatic Pulse Drains

Distance Required To Remove All Bowls Regardless Of Drain Option

Ordering Information

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>10F Coalescing Filter Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>Twist Drain</td>
<td>A 1.69 (43)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B 1.56 (39.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 0.39 (10)</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td></td>
<td>D 3.82 (97)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D* 3.67 (93)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E 4.21 (107)</td>
</tr>
<tr>
<td></td>
<td>Automatic Pulse Drain</td>
<td>E* 4.06 (103)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F 1.60 (41)</td>
</tr>
</tbody>
</table>

Standard part numbers shown bold, with Grade 6 Elements (for Grade 10 Elements, replace “E” with “H” in the 6th position). For other models refer to ordering information below.

‡ For polycarbonate bowl see Caution on page C2.
§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.
† With Automatic Pulse Drain.

BOLD ITEMS ARE MOST POPULAR.
**Technical Information**

**10F Coalescing Filter Kits & Accessories**

- **Bowl Kits** –
  - Poly Bowl –
    - Automatic Pulse Drain – PS408P
    - Twist Drain – PS404P
  - Metal Bowl –
    - Automatic Pulse Drain – PS451P
    - Twist Drain – PS447BP

- **Filter Element Kits** –
  - Grade 6 (Standard) – PS446P
  - Grade 10 (Optional) – PS456P

- **Mounting Bracket Kit** – PS417BP

**Specifications**

- **Automatic Pulse Drain Tube Barb** – 1/8 Inch
- **Bowl Capacity** – 1 Ounce

**Operation** –

- Normal Operating Pressure Drop – 2 PSIG
- Maximum Recommended Pressure Drop – 10 PSIG
  (Element should be replaced)

- **Port Threads** – 1/8, 1/4 Inch

**Pressure & Temperature Ratings** –

- **Polycarbonate Bowl** –
  - 0 to 150 PSIG (0 to 10.3 bar)
  - 32°F to 125°F (0°C to 52°C)
- **Metal Bowl** –
  - 0 to 250 PSIG (0 to 17.2 bar)
  - 32°F to 175°F (0°C to 80°C)

- **Weight** – 0.41 lb. (0.18 kg)

**Materials of Construction**

- **Body** – Zinc
- **Bowls** –
  - Transparent – Polycarbonate
  - Metal – Zinc Without Sight Gauge
- **Drains** –
  - Twist Drain – Plastic
  - Piston & Seals – Nitrile
  - Stem, Seat, Adaptor & Washers – Aluminum
- **Element Holder** – Plastic
- **Filter Element** – Borosilicate & felt glass fibers 99.97% DOP efficiency

**Largest Aerosol Particle Passed (Grade 6)** – 0.75 Micron
**Largest Solid Particle Passed (Grade 6)** – 0.30 Micron

**Media Specifications**

<table>
<thead>
<tr>
<th>Grade</th>
<th>D.O.P. Coalescing Efficiency 0.3 to 0.5 Micron Particles</th>
<th>Maximum Oil Carryover1</th>
<th>@ Rated Flow</th>
<th>Pressure Drop (PSID)2</th>
<th>Media Dry</th>
<th>Media Wet</th>
<th>Particulate Micron Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>99.97%</td>
<td>0.008</td>
<td>1.0</td>
<td>2.3</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>95%</td>
<td>0.85</td>
<td>0.5</td>
<td>0.5</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Tested per BCAS 860900 at 40 ppm inlet.
2 Add dry + wet for total pressure drop.

D.O.P. = Dioctylphthalate
F501, F507 Coalescing Filters – Miniature

Features
- Removes Liquid Aerosols and Sub-micron Particles
- Liquids Gravitate to the Bottom of the Element and Will Not Re-enter the Airstream
- Oil Free Air for Critical Applications, such as Air Gauging and Pneumatic Instrumentation and Controls
- Interchangeable Twist and Automatic Pulse Drains
- Grade 6 Element, 99.97% DOP Efficiency
- High Flow:
  Grade 6 Element – 8 SCFM§
  Grade 10 Element – 10 SCFM§

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Grade 6</th>
<th>Grade 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly carbonate Bowl, Manual Twist Drain ‡</td>
<td>F501-01AH</td>
<td>F507-01AO</td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>F501-02AH</td>
<td>F507-02AO</td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal Bowl without Sight Gauge, Manual Twist Drain</td>
<td>F501-01DH</td>
<td>F507-01DO</td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>F501-02DH</td>
<td>F507-02DO</td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bold Items are Most Popular.**
For other models refer to ordering information below.

‡ For polycarbonate bowl see Caution on page C2.
§ SCFM = Standard cubic feet per minute at 100 PSIG inlet and 1.0 PSIG Grade 6, .5 PSIG Grade 10 pressure drop.

F501 / F507 Coalescing Filter Dimensions

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>1.56</td>
<td>.038</td>
<td>3.78</td>
</tr>
<tr>
<td>(39.7)</td>
<td>(9.5)</td>
<td>(96)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>D†</td>
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</table>

Inches (mm)

Engineering Change Designator
Will be entered at factory.

**BOLD ITEMS ARE MOST POPULAR.**
Technical Information

Coalescing Filter Flow Ratings in SCFM

F501 Flow measured at 100 PSIG inlet pressure and 1.0 PSIG pressure drop.

F507 Flow measured at 100 PSIG inlet pressure and 0.5 PSIG pressure drop.

For Inlet Pressures other than 100 PSIG

<table>
<thead>
<tr>
<th>Inlet Pressure</th>
<th>F501-H</th>
<th>F501-O</th>
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<td>150</td>
<td>11.5</td>
<td>14.4</td>
<td>300</td>
<td>21.9</td>
<td>27.4</td>
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</table>

Polycarbonate Bowl Limit 150 PSIG

Mini Zinc Bowl Only Limit 300 PSIG

F501, F507 Filter Kits & Accessories

Bowl Kits –

Polycarbonate (A) ............................................................... BK504Y
Metal (D) ............................................................................. BK505Y
Polycarbonate (A) with Automatic Pulse Drain ..................BK504SY
Metal (D) with Automatic Pulse Drain ...............................BK505SY

Drain Kits –

Manual Twist Drain ........................................................... SA600Y7-1
Automatic Pulse Drain ...................................................... RK504SY
Semi-Automatic “Overnight” Drain ....................................SA602A7
(Drains automatically under zero pressure)

Filter Element Kits –

Grade 6..........................................................EKF501H
Grade 10...........................................................EKF507

Mounting Bracket Kit ...................................................... Must be Ordered with Filter

Specifications

Bowl Capacity .............................................................. 1 Ounce
Port Threads ................................................................. 1/8, 1/4 Inch
Pressure & Temperature Ratings –

Polycarbonate Bowl........................................0 to 150 PSIG (0 to 10.2 bar) 40°F to 125°F (4.4°C to 52°C)
Metal Bowl .............................................................0 to 300 PSIG (0 to 20.4 bar) 40°F to 180°F (4.4°C to 82.2°C)
With Automatic Pulse Drain .................................175 PSIG Max. Press. (11.9 bar)

Weight

Polycarbonate Bowl........................................ 0.3 lb. (0.14 kg) / Unit

Metal Bowl......................................................... 0.5 lb. (0.23 kg) / Unit

Materials of Construction

Body ...............................................................Aluminum
Bowls .............................................................Polycarbonate
Metal (Zinc)

Drains ...............................................................Brass
Filter Elements ..................................................Borosilicate Fibers & Felt
End Caps ..........................................................Urethane
Seals .................................................................Nitrile

Media Specifications

<table>
<thead>
<tr>
<th>Grade</th>
<th>D.O.P. Coalescing Efficiency 0.3 to 0.6 Micron Particles</th>
<th>Maximum Oil Carryover1 PPM w/w</th>
<th>Pressure Drop (PSID)2 @ Rated Flow</th>
<th>Particulate Micron Rating</th>
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</thead>
<tbody>
<tr>
<td>6</td>
<td>99.97%</td>
<td>0.008</td>
<td>1.0</td>
<td>0.01</td>
</tr>
<tr>
<td>10</td>
<td>95%</td>
<td>0.85</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

1 Tested per BCAS 860900 at 40 ppm inlet.

2 Add dry + wet for total pressure drop.

D.O.P. = Dioctylphthalate
14R Regulators – Miniature

Features
- Unbalanced Poppet Standard
- Solid Control Piston with Lip Seal for Extended Life
- Non-rising Adjusting Knob
- Compact, 2.88 inch (73.2mm) high by 1.65 inch (42mm) wide
- Easily Serviced
- High Flow: 1/8" – 13 SCFM§
  1/4" – 15 SCFM§

Port Size | NPT
--- | ---
Without Gauge
1/8" | 14R013F*
1/4" | 14R113F*
With Gauge
1/8" | 14R018F*
1/4" | 14R118F*

Bold Items are Most Popular.
For other models refer to ordering information below.

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

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

Ordering Information

<table>
<thead>
<tr>
<th>14R</th>
<th>1</th>
<th>13</th>
<th>F</th>
<th>*</th>
</tr>
</thead>
</table>

Port Size
- 0 1/8 Inch Pipe, 1/8 Inch Gauge Port
- 1 1/4 Inch Pipe, 1/8 Inch Gauge Port
- B 1/4 Inch Pipe, 1/4 Inch Gauge Port
- C 1/8 Inch Pipe, No Gauge Port
- M Manifold Mounting

Pressure Range
- Without Gauge
  - Yellow Knob
  - Black Knob
- With Gauge
  - 10 30 PSI
  - 11 60 PSI
  - 12 15 PSI
  - 13 125 PSI

Relief
- F Relieving
  - G Non-Relieving
  - H Low Temp. Relieving
  - J Low Temp. Non-Relieving

Port Type
- Blank NPT
- 1 BSPP
- 2 BSPT

Options
- Blank
- No Options
- L† Preset Non-Adjustable
- P† Preset Adjustable
- S† Pressure Limiter Max. Adjustable
- T Pressure Limiter
- Max. Non-Adjustable

Preset / Pressure Limited
- Blank None
- XXX* Pressure Limited

* Will be Entered at Factory
† Inlet Pressure is 100 PSIG. For other pressures, contact factory.

Spring Type by Preset / Limited Pressure:
- For Preset / Limited Pressure 10 to 25 use 30 PSI Spring
- For Preset / Limited Pressure 26 to 50 use 60 PSI Spring
- For Preset / Limited Pressure 51 to 90 use 125 PSI Spring

BOLD ITEMS ARE MOST POPULAR.

Pneumatic Division
Richland, Michigan
www.wattsfluidair.com
Technical Information

14R Regulator Kits & Accessories

Bonnet Assembly Kit .......................................................... L01369
Gauges – 30 PSIG, 1/8" NPT (0 to 2.1 bar) .......... K4515N18030
   60 PSIG, 1/8" NPT (0 to 4.1 bar) .......... K4515N18060
   160 PSIG, 1/8" NPT (0 to 11.0 bar) .......... K4515N18160
   60 PSIG, 1/4" NPT (0 to 4.1 bar) .......... K4520N14060
   160 PSIG, 1/4" NPT (0 to 11.0 bar) .......... K4520N14160
Mounting Bracket Kit* (Includes Panel Mount Nut) ........ PS417BP
Panel Mount Nuts* – Plastic ................................................. P78652
   Metal ............................................................................ P01531
Poppet / Piston Kits – Unbalanced Non-Relieving .......... PS428P
   Unbalanced Relieving .............................................. PS426P
Springs – 1-15 PSIG Range (Yellow) ......................... P01176
   1-30 PSIG Range (Black) ......................... P01175
   1-60 PSIG Range (White) ......................... P01174
   2-125 PSIG Range (Gold) ......................... P01173

Specifications

Gauge Ports (2) ..................................................................... 1/8 or 1/4 Inch
(Can be used for Full Flow)
Port Threads ........................................................................ 1/8, 1/4 Inch
Pressure & Temperature Ratings – 0 to 300 PSIG (0 to 20.7 bar)
   32°F to 125°F (0°C to 52°C)
Secondary Pressure Ranges –
   Standard Pressure ........................................... 2 to 125 PSIG (0 to 8.6 bar)
   Medium Pressure ..................................................... 1 to 60 PSIG (0 to 4.1 bar)
   Medium Pressure ..................................................... 1 to 30 PSIG (0 to 2.1 bar)
   Low Pressure ............................................................... 1 to 15 PSIG (0 to 1 bar)
Weight – 14R, 14RM, 14**L* ....................................... 0.3 lb. (0.14 kg)

Materials of Construction

Adjusting Nut ........................................................................ Brass
Adjusting Stem & Spring ....................................................... Steel
Body .................................................................................... Zinc
Bonnet, Seat, Piston & Valve Poppet .................................. Plastic
Seals .................................................................................... Nitrile

* Tighten panel mount nut 2.8 to 3.4 Nm (25 to 30 in-lbs) of torque.
# 15R Regulators – Economy

## Features
- Solid control piston with resilient seat for service-free operation.
- Non-rising “locking” adjusting knob.
- Compact, 3.30 inch (84mm) high by 0.60 inch (15mm) wide.
- Easily serviced.
- High Flow: 1/4” – 21 SCFM$^{\$}$
  3/8” – 28 SCFM$^{\$}$

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td>15R113F*</td>
</tr>
<tr>
<td>3/8”</td>
<td>15R213F*</td>
</tr>
<tr>
<td>With Gauge</td>
<td></td>
</tr>
<tr>
<td>1/4”</td>
<td>15R118F*</td>
</tr>
<tr>
<td>3/8”</td>
<td>15R218F*</td>
</tr>
</tbody>
</table>

Standard part numbers shown bold. For other models refer to ordering information below.

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

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

## 15R Regulator Dimensions

<table>
<thead>
<tr>
<th>15R Regulator Dimensions</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tr>
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<td>2.00</td>
<td>2.60</td>
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<td>(54)</td>
<td>(51)</td>
<td>(66)</td>
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<table>
<thead>
<tr>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>0.70</td>
<td>3.30</td>
</tr>
<tr>
<td>(18)</td>
<td>(84)</td>
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</tbody>
</table>

Inches (mm)

## Ordering Information

```
15R 1 13 F *
```

### Port Size
- 1/4 Inch
- 3/8 Inch

### Pressure Range
- Without Gauge
  - 10 30 PSIG
  - 11 60 PSIG
  - 12 15 PSIG
  - 13 125 PSIG
- With Gauge
  - 15 30 PSIG
  - 16 60 PSIG
  - 17 15 PSIG
  - 18 125 PSIG

### Relief
- F Relieving
- G Non-Relieving
- H Low Temp. Relieving
- J Low Temp. Non-Relieving

### Engineering Level
- * Will be Entered at Factory

BOLD ITEMS ARE MOST POPULAR.
Technical Information

**WARNING**

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

**CAUTION:**

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

### 15R Regulator Kits & Accessories

- **Body Service Kit – Unbalanced** ........................................ PS424BP
- **Bonnet Assembly Kit** .......................................................... L01369
- **Gauges** –
  1. 30 PSIG, 1/8" NPT (0 to 2.1 bar) ........................... K4515N18030
  2. 60 PSIG, 1/8" NPT (0 to 4.1 bar) ........................... K4515N18060
  3. 160 PSIG, 1/8" NPT (0 to 11.0 bar) ....................... K4515N18160
  4. 60 PSIG, 1/4" NPT (0 to 4.1 bar) ........................... K4520N14060
  5. 160 PSIG, 1/4" NPT (0 to 11.0 bar) ....................... K4520N14160
- **Mounting Bracket Kit* (Includes Panel Mount Nut)** ........ PS417BP
- **Panel Mount Nuts** –
  1. Plastic .......................................................... P78652
  2. Metal .......................................................... P01531
- **Service Kits** –
  1. Non-Relieving ................................................ PS422P
  2. Relieving .................................................... PS423P
- **Springs** –
  1. 1-15 PSIG Range (Yellow) ................................. P01176
  2. 1-30 PSIG Range (Black) ................................. P01175
  3. 1-60 PSIG Range (White) ................................. P01174
  4. 2-125 PSIG Range (Gold) ................................. P01173

* Tighten panel mount nut 2.8 to 3.4 Nm (25 to 30 in-lbs) of torque.

### Specifications

**Gauge Ports (2)** ................................................................. 1/4 Inch
(Can be used for Full Flow)

**Port Threads**

1/4, 3/8 Inch

**Pressure & Temperature Ratings** –

- 0 to 250 PSIG (0 to 17.2 bar) .......................... 32°F to 125°F (0°C to 52°C)
- Low Temperature ............................................. -4°F to 125°F (-20°C to 52°C)

**Secondary Pressure Ranges** –

- Standard Pressure ........................................... 2 to 125 PSIG (0 to 8.6 bar)
- Medium Pressure ............................................... 1 to 60 PSIG (0 to 4.1 bar)
- Medium Pressure ............................................... 1 to 30 PSIG (0 to 2.1 bar)
- Low Pressure .................................................. 1 to 15 PSIG (0 to 1 bar)

**Weight** ................................................................. 0.5 lb. (0.23 kg)

### Materials of Construction

- **Adjusting Nut** .......................................................... Brass
- **Adjusting Stem & Spring** ....................................... Steel
- **Body** ................................................................. Zinc
- **Bonnet, Seat, Piston & Valve Poppet** ......................... Plastic
- **Seals** ................................................................. Nitrile
P3A-R Regulators – Miniature

Features

- Lightweight Plastic Body
- Non-rising Adjusting Knob
- Solid Control Piston with Lip Seal for Extended Life
- Unbalanced Poppet Standard
- Two Full Flow 1/8” Gauge Ports
- Reverse Flow Capability
- High Flow: 1/8” – 18 SCFM§

<table>
<thead>
<tr>
<th>Port Size</th>
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</tr>
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<tbody>
<tr>
<td>Without Gauge</td>
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<td>P3A-RN92YNN</td>
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<td>With Gauge</td>
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<td>1/8”</td>
<td>P3A-RN91YGN</td>
</tr>
<tr>
<td>1/4”</td>
<td>P3A-RN92YGN</td>
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Bold Items are Most Popular.
For other models refer to ordering information below.

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

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

Ordering Information

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<th>Pressure / Gauge</th>
<th>Options</th>
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<tbody>
<tr>
<td>9 NPT Female</td>
<td>1 1/8 Inch</td>
<td>Q Non-Relieving</td>
<td>Without Gauge</td>
<td>N None</td>
</tr>
<tr>
<td></td>
<td>2 1/4 Inch</td>
<td>V Relieving, Tamper Resistant (No Knob)</td>
<td>L 60 PSIG (0 to 4 bar)</td>
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<tr>
<td></td>
<td></td>
<td>Y Relieving</td>
<td>N 120 PSIG (0 to 8 bar)</td>
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<td>Y 30 PSIG (0 to 2 bar)</td>
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<td></td>
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<td></td>
<td>With Gauge</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>B 15 PSIG (0 to 1 bar)</td>
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<td>G 120 PSIG (0 to 8 bar)</td>
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<td>M 60 PSIG (0 to 4 bar)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Z 30 PSIG (0 to 2 bar)</td>
<td></td>
</tr>
</tbody>
</table>

BOLD ITEMS ARE MOST POPULAR.
Technical Information

P3A-R Regulator Kits and Accessories

Gauges – 30 PSIG, 1/8" NPT (0 to 2.1 bar)............K4515N18030
       60 PSIG, 1/8" NPT (0 to 4.1 bar).............K4515N18060
       160 PSIG, 1/8" NPT (0 to 11.0 bar).........K4515N18160
Mounting Bracket Kit* (Includes Panel Mount Nut)........PS417BP
Panel Mount Nut* ........................................P78652
Poppet / Piston Kits – Unbalanced Non-Relieving ........PS428P
       Unbalanced Relieving.......................PS426P
Springs – 1-15 PSIG Spring (Yellow)....................P01176
       1-30 PSIG Spring (Black)........................P01175
       1-60 PSIG Spring (White)......................P01174
       5-110 PSIG Spring (Gold) .....................P01173

Specifications

Gauge Ports (2) 1/8 Inch

Operating Pressure Range – PSIG bar
Primary – Maximum 120 8.3
Secondary –
   15 PSIG Spring Minimum 1 0.07
       Maximum 15 1.0
   30 PSIG Spring Minimum 6 0.4
       Maximum 30 2.1
   60 PSIG Spring Minimum 6 0.4
       Maximum 60 4.1
   110 PSIG Spring Minimum 6 0.4
       Maximum 110 7.6

Operating Temperature Range ...........32°F to 125°F (0°C to 52°C)
Port Threads ..............................................1/8, 1/4 Inch
Weight ..................................................0.23 lb. (0.10 kg.)

Materials of Construction

Adjusting Nut .............................................Brass
Adjusting Stem & Spring .............................Steel
Poppet Return Spring .................................Stainless Steel
Body .................................................................Plastic
Bonnet, Seat & Piston .....................................Plastic
Seals ..........................................................Nitrile
Valve Poppet ..............................................Plastic & Nitrile

* Tighten panel mount nut 2.8 to 3.4 Nm (25 to 30 in-lbs) of torque.

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.
P3A-W Regulators – Miniature (Water Service)

Features
- Lightweight Plastic Body
- Constructed of F.D.A. Listed Materials
- Unbalanced Poppet Standard
- Non-rising Adjusting Knob
- Compact, 2.96 inch (75 mm) high by 1.57 inch (40 mm) wide
- Lightweight
- Rolling Diaphragm for Superior Performance and Life

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Gauge</td>
<td>P3A-WN91QNN</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>P3A-WN92QNN</td>
</tr>
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</table>

Bold Items are Most Popular.
For other models refer to ordering information below.

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

Ordering Information

<table>
<thead>
<tr>
<th>Version</th>
<th>Port Type</th>
<th>Port Size</th>
<th>Relief / Knob</th>
<th>Pressure</th>
<th>Options</th>
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<tbody>
<tr>
<td>N Unbalanced</td>
<td>9 NPT Female</td>
<td>1 1/8 Inch</td>
<td>Q Non-Relieving</td>
<td>Without Gauge</td>
<td>N None</td>
</tr>
<tr>
<td>P Balanced</td>
<td>2 1/4 Inch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

L 60 PSIG (0 to 4 bar)
N 120 PSIG (0 to 8 bar)
Y 30 PSIG (0 to 2 bar)

P3A-W Regulator Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.57 (40)</td>
<td>1.57 (40)</td>
<td>2.50 (64)</td>
</tr>
<tr>
<td>D</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>0.46 (12)</td>
<td>2.96 (75)</td>
<td></td>
</tr>
</tbody>
</table>

Inches (mm)
Technical Information

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

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

### P3A-W Regulator Kits and Accessories

<table>
<thead>
<tr>
<th>Kit Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Bracket Kit* (Includes Panel Mount Nut)</td>
<td>PS417BP</td>
</tr>
<tr>
<td>Panel Mount Nut*</td>
<td>P78652</td>
</tr>
<tr>
<td>Poppet / Piston Kits – Unbalanced Non-Relieving</td>
<td>PS428P</td>
</tr>
<tr>
<td>Unbalanced Relieving</td>
<td>PS426P</td>
</tr>
<tr>
<td>Springs – 1-30 PSIG Spring</td>
<td>P78659B</td>
</tr>
<tr>
<td>1-60 PSIG Spring</td>
<td>P00411</td>
</tr>
<tr>
<td>5-125 PSIG Spring</td>
<td>P78660B</td>
</tr>
</tbody>
</table>

*Tighten panel mount nut 2.8 to 3.4 Nm (25 to 30 in-lbs) of torque.

### Specifications

- **Gauge Ports (2)**: 1/8 Inch (Can be used for full flow)
- **Pressure Rating**: Maximum Inlet Pressure 150 PSIG (10.0 bar)
- **Port Threads**: 1/8, 1/4 Inch
- **Temperature Rating**: Water 40°F to 125°F (4°C to 52°C)
- **Weight**: 0.23 lb. (0.10 kg.)

### Materials of Construction

- **Adjusting Nut**: Brass
- **Adjusting Stem**: Brass
- **Body**: Plastic
- **Bonnet, Seat & Piston**: Plastic
- **Diaphragm**: Santoprene
- **Seals**: Buna N or Thermo Plastic Elastomer
- **Springs**: Stainless Steel
- **Valve Poppet**: Plastic / Nitrile
## R24, R25 Regulators – Miniature (Air / Water Service)

### Features
- Lightweight Plastic Body
- Constructed with a Combination of N.S.F. and F.D.A. Approved Materials
- Unbalanced Poppet Standard
- Non-rising, Push-to-lock Adjusting Knob
- Compact, 3.10 inch (79mm) high by 1.60 inch (41mm) wide
- Lightweight
- Diaphragm Operated

### Dimensions

#### R24, R25 Regulator Dimensions

<table>
<thead>
<tr>
<th>Port Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>1.60 (41)</td>
<td>1.60 (41)</td>
<td>2.61</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>0.49 (13)</td>
<td>3.10 (79)</td>
<td></td>
</tr>
</tbody>
</table>

#### Ordering Information

**R25** – **02** – **C**

**Series**
- R24  EPDM Elastomers (Water)
- R25  Buna Elastomers (Air)

**Port Size**
- 01  1/8 Inch
- 02  1/4 Inch

**Pressure Range**
- A  0 to 25 PSIG (0 to 2 bar)
- B  0 to 60 PSIG (0 to 4 bar)
- C  0 to 125 PSIG (0 to 8 bar)

**Relief**
- Blank
- Relieving
- K  Non-Relieving
- P  Panel Mount Nut

**NOTE:** 1.250 Dia. (31.8mm) hole required for panel mounting.
WARNING

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

CAUTION:

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

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

R24, R25 Regulator Kits and Accessories

Panel Mount Nut – Plastic ................................................. R05X51
Aluminum ................................................................. R05X51A
Mounting Bracket and Nut ...................................................... SA161X57

Service Kits – Relieving (Buna) ........................................ RKR25Y
Non-Relieving (Buna) .......................................................... RKR25KY
Relieving (EPDM) .......................................................... RKR24Y
Non-Relieving (EPDM) .................................................. RKR24KY

Springs – 0-25 PSIG Spring ........................................ SPR-375-1
0-60 PSIG Spring ............................................................... SPR-376
0-125 PSIG Spring .............................................................. SPR-377

Specifications

Gauge Ports (2) ................................................................. 1/8 Inch
(Can be used for full flow)
Pressure Rating – Maximum Inlet Pressure 150 PSIG .... (10.0 bar)
Port Threads ................................................................. 1/8, 1/4 Inch
Temperature Rating .................................................. -40°F to 125°F (4°C to 52°C)
Weight ................................................................. 0.25 lb. (0.11 kg)

Materials of Construction

Adjusting Screw ................................................................. Steel
Body ................................................................. Acetal
Bonnet and Seat ................................................................. Acetal
Diaphragm (R25) ................................................................. Buna N
Diaphragm (R24) ................................................................. EPDM
Seals (R25) ................................................................. Buna N
Seals (R24) ................................................................. EPDM
Springs ................................................................. Stainless Steel
Valve Poppet (R25) ................................................................. Buna N
Valve Poppet (R24) ................................................................. EPDM
R45, R46 Regulators – Miniature (Air / Water Service)

Features
- Lightweight Plastic Body
- Constructed with a Combination of N.S.F. and F.D.A. Approved Materials
- Unbalanced Poppet Standard
- Non-rising, Push-to-lock Adjusting Knob
- Compact, 3.43 inch (87.1mm) high by 2.06 inch (52.3mm) wide
- Lightweight
- Diaphragm Operated

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Air Service</th>
<th>Water Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Relieving</td>
<td>Non-Relieving</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td></td>
<td>R45-02C</td>
<td>R46-02CK</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td></td>
<td>R45-03C</td>
<td>R46-03CK</td>
</tr>
</tbody>
</table>

Bold Items are Most Popular.
For other models refer to ordering information below.

NOTE: 1.250 Dia. (31.8mm) hole required for panel mounting.

R45, R46 Regulator Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.06</td>
<td>2.06</td>
<td>2.90</td>
</tr>
<tr>
<td>(52)</td>
<td>(52)</td>
<td>(74)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.53</td>
<td>3.43</td>
</tr>
<tr>
<td>(14)</td>
<td>(87)</td>
</tr>
</tbody>
</table>

Inches (mm)

Ordering Information

R45 – 02 C

Series
- R45 Buna Elastomers (Air)
- R46 EPDM Elastomers (Water)

Port Size
- 02 1/4 Inch
- 03 3/8 Inch

Pressure Range
- A 0 to 25 PSIG (0 to 2 bar)
- B 0 to 60 PSIG (0 to 4 bar)
- C 0 to 125 PSIG (0 to 8 bar)

Relief
- Blank
- K Non-Relieving
- P Panel Mount Nut

For Water Service

BOLD ITEMS ARE MOST POPULAR.
Technical Information

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

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

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

---

**R45, R46 Regulator Kits and Accessories**
- **Panel Mount Nut** – Plastic .............................................. R05X51
  Aluminum .................................................. R05X51A
- **Mounting Bracket and Nut** .............................................. SA161X57
- **Service Kits** – Relieving .............................................. RKR45Y
  Non-Relieving .............................................. RKR45KY
- **Springs** – 0-25 PSIG Spring .............................................. SPR-46
  0-60 PSIG Spring .............................................. SPR-47
  0-125 PSIG Spring .............................................. SPR-48

**Specifications**
- **Gauge Ports (2)** .............................................. 1/4 Inch
  (Can be used for full flow)
- **Pressure Rating** – Maximum Inlet Pressure 150 PSIG ......(10.0 bar)
- **Port Threads** .............................................. 1/4, 3/8 Inch
- **Temperature Rating** .............................................. 40°F to 125°F (4°C to 52°C)
- **Weight** .............................................. 0.38 lb. (0.17 kg)

**Materials of Construction**
- **Adjusting Screw** .............................................. Steel
- **Body** .............................................. Acetal
- **Bonnet and Seat** .............................................. Acetal
- **Diaphragm (R45)** .............................................. Buna N
- **Diaphragm (R46)** .............................................. EPDM
- **Seals (R45)** .............................................. Buna N
- **Seals (R46)** .............................................. EPDM
- **Springs** .............................................. Stainless Steel
- **Valve Poppet (R45)** .............................................. Buna N
- **Valve Poppet (R46)** .............................................. EPDM
**R364, R374 Regulators – Miniature**

**Features**
- High Flow and High Sensitivity
- Constant Bleed Option for Semi-Precision Applications
- Can be Used for Water Service (Non-Relieving)
- Unbalanced Poppet Standard
- Diaphragm Operated for Fast Response
- Non-rising Adjusting Knob
- Stainless Steel Version Available (See Stainless Steel Section of Catalog)
- High Flow: 10 SCFM§ (Air)
  1.25 GPM (Water)

**Bold Items are Most Popular.**
For other models refer to ordering information below.

**NOTE:** 1.50 Dia. (31.8mm) hole required for panel mounting.

| SCFM = Standard cubic feet per minute at 100 PSIG inlet, 75 PSIG no flow secondary setting and 25% pressure drop. |

<table>
<thead>
<tr>
<th><strong>Port Size</strong></th>
<th><strong>NPT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brass</td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>R364-01C</td>
</tr>
<tr>
<td>1/4”</td>
<td>R364-02C</td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>R374-01C</td>
</tr>
<tr>
<td>1/4”</td>
<td>R374-02C</td>
</tr>
</tbody>
</table>

**Ordering Information**

<table>
<thead>
<tr>
<th><strong>Series</strong></th>
<th><strong>Port Threads</strong></th>
<th><strong>Reduced Pressure Range</strong></th>
<th><strong>Options</strong></th>
<th><strong>Pressure Preset Options</strong></th>
<th><strong>Engineering Change Designator</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>R364 Brass</td>
<td>— NPT G BSPP</td>
<td>A 0-25 PSIG</td>
<td>G Gauge</td>
<td>Blank</td>
<td>Will be entered at factory.</td>
</tr>
<tr>
<td>R374 Aluminum</td>
<td></td>
<td>B 0-60 PSIG</td>
<td>K Non-Relieving</td>
<td>No Options</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 0-125 PSIG</td>
<td>T Tamperproof</td>
<td>L† Preset Non-Adjustable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X64 Fluorocarbon O-Rings and Diaphragm</td>
<td>P† Preset Adj.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X42 Constant Bleed Innervalve</td>
<td>Q† Preset</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X21 High Flow Innervalve</td>
<td>S† Pressure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X10 Max. Pressure Limiting Adjusting Screw</td>
<td>T† Pressure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X82 Brass Spring Cage / Adjusting Screw</td>
<td>Blank None Pressure Limited</td>
<td></td>
</tr>
</tbody>
</table>

**Port Size**
- 01 1/8 Inch
- 02 1/4 Inch

**Pressure Preset Options**
- Blank
- No Options
- L† Preset Non-Adjustable
- P† Preset Adj.
- Q† Preset Tamperproof Adjustable
- S† Pressure Limiter Max. Adjustable
- T† Pressure Limiter Max. Non-Adj.

**Preset / Pressure Limited**
- Blank
- None
- XXX* Preset Pressure Limited

* Available Preset / Pressure Limited Range, 10 to 90 PSIG in 5 PSIG increments. For higher pressures, contact factory. (Example: 065 = 65 PSIG)

**NOTE:** Inlet Pressure is 100 PSIG. For other pressures, contact factory.
Technical Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauges</td>
<td>K515N18060</td>
</tr>
<tr>
<td>Mounting Bracket Kit</td>
<td>SA161X57</td>
</tr>
<tr>
<td>Panel Mount Nut</td>
<td>R05X51-P</td>
</tr>
<tr>
<td>Spring Cage &amp; Knob</td>
<td>CKR364Y</td>
</tr>
<tr>
<td>Spring Cage Kit (Tamperproof)</td>
<td>CKR364T</td>
</tr>
</tbody>
</table>

**WARNING**

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

**CAUTION:**

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

**R364, R374 Regulator Kits & Accessories**

- **Gauges** – 1-1/2" Dial Size, 1/8" Back Connection
  - 0 to 60 PSIG (0 to 400 kPa) ............... K4515N18060
  - 1-1/2" Dial Size, 1/8" Back Connection
    - 0 to 160 PSIG, (0 to 1100 kPa) ............ K4515N18160
- **Mounting Bracket Kit** (includes panel mount nut) – SA161X57
- **Panel Mount Nut** – Plastic .................. R05X51-P
  - Aluminum ..................................... R05X51-A
- **Spring Cage & Knob** ......................... CKR364Y
- **Spring Cage Kit (Tamperproof)** .......... CKR364T
- **Repair Kits** –
  - **Standard Nitrile**
    - Non-Relieving Diaphragm, Valve Assembly – RKR163Y
    - Relieving Diaphragm, Valve Assembly – RKR164Y
  - **Fluorocarbon**
    - Non-Relieving Diaphragm, Valve Assembly – RKR164KX64
    - Relieving Diaphragm, Valve Assembly – RKR164X64

**Specifications**

- **Gauge Ports (2)** .................................. 1/8 inch
- **Port Threads** .................................... 1/8, 1/4 inch
- **Primary Pressure Rating** ................... 2 to 125 PSIG (-15 to 8.5 bar)
- **Supply Pressure** ................................. 300 PSIG Maximum (20.4 bar)
- **Temperature Rating** ......................... 40°F to 125°F (4.4°C to 52°C)
- **Weight** –
  - Brass Body ......................................... 0.5 lb. (0.23 kg) / Unit
  - Aluminum Body .................................... 0.25 lb. (0.11 kg) / Unit
  - 25 lb. (11.34 kg) / 48-Unit Master Pack
  - 15 lb. (6.80 kg) / 48-Unit Master Pack

**Materials of Construction**

- **Adjusting Screw** ................................. Steel
- **Body** –
  - R364 .................................. Brass
  - R374 .................................. Aluminum
- **Springs** –
  - Adjusting ................................. Steel
  - Bottom .................................. Stainless Steel
- **Spring Cage** .................................. Acetal
- **Bottom Plug, Innerside, Diaphragm Button** .......................... Brass
### 14E Filter / Regulator – Miniature

**Features**
- Excellent Water Removal Efficiency
- Unbalanced Poppet Standard
- Solid Control Piston for Extended Life
- Space Saving Package Offers Both Filter and Regulator Features in One Integral Unit
- Non-rising Adjustment Knob
- Two Full Flow 1/8” Gauge Ports
- High Flow: 1/8” – 16 SCFM§
  1/4” – 18 SCFM§

**Port Options**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Poly Bowl†</th>
<th>Metal Bowl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>14E01B13F*</td>
<td>14E05B13F*</td>
<td>14E03B13F*</td>
</tr>
<tr>
<td>1/4”</td>
<td>14E11B13F*</td>
<td>14E15B13F*</td>
<td>14E13B13F*</td>
</tr>
</tbody>
</table>

**Pressure Range**

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>Without Gauge</th>
<th>With Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 30 PSIG</td>
<td>15 30 PSIG</td>
<td></td>
</tr>
<tr>
<td>11 60 PSIG</td>
<td>16 60 PSIG</td>
<td></td>
</tr>
<tr>
<td>12 15 PSIG</td>
<td>17 15 PSIG</td>
<td></td>
</tr>
<tr>
<td>13 125 PSIG</td>
<td>18 125 PSIG</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information**

**BOLD ITEMS ARE MOST POPULAR.**

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Elements</th>
<th>Relief</th>
<th>Port Type</th>
<th>Pressure Range</th>
<th>Engineering Level</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1/8 Inch</td>
<td>A 40 Micron</td>
<td>F Relieving G Non-Relieving H Low Temp. Relieving</td>
<td>Blank</td>
<td>10 30 PSIG</td>
<td>* Will be Entered at Factory</td>
<td>Blank</td>
</tr>
<tr>
<td>1 1/4 Inch</td>
<td>B 5 Micron</td>
<td>Z Adsorber</td>
<td>NPT</td>
<td>15 30 PSIG</td>
<td></td>
<td>No Options</td>
</tr>
</tbody>
</table>

**Engineering Level**

- * Will be Entered at Factory

**Preset / Pressure Limited**

- Blank None
- XXX* Preset Pressure
- XXX* Pressure Limited
- L† Preset (0 to 15 PSIG)
- P† Non-Adjustable
- S† Preset Adjustable
- T† Pressure Limiter Max.
- † available on XXX* Pressure Limited Range, 10 to 90 PSIG in 5 PSIG increments. For higher pressures contact factory.

**Spring Type by Preset / Limited Pressure:**
- For Preset / Limited Pressure 10 to 25 use 30 PSI Spring
- For Preset / Limited Pressure 26 to 50 use 60 PSI Spring
- For Preset / Limited Pressure 51 to 90 use 125 PSI Spring

---

† With Auto Drain

†† For polycarbonate bowl see Caution on page C2.

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

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NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

††† For the 14E Filter / Regulator 10 to 5 use 30 PSI Spring

††‡ For the 14E Filter / Regulator 6 to 50 use 60 PSI Spring

†††‡ For the 14E Filter / Regulator 51 to 90 use 125 PSI Spring

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Inches (mm)

---

Catalog 0305-2

Miniature 14E Series 1/8 & 1/4 Inch Ports
Technical Information

14E Filter / Regulator Kits & Accessories

Bowl Kits –
- Polycarbonate Bowl – Automatic Drain
- Metal Bowl – Automatic Drain
- Filter Element Kits
- Gauges
- Mounting Bracket Kit
- Poppet / Piston Kits
- Springs

Specifications

Automatic Pulse Drain Tube Barb
Bowl Capacity
Gauge Ports (2)
Port Threads

Pressure & Temperature Ratings –
- Standard Pressure
- Medium Pressure
- Low Pressure
- Polycarbonate Bowl
- Metal Bowl

Materials of Construction

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.

1/8 Inch Ports
1/4 Inch Ports

Secondary Pressure - bar
Secondary Pressure - PSIG
Rated Flow - SCFM
Flow - dm³/s

Relief And Flow Characteristics

14E11B13F
100 PSIG (6.9 bar) Primary Pressure

14E11B13F
100 PSIG (6.9 bar) Primary Pressure

Do not exceed maximum primary pressure rating.

<table>
<thead>
<tr>
<th>Secondary Pressure - bar</th>
<th>Rated Flow - SCFM</th>
<th>Flow - dm³/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>80</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

www.wattsfluidair.com
Pneumatic Division
Richland, Michigan

*Tighten panel mount nut 2.8 to 3.4 Nm (25 to 30 in-lbs) of torque.
B548 Filter / Regulator – Miniature

**Features**
- Excellent Water Removal Efficiency
- Unbalanced Poppet Standard
- Solid Control Piston for Extended Life
- Space Saving Package Offers Both Filter and Regulator Features in One Integral Unit
- Non-rising Adjustment Knob
- High Flow: 12 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Manual Twist Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly Bowl‡</td>
<td>1/8&quot;</td>
<td>B548-01AHC</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
<td>B548-02AHC</td>
</tr>
<tr>
<td>Metal Bowl without Sight Gauge</td>
<td>1/8&quot;</td>
<td>B548-01DHC</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
<td>B548-02DHC</td>
</tr>
</tbody>
</table>

Bold Items are Most Popular.
For other models refer to ordering information below.

**NOTE:** 1.218 Dia. (31mm) hole required for panel mounting.
‡ For polycarbonate bowl see Caution on page C2.
§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 75 PSIG no flow secondary setting and 25% pressure drop.

**Ordering Information**

<table>
<thead>
<tr>
<th>B</th>
<th>548</th>
<th>02</th>
<th>A</th>
<th>H</th>
<th>C</th>
<th>**</th>
</tr>
</thead>
</table>

**Port Threads**
- NPT
- G BSP

**Port Size**
- 01 1/8 Inch
- 02 1/4 Inch

**Bowl**
- A Polycarbonate Bowl
- D Metal without Sight Gauge

**Elements**
- G 5 Micron
- H 20 Micron

**Reduced Pressure Range**
- A 0-25 PSIG
- B 0-60 PSIG
- C 0-125 PSIG

**Options**
- G Gauge
- K Non-Relieving
- P Panel Mount (Plastic)
- S Automatic Pulse Drain
- T Tamperproof
- U Semi-Auto Drain
- X64 Fluorocarbon O-rings & Diaphragm
- X33 Polyurethane Bowl

**Engineering Change Designator**
- Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.
Technical Information

**WARNING**

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

**CAUTION:**

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

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

---

**B548 Filter / Regulator Kits & Accessories**

**Bowl Kits** –

- Zinc (D) ........................................ BK505Y
- Zinc with Automatic Pulse Drain (D) ...............BK505SY
- Polycarbonate (A) ..................................... BK504Y
- Polycarbonate with Automatic Pulse Drain (A) ....BK504SY

**Cage Kits** (All) .................................................. CKR36Y

**Drain Kits** –

- Automatic Pulse Drain (Maximum Pressure = 175 PSIG) .................................... RK50SY
- Semi-Automatic “Overnight” Drain ..................................SA60A7
  (Drains automatically under zero pressure)

**Filter Element Kits** –

- 0 Micron (All) .................................................. EK50Y
- 5 Micron (All) .................................................. EK504Y

**Gauges** –

- 1-1/2” Dial Size, 1/8” Back Connection
  0 to 60 PSIG (0 to 400 kPa) .................................. K4515N18060
- 1-1/2” Dial Size, 1/8” Back Connection
  0 to 160 PSIG (0 to 1100 kPa) .............................. K4515N18160

**Mounting Bracket Kit (Includes Plastic Panel Nut)** ........ SA161X57

**Panel Mount Nut** –

- Plastic ......................................................... R05X51-P
- Aluminum .................................................. R05X51-A

**Repair Kits** –

- Non-Relieving Diaphragm, Valve Assembly (All) .......RK548Y
- Relieving Diaphragm, Valve Assembly (All) ..............RK549Y

**Specifications**

- **Bowl Capacity** ........................................ 1 Ounce

---

**Gauge Ports (2) .............................................. 1/8 Inch

**Maximum Pressure** –

- Zinc Bowl (D) ............................................ 0 to 300 PSIG
- Polycarbonate Bowl (A) ................................. 0 to 150 PSIG

**Port Threads** .................................................. 1/4 Inch

**Reduced Pressure Range** –

- 0 to 25 PSIG ............................................. (0 to 1.7 bar) (A)
- 0 to 60 PSIG ............................................. (0 to 4.1 bar) (B)
- 2 to 125 PSIG ........................................... (0.15 to 8.5 bar) (C)

**Temperature Rating** ...................................... 40°F to 125°F (4.4°C to 52°C)

**Weight** –

- Zinc Bowl (D) ............................................ 0.6 lb. (0.27 kg) / Unit
- 12 lb. (5.44 kg) / 24-Unit Master Pack
- Polycarbonate Bowl (A) ................................. 0.3 lb. (0.14 kg) / Unit
- 6 lb. (2.72 kg) / 24-Unit Master Pack

**Materials of Construction**

**Adjusting Knob** ........................................... Acetal

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

**Bowls** –

- Polycarbonate (A) ......................................... Polycarbonate Metal (D) ......................... Zinc
- Zinc with Automatic Pulse Drain

**Elastomers** .................................................. Buna N

**Filter Element** ............................................ Sintered Polypropylene

**Filter Retainer, Vane Plate** ............................... Acetal

**Inner Valve, Diaphragm, Button, Drain** ............... Brass
04L Mist Lubricators – Miniature

Features

- Proportional Oil Delivery Over a Wide Range of Air Flows
- Precision Needle Valve Assures Repeatable Oil Delivery and Provides Simple Adjustment of Delivery Rate
- Ideal for Low and High Flow Applications with Changing Air Flow
- Transparent Sight Dome for 360° Visibility
- High Flow: 1/8” – 20 SCFM
  1/4” – 20 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Poly Bowl ‡</th>
<th>Metal Bowl without Sight Gauge</th>
<th>04L Lubricator Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twist Drain</td>
<td>No Drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>—</td>
<td>04L00G*</td>
<td>04L03G*</td>
<td>A †: 1.73 (44)</td>
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<tr>
<td>1/4&quot;</td>
<td>—</td>
<td>04L10G*</td>
<td>04L13G*</td>
<td>B: 1.56 (40)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C: 2.16 (55)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Blank</th>
<th>NPT</th>
<th>BSPP</th>
<th>BSPT</th>
</tr>
</thead>
</table>

Bold Items are Most Popular.
For other models refer to ordering information below.

‡ For polycarbonate bowl see Caution on page C2.
§ SCFM – Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

04L Series
1/8 & 1/4 Inch Ports

Ordering Information

[BOLD ITEMS ARE MOST POPULAR.]

Pneumatic Division
Richland, Michigan
www.wattsfluidair.com
04L Series Air Line Mist Lubricators

Technical Information

04L Mist Lubricator Kits & Accessories

Bowl Kits –
Poly Bowl –
No Drain ...................................................... PS421P
Twist Drain ................................................... PS420P
Metal Bowl –
Twist Drain (No Sight Gauge) ..................... PS447BP
Mounting Bracket Kit ..................................... PS419
Oil – 1 Gal..................................................... F442002
12 Quart Case ............................................... F442003
4 Gallon Case ............................................... F442005

Specifications
Bowl Capacity ............................................... 1 Ounce
Minimum Flow for Lubrication ................. 0.5 SCFM at 100 PSIG
Port Threads .................................................. 1/8, 1/4 Inch
Pressure & Temperature Ratings –
Polycarbonate Bowl ................................. 0 to 150 PSIG (0 to 10.3 bar)
32°F to 125°F (0°C to 52°C)
Metal Bowl .................................................. 0 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)

Suggested Lubricant – ........................................ F442 Oil
Petroleum based oil of 100 to 200 SUS viscosity at 100°F and an aniline point greater than 200°F
(Do not use oils with additives, compounded oils containing solvents, graphite, detergents, or synthetic oils.)

Weight ......................................................... 0.4 lb. (0.18 kg)

Materials of Construction
Body ................................................................. Zinc
Bowls – Transparent ...................................... Polycarbonate
Metal (without Sight Gauge) ....................... Zinc
Drains – Twist – Body & Nut ......................... Plastic
Seals ............................................................. Nitrile
Sight Dome .................................................. Polycarbonate
L508 Mist Lubricators – Miniature

Features
- Proportional Oil Delivery Over a Wide Range of Air Flows
- Precision Needle Valve Assures Repeatable Oil Delivery and Provides Simple Adjustment of Delivery Rate
- Ideal for Low and High Flow Applications with Changing Air Flow
- Polycarbonate Sight Dome for 360° Visibility
- High Flow: 1/8” – 20 SCFM, 1/4” – 20 SCFM

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT</th>
<th>Poly Bowl ‡</th>
<th>Metal Bowl without Sight Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>L508-01A</td>
<td>L508-01AX9</td>
<td>L508-01D</td>
</tr>
<tr>
<td>1/4”</td>
<td>L508-02A</td>
<td>L508-02AX9</td>
<td>L508-02D</td>
</tr>
</tbody>
</table>

Bold Items are Most Popular.
For other models refer to ordering information below.
‡ For polycarbonate bowl see Caution on page C2.
§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

Ordering Information

L508 — 01 A /**

Port Threads
- NPT
- G BSPP

Port Size
- 01 1/8 Inch
- 02 1/4 Inch

Bowl
- A Polycarbonate
- D Metal without Sight Gauge

Options
- Blank X9 NPT
- Manual Twist Drain
- X67 Mounting Bracket
- X33* Polyurethane Bowl

Engineering Change Designator
Will be Entered at Factory

BOLD ITEMS ARE MOST POPULAR.
L508 Mist Lubricator Kits & Accessories

Bowl Kits –
- Polycarbonate Bowl –
  No Drain .................................................. BK508Y
  Manual Twist Drain ..................................... BK504Y
- Metal Bowl –
  No Drain .................................................. BK509Y
  Manual Twist Drain (No Sight Gauge) .............. BK505Y

Mounting Bracket Kit .................. Must Be Ordered with Lubricator

Oil –
- 1 Gal.............................................. F442002
- 12 Quart Case ..................................... F442003
- 4 Gallon Case ..................................... F442005

Specifications

Bowl Capacity .................. 1 Ounce
Minimum Flow for Lubrication ............. 0.5 SCFM at 100 PSIG
Port Threads .................................. 1/8, 1/4 Inch
Pressure & Temperature Ratings –
- Polycarbonate Bowl –
  0 to 150 PSIG (0 to 10.3 bar)
  32°F to 125°F (0°C to 52°C)
- Metal Bowl –
  0 to 300 PSIG (0 to 20.4 bar)
  40°F to 150°F (4°C to 65.6°C)

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

Weight .................. 0.4 lb. (0.18 kg)

Materials of Construction

Body .......................................... Aluminum
Bowl –
- Polycarbonate ...................................... Polycarbonate
- Metal (Without Sight Gauge) ......................... Zinc
Drains –
- Manual Twist ........................................ Brass
Seals ........................................ Nitrile
Sight Dome ...................................... Polyurethane
Close Nippled Combinations – 14 Miniature Series

- See individual component pages for details.

Two-Unit Combo

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>14G</td>
<td>1/8”</td>
<td>14G01B13F0G*</td>
</tr>
<tr>
<td></td>
<td>1/4”</td>
<td>14G11B13F0G*</td>
</tr>
</tbody>
</table>

For other models, refer to ordering information on next page.
For polycarbonate bowl see Caution on page C2.

Three-Unit Combo

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>14A</td>
<td>1/8”</td>
<td>14A01B13F0G*</td>
</tr>
<tr>
<td></td>
<td>1/4”</td>
<td>14A11B13F0G*</td>
</tr>
</tbody>
</table>

For other models, refer to ordering information on next page.
For polycarbonate bowl see Caution on page C2.

Inches (mm)
Note: All dimensions nominal.
Close Nippled Combinations – 14 Miniature Series

Ordering Information

BOLD ITEMS ARE MOST POPULAR.

<table>
<thead>
<tr>
<th>Series</th>
<th>14A</th>
<th>1</th>
<th>1</th>
<th>B</th>
<th>13</th>
<th>F</th>
<th>0</th>
<th>G</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Size</td>
<td>0</td>
<td>1/8&quot;</td>
<td></td>
<td>1</td>
<td>1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Filter Bowl Options
  1 Manual Twist Drain
  5 Automatic
  3 Manual Twist Drain
  7 Automatic
| Regulator Pressure
  Without Gauge
  10 30 PSIG
  11 60 PSIG
  12 15 PSIG
  13 125 PSIG
  With Gauge
  15 30 PSIG
  16 60 PSIG
  17 15 PSIG
  18 125 PSIG
| Lubricator Bowl Options
  Poly Bowl
  0 No Drain
  1 Manual Twist Drain
  Metal Bowl
  3 Manual Twist Drain
| Engineering Change Designator
  Will be entered at factory.
| Lubricator Body Options
  G No Fill Plug

Filter Element
  A  40 Micron
  B  5 Micron

Note: All dimensions nominal.

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

Mounting Bracket Kits

PS417BP
(Includes Panel Mount Nut)

PS419

Dimensions

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.80 (46)</td>
<td>2.37 (60)</td>
<td>0.90 (23)</td>
<td>1.35 (34)</td>
<td>1.00 (25)</td>
<td>0.50 (13)</td>
<td>0.20 (5)</td>
<td>1.24 (31)</td>
<td>0.56 (14)</td>
<td>0.22 (6)</td>
<td>0.45 (11)</td>
<td>0.62 (16)</td>
<td>PS417BP (14F, 10F, 14R, 14E)</td>
</tr>
<tr>
<td>1.80 (46)</td>
<td>2.17 (55)</td>
<td>0.90 (23)</td>
<td>1.35 (34)</td>
<td>1.00 (25)</td>
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<td>0.20 (5)</td>
<td>1.24 (31)</td>
<td>0.56 (14)</td>
<td>0.22 (6)</td>
<td>0.45 (11)</td>
<td>0.62 (16)</td>
<td>PS419 (94L)</td>
</tr>
</tbody>
</table>

Inches (mm)
Note: All dimensions nominal.
Close Nippled Combinations – C528 Miniature Series

- See individual component pages for details.

Two-Unit Combo

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
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</thead>
<tbody>
<tr>
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<td>C528**BLAHCA</td>
</tr>
<tr>
<td></td>
<td>1/8&quot;, 1/4&quot;</td>
<td>C528**BLDHCD</td>
</tr>
</tbody>
</table>

** Port Size 01 = 1/8", 02 = 1/4".
For other models, refer to ordering information on next page.
For polycarbonate bowl see Caution on page C2.

Inches (mm)
Note: All dimensions nominal.

Three-Unit Combo

<table>
<thead>
<tr>
<th>Series</th>
<th>Port</th>
<th>Model Numbers</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1/8&quot;, 1/4&quot;</td>
<td>C528**FRLAHCA</td>
</tr>
<tr>
<td></td>
<td>1/8&quot;, 1/4&quot;</td>
<td>C528**FRLDHCD</td>
</tr>
</tbody>
</table>

** Port Size 01 = 1/8", 02 = 1/4".
For other models, refer to ordering information on next page.
For polycarbonate bowl see Caution on page C2.

Inches (mm)
Note: All dimensions nominal.
Close Nippled Combinations – C528 Miniature Series

Ordering Information

<table>
<thead>
<tr>
<th>C528</th>
<th>01</th>
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<th>A</th>
<th>H</th>
<th>C</th>
<th>A</th>
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<tbody>
<tr>
<td>Series</td>
<td>Combo Type</td>
<td>Element</td>
<td>Lubricator Bowl Options</td>
<td>Reduced Pressure Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C528</td>
<td>BL 2-Unit</td>
<td>G 5 Micron</td>
<td>A Polycarbonate</td>
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</tr>
<tr>
<td></td>
<td>FRL 3-Unit</td>
<td>H 20 Micron</td>
<td>D Zinc</td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td>A 0 - 25 PSIG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port Size</td>
<td>Filter Bowl Options</td>
<td></td>
<td>B 0 - 60 PSIG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 1/8”</td>
<td>A Polycarbonate</td>
<td></td>
<td>C 0 - 125 PSIG</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>02 1/4”</td>
<td>D Zinc</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

WARNING

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

CAUTION:

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

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

Mounting Bracket Kit

SA161X57
(Comes with R05X51-P Panel Nut)

Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
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<tbody>
<tr>
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<td>2.06 (53)</td>
<td>0.88 (22)</td>
<td>1.19 (30)</td>
<td>1.06 (27)</td>
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<td>0.44 (11)</td>
<td>1.22 (31)</td>
<td>0.53 (13)</td>
<td>0.22 (6)</td>
<td>0.19 (5)</td>
</tr>
</tbody>
</table>

Inches (mm)

Note: All dimensions nominal.
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 Watts valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Watts 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 Watts 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 Watts technical service departament if you have any questions or require any additional information. See the Watts publication for the product being considered or used, or call 269-629-5000, or go to www.wattsfluidair.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

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

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

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

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

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

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:
- Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
- Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.
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: Watts published Installation Instructions must be followed for installation of Watts valves, FRLs and vacuum components. These instructions are provided with every Watts valve or FRL sold, or by calling 269-629-5000, or at www.wattsfluidair.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 Watts valve and FRL sold, or are available by calling 269-629-5000, or by accessing the Watts web site at www.wattsfluidair.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.

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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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 and its customers 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 are exclusive of taxes, sales, use, property, occupational 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 therefore upon 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 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. Seller shall defend at its expense and will pay the cost of any settlement or damages awarded in an action brought 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 against Buyer 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, Seller 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 agency, fire, 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 other agreements expressly or consensually 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.