Pro Series Diaphragm and Piston Pumps

Ideal for General Industrial and OEM installation applications.

Non-Metallic and Metallic Diaphragm Pumps
Low-Ratio Piston Pumps
Specialty Pumps
Introducing the New High-Performance Pro’s: PD05, PD03

Unbalanced valve design eliminates valve centering and pump stall-out— even under low air inlet pressures.

“D” Valve
- Provides a positive seal.
- Helps insure optimum energy efficiency while avoiding costly air “blow-by.”
- Ceramic construction insures long service life.

“SimulShift™” Valve
- Provides an ultra-positive, reliable shift signal that avoids stall-out.
- Provides faster pump trip-over with more flow.
- Faster trip-over with less pulsation and superior laminar material flow.

Diaphragm Moving Right to Left

1.) The diaphragm pushes the right Actuator Pin (B) mechanically moving the SimulShift Valve (A) to the left.
2.) Compressed air flows to the large side of the SimulShift Valve, pneumatically moving the valve to the position shown.
3.) Compressed air also flows to the large end of the Major Air Valve (C), pneumatically shifting it to the left.

Diaphragm Moving from Left to Right

At end of stroke:
1.) Diaphragm pushes Pin (B) and SimulShift Valve (A) to the right.
2.) Large ends of SimulShift Valve (A) and Major Valve (C) are vented to exhaust pilot signal.
3.) Constant compressed air supply acting on the smaller areas of the SimulShift Valve and Major Valve shifts both valves to the right and holds them in position until the next cycle begins.
Big Delivery. High-Performance.
The best-selling 1/2-inch diaphragm pump in the world, just got better!

**Productivity**
Maximized flow rates + Minimized pulsation and air consumption = Maximum Performance

**Versatility**
Multiple porting options available along with interface options allow you to customize this pump specifically to your OEM application.

**Reliability**
Lube Free Patented Differential Valve both on Major air valve and Simulshift (Pilot Valve) provides reliable Worry Free Operation – Fluid On demand every time

**Environmentally Sound**
Bolted Construction in conjunction with a wide range of material options provides maximum chemical and leak resistance

**Serviceability**
Modular Construction, reduced parts count and simple to use repair kits will minimize repair time and cost

Don’t forget the other compelling reasons to use ARO Diaphragm Pumps: ARO Diaphragm pumps are simple to apply to your application because they are self priming and can be run at variable flows controlled by air pressure or fluid back pressure. They can handle materials that are abrasive and/or shear sensitive. They can also be run dry without damage to the pump.
# Numerical Index

## Pro-Series Pumps

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>104104-N02</td>
<td>Pump Speed Control</td>
<td>52</td>
</tr>
<tr>
<td>104104-N04</td>
<td>Pump Speed Control</td>
<td>52</td>
</tr>
<tr>
<td>104104-N06</td>
<td>Pump Speed Control</td>
<td>52</td>
</tr>
<tr>
<td>104255</td>
<td>Repair Kit</td>
<td>39</td>
</tr>
<tr>
<td>23644-400</td>
<td>Over Run Control</td>
<td>54</td>
</tr>
<tr>
<td>59916-1</td>
<td>Pneumatic Liquid Level Sensor</td>
<td>52</td>
</tr>
<tr>
<td>59916-2</td>
<td>Pneumatic Liquid Level Sensor</td>
<td>52</td>
</tr>
<tr>
<td>61113</td>
<td>Wall Mount</td>
<td>32, 34, 37, 54</td>
</tr>
<tr>
<td>612041-X</td>
<td>1:1 Ratio Piston Pump</td>
<td>32</td>
</tr>
<tr>
<td>612042-1</td>
<td>1:1 Ratio Piston Pump</td>
<td>32</td>
</tr>
<tr>
<td>61412</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>61879</td>
<td>Muffler</td>
<td>32, 54</td>
</tr>
<tr>
<td>62133</td>
<td>Wall Mount</td>
<td>24, 53</td>
</tr>
<tr>
<td>62274</td>
<td>Air Line Lubricant</td>
<td>54</td>
</tr>
<tr>
<td>635040</td>
<td>Over Run Control</td>
<td>54</td>
</tr>
<tr>
<td>637010</td>
<td>Fluid Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637010-4</td>
<td>Fluid Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637010-6</td>
<td>Fluid Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637081</td>
<td>Fluid Section Service Kit</td>
<td>32</td>
</tr>
<tr>
<td>637083</td>
<td>Fluid Section Service Kit</td>
<td>32</td>
</tr>
<tr>
<td>637084</td>
<td>Air Section Service Kit</td>
<td>32</td>
</tr>
<tr>
<td>637118-C</td>
<td>Air Section Service Kit</td>
<td>10, 12, 14, 22, 24</td>
</tr>
<tr>
<td>637119-XX-C</td>
<td>Fluid Section Service Kit</td>
<td>22</td>
</tr>
<tr>
<td>637123-XX</td>
<td>Fluid Section Service Kit</td>
<td>24</td>
</tr>
<tr>
<td>637161-XX-C</td>
<td>Fluid Section Service Kit</td>
<td>10</td>
</tr>
<tr>
<td>637165-XX</td>
<td>Fluid Section Service Kit</td>
<td>12, 14</td>
</tr>
<tr>
<td>637176</td>
<td>Fluid Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637224</td>
<td>Repair Kit</td>
<td>44</td>
</tr>
<tr>
<td>637226</td>
<td>Repair Kit</td>
<td>44</td>
</tr>
<tr>
<td>637227-B</td>
<td>Repair Kit</td>
<td>45, 46</td>
</tr>
<tr>
<td>637228</td>
<td>Fluid Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637316</td>
<td>Air Section Service Kit</td>
<td>37</td>
</tr>
<tr>
<td>637338</td>
<td>Air Section Service Kit</td>
<td>42</td>
</tr>
<tr>
<td>637339</td>
<td>Fluid Section Service Kit</td>
<td>42</td>
</tr>
<tr>
<td>637339-1</td>
<td>Fluid Section Service Kit</td>
<td>42</td>
</tr>
<tr>
<td>637427-XX</td>
<td>Repair Kit</td>
<td>4, 6, 8, 18, 20, 39</td>
</tr>
<tr>
<td>637428</td>
<td>Air Section Service Kit</td>
<td>4, 6, 8, 18, 20, 39</td>
</tr>
<tr>
<td>637434</td>
<td>Air Section Service Kit</td>
<td>26, 28</td>
</tr>
<tr>
<td>637438</td>
<td>Exhaust Muffler Kit</td>
<td>6, 8, 18, 20, 51</td>
</tr>
<tr>
<td>637377</td>
<td>Fluid Section Service Kit</td>
<td>34</td>
</tr>
<tr>
<td>637378-X31</td>
<td>Fluid Section Service Kit</td>
<td>34</td>
</tr>
<tr>
<td>637379-X31</td>
<td>Fluid Section Service Kit</td>
<td>34</td>
</tr>
<tr>
<td>637429-XX</td>
<td>Fluid Section Service Kit</td>
<td>4</td>
</tr>
<tr>
<td>637432-XX</td>
<td>Fluid Section Service Kit</td>
<td>26</td>
</tr>
<tr>
<td>637433-XX</td>
<td>Fluid Section Service Kit</td>
<td>28</td>
</tr>
<tr>
<td>637440-X</td>
<td>Dual Inlet/Outlet Kits</td>
<td>7</td>
</tr>
<tr>
<td>65109</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>651100</td>
<td>Pneumatic Material Agitator</td>
<td>53</td>
</tr>
<tr>
<td>651103</td>
<td>Pneumatic Material Agitator</td>
<td>53</td>
</tr>
<tr>
<td>651851</td>
<td>Drum Cover</td>
<td>54</td>
</tr>
<tr>
<td>66073-1</td>
<td>Air Line Connection Kit</td>
<td>4, 6, 8, 18, 20, 34, 37, 39, 44, 45, 46</td>
</tr>
<tr>
<td>66073-2</td>
<td>Air Line Connection Kit</td>
<td>10, 22</td>
</tr>
<tr>
<td>66084-1</td>
<td>Air Line Connection Kit</td>
<td>12, 14, 24</td>
</tr>
<tr>
<td>66100</td>
<td>Wall Mount</td>
<td>22, 53</td>
</tr>
<tr>
<td>66112</td>
<td>Air Line Connection Kit</td>
<td>26, 28</td>
</tr>
<tr>
<td>66333-B</td>
<td>Wet-Sol, Quart</td>
<td>54</td>
</tr>
<tr>
<td>66334-B</td>
<td>Wet-Sol, Gallon</td>
<td>54</td>
</tr>
<tr>
<td>6661AX-X-C</td>
<td>1&quot; Non-Metallic Pump</td>
<td>10</td>
</tr>
<tr>
<td>66610X-X-C</td>
<td>1&quot; Metallic Pump</td>
<td>22</td>
</tr>
<tr>
<td>6661TX-X-C</td>
<td>1-1/2&quot; Non-Metallic Pump</td>
<td>12</td>
</tr>
<tr>
<td>66615X-X-C</td>
<td>1-1/2&quot; Metallic Pump</td>
<td>24</td>
</tr>
<tr>
<td>6662AX-X-C</td>
<td>2&quot; Non-Metallic Pump</td>
<td>14</td>
</tr>
<tr>
<td>666250-X-C</td>
<td>2&quot; Metallic Pump</td>
<td>26</td>
</tr>
<tr>
<td>666300-X-C</td>
<td>3&quot; Metallic Pump</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>666779</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>66779-1</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>66779-2</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>66779-3</td>
<td>Siphon Tube</td>
<td>53</td>
</tr>
<tr>
<td>66971</td>
<td>Drum Cover</td>
<td>53</td>
</tr>
<tr>
<td>66975</td>
<td>Cycle Counter</td>
<td>51</td>
</tr>
<tr>
<td>67055-B</td>
<td>Drum Cover</td>
<td>53</td>
</tr>
<tr>
<td>67072</td>
<td>Countdown Batch Kit</td>
<td>51</td>
</tr>
<tr>
<td>67078</td>
<td>Flange Connection Kit</td>
<td>10</td>
</tr>
<tr>
<td>67079</td>
<td>Flange Connection Kit</td>
<td>12</td>
</tr>
<tr>
<td>67080</td>
<td>Flange Connection Kit</td>
<td>14</td>
</tr>
<tr>
<td>67142</td>
<td>Wall Mount</td>
<td>42, 53</td>
</tr>
<tr>
<td>67161-2</td>
<td>Mini-Batch Counter</td>
<td>52</td>
</tr>
<tr>
<td>67165-1</td>
<td>Solenoid Actuation Kit</td>
<td>52</td>
</tr>
<tr>
<td>67165-2</td>
<td>Solenoid Actuation Kit</td>
<td>52</td>
</tr>
<tr>
<td>67166-1</td>
<td>Solenoid Actuation Kit</td>
<td>52</td>
</tr>
<tr>
<td>67166-2</td>
<td>Solenoid Actuation Kit</td>
<td>52</td>
</tr>
<tr>
<td>67168</td>
<td>Cycle Sensor</td>
<td>51</td>
</tr>
<tr>
<td>67169</td>
<td>Cycle Sensor</td>
<td>51</td>
</tr>
<tr>
<td>67388</td>
<td>Wall Mount</td>
<td>4, 53</td>
</tr>
<tr>
<td>76763</td>
<td>Wall Mount</td>
<td>6, 8, 18, 20, 53</td>
</tr>
<tr>
<td>94422</td>
<td>Drum Cover</td>
<td>54</td>
</tr>
<tr>
<td>CBW</td>
<td>Connector</td>
<td>52</td>
</tr>
<tr>
<td>CHW</td>
<td>Connector</td>
<td>52</td>
</tr>
<tr>
<td>C28453-810</td>
<td>F-R-L Trios</td>
<td>47</td>
</tr>
<tr>
<td>C28463-810</td>
<td>F-R-L Trios</td>
<td>47</td>
</tr>
<tr>
<td>DAB05-X-X-X</td>
<td>Drum Pump Packages</td>
<td>38</td>
</tr>
<tr>
<td>H2545SS-024-D</td>
<td>Air Control Actuation Valve</td>
<td>38</td>
</tr>
<tr>
<td>H2545S-120-A</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>LP3001-1</td>
<td>Grease Package</td>
<td>46</td>
</tr>
<tr>
<td>LP3003-1</td>
<td>Grease Package</td>
<td>46</td>
</tr>
<tr>
<td>LP210X-1-B</td>
<td>Oil Packages</td>
<td>44</td>
</tr>
<tr>
<td>LP310X-1-B</td>
<td>Oil Packages</td>
<td>44</td>
</tr>
<tr>
<td>MO3728-024-D</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>MO3728-120-A</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>MO3728-242-D</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>MO3728-120-A</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>MO3728-046-D</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>MO3728-242-A</td>
<td>Air Control Actuation Valve</td>
<td>52</td>
</tr>
<tr>
<td>NI2202X-X1-X3</td>
<td>2.1 Ratio Piston Pump</td>
<td>34</td>
</tr>
<tr>
<td>NM2304A-X1-X11</td>
<td>4.1 Ratio Piston Pump</td>
<td>36</td>
</tr>
<tr>
<td>NM2304B-X1-X1X</td>
<td>4.1 Ratio Piston Pump</td>
<td>36</td>
</tr>
<tr>
<td>PD03P-X-X</td>
<td>3/8&quot; Non-Metallic Pump</td>
<td>4</td>
</tr>
<tr>
<td>PD05P-X-X-B</td>
<td>1/2&quot; Non-Metallic Pump</td>
<td>6</td>
</tr>
<tr>
<td>PD05X-X-B</td>
<td>1/2&quot; Metallic Pump</td>
<td>18</td>
</tr>
<tr>
<td>PD07P-XPS-PXX</td>
<td>3/4&quot; Non-Metallic Pump</td>
<td>8</td>
</tr>
<tr>
<td>PD07R-XAS-XXXX</td>
<td>3/4&quot; Metallic Pump</td>
<td>20</td>
</tr>
<tr>
<td>PE0XX-XXX-XXXX-XXXX</td>
<td>PE Series w/BS Specialty Code</td>
<td>51</td>
</tr>
<tr>
<td>PH10A-XSS-XXT</td>
<td>3.1 Ratio Dia. Pump</td>
<td>42</td>
</tr>
<tr>
<td>P237AX-EU</td>
<td>Centrifugal Pump</td>
<td>47</td>
</tr>
<tr>
<td>P32934-600</td>
<td>Filter-Regulator</td>
<td>42</td>
</tr>
<tr>
<td>P365A1-EU</td>
<td>Centrifugal Pump</td>
<td>47</td>
</tr>
<tr>
<td>66700X-XXX</td>
<td>Pulsation Damper</td>
<td>49</td>
</tr>
<tr>
<td>SB10X-X-X</td>
<td>Pulsation Damper</td>
<td>49</td>
</tr>
<tr>
<td>SB20X-X-X</td>
<td>Pulsation Damper</td>
<td>50</td>
</tr>
<tr>
<td>SB30X-X-X</td>
<td>Pulsation Damper</td>
<td>50</td>
</tr>
</tbody>
</table>
## Model Overview: Non-Metallic Models
### Pro-Series Pumps

<table>
<thead>
<tr>
<th>Model</th>
<th>3/8&quot;</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1-1/2&quot;</th>
<th>2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Flow GPM (LPM)</td>
<td>10.6 (40.1)</td>
<td>14.4 (54.5)</td>
<td>14.8 (56)</td>
<td>47 (178)</td>
<td>100 (378.5)</td>
<td>145 (548.8)</td>
</tr>
<tr>
<td>Maximum Discharge Pressure PSI (BAR)</td>
<td>100 (6.8)</td>
<td>100 (6.8)</td>
<td>100 (6.8)</td>
<td>120 (8.3)</td>
<td>120 (8.3)</td>
<td>120 (8.3)</td>
</tr>
<tr>
<td>Fluid Ports</td>
<td>3/8&quot; (F) - In/Out 1/2&quot; (F) - In/Out 3/4 - 14 N.P.T.F. - 1&quot; ANSI/DIN Flange 1-1/2&quot; ANSI/DIN Flange 2&quot; ANSI/DIN Flange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Weight lbs. (kg.)</td>
<td>4.2 (1.9)</td>
<td>4.3 (1.9)</td>
<td>4.5 (2.0)</td>
<td>4.6 (2.1)</td>
<td>3.4 (1.6)</td>
<td>3.5 (1.6)</td>
</tr>
<tr>
<td>6.3 (2.9)</td>
<td>6.7 (3.0)</td>
<td>6.8 (3.1)</td>
<td>7.2 (3.3)</td>
<td>5.2 (2.4)</td>
<td>5.4 (2.5)</td>
<td></td>
</tr>
<tr>
<td>20.3 (9.2) Poly 28.8 (13.1) Poly w/ Cast Iron Center</td>
<td>62 (28.1) Poly 85 (38.5) Poly w/ Cast Iron Center</td>
<td>62 (28.1) Poly 85 (38.5) Poly w/ Cast Iron Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Solids Inches (mm)</td>
<td>1/16 (1.6)</td>
<td>3/32 (2.4)</td>
<td>3/32 (2.4)</td>
<td>1/8 (3.2)</td>
<td>1/4 (6.4)</td>
<td>1/4 (6.4)</td>
</tr>
<tr>
<td>Best Selling Models (BSP Available)</td>
<td>PD03P-AKS-KTT</td>
<td>PD03P-APS-PAA</td>
<td>PD03P-APS-PTT</td>
<td>PD03P-ARS-PAA</td>
<td>PD03P-ARS-PTT</td>
<td></td>
</tr>
<tr>
<td>6661AF-344-C</td>
<td>6661AJ-3EB-C</td>
<td>6661B3-344-C</td>
<td>6661U3-344-C</td>
<td>6662B3-344-C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended Filter/Regulator</td>
<td>P39124-600</td>
<td>P39124-600</td>
<td>P39124-600</td>
<td>P39224-600</td>
<td>P39334-600</td>
<td>P39334-600</td>
</tr>
<tr>
<td>Air Line Kit</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-2</td>
<td>66084-1</td>
<td>66084-1</td>
</tr>
</tbody>
</table>
**3/8” Non-Metallic Models**

**Pro-Series Pumps**

### 3/8” Non-Metallic Performance Specifications

- **Ratio:** 1:1
- **Maximum Flow:** 10.6-g.p.m. (40.1-l.p.m.) 8.7 (32.9) Flex check
- **Displacement per cycle:** 0.022-Gallons (0.083-Liters) .013 (0.068) Flex check
- **Air Inlet:** (Female) 1/4 - 18 P.T.F. SAE Short
- **Fluid Inlet:** 3/8 - 18 N.P.T.F. - 1
  - Rp 3/8 (3/8 - 19 BSP, parallel)
- **Fluid Outlet:** 3/8 - 18 N.P.T.F. - 1
  - Rp 3/8 (3/8 - 19 BSP, parallel)
- **Max. operating pressure:** 100-psi (6.9-bar)
- **Suspended solids max. dia.:** 1/16-in. (1.6-mm) Flex check (Fibers)
- **Weight:** lbs (kg)
  - **PD03P-XDS-XXX** 4.2 (1.9)
  - **PD03P-XES-XXX** 4.3 (1.9)
  - **PD03P-XKS-XXX** 4.5 (2.0)
  - **PD03P-XLS-XXX** 4.6 (2.1)
  - **PD03P-XPS-XXX** 3.4 (1.6)
  - **PD03P-XRS-XXX** 3.5 (1.6)

**Maximum dry suction lift:** ft (m) 9.25 (2.8)

### Ordering Menu

<table>
<thead>
<tr>
<th>PX03</th>
<th>P</th>
<th>X</th>
<th>S</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Series</td>
<td>Center Section Material</td>
<td>Fluid Connection</td>
<td>Fluid Caps/Manifold Material</td>
<td>Hardware Material</td>
<td>Seat Material</td>
<td>Ball Material</td>
<td>Diaphragm Material</td>
</tr>
<tr>
<td>E Remote Actuation Capable</td>
<td>E Polypropylene</td>
<td>B 3/8” BSP</td>
<td>K PVDF</td>
<td>C Hytrel®</td>
<td>C Hytrel®</td>
<td>−− −−</td>
<td></td>
</tr>
</tbody>
</table>

*Flex check models.

### Accessories

**Air Line Connection Kit**
- **Kit No. 66073-1**
  - Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

**Exhaust Threaded Muffler Kit**
- **Kit No. 637438 3/8” NPT**

**Wall Mount Bracket Kit**
- **Kit No. 67388**

**Service Repair Kits**
- **Kit No. 637428 (air section)**
- **Kit No. 637429-XX (fluid section)**

*Please note pumps are not included with these kits.

**See options on page 51**

Hytrel®, Teflon® and Viton® are registered trademarks of the DuPont company.
Santoprene® is a registered trademark of Monsanto Company, licensed to Advanced Elastomer Systems, L.P.
3/8" Non-Metallic Dimensions and Flow Charts

3/8" Non-Metallic Dimensions and Flow Charts

Dimensions:

- **A**: 7-29/32" (200.2 mm)
- **B**: 8-7/16" (214.3 mm)
- **C**: 5-9/16" (141.3 mm)
- **D**: 1-1/4" (31.8 mm)
- **E**: 5-23/32" (145.2 mm)
- **F**: 4-7/8" (123.9 mm)
- **G**: 9-7/32" (242.2 mm)
- **H**: 4" (101.6 mm)
- **J**: 4-3/4" (120.7 mm)
- **K**: 9/32" (7.1 mm)

Air inlet 1/4 - 18 P.T.F. SAE Short

Exhaust Port 1/2 - 14 N.P.T.F. - 1

Model:
- **PD03P-AXS-XXX**: 3/8 - 18 N.P.T.F. - 1
- **PD03P-ßXS-XXX**: Rp 3/8 (3/8 - 19 BSP)

Model:
- **PD03P-AXS-XXX**: 3/8 - 18 N.P.T.F. - 1
- **PD03P-ßXS-XXX**: Rp 3/8 (3/8 - 19 BSP)

Dual Inlet/Outlet Kits:
- **637442-1**: (N.P.T. Poly)
- **637442-4**: (BSP Poly)
- **637442-3**: (N.P.T. PVDF)
- **637442-6**: (BSP PVDF)
- **637442-2**: (N.P.T. Acetal)
- **637442-5**: (BSP Acetal)

NOTE: Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 516-0747.
1/2" Non-Metallic Models
Pro-Series Pumps

1/2" Non-Metallic Performance Specifications
Ratio: 1:1
Maximum Flow: 14.4-g.p.m. (54.5-l.p.m.)
Displacement per cycle: .039-Gallons (15-Liters)
Air Inlet: (Female) 1/4 - 18 P.T.F. SAE Short
Fluid Inlet: 1/2 - 14 N.P.T.F. - 1 Rp 1/2 (1/2 -14 BSP, parallel)
Fluid Outlet: 1/2 - 14 N.P.T.F. - 1 Rp 1/2 (1/2 -14 BSP, parallel)
Max. operating pressure: 100-psi (6.8-bar)
Suspended solids max. dia.: 3/32" (2.4-mm)
Weight: lbs (kg) PD05P-XDS-XXX-B 6.3 (2.9)
               PD05P-XES-XXX-B 6.7 (3.0)
               PD05P-XKS-XXX-B 6.8 (3.1)
               PD05P-XLS-XXX-B 7.2 (3.3)
               PD05P-XPS-XXX-B 5.2 (2.4)
               PD05P-XRS-XXX-B 5.4 (2.5)
Max. dry suction lift: ft (m) 15.0 (4.5)

Ordering Menu

<table>
<thead>
<tr>
<th>PX05</th>
<th>P</th>
<th>X</th>
<th>X</th>
<th>S</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>BXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Series</td>
<td>Center Section Material</td>
<td>Fluid Connection</td>
<td>Fluid Caps/Manifold Material</td>
<td>Hardware Material</td>
<td>Seat Material</td>
<td>Ball Material</td>
<td>Diaphragm Material</td>
<td>Specialty Code</td>
</tr>
<tr>
<td>E Remote Actuation Capable</td>
<td></td>
<td>B 1/2&quot; BSP</td>
<td></td>
<td>K Acetal</td>
<td>K Hytrel*</td>
<td>C Hytrel*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E Groundable Acetal (multiple port)</td>
<td>P Polypropylene</td>
<td>S Stainless Steel</td>
<td>G Nitrile</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>K PVDF (single port)</td>
<td>S Stainless Steel</td>
<td></td>
<td>G Nitrile</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L PVDF (multiple port)</td>
<td>T PTFE (Teflon)</td>
<td></td>
<td>T PTFE (Teflon)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P Polypropylene (single port)</td>
<td>U Polyurethane</td>
<td></td>
<td>U Polyurethane</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R Polypropylene (multiple port)</td>
<td>V Viton</td>
<td></td>
<td>V Viton</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Hytrel replaces Nitrile producing superior chemical compatibility and diaphragm life

Accessories

Air Line Connection Kit* Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Exhaust Threaded Muffler Kit** Kit No. 637438

Service Repair Kits** Kit No. 637428 (air section)
Kit No. 637427-XX (fluid section)

Wall Mount| 76763

*Please note pumps are not included with these kits.
** See options on page 51
1/2" Non-Metallic Dimensions and Flow Charts

**DIMENSIONS**

A 8-27/32" (224.3 mm)  
B 1-1/16" (25.6 mm)  
C 6-1/4" (157.6 mm)  
D 2" (50.8 mm)  
E 6-23/32" (171.6 mm)  
F 6" (152.4 mm)  
G 10-7/8" (275.7 mm)  
H 4-7/8" (123.8 mm)  
J 5-1/2" (139.7 mm)  
K 5-1/4" (133.4 mm)  
L 1-9/16" (36.7 mm)  
M 3/8" (9.5 mm)

**Model**  
P005P-XXS-XXX-B  
P005P-XXS-XXX-B  
P005P-XXS-XXX-B  
P005P-XXS-XXX-B  
P005P-XXS-XXX-B  
P005P-XXS-XXX-B

**T** Material Inlet  
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 

**U** Material Outlet  
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 
1/2" N.P.T.F. - 

**NOTE:** Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 316-0747.

**Dual Inlet/Outlet Kits:**

- 637440-1 (N.P.T. Poly)  
- 637440-4 (BSP Poly)  
- 637440-2 (N.P.T. Acetal)  
- 637440-5 (BSP Acetal)  
- 637440-3 (N.P.T. PVDF)  
- 637440-6 (BSP PVDF)  

PE05P-APS-PAA-B0S  
with 637440-1 Kit
3/4" Non-Metallic Models
Pro-Series Pumps

3/4" Non-Metallic Performance Specifications

Ratio: 1:1
Maximum Flow: 14.8-g.p.m. (56-l.p.m.)
Displacement per cycle: .032-Gallons (0.12-Liters)
Air Inlet: (Female) 1/4 - 18 P.T.F. SAE Short
Fluid Inlet: 1/2 - 14 N.P.T.F. - 1
Fluid Outlet: 3/4 - 14 N.P.T.F.
Max. operating pressure: 100-psi (6.9-bar)
Suspended solids max. dia.: 3/32" (2.4-mm)
Weight: lbs (kg) 5.61 (2.54)
Maximum dry suction lift: ft (m) 15.0 (4.5)

Ordering Menu

<table>
<thead>
<tr>
<th>PD07</th>
<th>P</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Series</td>
<td>Coner Section Material</td>
<td>Fluid Connection</td>
</tr>
<tr>
<td>Standard</td>
<td>P Polypropylene</td>
<td>A 3/4&quot; N.P.T.</td>
</tr>
<tr>
<td></td>
<td>B 3/4&quot; BSP</td>
<td></td>
</tr>
<tr>
<td>Fluid Caps/ Manifold Material</td>
<td>Hardware Material</td>
<td>Seat Material</td>
</tr>
<tr>
<td>P Polypropylene (single port)</td>
<td>S Stainless Steel</td>
<td>P Polypropylene</td>
</tr>
<tr>
<td>Ball Material</td>
<td></td>
<td>A Santoprene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C Hytrel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T Teflon PTFE</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A Santoprene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C Hytrel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T Teflon PTFE</td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* | Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Muffler Kit | Kit No. 637438 (ported exhaust) 3/8" NPT

Service Repair Kits | Kit No. 637428 (air section)
Kit No. 637427-XX (fluid section)

Wall Mount | 76763

*Please note pumps are not included with these kits.
3/4" Non-Metallic Dimensions and Flow Charts

DIMENSIONS

A - 10" (254.2 mm)  F - 6-1/32" (153.1 mm)  L - 1-15/16" (48.9 mm)
B - 10-3/32" (256.1 mm)  G - 10-29/32" (276.8 mm)  M - 3/8" (9.6 mm)
C - 6-3/16" (157.1 mm)  H - 4-29/32" (124.2 mm)  N - 6-5/16" (160.5 mm)
D - 2" (51.0 mm)  J - 5-17/32" (140.2 mm)  P - 8-7/8" (225.3 mm)
E - 6-3/4" (171.0 mm)  K - 5/16" (8.0 mm)

Model  "Q" Material Inlet  "R" Material Outlet
PD07P-APS-PXX  3/4-14 N.P.T.F. - 1  3/4-14 N.P.T.F. - 1

NOTE: Dimensions are shown in inches and (mm) and are supplied for reference only.

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
1" Non-Metallic Models
Pro-Series Pumps

1" Non-Metallic Performance Specifications

Ratio: 1:1
Maximum Flow: 47-g.p.m. (177.9-l.p.m.)
Displacement per cycle: 0.17-Gallons (0.64-Liters)
Air Inlet: (Female) 1/4 - 18 N.P.T.
Fluid Inlet: 1 - 11-1/2 N.P.T. - 1
Rp 1 (1 - 11 BSP, parallel)
Rp 1 (1 - 11 BSP, parallel)
1" ANSI/DIN Flange
Fluid Outlet: 1 - 11-1/2 N.P.T. - 1
Rp 1 (1 - 11 BSP, parallel)
1" ANSI/DIN Flange
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/8-inch (3.2-mm)
Weight: lbs (kg)

6661A3-, 1AF-, 1AJ-, 1AL- 20.3 (9.2)
6661B3-, 1BF-, 1BJ-, 1BL- 28.8 (13.1)

Maximum dry suction lift: ft (m) 15 (4.6)

Ordering Menu

6661X

<table>
<thead>
<tr>
<th>Center Body</th>
<th>Fluid Caps/Manifold Material</th>
<th>Seat Material</th>
<th>Ball Check Material</th>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Aluminum</td>
<td>3 Polypropylene Flange (3-piece manifold)</td>
<td>2 316 Stainless Steel</td>
<td>3 Viton</td>
<td></td>
</tr>
<tr>
<td>B Cast Iron</td>
<td>F Polypropylene Flange (one-piece manifold)</td>
<td>3 Polypropylene</td>
<td>4 PTFE (Teflon)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J Polypropylene N.P.T. threads (one piece manifold)</td>
<td>8 Hard 400 Stainless Steel</td>
<td>8 Polyurethane</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L Polypropylene BSP threads (one-piece manifold)</td>
<td>A 316 Stainless Steel</td>
<td>A Hytrel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C Santoprene</td>
<td>E Santoprene</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>G Nitrile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* | Kit No. 66073-2
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits | Kit No. 637118-C (air section)
Kit No. 637161-XX-C (fluid section)

Flange Connection Kit | Kit No. 67078 (for 1" Non-Metallic Pumps)
For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 klinger synthetic fiber nitrile binder.

*Please note pumps are not included with these kits.
DIMENSIONAL DATA

Dimensions shown are for reference only, they are shown in inches and millimeters (mm).

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
1-1/2" Non-Metallic Models
Pro-Series Pumps

1-1/2" Non-Metallic Performance Specifications
Ratio: 1:1
Maximum Flow: 100-g.p.m. (378.5-l.p.m.)
Displacement per cycle: .67-Gallons (2.54-Liters)
Air Inlet: (Female) 1/2 - 14 N.P.T.F. - 1
Fluid Inlet: 1-1/2" A.N.S.I./DIN Flange
Fluid Outlet: 1-1/2" A.N.S.I./DIN Flange
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/4-in. (6.4-mm)
Weight: lbs (kg)

Note: Add 23-lbs (10.4-kg) for cast iron air motor section

Maximum dry suction lift: ft (m) 14 (4.27)

Ordering Menu

<table>
<thead>
<tr>
<th>6661X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Body</td>
<td>Fluid Caps/ Manifold Material</td>
<td>Seat Material</td>
<td>Ball Check Material</td>
</tr>
<tr>
<td>T  Aluminum</td>
<td>3 Polypropylene Flange (3-piece manifold)</td>
<td>2 316 Stainless Steel Polypropylene</td>
<td>3 Viton</td>
</tr>
<tr>
<td>U  Cast Iron</td>
<td>3 Polypropylene</td>
<td>3 Polypropylene</td>
<td>4 PTFE (Teflon)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Hard 400 Stainless Steel</td>
<td>8 Polyurethane</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C Hytrel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E Santoprene</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>G Nitrile</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Viton</td>
</tr>
<tr>
<td>4 PTFE (Teflon) / Santoprene</td>
</tr>
<tr>
<td>9 Hytrel</td>
</tr>
<tr>
<td>B Santoprene</td>
</tr>
<tr>
<td>G Nitrile</td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* Kit No. 66084-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits Kit No. 637118-C (air section)
Kit No. 637165-XX (fluid section)

Flange Connection Kit Kit No. 67079 (for 1-1/2" Non-Metallic Pumps)
For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 klinger synthetic fiber nitrile binder.

*Please note pumps are not included with these kits.
1-1/2" Non-Metallic Dimensions and Flow Charts

All dimensions are given in inches and millimeters (mm):

- 11-11/16" (297 mm)
- 11-9/16" (294 mm)
- 10-1/32" (255 mm)
- 8-11/16" (220 mm)
- 1-13/32" (24 mm)
- 24-5/8" (625 mm)

Air exhaust thread 3/4 - 14 N.P.T.F - 1

1-1/2" A.N.S.I. Flange

19-23/32" (501 mm) Bolt Circle

3-3/8" (83 mm)

3-9/32" (88 mm)

14-15/16" (379 mm)

3-3/8" (88 mm)

5/8" (16 mm)

21-15/32" (544 mm)

Performance based on water at 60°F and 14.7 PSIA

Performance based on air at 60°F and 14.7 PSIA

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 316-0747
2" Non-Metallic Models
Pro-Series Pumps

2" Non-Metallic Performance Specifications
Ratio: 1:1
Maximum Flow: 145-g.p.m. (548.8-l.p.m.)
Displacement per cycle: 0.72-Gallons (2.7-Liters)
Air Inlet: (Female) 1/2 - 14 N.P.T.F. - 1
Fluid Inlet: 2" A.N.S.I./DIN Flange
Fluid Outlet: 2" A.N.S.I./DIN Flange
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/4-in. (6.4-mm)
Weight: lbs (kg)

6662A3-X-C 62 (28.1)
6662A4-X-C 92 (41.7)

Note: Add 23-lbs (10.4-kg) for cast iron air motor section

Maximum dry suction lift: ft (m) 14 (4.27)

Ordering Menu

<table>
<thead>
<tr>
<th>6662X</th>
<th>X</th>
<th>-</th>
<th>X</th>
</tr>
</thead>
</table>

Center Body
A Aluminum
B Cast Iron

Fluid Caps/Manifold Material
3 Polypropylene Flange (3-piece manifold)

Seat Material
2 316 Stainless Steel
3 Polypropylene
4 PTFE (Teflon)
8 400 Stainless Steel

Ball Check Material
3 Viton
4 PTFE (Teflon)
8 Polyurethane
C Hytrel
E Santoprene
G Nitrile

Diaphragm Material
3 Viton
4 PTFE (Teflon) / Santoprene
8 Hytrel
B Santoprene
G Nitrile

Accessories
Air Line Connection Kit* Kit No. 66084-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits| Kit No. 637118-C (air section)
Kit No. 637165-XX (fluid section)

Flange Connection Kit| Kit No. 67080 (for 2" Non-Metallic Pumps)
For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 klinger synthetic fiber nitrile binder.

*Please note, pumps are not included with these kits.
2" Non-Metallic Dimensions and Flow Charts

All dimensions are given in inches and millimeters (mm).

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 316-0747
Introducing the New High-Performance Compact: PD05, PD03, PD07: Aro’s new Pro Series family has all new members at both ends of the delivery spectrum. In the low-to-medium flow range, we offer our new PD05 (1/2”) and PD03 (3/8”) models. Featuring our patented air valve technology, including SimulShift and D-Valve designs, users are assured of stall-free operation, with optimum energy efficiency. These pumps also feature fluid deliveries previously unavailable in port sizes like these: 14.4 GPM (1/2”) and 10.4 (3/8”)...that’s impressive delivery in a small package! ARO pioneered the 1/2”, high-demand, low-maintenance diaphragm pump in the eighties - now it’s time to step it up-with the new Pro PD0s.

Introducing the New High-Flow Pro’s: 66622XX and 66633XX: At the far end of the fluid delivery spectrum, the new ARO Pro Series 2” and 3” port models feature Aro’s patented “Unbalanced”, stall-free air valve design and bolted construction for leak-tight integrity. With maximum delivery rates of 172 GPM (2”) and 237 GPM (3”), the new high-flow Pros are the ideal answer to big volume applications - where performance with economy are a must.

**Value Proposition**

**Pro-Series Pumps**

1. **“Unbalanced” Major Air Valve**
   - Unbalanced valve design eliminates valve centering and pump stall-out, even under low air inlet pressures.
   - “O” Ring seals prevent waste of expensive compressed air. Air flow stops when fluid flow stops.
   - Maintenance is simple: just replace the worn “O” Rings and “U” Cups.

2. **Independent Pilot Rod**
   - Utilizes pneumatics and mechanical action to shift Pilot Rod. Ensures positive pilot signal, avoiding stall-out.

3. **Broad Material Selection**
   - Options allow you to optimize compatibility between the pump and fluid being moved.
   - Non-Metallic Diaphragm Pumps are available in polypropylene, PVDF and groundable acetal. Check models for availability.
   - Metallic Diaphragm Pumps are available in aluminum, stainless steel and cast iron. Check models for availability.

4. **Diaphragm/Ball Check Options**
   - Fit your pump with the diaphragms and ball checks needed to maximize fluid compatibility and abrasion resistance.

**ARO Diaphragm Pumps: Keys to ARO Air Motor Technology**

**[1] “Unbalanced” Major Air Valve**
- Unbalanced valve design eliminates valve centering and pump stall-out, even under low air inlet pressures.
- “O” Ring seals prevent waste of expensive compressed air. Air flow stops when fluid flow stops.
- Maintenance is simple: just replace the worn “O” Rings and “U” Cups.

**[2] Independent Pilot Rod**
- Utilizes pneumatics and mechanical action to shift Pilot Rod. Ensures positive pilot signal, avoiding stall-out.

**[3] Broad Material Selection**
- Options allow you to optimize compatibility between the pump and fluid being moved.
- Non-Metallic Diaphragm Pumps are available in polypropylene, PVDF and groundable acetal. Check models for availability.
- Metallic Diaphragm Pumps are available in aluminum, stainless steel and cast iron. Check models for availability.

**[4] Diaphragm/Ball Check Options**
- Fit your pump with the diaphragms and ball checks needed to maximize fluid compatibility and abrasion resistance.
## Model Overview: Metallic Models

### Pro-Series Pumps

<table>
<thead>
<tr>
<th>MODEL</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1-1/2&quot;</th>
<th>2&quot;</th>
<th>3&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Flow GPM (LPM)</td>
<td>12 (45.4)</td>
<td>13.6 (51.5)</td>
<td>35</td>
<td>90 (340.7)</td>
<td>172</td>
<td>237</td>
</tr>
<tr>
<td>Maximum Discharge PSI (BAR)</td>
<td>100</td>
<td>100</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Fluid Ports Inlet/Outlet</td>
<td>1/2&quot; (F) - In/Out</td>
<td>3/4 - 14 NPTF-2 Rp 3/4(3/4-14BSP, parallel)</td>
<td>1&quot; (F) - In/Out</td>
<td>1-1/2&quot; (F) In/Out</td>
<td>2&quot; (F) In/Out</td>
<td>3&quot; (F) In/Out</td>
</tr>
<tr>
<td>Materials of Construction</td>
<td>Aluminum</td>
<td>Aluminum</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
<td>Aluminum</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Pump Weight Lbs. (Kg.)</td>
<td>10.4 (4.7) PD05A-XAS-X-B</td>
<td>19 (8.6) Aluminum*</td>
<td>51.5 (23.4) Aluminum*</td>
<td>65.2 (29.6)</td>
<td>109.8 (49.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.6 (7.5) PD05A-XSS-X-B</td>
<td>36 (16.3) Stainless</td>
<td>84.5 (38.3) Stainless</td>
<td>129.9 (58.9)</td>
<td>221.2 (100.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.0 (3.7) PD05R-XAS-X-B</td>
<td>31 (14.1) Cast Iron*</td>
<td>79.5 (36.1) Cast Iron*</td>
<td>124.3 (56.4)</td>
<td>213.1 (96.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.3 (6.5) PD05R-XSS-X-B</td>
<td></td>
<td></td>
<td>*add 8-lb(3.63-kg) for cast iron center section</td>
<td>*add 23-lb(10.4-kg) for cast iron center section</td>
<td></td>
</tr>
<tr>
<td>Maximum Solids Inches (mm)</td>
<td>3/32 (2.4)</td>
<td>3/32 (2.4)</td>
<td>1/8 (3.2)</td>
<td>1/4 (6.4)</td>
<td>1/4 (6.4)</td>
<td>3/8 (9.5)</td>
</tr>
<tr>
<td>Best Selling Models (BSP Available)</td>
<td>PD05P-AAS-FAA</td>
<td>PD07R-AAS-FAA</td>
<td>666100-122-C</td>
<td>666150-361-C</td>
<td>666250-EEB-C</td>
<td>666300-EEB-C</td>
</tr>
<tr>
<td></td>
<td>PD05P-AAS-FTT</td>
<td>PD07R-AAS-PAA</td>
<td>666100-144-C</td>
<td>666150-362-C</td>
<td>666250-144-C</td>
<td>666300-144-C</td>
</tr>
<tr>
<td></td>
<td>PD05P-AAS-PGG</td>
<td>PD07R-AAS-FTT</td>
<td>666101-244-C</td>
<td>666150-3EB-C</td>
<td>666250-9C9-C</td>
<td>666300-9C9-C</td>
</tr>
<tr>
<td></td>
<td>PD05P-AAS-PTT</td>
<td>PD07R-AAS-PFF</td>
<td>666102-3EB-C</td>
<td>666151-244-C</td>
<td>666152-2EB-C</td>
<td></td>
</tr>
<tr>
<td>Recommended Filter/Regulator</td>
<td>P39124-600</td>
<td>P39124-600</td>
<td>P39224-600</td>
<td>P39334-600</td>
<td>P39334-600</td>
<td>P39334-600</td>
</tr>
<tr>
<td>Air Line Kit</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-2</td>
<td>66084-1</td>
<td>66312</td>
<td>66312</td>
</tr>
</tbody>
</table>
1/2" Metallic Models
Pro-Series Pumps

1/2" Metallic Performance Specifications
Ratio: 1:1
Maximum Flow: 12.0-g.p.m. (45.4-l.p.m.)
Displacement per cycle: 0.039-Gallons (0.15-Liters)
Air Inlet: (Female) 1/4 - 18 P.T.F. SAE Short (PD05R-X-X-B models)
1/4 - 18 N.P.T.F. - 1 (PD05A-X-X-B models)
Fluid Inlet: 1/2 - 14 N.P.T.F. - 1
Fluid Outlet: 1/2 - 14 N.P.T.F. - 1
Max. operating pressure: 100-psi (6.9-bar)
Suspended solids max. dia.: 3/32-in. (2.4-mm)
Weight: lbs (kg)

<table>
<thead>
<tr>
<th>Kit No.</th>
<th>PD05A-XAS-XXX-B</th>
<th>10.4 (4.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PD05A-XSS-XXX-B</td>
<td>16.6 (7.5)</td>
</tr>
<tr>
<td></td>
<td>PD05R-XAS-XXX-B</td>
<td>8.0 (3.7)</td>
</tr>
<tr>
<td></td>
<td>PD05R-XSS-XXX-B</td>
<td>14.3 (6.5)</td>
</tr>
</tbody>
</table>

Maximum dry suction lift: 15 (4.5)

Ordering Menu

| PX05 | X | X | X | S | - | X | X | X | BXX |

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Center Section Material</th>
<th>Fluid Connection</th>
<th>Fluid Caps/Manifold Material</th>
<th>Hardware Material</th>
<th>Seat Material</th>
<th>Ball Material</th>
<th>Diaphragm Material</th>
<th>Specialty Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Remote Actuation Capable</td>
<td>R Polypropylene</td>
<td>B 1/2&quot; BSP</td>
<td>Stainless Steel</td>
<td>P Polypropylene</td>
<td>C Hytrel</td>
<td>C Hytrel</td>
<td>BQS Remote Actuation Capable**</td>
<td></td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* | Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Exhaust Threaded Muffler Kit | Kit No. 637438

Service Repair Kits | Kit No. 637428 (air section)
Kit No. 637427-XX (fluid section)

Wall Mount | 76763

* Please note pumps are not included with these kits.
** See options on page 51.
1/2" Metallic Dimensions and Flow Charts

DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>PD05A-XXX-XXX-B</th>
<th>PD05R-XXX-XXX-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 8-1/8&quot;</td>
<td>8-3/32&quot; (205.5 mm)</td>
<td>6-23/32&quot; (170.6 mm)</td>
</tr>
<tr>
<td>B 11-1/16&quot;</td>
<td>11-3/4&quot; (297.9 mm)</td>
<td>11-21/32&quot; (296.0 mm)</td>
</tr>
<tr>
<td>C 6-1/8&quot;</td>
<td>4-51/64&quot; (109.3 mm)</td>
<td>3-27/32&quot; (87.4 mm)</td>
</tr>
<tr>
<td>D 2&quot;</td>
<td>8-7/32&quot; (208.5 mm)</td>
<td>7-11/16&quot; (194.4 mm)</td>
</tr>
</tbody>
</table>

NOTE: Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
### 3/4" Metallic Performance Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio</td>
<td>1:1</td>
</tr>
<tr>
<td>Maximum Flow</td>
<td>13.6-g.p.m. (51.5-l.p.m.)</td>
</tr>
<tr>
<td>Displacement per cycle</td>
<td>.030-Gallons (0.11-Liters)</td>
</tr>
<tr>
<td>Air Inlet (Female)</td>
<td>1/4 - 18 P.T.F. SAE Short</td>
</tr>
<tr>
<td>Fluid Inlet</td>
<td>3/4 - 14 N.P.T.F.-2</td>
</tr>
<tr>
<td>Fluid Outlet</td>
<td>Rp 3/4 (3/4 -14 BSP, parallel)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>100-psi (6.9-bar)</td>
</tr>
<tr>
<td>Suspended solids max. dia.</td>
<td>3/32&quot; (2.4-mm)</td>
</tr>
<tr>
<td>Weight (lbs (kg))</td>
<td>8.74 (3.96)</td>
</tr>
<tr>
<td>Maximum dry suction lift (ft (m))</td>
<td>15 (4.5)</td>
</tr>
</tbody>
</table>

### Ordering Menu

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Center Section Material</th>
<th>Fluid Connection</th>
<th>Fluid Caps/Manifold Material</th>
<th>Hardware Material</th>
<th>Seat Material</th>
<th>Ball Material</th>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B 3/4&quot; BSP</td>
<td></td>
<td></td>
<td>C Hytrel®</td>
<td>C Hytrel®</td>
<td>C Hytrel®</td>
</tr>
</tbody>
</table>

### Accessories

- **Air Line Connection Kit**<sup>1</sup> Kit No. 66073-1
  Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

- **Muffler Kit** Kit No. 637438 (ported exhaust)

- **Service Repair Kits** Kit No. 637428 (air section)
  Kit No. 637427-XX (fluid section)

- **Wall Mount** 76763

<sup>1</sup>Please note pumps are not included with these kits.
3/4" Metallic Dimensions and Flow Charts

DIMENSIONS

Model: PD07R-AAS-PXX
Material Inlet: 3/4-14 N.P.T.F. - 2
Material Outlet: 3/4-14 N.P.T.F. - 2

NOTE: Dimensions are shown in inches and (mm) and are supplied for reference only.

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747.
1" Metallic Models
Pro-Series Pumps

1" Metallic Performance Specifications

Ratio: 1:1
Maximum Flow: 35-g.p.m. (133-l.p.m.)
Displacement per cycle: 0.16-Gallons (0.60-Liters)
Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
Fluid Inlet: 1 - 11-1/2 N.P.T.F. - 1
Fluid Outlet: 1 - 11-1/2 N.P.T.F. - 1
Rp 1 (1-11 BSP parallel)

Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/8-in. (3.2-mm)
Weight: lbs (kg)

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>666100-X-C (aluminum)</td>
<td>19 (8.6)</td>
<td></td>
</tr>
<tr>
<td>666101-X-C (stainless steel)</td>
<td>36 (16.3)</td>
<td></td>
</tr>
<tr>
<td>666102-X-C (cast iron)</td>
<td>31 (14.1)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Add 8-lbs (3.63-kg) for cast iron air motor section

Maximum dry suction lift: ft (m) 20 (6.1)

Ordering Menu

6661X

<table>
<thead>
<tr>
<th>Center Body/Threads</th>
<th>Fluid Caps/Manifold Material</th>
<th>Seat Material</th>
<th>Ball Check Material</th>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Aluminum, N.P.T.F.</td>
<td>0 Aluminum (steel hardware)</td>
<td>1 Aluminum</td>
<td>3 Viton</td>
<td>3 Viton</td>
</tr>
<tr>
<td>1 Cast Iron, N.P.T.F.</td>
<td>1 Stainless Steel (steel hardware)</td>
<td>2 316 Stainless Steel</td>
<td>4 PTFE (Teflon)</td>
<td>4 PTFE (Teflon) / Santoprene</td>
</tr>
<tr>
<td>2 Aluminum, BSP</td>
<td>2 Cast Iron (steel hardware)</td>
<td>3 Polypropylene</td>
<td>8 Polyurethane</td>
<td>A Stainless Steel</td>
</tr>
<tr>
<td>3 Cast Iron, BSP</td>
<td>9 Stainless Steel, dual outlet (steel hardware)</td>
<td>5 Carbon Steel</td>
<td>C Hytrel</td>
<td>C Hytrel</td>
</tr>
<tr>
<td></td>
<td>A Aluminum, (stainless hardware)</td>
<td>8 Hard 400 Stainless Steel</td>
<td>E Santoprene</td>
<td>E Santoprene</td>
</tr>
<tr>
<td></td>
<td>B Stainless Steel (stainless hardware)</td>
<td></td>
<td>G Nitrile</td>
<td>G Nitrile</td>
</tr>
<tr>
<td></td>
<td>C Cast Iron (stainless hardware)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D Stainless Steel, dual outlet (stainless hardware)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* Kit No. 66073-2
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits
Kit No. 637118-C (air section)
Kit No. 637119-XX-C (fluid section)

Wall Mount 66100

*Please note pumps are not included with these kits.
1" Metallic Dimensions and Flow Charts

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
1-1/2” Metallic Models
Pro-Series Pumps

1-1/2” Metallic Performance Specifications

Ratio: 1:1
Maximum Flow: 90-g.p.m. (340.7-l.p.m.)
Displacement per cycle: 0.64-Gallons (2.42-Liters)
Air Inlet: (Female) 1/2 - 14 N.P.T.F. - 1
Fluid Inlet: 1-1/2 11-1/2 N.P.T.F. - 1
Rp 1-1/2 (1-1/2 - 11 BSP parallel)
Fluid Outlet: 1-1/2 11-1/2 N.P.T.F. - 1
Rp 1-1/2 (1-1/2 - 11 BSP parallel)
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/4-inch (6.4-mm)

Weight: lbs (kg)
   666150-X-C (aluminum) 51.5 (23.4)
   666151-X-C (stainless steel) 84.5 (38.3)
   666152-X-C (cast iron) 79.5 (36.1)

Note: Add 23-lbs (10.4-kg) for cast iron air motor section

Maximum dry suction lift: ft (m) 19 (5.8)

Ordering Menu

6661X

<table>
<thead>
<tr>
<th>Center Body/Threads</th>
<th>Fluid Caps/Manifold Material</th>
<th>Seat Material</th>
<th>Ball Check Material</th>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Aluminum, N.P.T.F.</td>
<td>0 Aluminum (steel hardware)</td>
<td>1 Aluminum</td>
<td>3 Viton</td>
<td>3 Viton</td>
</tr>
<tr>
<td>6 Cast Iron, N.P.T.F.</td>
<td>1 Stainless Steel (steel hardware)</td>
<td>2 316 Stainless Steel</td>
<td>4 PTFE (Teflon)</td>
<td>4 PTFE (Teflon) / Santoprene</td>
</tr>
<tr>
<td>7 Aluminum, BSP</td>
<td>2 Cast Iron (steel hardware)</td>
<td>3 Polypropylene</td>
<td>8 Polyurethane</td>
<td>9 Hytrel</td>
</tr>
<tr>
<td>8 Cast Iron, BSP</td>
<td>A Aluminum, (stainless hardware)</td>
<td>4 PVDF</td>
<td>A Stainless Steel</td>
<td>B Santoprene</td>
</tr>
<tr>
<td></td>
<td>B Stainless Steel (stainless hardware)</td>
<td>5 Carbon Steel</td>
<td>C Hytrel</td>
<td>G Nitrile</td>
</tr>
<tr>
<td></td>
<td>C Cast Iron (stainless hardware)</td>
<td>8 400 Stainless Steel</td>
<td>E Santoprene</td>
<td></td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* Kit No. 66284-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits| Kit No. 637118-C (air section)
Kit No. 637124-XX (fluid section)

Wall Mount| 62133

*Please note, pumps are not included with these Kits.
1-1/2" Metallic Dimensions and Flow Charts

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
2" Metallic Performance Specifications

Ratio: 1:1
Maximum Flow: 172-g.p.m. (651-l.p.m.)
Displacement per cycle: 1.4-Gallons (5.3-Liters)
Air Inlet: (Female) 3/4 - 14 N.P.T.F. - 1
Fluid Inlet: 2 - 11-1/2 N.P.T.F. - 1
Fluid Outlet: 2 - 11-1/2 N.P.T.F. - 1
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 1/4-in. (6.4-mm)
Weight: lbs (kg)

| 6662X0-XXX-C | 65.2 (29.6) |
| 6662X1-XXX-C | 129.9 (58.9) |
| 6662X2-XXX-C | 124.3 (58.9) |

Maximum dry suction lift: ft (m) 27.2 (8.3)

Ordering Menu

| 6662X | X | - | X | X | X | - | C |

Center Body/Threads
5 Aluminum, N.P.T.F.
7 Aluminum, BSP

Fluid Caps/Manifold Material
0 Aluminum (steel hardware)
1 Stainless steel (steel hardware)
2 Cast iron (steel hardware)

Seat Material
1 Aluminum
9 Hytrel
E Santoprene
G Nitrile

Ball Check Material
4 PTFE (Teflon)
C Hytrel
E Santoprene
G Nitrile

Diaphragm Material
4 PTFE (Teflon) / Santoprene
9 Hytrel
B Santoprene
G Nitrile

Accessories

Air Line Connection Kit* Kit No. 66312
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits| Kit No. 637434 (air section)
Kit No. 637432-XX (fluid section)

*Please note pumps are not included with these kits.
2" Metallic Dimensions and Flow Charts

---

**PERFORMANCE CURVES**

- **64420LXXX-C / 64421LXXX-C 2" METALLIC DIAPHRAGM PUMP**

**DIMENSIONS**

- A 17-1/16" (455.1 mm)  G 26-3/8" (669.5 mm)  N 8-15/32" (214.6 mm)
- B 24-3/4" (629.7 mm)  H 9-1/16" (233.2 mm)  P 5-1/4" (133.4 mm)
- C 10-1/16" (255.6 mm)  J 10-1/16" (255.6 mm)  Q 8-13/32" (227.6 mm)
- D 1-7/8" (47.6 mm)  K 9/16" (14.3 mm)  R 1-1/4" - 1-1/2 N.P.T.F.
- E 3/4 - 14 N.P.T.F.  L 2" (50.8 mm)  S (see below)
- F 15" (330.2 mm)  M 22-3/4" (577.3 mm)

"S" Inlet / Outlet

66625 XXX-C  2 - 11-1/2 N.P.T.F. - 1
66622 XXX-C  Rp 2 (2 - 1/2 BSP parallel)

**NOTE:** Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
3" Metallic Models
Pro-Series Pumps

3" Metallic Performance Specifications
Ratio: 1:1
Maximum Flow: 237-g.p.m. (897-l.p.m.)
Displacement per cycle: 2.65-Gallons (10.03-Liters)
Air Inlet: (Female) 3/4 - 14 N.P.T.F. - 1
Fluid Inlet: 3 - 8 N.P.T.F. - 1
Fluid Outlet: 3 - 8 N.P.T.F. - 1
Max. operating pressure: 120-psi (8.3-bar)
Suspended solids max. dia.: 3/8-in. (9.5-mm)
Weight: lbs (kg)
   6663X0-XXX-C 109.8 (49.8)
   6663X1-XXX-C 222.2 (100.8)
   6663X2-XXX-C 213.1 (96.7)
Maximum dry suction lift: ft (m) 17.6 (5.4)

Ordering Menu

6663X

Center Body/Threads
0 Aluminum, N.P.T.F.
2 Aluminum, BSP

Fluid Caps/Manifold Material
0 Aluminum (steel hardware)
1 Stainless steel (steel hardware)
2 Cast iron (steel hardware)

Seat Material
1 Aluminum
9 Hytrel
E Santoprene
6 Nitrile

Ball Check Material
4 PTFE (Teflon)
C Hytrel
E Santoprene
G Nitrile

Diaphragm Material
4 PTFE (Teflon) / Santoprene
9 Hytrel
B Santoprene
G Nitrile

Accessories
Air Line Connection Kit* Kit No. 66312
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits| Kit No. 637434 (air section)
                     Kit No. 637433-XX (fluid section)

*Please note pumps are not included with these kits.
3" Metallic Dimensions and Flow Charts

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact
technical support at (801) 316-0747

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Units</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>22-7/32&quot; (563.9 mm)</td>
<td>G</td>
</tr>
<tr>
<td>B</td>
<td>30&quot; (762.0 mm)</td>
<td>H</td>
</tr>
<tr>
<td>C</td>
<td>12-1/16&quot; (306.4 mm)</td>
<td>J</td>
</tr>
<tr>
<td>D</td>
<td>2-3/8&quot; (60.3 mm)</td>
<td>K</td>
</tr>
<tr>
<td>E</td>
<td>3/4&quot;-14 N.P.T.F.</td>
<td>L</td>
</tr>
<tr>
<td>F</td>
<td>1/2&quot; (12.7 mm)</td>
<td>M</td>
</tr>
</tbody>
</table>

"S" Inlet / Outlet

66630-XXX-C 3 - 8 N.P.T.F. - 1
66632-XXX-C Rp 3 (3 - 11 BSP parallel)

**NOTE:** Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.
# 1:1-to-4:1 Ratio Piston and Diaphragm Pumps

**Pro-Series Pumps**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>1:1 Ratio Piston Pump</th>
<th>2:1 Ratio Piston Pump</th>
<th>4:1 Ratio Piston Pump</th>
<th>1:1 Ratio Diaphragm Pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Flow GPM (LPM)</td>
<td>18 (68.1)</td>
<td>4.3 (16.3)</td>
<td>4.4 (16.8)</td>
<td>11 (41.6)</td>
</tr>
<tr>
<td>Maximum Inlet Pressure PSI (BAR)</td>
<td>150 (10.3)</td>
<td>150 (10.3)</td>
<td>150 (10.3)</td>
<td>100 (6.8)</td>
</tr>
<tr>
<td>Fluid Ports Inlet/Outlet (BSP Available)</td>
<td>Immersed Inlet 3/4&quot; (F) Out (No BSP)</td>
<td>1-1/2&quot; (F) In - CS 1-1/4&quot; (F) In - SS Immersed 3/4&quot; (F) Out</td>
<td>1-1/2&quot; (F) In - CS 1-1/4&quot; (F) In - SS Immersed 3/4&quot; (F) Out</td>
<td>1/2&quot; Suction Tube In 1/2&quot; (F), or Hose Accessory Out</td>
</tr>
<tr>
<td>Materials of Construction</td>
<td>Carbon Steel</td>
<td>Carbon Steel Stainless Steel</td>
<td>Carbon Steel Stainless Steel</td>
<td>Polypropylene Stainless Steel Aluminum</td>
</tr>
<tr>
<td>Pump Weight Lbs. (Kg.)</td>
<td>13 (5.9)</td>
<td>17.5 (7.9) CS-Stub 19.6 (8.9) CS-55-gallon 17.2 (7.8) SS-Stub 22.5 (10.2) SS-55-Gallon</td>
<td>32 (14.5) CS-Stub 46 (20.9) CS-55-gallon 32 (14.5) SS-Stub 46 (20.9) SS-55-Gallon</td>
<td>22 (10) Polypropylene* 26 (11.8) Aluminum* 36 (16.3) Stainless*</td>
</tr>
<tr>
<td>Maximum Solids Inches (mm)</td>
<td>Clean Fluids</td>
<td>Clean Fluids</td>
<td>Clean Fluids</td>
<td>3/32 (2.4)</td>
</tr>
<tr>
<td>Best Selling Models (BSP Available)</td>
<td>612041-1 612041-3</td>
<td>NM2202B-41-731</td>
<td>NM2304A-11-311 NM2304A-41-311 NM2304B-11-311 NM2304B-41-311</td>
<td>DAB05-PPTT-2-A</td>
</tr>
<tr>
<td>Recommended Filter/Regulator (Filter/Regulator/Lubricator)</td>
<td>C28123-600</td>
<td>P39124-600</td>
<td>P39124-600</td>
<td>P39124-600</td>
</tr>
<tr>
<td>Air Line Kit</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-1</td>
</tr>
</tbody>
</table>
Specialty Pumps 1:1 Ratio Piston Models

Pro-Series Pumps

1:1 Ratio Piston Pump Performance Specifications

Ratio: 1:1
Maximum Flow: 18-g.p.m. (68.1-l.p.m.)
Max. Working Flow: 9-g.p.m. (34.1-l.p.m.)
Maximum Rec'd Cycles: 75 per minute
Displacement per Cycle: 18.8-In³ (308.0-cm³)
Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
Fluid Inlet: Immersed
Fluid Outlet: 3/4 - 14 N.P.T.F. - 1
Max. operating pressure: 150-psi (10.3-bar)
Fluid Pressure Range: 0-150-psi (0-10.3-bar)
Material of Construction: Carbon Steel
Weight: lbs (kg)
612041-X 13 (5.9)
612042-1 14 (6.4)

Ordering Menus

61204X - X

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Packing Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nitrile</td>
</tr>
<tr>
<td>2</td>
<td>PTFE (Teflon)</td>
</tr>
</tbody>
</table>

For use with
55-gallon drums
275-gallon drums

Accessories

Air Line Treatment Combination Unit | C28121-600
Unit contains Piggyback Filter/Regulator and Lubricator.
Filter/Regulator features a 20 micron filter, poly bowl with guard and 5-125-psi gauge.
Lubricator features a poly bowl with guard.
Plumb directly to pump’s air inlet.

Service Repair Kits

Kit No. 637084 (air section)
Kit No. 637081 (Nitrile lower pump end repair)
Kit No. 637083 (PTFE lower pump end repair)

Muffler | 61879
Muffler reduces operating noise level of pump.

Wall Mount | 61113
Wall-Mount Bracket Permits pump to be wall-mounted near fluid container.
Bracket can also be attached to side of open 55-gallon drum.
1:1 Ratio Piston Pump Dimensions and Flow Charts

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 316-0747
Specialty Pumps 2:1 Ratio Piston Models
Pro-Series Pumps

2:1 Ratio Piston Pump Performance Specifications

Ratio: 2:1
Maximum Flow: 4.3-g.p.m. (16.3-g.p.m.)
Flow @ 60-Cycles/min.: 2.15-g.p.m. (8.14-l.p.m.)
Maximum Rec'd Cycles: 120 per minute
Displacement per Cycle: 8.3-In³ (136-cm³)
Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
Fluid Inlet: 1-1/2 - 11-1/2 N.P.T.F. - 1 (NM2202A-X)
Fluid Outlet: 3/4 - 14 N.P.T.F. - 1
Max. operating pressure: 150-psi (10.3-bar)
Fluid Pressure Range: 0-351-psi (0-24.2-bar)
Weight: lbs (kg)
NM2202A-11-X31 17.5 (7.9)
NM2202A-14-X31 19.6 (8.9)
NM2202B-11-X31 17.2 (7.8)
NM2202B-14-X31 22.5 (10.2)

Materials of Construction: Carbon Steel
Stainless Steel

Ordering Menu

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Container Type</th>
<th>Packing Material</th>
<th>Spring Arrangement</th>
<th>Plunger Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Carbon Steel</td>
<td>1 Universal (Stub)</td>
<td>7 PTFE (Teflon) upper and lower</td>
<td>3 No Spring</td>
<td>1 Standard Carbon Steel on NM2202A-X models</td>
</tr>
<tr>
<td>B Stainless Steel</td>
<td>4 55-Gallon Drum</td>
<td>B UHMW-PE upper/PTFE (Teflon) lower</td>
<td>J Polyurethane upper/UHMW-PE lower</td>
<td>Stainless Steel on NM2202B-X models</td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* | Kit No. 63073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits | Kit No. 637377 (air section)
Kit No. 637378-X31 (NM2202A-X fluid section)
Kit No. 637379-X31 (NM2202B-X fluid section)

Wall Mount | 61113
For use with stub style pumps. Siphon tube then used to connect pump to fluid supply.

*Please note pumps are not included with these kits.
Specialty Pumps 2:1 Ratio Piston Model Dimensions and Flow Curves

Pro-Series Pumps

2:1 Ratio Piston Pump Dimensions and Flow Charts

Dimensions: Inches (mm)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>“A”</th>
<th>“B”</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM2202A-11-X31</td>
<td>34-3/16 (868.0)</td>
<td>20-1/16 (508.8)</td>
</tr>
<tr>
<td>NM2202A-41-X31</td>
<td>47-7/8 (1214.8)</td>
<td>33-11/16 (855.6)</td>
</tr>
<tr>
<td>NM2202B-11-X31</td>
<td>33-7/8 (859.9)</td>
<td>19-7/8 (503.7)</td>
</tr>
<tr>
<td>NM2202B-41-X31</td>
<td>47-3/4 (1211.8)</td>
<td>33-11/16 (855.6)</td>
</tr>
</tbody>
</table>

Air Inlet (female) 1/4" - 1/4" N.P.T.F. - 1
11/16" (17.5 mm) NM2202A-X-X
13/16" (20.6 mm) NM2202B-X-X

Material Outlet (female) 3/4" - 1/4" N.P.T.F. - 1
2 - 1 1/2" N.P.T.

Material Inlet (female) 1-1/2" - 1 1/2" N.P.T.F. - 1
[NM2202A-X-X]
1-1/4" - 1 1/2" N.P.T.F. - 1
[NM2202B-X-X]

Refer to www.fluids.ingersollrand.com for full size flow curves.

For additional information contact technical support at (801) 316-0747
4:1 Ratio Piston Pump Performance Specifications

Ratio: 4:1
Maximum Flow: 4.44-g.p.m. (16.79-l.p.m.) NM2304A-X
4.26-g.p.m. (16.12-l.p.m.) NM2304B-X
Flow @ 60-Cycles/min.: 2.12-g.p.m. (8.02-l.p.m.) NM2304A-X
2.13-g.p.m. (8.06-l.p.m.) NM2304B-X
Maximum Rec'd Cycles: 125 per minute NM2304A-X
120 per minute NM2304B-X
Displacement per Cycle: 8.2-In³ (134.3-cm³)
Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
Fluid Inlet: Immersed Inlet (NM2304A-41, -91, -A1)
1-1/2 - 11-1/2 N.P.T.F. - 1 (NM2304A-11, -81, -B1)
1-1/4 - 11-1/2 N.P.S.M. (NM2304B-X)
Fluid Outlet: 3/4 - 14 N.P.T.F. - 1
Max. operating pressure: 150-psi (10.3-bar)
Fluid Pressure Range: 0-600-psi (0-41.4-bar)
Weight: lbs (kg)
NM2304A-11-X11 32 (14.5) NM2304B-11-X11 32 (14.5)
NM2304A-41-X11 46 (20.9) NM2304B-41-X11 46 (20.9)
NM2304A-81-X11 31.4 (14.3)
NM2304A-91-X11 45.4 (20.6)
NM2304A-A1-X11 31.0 (14.1)
NM2304A-B1-X11 32 (14.5)
Lower Pump End Series:
NM2304A-X1-X11 67151-X-X11
NM2304B-X1-X1X 6510X-X

Ordering Menus

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Container Type</th>
<th>Packing Material</th>
<th>Spring Arrangement</th>
<th>Plunger Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Steel</td>
<td>1 Universal (Stub)</td>
<td>C UHMW-PE upper and lower</td>
<td>1 Coil Spring</td>
<td>1 Standard Carbon Steel</td>
</tr>
<tr>
<td></td>
<td>4 55-Gallon Drum</td>
<td>3 Glass-filled Teflon upper Virgin Teflon lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 Universal (Stub) without bung</td>
<td>5 Glass-filled Teflon/ Leather staggered upper Virgin Teflon lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 55-Gallon without bung</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A Stub Follower Plate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B Universal (Stub) with alternate bung</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>1 Universal (Stub)</td>
<td>C UHMW-PE upper and lower</td>
<td>1 Coil Spring</td>
<td>1 Standard 300-Series Stainless Steel</td>
</tr>
<tr>
<td></td>
<td>4 55-Gallon Drum</td>
<td>3 PTFE (Teflon) upper and lower</td>
<td></td>
<td>B Ceramic</td>
</tr>
<tr>
<td></td>
<td>6 Viton upper/ PTFE (Teflon) lower</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

36
Specialty Pumps 4:1 Ratio Piston Model Dimensions and Flow Curves

Pro-Series Pumps

4:1 Ratio Piston Pump Dimensions and Flow Charts

Dimensions: Inches (mm)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>&quot;A&quot;</th>
<th>&quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM2304A-11-X11</td>
<td>30-1/4 (768.5)</td>
<td>11-3/4 (297.7)</td>
</tr>
<tr>
<td>NM2304A-41-X11</td>
<td>55-5/8 (1413.0)</td>
<td>37-1/8 (942.2)</td>
</tr>
<tr>
<td>NM2304A-81-X11</td>
<td>30-1/4 (768.5)</td>
<td>11-3/4 (297.7)</td>
</tr>
<tr>
<td>NM2304A-91-X11</td>
<td>55-5/8 (1413.0)</td>
<td>37-1/8 (942.2)</td>
</tr>
<tr>
<td>NM2304A-A1-X11</td>
<td>29-9/16 (751.0)</td>
<td>11-1/16 (280.2)</td>
</tr>
<tr>
<td>NM2304A-B1-X11</td>
<td>30-1/4 (768.5)</td>
<td>11-3/4 (297.7)</td>
</tr>
<tr>
<td>NM2304B-11-X1X</td>
<td>28-1/8 (714.4)</td>
<td>9-23/32 (246.8)</td>
</tr>
<tr>
<td>NM2304B-41-X1X</td>
<td>51-21/32 (1312.1)</td>
<td>33-1/4 (844.6)</td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit*1
Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits
Kit No. 637316 (air section)
Kit No. 637176 (NM2304A-X: 67151-X-311, -X-511 fluid section)
Kit No. 637228 (NM2304A-X: 67151-X-C11 fluid section)
Kit No. 637010 (NM2304B-X: 65106, 65108, 65108-5 fluid section)
Kit No. 637010-4 (NM2304B-X: 65108-4, 65108-4, 65108-6 fluid section)
Kit No. 637010-6 (NM2304B-X: 65108-8 fluid section)

Wall Mount 61113
For use with stub style pumps. Siphon tube then used to connect pump to fluid supply.

*Please note pumps are not included with these kits.

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
Specialty Pumps - Drum Pumps

Pro-Series Pumps

1:1 Ratio Drum Pump Performance Specifications

Ratio: 1:1
Maximum Flow: 11-g.p.m. (41.6-l.p.m.)
Displacement per cycle: .039-Gallons (.15-Liters)
Air Inlet: (Female) 1/4 -18 N.P.T.
Fluid Inlet: Siphon Tube for 55-Gallon Drum
Fluid Outlet: 1/2 -14 N.P.T.F. - 1
Max. operating pressure: 100-psi (6.8-bar)
Suspended solids max. dia.: 3/32-in. (2.4-mm)
Shipping Weight: lbs (kg) 22 (10) Polypropylene, basic package
26 (11.8) Aluminum, basic package
36 (16.3) Stainless, basic package

Drum Pumps

- Choose from Aluminum, Stainless Steel or Polypropylene body construction - ARO Drum Pumps are available in three body materials for optimum fluid compatibility.

Drum Pump Packages

- Choose from Basic to Complete - Drum Pump Packages can be ordered in 3 styles:
  - Basic: Pump, Bung Adapter, Air Safety Shut-Off, Siphon Tube, Weather Seal and base
  - Complete/Transfer: Basic Pump plus Fluid Hose or Fluid Hose with Non-Drip Nozzle
  - Complete/Dispensing: Basic Pump plus Foot Valve, Hose and Dispensing Nozzle

Pump Features

- 11-g.p.m. Flow Capability - Drum Pumps offer plenty of capacity to satisfy a broad range of transfer application volume demands.
- Stall-Free Operation - ARO Diaphragm Drum Pumps feature a patented "unbalanced" air valve design that avoids stall-out, even under low air-inlet pressures.
- Bolted Construction - ARO Diaphragm Drum Pumps utilize bolted fasteners for leak-tight integrity.
- 5-Year Warranty

Ordering Menu

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>PUMP HOUSING and SEATS</th>
<th>PUMP DIA. and BALLS</th>
<th>LOCK OUT VALVE (P/N 104253-2)</th>
<th>FOOT VALVE</th>
<th>10’ HOSE ASM</th>
<th>DISPENSE VALVE</th>
<th>FLUID SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB05-PPTT-2-A</td>
<td>POLYPROPYLENE</td>
<td>PTFE (Teflon)</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>ACIDS &amp; CAUSTICS</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-PPCC-2-A</td>
<td>POLYPROPYLENE</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL</td>
</tr>
<tr>
<td>DAB05-SSST-2-A</td>
<td>STAINLESS STEEL</td>
<td>PTFE (Teflon)</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>SOLVENT</td>
</tr>
<tr>
<td>DAB05-ASTT-2-A</td>
<td>ALUM./SS.</td>
<td>PTFE (Teflon)</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>SOLVENT</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
<tr>
<td>DAB05-APCC-2-A</td>
<td>ALUM./POLY.</td>
<td>HYTREL</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OIL/SOME SOLVENTS</td>
</tr>
</tbody>
</table>

38
1:1 Ratio Drum Pump Dimensional Data

<table>
<thead>
<tr>
<th>Model Number:</th>
<th>“A”</th>
<th>“B”</th>
<th>“C”</th>
<th>“D”</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB05-Axxxx-x</td>
<td>9-31/32” (253 mm)</td>
<td>8-5/32” (207 mm)</td>
<td>51-5/32” (1299 mm)</td>
<td>9-19/32” (243 mm)</td>
</tr>
<tr>
<td>DAB05-cxxxx-x</td>
<td>12-1/32” (306 mm)</td>
<td>8-3/32” (206 mm)</td>
<td>50-5/32” (1274 mm)</td>
<td>--</td>
</tr>
<tr>
<td>DAB05-sxxxx-x</td>
<td>7-3/4” (197 mm)</td>
<td>8-3/32” (206 mm)</td>
<td>49-25/32” (1264 mm)</td>
<td>--</td>
</tr>
</tbody>
</table>

For additional information contact technical support at (800)495-0276

**Accessories**

**Air Line Connection Kit** Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

**Service Repair Kits**
- Kit No. 637428 (air section)
- Kit No. 637427-XX (fluid section)
- Kit No. 104255 (for repair of P29122-600 piggyback filter/regulator)

*Please note pumps are not included with these kits.*
<table>
<thead>
<tr>
<th>Model</th>
<th>3:1 Ratio Power Pump</th>
<th>Oil Packages</th>
<th>Grease Packages</th>
<th>Centrifugal Pumps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Flow GPM (LPM)</td>
<td>24 (90.7)</td>
<td>9 (34.1)</td>
<td>7.5-lbs/min (3.4-kg/min)</td>
<td>P237AX-EU=200 (757)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P35AX-EU=230(870.5)</td>
</tr>
<tr>
<td>Maximum Discharge</td>
<td>300 (20.7)</td>
<td>450 (31.0)</td>
<td>7500 (517)</td>
<td>90 (6.1)</td>
</tr>
<tr>
<td>Pressure PSI (BAR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid Ports Inlet/Outlet</td>
<td>1&quot; (F) - In/Out</td>
<td>Immersed Inlet Control Handle Outlet</td>
<td>Immersed Inlet Control Handle Outlet</td>
<td>Screened Inlet 2&quot; Outlet 2-1/2&quot; Outlet</td>
</tr>
<tr>
<td>Materials of Construction</td>
<td>Stainless Steel</td>
<td>Carbon Steel</td>
<td>Carbon Steel</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Pump Weight Lbs. (Kg.)</td>
<td>94.7 (42.9)</td>
<td>33.9 (15.4)</td>
<td>LP3001-1=30.7 (12)</td>
<td>P237AX=48 (21.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>44.7 (20.3)</td>
<td>LP3003-1=42.1 (19.1)</td>
<td>P35AX=79 (36)</td>
</tr>
<tr>
<td>Maximum Solids Inches (mm)</td>
<td>1/8 (3.2)</td>
<td>Clean Fluids</td>
<td>Clean Fluids</td>
<td>1/4 (6.4)</td>
</tr>
<tr>
<td>Best Selling Models (BSP Available)</td>
<td>PH10A-ASS-SST</td>
<td>LP2100-1-B</td>
<td>LP3001-1</td>
<td>P237A1-EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LP3100-1-B</td>
<td>LP3003-1</td>
<td>P237A3-EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P35A1-EU</td>
</tr>
<tr>
<td>Recommended Filter/Regulator</td>
<td>P39234-600</td>
<td>P39224-600</td>
<td>P39224-600</td>
<td>C284X3-810 (Filter-Regulator-Lubricator)</td>
</tr>
<tr>
<td>Air Line Kit</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66073-1</td>
<td>66084-1</td>
</tr>
</tbody>
</table>
Specialty Pumps 3:1 Ratio High Pressure Diaphragm Pump  
Pro-Series Pumps

High Pressure Diaphragm Pump Performance Specifications
Ratio: 3:1  
Maximum Flow: 24-g.p.m. (90.7-l.p.m.) Free Flow  
12 (45.6) at 125-psi back pressure  
Displacement per cycle: 0.06-Gallons (.23-Liters)  
Air Inlet: (Female) 3/8 - 18 N.P.T.F. - 1  
Fluid Inlet: 1 - 11-1/2 N.P.T.F. - 1  
Fluid Outlet: 1 - 11-1/2 N.P.T.F. - 1  
Max. operating pressure: 100-psi (6.9-bar)  
Suspended solids max. dia.: 1/8-in. (3.2-mm)  
Weight: lbs (kg) 94.73 (42.97)  
Maximum dry suction lift: 5 - 6-ft (1.5 - 1.8-m)

Ordering Menu
<table>
<thead>
<tr>
<th>Base Model</th>
<th>Center Section</th>
<th>Port Size</th>
<th>Wetted Parts</th>
<th>Hardware</th>
<th>Seat/Ball Check Material</th>
<th>Diaphragm Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH10</td>
<td>A Aluminum</td>
<td>A N.P.T.F. Threads</td>
<td>S Stainless Steel</td>
<td>S Stainless Steel</td>
<td>HH 440 SS/440 SS</td>
<td>T PTFE (Teflon)</td>
</tr>
</tbody>
</table>

Accessories
Air Line Filter-Regulator | P38234-600
Piggyback unit features a 40 micron filter, metal bowl with sight glass and 0-125-psi gauge. Plumb directly to pump’s air inlet.

Service Repair Kits | Kit No. 637338 (air section)  
Kit No. 637339 (PH10X-XXX-XX fluid section)  
Kit No. 637339-1 (PH10X-XXX-XH fluid section)

Wall Mount Bracket | 67142
Siphon tube then used to connect pump to fluid supply.

*Please note pumps are not included with these kits.
High Pressure Diaphragm Pump Dimensions and Flow Charts

Refer to www.fluids.ingersollrand.com for full size flow curves.
For additional information contact technical support at (801) 316-0747
Specialty Pumps - Oil Packages

Pro-Series Pumps

Oil Package Performance Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LP210X-1-B</td>
<td>3:1</td>
<td>9 (34.1)</td>
<td>6-g.p.m. (22.7-l.p.m.)</td>
<td>125</td>
<td>8.3-In³ (136-cm³)</td>
<td>1/4 - 18 N.P.T.F. - 1</td>
<td>3/4 - 14 N.P.T.</td>
<td>1/2 - 14 N.P.T.F. - 1</td>
<td>150-psi (10.3-bar)</td>
<td>0-450-psi (0-31.0-bar)</td>
<td>33.9 (15.4)</td>
</tr>
<tr>
<td>LP310X-1-B</td>
<td>5:1</td>
<td>9 (34.1)</td>
<td>6-g.p.m. (22.7-l.p.m.)</td>
<td>170 per minute</td>
<td>8.3-In³ (136-cm³)</td>
<td>1/4 - 18 N.P.T.F. - 1</td>
<td>1-1/2 - 11-1/2 N.P.T.F. - 1</td>
<td>1/2 - 14 N.P.T.F. - 1</td>
<td>150-psi (10.3-bar)</td>
<td>0-750-psi (0-51.7-bar)</td>
<td>44.7 (20.3)</td>
</tr>
</tbody>
</table>

Major Components

- Basic Oil Pump
- Digital Meter
- Drum Cover
- Material Hose
- Fluid Control Handle
- Dolly Assembly

Accessories

- Air Line Connection Kit*1 Kit No. 66073-1
  Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.
- Service Repair Kits| Kit No. 637224 (LP210X-1-B)
| Kit No. 637226 (LP310X-1-B)

*Please note pumps are not included with these kits.

Ordering Menu

<table>
<thead>
<tr>
<th>Model</th>
<th>Series</th>
<th>Meter Type</th>
<th>Pint</th>
<th>Liter</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP210</td>
<td>16-Gallon (120-lb) Portable Gear Oil Package</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LP310</td>
<td>16-Gallon (120-lb) Portable Gear Oil Package</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

LP3100-1-B Oil Package
(Package does not include container)

Dimensions: Inches (mm)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>“A”</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP310X-1-B</td>
<td>45 (1143)</td>
</tr>
<tr>
<td>LP210X-1-B</td>
<td>43 (1092)</td>
</tr>
</tbody>
</table>

Refer to www.fluids.ingersollrand.com.
For additional information contact technical support at (801) 316-0747.
Specialty Pumps - Grease Packages
Pro-Series Pumps

**Grease Package Performance Specifications**
- Ratio: 50:1
- Maximum Delivery/Min.: 7.5-lbs. (3.4-kg)
- Maximum Rec'd Cycles: 135 per minute (LM2350E-X1-B)
- Displacement per Cycle: 0.875-in³ (14.33-cm³)
- Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
- Material Inlet: Immersed
- Material Outlet: 3/8 -18 N.P.T.F. - 1
- Max. operating pressure: 150-psi (10.3-bar)
- Max. fluid pressure: 7500-psi (517.2-bar)
- Weight: lbs (kg) 30.7 (12)

**Ordering Menu**

**LP300X - 1**

<table>
<thead>
<tr>
<th>Model Series</th>
<th>1 35-pound (5-gal) Grease Package</th>
</tr>
</thead>
</table>

**LP3001-1 Major Components**

<table>
<thead>
<tr>
<th>Item:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic 50:1 Grease Pump:</td>
<td>LM2350E-21-B</td>
</tr>
<tr>
<td>Handle:</td>
<td>94334</td>
</tr>
<tr>
<td>Drum Cover:</td>
<td>94420</td>
</tr>
<tr>
<td>Follower Plate:</td>
<td>640095-2-B</td>
</tr>
<tr>
<td>Material Hose:</td>
<td>624201-10</td>
</tr>
<tr>
<td>Booster Grease Gun:</td>
<td>636103</td>
</tr>
<tr>
<td>Z-Swivel:</td>
<td>636077</td>
</tr>
</tbody>
</table>

**Accessories**

- **Air Line Connection Kit** | Kit No. 66073-1
  Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

- **Service Repair Kits** | Kit No. 637227-B
  (Pump Rebuild Kit: Contains necessary soft parts to rebuild entire pump.)

*Please note pumps are not included with these kits.

**LP3001-1 Dimensions**

Dimensions: Inches (mm)

- **Model Number:** “A”
- **LP3001-1** 29 (737)

Refer to www.fluids.ingersollrand.com.
For additional information contact technical support at (801) 316-0747
Grease Package Performance Specifications

- Ratio: 50:1
- Maximum Delivery/Min.: 7.5-lbs. (3.4-kg)
- Maximum Rec'd Cycles: 135 per minute (LM2350E-X1-B)
- Displacement per Cycle: 0.875-in³ (14.33-cm³)
- Air Inlet: (Female) 1/4 - 18 N.P.T.F. - 1
- Material Inlet: Immersed
- Material Outlet: 3/8 - 18 N.P.T.F. - 1
- Max. operating pressure: 150-psi (10.3-bar)
- Max. fluid pressure: 7500-psi (517.2-bar)
- Weight: lbs (kg) 42.1 (19.1)

Ordering Menu

LP300X - 1

Model Series
3 20-pound (16-gal) Grease Package

LP3003-1 Major Components

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic 50:1 Grease Pump</td>
<td>LM2350E-31-B</td>
</tr>
<tr>
<td>Drum Cover</td>
<td>94421</td>
</tr>
<tr>
<td>Follower Plate</td>
<td>640165</td>
</tr>
<tr>
<td>Material Hose</td>
<td>624201-10</td>
</tr>
<tr>
<td>Booster Grease Gun</td>
<td>636103</td>
</tr>
<tr>
<td>Z-Swivel</td>
<td>636077</td>
</tr>
<tr>
<td>Dolly Assembly</td>
<td>640057</td>
</tr>
</tbody>
</table>

Accessories

Air Line Connection Kit* Kit No. 66073-1
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits | Kit No. 637227-B
(Pump Rebuild Kit: Contains necessary soft parts to rebuild entire pump.)

*Please note pumps are not included with these kits.

LP3003-1 Dimensions

Dimensions: Inches (mm)

Model Number: “A” “B”
LP3003-1 43 (1092) 40-1/8 (1019)

Refer to www.fluids.ingersollrand.com.
For additional information contact technical support at (801) 316-0747
### Centrifugal Pump Performance Specifications

- **Maximum Flow**: 200 GPM (757 LPM) P237AX-EU
  - 230 GPM (870 LPM) P35A1-EU
- **Air Inlet**: (Female) 3/4" - 14 N.P.T. (P237AX-EU)
  - 1" - 11-1/2 N.P.T. (P35A1-EU)
- **Fluid Inlet**: Screened Inlet
- **Fluid Outlet**: 2" N.P.T.F. P35A1-EU
  - 2-1/2" N.P.T.F. P237AX-EU
  - 2-1/2" BSP P237A3-EU
- **Max. operating pressure**: 90 psi (6.2 bar)
- **Air Consumption in CFM**: P237AX-EU 100
  - P35A1-EU 160
- **Suspended solids max. dia.**: 1/4" (6.4 mm)
- **Pump Housing Material**: P237AX-EU Cast Iron
  - P35A1-EU Cast Iron
- **Weight**: lbs (kg)
  - P237AX-EU 48 (21.8)
  - P35A1-EU 79 (36)

### Centrifugal Pump Dimensional Data and Flow Charts

- **Height**: inches (mm)
  - P237AX-EU 17-5/8 (448)
  - P35A1-EU 22-1/2 (570)
- **Size of opening pump will pass through**: inches (mm)
  - P237AX-EU 8-3/4 (222) x 8-3/4 (222)
  - P35A1-EU 8-7/16 (214) x 14-1/16 (357)
- **Discharge Pipe Tap**: P237AX-EU 2-1/2" N.P.T.
  - P35A1-EU 2-1/2" N.P.T.
  - 2-1/2" BSP P237A3-EU
- **Air Inlet Recommended Hose Size**: inches (mm)
  - P237AX-EU 3/4" (19)
  - P35A1-EU 1" (25.4)
- **Exhaust Pipe Tap**: P237AX-EU 1-1/4" N.P.T.
  - P35A1-EU 1-1/4" N.P.T.
  - 1-1/4" N.P.T.
- **Exhaust Recommended Hose Size**: inches (mm)
  - P237AX-EU 1-1/4 (31.7)
  - P35A1-EU 1-1/4 (31.7)

Refer to [www.fluids.ingersollrand.com](http://www.fluids.ingersollrand.com).

For additional information contact technical support at (801) 316-0747.

---

**Accessories**

- **Air Line Unit I** C28453-810 for P237AX-EU
  - C28463-810 for P35A1-EU

  C284X3-810 models contain Filter, Regulator and Lubricator units.

- **Service Repair Kits** Repair parts are ordered individually.

Refer to Operator's Manuals:
- P237AX-EU Pumps: Form P6856
- P35A1-EU Pumps: Form P7263
Pulsation Dampeners
Diaphragm and piston pumps of any type have at least two points in their cycle where they provide no pressure or flow to a process. The unwanted result of this pressure fluctuation can often be material foaming, material pulsation, hydraulic shock or material splashing. While traditional pulsation dampeners can help reduce unwanted pulsation and other problems, they also require operator intervention and adjustments.

Automatic Shock Blockers®
- Automatic Air Adjustment - compensates for fluctuations in fluid pressure without operator intervention.
- Significant Pulsation Reduction - the new Shock Blockers deliver an average 60% - 80% pulsation reduction in high back pressure applications.
- Built for High-Flow/Aggressive Fluid Applications - the 2" models can handle up to 159 in.³ maximum fluid volume, and 3" models up to 509 in.³ maximum fluid volume.
- Broad Material Range for Compatibility - choose from PVDF, polypropylene, groundable acetal (1" models) or aluminum, cast iron or stainless steel (2" & 3" models) body materials for optimum pump-to-pulsation dampener compatibility.
- Broad Diaphragm/Bladder Fluid Compatibility - choose from Santoprene, Nitrile, Teflon, Hytrel, Viton or Urethane for optimum fluid-to-diaphragm compatibility.
- Perfect for Process Applications - pulsation reduction in long piping runs helps prevent costly fluid pipe and downstream valve damage.
- Bolted Construction - for leak-free vessel integrity and a safer work-site.
- Ultra-Rugged Construction for Long Service Life - both inside and out, the new Shock Blockers are built tough to deliver worry-free, near pulse-free fluid handling.
Accessories / Pulsation Dampeners
Pro-Series Pumps

1" Port Models
Pulsation Dampener Type: Non-Metallic / w/o Air Tamer
Material: See model description chart
Weight:
- Polypropylene: 8.4 lbs (3.8 kgs)
- Conductive Acetal: 8.6 lbs (3.9 kgs)
- PVDF: 9.0 lbs (4.1 kgs)

Material Inlet/Outlet (female):
- 66700X-01X 1 - 11/2 N.P.T.
- 66700X-02X Rp 1 (1-1/2 BSP parallel)

Air Inlet (male):
- Air Tamer is 3/8 - 18 N.P.T.-1

Maximum Air Inlet Pressure: 100-psi (6.9 bar)
Maximum Material Inlet Pressure: 100-psi (6.9 bar)
Maximum Temperature Limits:
- Polypropylene: 35° - 150° F (+1.6° - 66° C)
- Conductive Acetal: 10° - 180° F (-12° - 82° C)
- PVDF: 10° - 200° F (-12° - 93° C)

Maximum Fluid Volume: 57 in.³ (934 cm³)

Ordering Menu

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Fluid Construction</th>
<th>Thread</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-inch</td>
<td>3 Polypropylene</td>
<td>1 N.P.T.</td>
<td>B Santoprene</td>
</tr>
<tr>
<td></td>
<td>(Glass Filled)</td>
<td>2 BSP</td>
<td>9 Hytrel</td>
</tr>
<tr>
<td></td>
<td>6 PVDF</td>
<td></td>
<td>8 PTFE</td>
</tr>
<tr>
<td></td>
<td>7 Conductive Acetal</td>
<td></td>
<td>3 Viton</td>
</tr>
</tbody>
</table>

Notice: All possible options are shown in the chart above, however, certain combinations may not be recommended. Consult a representative or the factory if you have questions concerning availability.

2" Port Models
Pulsation Dampener Type: Metallic / Automatic
Material: See model description chart
Weight:
- Aluminum (fluid cap): 29 lbs (13.2 kgs)
- Cast Iron (fluid cap): 70 lbs (31.8 kgs)
- Stainless St. (fluid cap): 71 lbs (32.2 kgs)

Material Inlet/Outlet:
- SB30X-Axx-X 3 - 8 N.P.T.
- SB30X-Bxx-X Rp 3 (3-1/2 BSP parallel)

Air Inlet:
- 3/4 - 14 N.P.T.

Maximum Air Inlet Pressure: 120-psi (8.3 bar)
Maximum Material Inlet Pressure: 120-psi (8.3 bar)
Maximum Temperature Limits:
- EPR: -60° - 280° F (-51° - 138° C)
- Nitrile: 10° - 180° F (-12° - 82° C)
- Santoprene: -40° - 225° F (-40° - 107° C)
- Teflon: 40° - 225° F (4° - 107° C)
- Viton: -40° - 350° F (-40° - 177° C)

Maximum Fluid Volume: 509-lit (8.34 lit.)

Ordering Menu

<table>
<thead>
<tr>
<th>SB</th>
<th>XO</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-inch Blocker Size</td>
<td>A Aluminum</td>
<td>A N.P.T.</td>
<td>A Santoprene</td>
</tr>
<tr>
<td></td>
<td>C Cast Iron</td>
<td>B BSP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S Stainless Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proper support of piping and pulsation dampener is required. Illustration for reference purposes only.
## Accessories / Pulsation Dampeners
### Pro-Series Pumps

### 2" Port Models

**Pulsation Dampener Type:** Metallic / Automatic  
**Material:**  
**Weight lbs (kg):**  
- Aluminum (fluid cap) 29 (13.2)  
- Cast Iron (fluid cap) 70 (31.8)  
- Stainless St. (fluid cap) 71 (32.2)  
**Material Inlet/Outlet:**  
- SB20X-AXX-X  
  - 2" -N.P.T.F -1  
- SB20X-BXX-X  
  - Rp 2(2-11 BSP)  
**Air Inlet:**  
- 3/4" - 14 N.P.T. (female)  
**Max. Air Inlet Pressure psi (bar):**  
- 120 (8.3)  
**Max. Material Inlet Pressure psi (bar):**  
- 120 (8.3)  
**Maximum Temperature Limits:**  
- EPR -60° - 280°F (-51° - 138°C)  
- Nitrile 10° - 180°F (-12° - 82°C)  
- Santoprene -40° - 225°F (-40° - 107°C)  
- PTFE 40° - 225°F (4° - 107°C)  
- Viton -40° - 350°F (-40° - 177°C)  
**Maximum Fluid Volume:**  
- 159 in.³ (2.61 lit.)

#### Ordering Menu

<table>
<thead>
<tr>
<th>SB</th>
<th>XX</th>
<th>Model Series</th>
<th>Blocker Size</th>
<th>Air Body</th>
<th>Fluid Construction</th>
<th>Thread</th>
<th>Hardware</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>2-Inch</td>
<td>A</td>
<td>Aluminum</td>
<td>Stainless Steel</td>
<td>A</td>
<td>Stainless Steel</td>
<td>Santoprene</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>Cast Iron</td>
<td></td>
<td>B</td>
<td></td>
<td>Nitrile</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>Stainless Steel</td>
<td></td>
<td></td>
<td></td>
<td>PTFE/ Santoprene</td>
</tr>
</tbody>
</table>

### 3" Port Models

**Pulsation Dampener Type:** Metallic / Automatic  
**Material:**  
**Weight lbs (kg):**  
- Aluminum (fluid cap) 41 (18.5)  
- Cast Iron (fluid cap) 94 (42.6)  
- Stain. Steel (fluid cap) 96 (43.5)  
**Material Inlet/Outlet:**  
- SB30X-AXX-X  
  - 3" -N.P.T.-1  
- SB30X-BXX-X  
  - Rp 3(3-11 BSP)  
**Air Inlet:**  
- 3/4" - 14 N.P.T. (female)  
**Max. Air Inlet Pressure psi (bar):**  
- 120 (8.3)  
**Max. Material Inlet Pressure psi (bar):**  
- 120 (8.3)  
**Maximum Temperature Limits:**  
- EPR -60° - 280°F (-51° - 138°C)  
- Nitrile 10° - 180°F (-12° - 82°C)  
- Santoprene -40° - 225°F (-40° - 107°C)  
- PTFE 40° - 225°F (4° - 107°C)  
- Viton -40° - 350°F (-40° - 177°C)  
**Maximum Fluid Volume:**  
- 509 in.³ (8.34 lit.)

#### Ordering Menu

<table>
<thead>
<tr>
<th>SB</th>
<th>XX</th>
<th>Model Series</th>
<th>Blocker Size</th>
<th>Air Body</th>
<th>Fluid Construction</th>
<th>Thread</th>
<th>Hardware</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td>3-Inch</td>
<td>A</td>
<td>Aluminum</td>
<td>Stainless Steel</td>
<td>A</td>
<td>Stainless Steel</td>
<td>Santoprene</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>Cast Iron</td>
<td></td>
<td>B</td>
<td></td>
<td>Nitrile</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>Stainless Steel</td>
<td></td>
<td></td>
<td></td>
<td>PTFE/ Santoprene</td>
</tr>
</tbody>
</table>

**Notice:** All possible options are shown in the chart above, however, certain combinations may not be recommended. Consult a representative of the factory if you have questions concerning availability.
Diaphragm Pump Accessories
Pro-Series Pumps

EXHAUST THREADED MUFFLER KIT

**Description**
Kit allows operator to pipe exhaust air away from application. Fits only non-metallic air motor section. 3/8” NPT exhaust port. (muffler not included)

**Order No.** 637438

PE SERIES PUMP CONTROL

**Description**
ARO Alpha™ 4-way valve supplies air to cycle pump. Features bonded spool plus many actuator/return and solenoid options. (pump not included)

1/4” body ported. Actuator/Return options. Solenoid coil voltage options.

**Order No.**
<table>
<thead>
<tr>
<th>Model</th>
<th>Actuator/Return</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A212SD-120-A</td>
<td>Solenoid/Solenoid</td>
<td>120-VAC</td>
</tr>
<tr>
<td>A212SS-120-A</td>
<td>Solenoid/Spring</td>
<td>120-VAC</td>
</tr>
<tr>
<td>A212SD-012-D</td>
<td>Solenoid/Solenoid</td>
<td>12-VDC</td>
</tr>
<tr>
<td>A212SS-012-D</td>
<td>Solenoid/Spring</td>
<td>12-VDC</td>
</tr>
<tr>
<td>A212SD-024-D</td>
<td>Solenoid/Solenoid</td>
<td>24-VDC</td>
</tr>
<tr>
<td>A212SS-024-D</td>
<td>Solenoid/Spring</td>
<td>24-VDC</td>
</tr>
<tr>
<td>A212PS</td>
<td>Pilot/Spring</td>
<td></td>
</tr>
<tr>
<td>A212PD</td>
<td>Pilot/Pilot</td>
<td></td>
</tr>
</tbody>
</table>

(Solenoid Valves require use of Connector, referenced on this page.)

CYLE SENSOR

**Description**
Provides a closed contact output for monitoring pump operation. Can be used to monitor cycle rates, preventative maintenance and rough flow rate indication. Power supply and other devices required to gather, store or manipulate data. (pump not included)

**Order No.**
67386 3/8", 1/2", and 3/4"
(Non-Metallic Pumps (PD03-X, PD05-X, PD07-X))

67168 3/8" and 1/2"
(Non-Metallic Pumps (66605X-X))

67169 1", 1-1/2" and 2"
(Non-Metallic Pumps, 1" and 1-1/2" Metallic Pumps)

COUNTDOWN BATCHER

**Description**
Manual start batch counter kit controls the volume of fluid dispensed by controlling the number of pump cycles. (pump not included)

**Order No.** 67072 For 3/8", 1/2", 3/4", 1", 1-1/2", 2" and 3" ported pumps

CYCLE COUNTER KIT

**Description**
Easy to install counter records up to 999,999 cycles. Kit includes necessary installation hardware. For fluid inventory, preventative maintenance and fluid metering.

**Order No.**
66975 for 3/8", 1/2", 3/4", 1", 1-1/2", 2" and 3" ported pumps

EXHUST THREADED MUFFLER KIT

**Description**
Kit allows operator to pipe exhaust air away from application. Fits only non-metallic air motor section. 3/8” NPT exhaust port. (muffler not included)

**Order No.** 637438

PE SERIES PUMP CONTROL

**Description**
ARO Alpha™ 4-way valve supplies air to cycle pump. Features bonded spool plus many actuator/return and solenoid options. (pump not included)

1/4” body ported. Actuator/Return options. Solenoid coil voltage options.

**Order No.**
<table>
<thead>
<tr>
<th>Model</th>
<th>Actuator/Return</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A212SD-120-A</td>
<td>Solenoid/Solenoid</td>
<td>120-VAC</td>
</tr>
<tr>
<td>A212SS-120-A</td>
<td>Solenoid/Spring</td>
<td>120-VAC</td>
</tr>
<tr>
<td>A212SD-012-D</td>
<td>Solenoid/Solenoid</td>
<td>12-VDC</td>
</tr>
<tr>
<td>A212SS-012-D</td>
<td>Solenoid/Spring</td>
<td>12-VDC</td>
</tr>
<tr>
<td>A212SD-024-D</td>
<td>Solenoid/Solenoid</td>
<td>24-VDC</td>
</tr>
<tr>
<td>A212SS-024-D</td>
<td>Solenoid/Spring</td>
<td>24-VDC</td>
</tr>
<tr>
<td>A212PS</td>
<td>Pilot/Spring</td>
<td></td>
</tr>
<tr>
<td>A212PD</td>
<td>Pilot/Pilot</td>
<td></td>
</tr>
</tbody>
</table>

(Solenoid Valves require use of Connector, referenced on this page.)

CYLE SENSOR

**Description**
Provides a closed contact output for monitoring pump operation. Can be used to monitor cycle rates, preventative maintenance and rough flow rate indication. Power supply and other devices required to gather, store or manipulate data. (pump not included)

**Order No.**
67386 3/8", 1/2", and 3/4"
(Non-Metallic Pumps (PD03-X, PD05-X, PD07-X))

67168 3/8" and 1/2"
(Non-Metallic Pumps (66605X-X))

67169 1", 1-1/2" and 2"
(Non-Metallic Pumps, 1" and 1-1/2" Metallic Pumps)

COUNTDOWN BATCHER

**Description**
Manual start batch counter kit controls the volume of fluid dispensed by controlling the number of pump cycles. (pump not included)

**Order No.** 67072 For 3/8", 1/2", 3/4", 1", 1-1/2", 2" and 3" ported pumps

CYCLE COUNTER KIT

**Description**
Easy to install counter records up to 999,999 cycles. Kit includes necessary installation hardware. For fluid inventory, preventative maintenance and fluid metering.

**Order No.**
66975 for 3/8", 1/2", 3/4", 1", 1-1/2", 2" and 3" ported pumps
Diaphragm Pump Accessories
Pro-Series Pumps

SOLENOID ACTUATION KIT

Description
Control pump cycle rate with on/off signal from PLC or other device. Kit includes connector w/36" cable plus components and instructions to install on standard pump. For dosing and batching applications.

Order No.
67165-1 (24VDC) for 3/8" and 1/2" ported pumps
67165-2 (120VAC) for 3/8" and 1/2" ported pumps
67166-1 (24VDC) for 1", 1-1/2", and 2" non-metallic and 1", 1-1/2", metallic pumps (less 3:1 models)
67166-2 (120VAC) for 1", 1-1/2", and 2" non-metallic and 1", 1-1/2", metallic pumps (less 3:1 models)

AIR CONTROL ACTUATION VALVES

Description
3-way valve controls air supply to pump. Activation starts pump, deactivation cuts off air supply to pump and exhausts air from motor, which prevents stalling.

120 VAC
Order No.
MQ3728-120-A for 1/2" and 1" pumps
H254SS-120-A for 1-1/2" pumps
MQ3729-120-A for 2" and 3" pumps

24 VDC
Order No.
MQ3728-024-D for 1/2" and 1" pumps
H254SS-024-D for 1-1/2" pumps
MQ3729-024-D for 2" and 3" pumps

Solenoid valve requires use of connector. See below for connector information.

CONNECTORS

Description
Connects valve solenoid to PLC or other control device. Female connector to male DIN of valve solenoid.

Order No.
CBW

MINI BATCH COUNTER

Description
For simple batching applications. Used with cycle counter or flow meter to control fluid output from pump.

Order No.
67161-2

DIAPHRAGM PUMP SPEED CONTROLS

Description
Controls air volume supplied to pump, thus permitting operator to control speed of pump. Can be panel mounted. Composite body.

Order No.
104104-N02 1/4" port size
104104-N04 1/2" port size
104104-N06 3/4" port size

PNEUMATIC LIQUID LEVEL SENSORS

Description
Used to control pump.

Order No.
59916-1 to sense when fluid exceeds a desired level
59916-2 to sense when fluid falls below a desired level
**WALL MOUNT**

**Description**
Conveniently mount pump above container. Made of heavy gauge coated steel. (pump not included)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>67388*</td>
<td>3/8” Pumps</td>
<td>76763*</td>
<td>1/2” Pumps</td>
</tr>
<tr>
<td>66100*</td>
<td>1” Metallic Pumps</td>
<td>62133</td>
<td>1-1/2” Metallic Pumps</td>
</tr>
<tr>
<td>67142</td>
<td>1” 3:1 High Pressure Pumps</td>
<td><em>(does not include mounting hardware)</em></td>
<td></td>
</tr>
</tbody>
</table>

**PNEUMATIC MATERIAL AGITATORS**

**Description**
Prevents fluid from separating. Mounts in opening on 5-gallon or 55-gallon drum covers.

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>651100</td>
<td>5-Gallon containers, use with 651851 and 66971 drum covers</td>
</tr>
<tr>
<td>651103</td>
<td>55-Gallon drums, use with 66087 drum side-mount adapter. Use with 66197 or 67141 drum covers requires 75704 mount (3), Y8-58-C screws and (3) Y12-5-C nuts</td>
</tr>
</tbody>
</table>

**SIPHON TUBE**

**Description**
Used to draw fluid from 55-gallon drums. Straight tube when pump is mounted on drum; angle tube when pump is wall mounted above container. Plastic (PVC, PP, PTFE), Carbon Steel (CS) or 316 Stainless (SS)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>61412</td>
<td>Straight N.P.T. (male) PVD for 1/2” Pumps</td>
</tr>
<tr>
<td>65109</td>
<td>CS N.P.T. (female) for 1” Pumps</td>
</tr>
<tr>
<td>66779</td>
<td>PVC 36” N.P.T. (female) for 1” Pumps</td>
</tr>
<tr>
<td>66779-1</td>
<td>PVC, N.P.T. (female) 14.875” L for 1” pumps used with 275-gallon bulk tank</td>
</tr>
<tr>
<td>66779-2</td>
<td>PVC, N.P.T. (female) 49” L for 1” pumps used with 275-gallon bulk tank</td>
</tr>
<tr>
<td>66779-3</td>
<td>PVC, N.P.T. (female) 61” L for 1” pumps used with large bulk tanks</td>
</tr>
</tbody>
</table>

**DRUM COVERS**

**Description**
Keeps debris from entering fluid supply. Accommodates diaphragm pump. Fits 5-gallon and 55-gallon containers.

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>67055-B</td>
<td>Stainless Steel, for 1/4” Pumps on 5-gal. containers</td>
</tr>
<tr>
<td>66971</td>
<td>Stainless Steel, for 1/2” Pumps on 5-gal. containers</td>
</tr>
</tbody>
</table>
**Piston Pump Accessories**

**Pro-Series Pumps**

### DRUM / WALL MOUNTS

**Description**

Permits pump to be mounted near fluid containers. Can also be mounted on drum lip. For use with stub style 2:1 and 4:1 ratio pumps.

**Order No.** 61113 for N-Series air motor stub pumps fitted with bung adapters.

### WET-SOL “PLUS”

**Description**

Designed to prolong packing life by keeping piston rod and packings wetted.

**Order No.** 66333-B Quart for NM2202X-X and NM2304X-X pumps

66334-B Gallon for NM2202X-X and NM2304X-X pumps

### MUFFLER

**Description**

Reduces noise level of air exhaust to acceptable OSHA standards.

**Order No.** 61879 for use with 612041-X models.

### AIR LINE LUBRICANT

**Description**

Used in air line lubricator to air motor. High quality “EP” extreme pressure gear oil. Non-detergent, rust or oxidation inhibited. Viscosity of 700 to 1000 S.U.S. at 100° F.

**Order No.** 62274 one quart bottle

### OVER-RUN CONTROL

**Description**

Shuts off pump when excessive cycling occurs due to empty fluid supply container.

**Order No.** 635040 for 1/2” and 1” ported diaphragm pumps for 1:1, 2:1 and 4:1 ratio piston pumps

23644-400 for 1-1/2” and 2” ported diaphragm pumps

635043 for 3” ported diaphragm pumps

### DRUM COVERS

**Description**

Keeps debris from entering fluid supply. Accommodates siphon hose and agitator. Fits 5-gallon containers.

**Order No.** 651851 Carbon Steel, for 2” and 3” air motor pumps

94422 Carbon Steel, 2” bung opening for 55-gal. containers
### Viscosity Conversion Chart

#### Pro-Series Pumps

<table>
<thead>
<tr>
<th>Centipoise</th>
<th>Saybolt Universal (SSU)</th>
<th>Saybolt Universal</th>
<th>Ford No. 3</th>
<th>Ford No. 4</th>
<th>Zahn No. 1</th>
<th>Zahn No. 2</th>
<th>Zahn No. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>260</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>630</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>850</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>1040</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>1250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ACCESSORIES**
Pump Airborne Noise Emissions

Pro-Series Pumps

Pump Airborne Noise Emissions

The pump sound pressure levels published below have been updated to an Equivalent Continuous Sound Level ($L_{Aeq}$) to meet the intent of ANSI S1.13-1971. CAGI-PNEUROP S5.1 using four microphone locations.

<table>
<thead>
<tr>
<th>Pump Port Size (Inches)</th>
<th>Air Operating Pressure (PSI)</th>
<th>Cycles/Minute</th>
<th>Sound Pressure ($L_{Aeq}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>70</td>
<td>60</td>
<td>75.0 db(A)</td>
</tr>
<tr>
<td>1</td>
<td>70</td>
<td>60</td>
<td>79.7 db(A)</td>
</tr>
<tr>
<td>1-1/2</td>
<td>70</td>
<td>60</td>
<td>81.0 db(A)</td>
</tr>
<tr>
<td>2</td>
<td>70</td>
<td>60</td>
<td>82.8 db(A)</td>
</tr>
<tr>
<td>3</td>
<td>70</td>
<td>50</td>
<td>83.0 db(A)</td>
</tr>
</tbody>
</table>

Material Service Guideline

This chart is a quick reference guide. Always check material compatibility with a trusted chemical guide.

<table>
<thead>
<tr>
<th>Material</th>
<th>Maximum Operating Temp Limit F (°C)</th>
<th>Chemical Resistance</th>
<th>Scale 1 - 5 Abrasion Resistance</th>
<th>(5 is best) Flex Life*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetal</td>
<td>180 (82)</td>
<td>3</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Aluminum</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Cast Iron</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Geolast (Nitrile Based)</td>
<td>180 (82)</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hastelloy C</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hytrel</td>
<td>150 (66)</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Neoprene</td>
<td>200 (93)</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nitrile</td>
<td>180 (82)</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Polypropylene</td>
<td>175 (80)</td>
<td>4</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Polyurethane</td>
<td>150 (66)</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PTFE</td>
<td>225 (107)</td>
<td>5</td>
<td>2</td>
<td>4**</td>
</tr>
<tr>
<td>PVDF</td>
<td>200 (93)</td>
<td>5</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Santoprene</td>
<td>225 (107)</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Stainless Steel (300 Series)</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Stainless Steel (400 Series)</td>
<td>-</td>
<td>3</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Viton</td>
<td>350 (177)</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

* Applies to diaphragms only.

** Increased flex life with use of santoprene diaphragm backer.

NOTE: Temperatures are reference for materials only. Refer to operator’s manual for maximum pump operating temperature.
Progress in Motion

For more than 100 years, we’ve helped drive innovation with revolutionary technology — creating new standards for how the world gets work done. We’ve done it by producing class-leading Ingersoll Rand / ARO pump and dispensing technologies, and by knowing our customers’ industries and the demands placed on productivity and quality.

No matter what your product, process, or location, Ingersoll Rand / ARO offers a broad range of pumps and accessories, fully customizable dispensing systems, and a worldwide distribution and service network guaranteed to solve any fluid handling challenge.
ARO Diaphragm Pumps are backed by a 5-year warranty on materials and workmanship for your purchasing peace of mind.

ARO’s Pump design and manufacturing operations have demonstrated compliance with the quality process, health and safety, technical file and multi-lingual standards set forth by the FEM (Federation Europeene de la Manutention) for the European Union (Communitie Economique).