4-Ball piston pumps are ideal solutions for higher volume and recirculation applications.

For over 85 years, the ARO® Fluid Products business of Ingersoll Rand has developed partnerships with more than 200 original equipment manufacturers and distributors, enabling us to better focus on the unique pumping needs of many industries. It is a strategic merger of our partners’ application expertise, along with our decades-long legacy of designing and building outstanding piston pumps.

Piston pumps are the heartbeat that keeps material flowing through your most vital systems. When a steady stream is essential to your operation, it’s important to trust products that can handle the pressure—that’s where ARO comes in.

ARO offers a versatile range of piston pumps capable of meeting the specific needs of your specific application. Available in multiple configurations with a broad selection of pressure ratios and displacement rates, our pumps can help unlock superior performance and increase production across a number a unique applications.

Unmatched application expertise in:

- Finishing
- Coatings
- Sealants and Adhesives
- Bulk material transfer and circulation
- High-pressure cleaning
- Lubrication
Whether your application requires a 2-ball, 4-ball, or chop-check piston pump, with ARO you get a pump that’s better engineered, from the inside out. We offer design features and performance enhancements that ensure your pump is as durable and dependable as possible — maximizing output and minimizing downtime for a long time to come.

**Pump selection made simple**

With an ARO® piston pump, you can be assured of getting reliable equipment with the least amount of effort, calculation, or hassle on your part. There are basically four factors to take into consideration when selecting the right configuration for your application:
- **Type of fluid**
- **Viscosity or thickness**
- **Required flow rate**
- **Required output pressure**

**Pump selection at a glance**

Knowing fluid viscosity and flow rates makes it easier to choose the right pump for your application. Not sure what size air motor or piston pump you need? No problem. You can find out by calling ARO® Technical Support and working directly with our expert pump consultants, or by visiting our website to access specific pump performance data. Either way, you’ll be sure to get a motor and pump package that operates efficiently, reliably, and safely.

**Best-in-class output**

- Our 6” stroke delivers best-in-class displacement per cycle, delivering better flow rate, better output, and less fatigue on parts.

**Easy serviceability**

- Plungers and packings are easily accessible, minimizing downtime.
- Pump packings on the lower pumps are adjustable, featuring a wave spring and guide arrangement.
- Parts are available in convenient service kits so you have the right parts at the right time.

**Superior performance with abrasive fluids**

- Plunger rods and cylinder tubes feature a ceramic coating, extending service life up to twice as long. Available on 2-ball. Standard on 4-ball.
- Available in affordable **high-grade stainless-steel** construction.
- Electro-polished and passivated for material compatibility and corrosion-free operation.
- **Eight packing options** are available, including ultra-high molecular weight polyethylene (UHMW-PE), for even better material compatibility and excellent abrasion resistance.
- **Chrome-plated stainless steel plungers** for superior resistance to rust and corrosion.
Simply Versatile

4-ball piston pumps are designed to transfer high volumes of low- and medium-viscosity fluids up to 12,500 cPs with fluid delivery up to 32.8 gpm (124.0 L/min), depending on the application.

Applications advantages of 4-balls:

Transfer & Supply: 4-ball pumps are designed to move high volumes of fluids in order to minimize time spent filling or emptying large containers. The high flow rate is a result of double-acting pumping (draws material on the upstroke and downstroke) and is ideal for the large scale transfer of paints, chemicals, varnishes, enamels, lacquers and other low-to-medium viscosity fluids.

Another common application: circulating fluid from the original container to the point of use, and then back.

Materials advantages of 4-balls:

- **Corrosive materials**: ARO® 4-ball lower ends are constructed with stainless steel to maximize fluid compatibility with water based materials.

- **Abrasive materials**: A ceramic coating on the plunger rod and cylinder tube come standard on ARO® 4-ball pumps, protecting from highly abrasive materials and extending the service life of these parts up to 2x.
## Selection Chart

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Flow (gpm)</th>
<th>Delivery Rate (gpm</th>
<th>Rate (L/min)</th>
<th>Material of Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:1</td>
<td>21.3</td>
<td>80.6 l/min</td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>3:1</td>
<td>29.3</td>
<td>110.8 l/min</td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>4:1</td>
<td>21.3</td>
<td>80.6 l/min</td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>5:1</td>
<td>32.8</td>
<td>124 l/min</td>
<td>St. Steel</td>
<td></td>
</tr>
<tr>
<td>7:1</td>
<td>23.5</td>
<td>88.8 l/min</td>
<td>Stainless Steel</td>
<td></td>
</tr>
</tbody>
</table>

## Viscosity Guide

<table>
<thead>
<tr>
<th>Flow (gpm)</th>
<th>Maximum Delivery Rate gpm (L/min)</th>
<th>Fluid Pressure Range psi (bar)</th>
<th>Pump Model Number</th>
<th>Material of Construction</th>
<th>Lower End Type</th>
<th>500 cPs</th>
<th>1,000 cPs</th>
<th>5,000 cPs</th>
<th>7,500 cPs</th>
<th>10,000 cPs</th>
<th>12,500 cPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 35</td>
<td>21.3 (80.6)</td>
<td>2:1</td>
<td>AF0402M11XXXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21.3 (80.6)</td>
<td>4:1</td>
<td>AF0604M11XXXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22.4 (84.8)</td>
<td>0.2:1</td>
<td>650950-XXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.5 (89)</td>
<td>7:1</td>
<td>AF0807M11XXXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29.3 (110.9)</td>
<td>3:1</td>
<td>AF0603M11XXXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32.8 (124.2)</td>
<td>5:1</td>
<td>AF0805M11XXXX</td>
<td>Stainless Steel</td>
<td>4-Ball</td>
<td>Siphon</td>
<td>Flooded Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AF0402 Series Pumps

Materials: Paint, Chemicals, Varnishes, Enamels, Lacquers

Pump Specifications
- Ratio: 2:1
- Stroke (double acting): 6” (15.24 cm)
- Material Inlet: 1-1/2” NPT(F)
- 2” NPT(M)
- Material Outlet: 1” NPT(F)
- Air Inlet (female): 1/2” NPT(F)
- Air Inlet Pressure Range: 30 - 150 psi (bar) (2.1 - 10.3)
- Fluid Pressure Range: 60 - 312 psi (bar) (4.1 - 21.5)
- Max Cycles/Minute: 60
- Displacement/Cycle cu in (cm³): 82.1 (1345.3)
- Cycles/gal (L): 2.8 (0.74)
- Flow @ 60 Cycles gpm (L/min): 21.3 (80.6)
- Noise Level @ 60 psi dBA: 86.5
- Weight* lb (kg): 68 (30.8)
- Container Suitability: Remote Mounting

*Estimated weight. Contact Technical Support for exact weight.

DIMENSIONS
- A in (mm): 45.27 (1149.76)
- B in (mm): 21.99 (558.62)
- C in (mm): 19.54 (496.32)

For models without ball valve regulator subtract 2.08 in (52.83 mm)

Recommended Accessories
- 67445-1 Muffler Kit
- 66334-B Wet-Sol Packing
- 23644-400 ARO-Stop Valve
- 67187-1 Mounting Post
- 67442 Ball Valve Regulator
- 637489 Universal Air Motor Service Kit
Materials: Paint, Chemicals, Varnishes, Enamels, Lacquers

Pump Specifications

- Ratio: 3:1
- Stroke (double acting): 6" (15.24 cm)
- Material Inlet: 1-1/2" NPT(F), 2" NPT(M)
- Material Outlet: 1" NPT(F)
- Air Inlet (female): 1/2" NPT(F)
- Air Inlet Pressure Range: 30 - 150 psi (2.1 - 10.3 bar)
- Fluid Pressure Range: 90 - 457 psi (6.2 - 31.5 bar)
- Max Cycles/Minute: 60
- Displacement/Cycle cu in (cm³): 112.7 (1846.8)
- Flow @ 60 Cycles gpm (L/min): 29.3 (110.8)
- Noise Level @ 60 psi dBA: 84.7
- Weight* lb (kg): 73.25 (33.2)

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

- 67445-2 Muffler Kit
- 66334-B Wet-Sol Packing
- 67442 Ball Valve
- 67187-1 Mounting Post
- 23644-400 ARO-Stop Valve
- 67442 Ball Valve
- 637489 Universal Air Motor Service Kit

DIMENSIONS

| A1 (in) | 45.27 (1149.76) |
| B (in)  | 21.99 (558.62)  |
| C (in)  | 19.54 (496.32)  |

*For models without ball valve regulator subtract 2.08 in (52.83 mm)

**Add "-1" to Model No. for Ball Valve Regulator
AF0604 Series Pumps

**Materials:** Paint, Chemicals, Varnishes, Enamels, Lacquers

**Pump Specifications**
- Ratio: 4:1
- Stroke (double acting): 6" (15.24 cm)
- Material Inlet: 1-1/2" NPT(F), 2" NPT(M)
- Material Outlet: 1" NPT(F)
- Air Inlet (female): 1/2" NPT(F)
- Air Inlet Pressure Range: 30 - 150 psi (2.1 - 10.3 bar)
- Fluid Pressure Range: 120 - 633 psi (8.3 - 43.7 bar)
- Max Cycles/Minute: 60
- Displacement/Cycle cu in (cm³): 82.1 (1345.3)
- Cycles/gal (L): 2.8 (0.74)
- Flow @ 60 Cycles gpm (L/min): 21.3 (80.6)
- Noise Level @ 60 psi dBA: 84.7
- Weight*: lb (kg): 71.25 (32.3)

*Estimated weight. Contact Technical Support for exact weight.

**Pump Model**

<table>
<thead>
<tr>
<th>Pump Model**</th>
<th>Plunger Material</th>
<th>Upper Packings</th>
<th>Lower Packings</th>
<th>Lower Pump Model</th>
<th>Pump Service Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF0604M11FF48</td>
<td>17-4 Stainless Steel, Ceramic Coated</td>
<td>UHMW-PE</td>
<td>UHMW-PE</td>
<td>67200-C4B</td>
<td>637317-C4B</td>
</tr>
<tr>
<td>AF0604M11KS48</td>
<td>17-4 Stainless Steel, Ceramic Coated</td>
<td>Glass Filled PTFE</td>
<td>Virgin PTFE</td>
<td>67200-74B</td>
<td>637317-74B</td>
</tr>
<tr>
<td>AF0604M11HF48</td>
<td>17-4 Stainless Steel, Ceramic Coated</td>
<td>UHMW-PE/Leather (Staggered)</td>
<td>UHMW-PE</td>
<td>67200-F4B</td>
<td>637317-F4B</td>
</tr>
<tr>
<td>AF0604M11GF48</td>
<td>17-4 Stainless Steel, Ceramic Coated</td>
<td>UHMW-PE/Glass Filled PTFE (Staggered)</td>
<td>UHMW-PE</td>
<td>67200-P4B</td>
<td>637317-P4B</td>
</tr>
<tr>
<td>AF0604M11RS48</td>
<td>17-4 Stainless Steel, Ceramic Coated</td>
<td>Glass Filled PTFE/ UHMW-PE (Staggered)</td>
<td>Virgin Teflon</td>
<td>67200-R4B</td>
<td>637317-R4B</td>
</tr>
</tbody>
</table>

**Recommended Accessories**

| 67445-2 | 66334-8 | 23644-400 | 67187-1 | 67442 | 637489 |
| Muffler Kit | Wet-Sol Packing Lubricant | ARO-Stop Valve | Mounting Post | Ball Valve Regulator | Universal Air Motor Service Kit |

**DIMENSIONS**

- A1 in (mm): 45.27 (1149.76)
- B in (mm): 21.99 (558.62)
- C in (mm): 19.54 (496.32)

*For models without ball valve regulator subtract 2.08 in (52.83 mm)
AF0805 Series Pumps

Materials: Paint, Chemicals, Varnishes, Enamels, Lacquers

Pump Specifications

Ratio 5:1
Stroke (double acting) 6” (15.24 cm)
Material Inlet 1-1/2” NPT(F)
2” NPT(M)
Material Outlet 1” NPT(F)
Air Inlet (female) 3/4” NPT(F)
Air Inlet Pressure Range psi (bar) 30 - 120 (2.1 - 8.3)
Fluid Pressure Range psi (bar) 150 - 702 (10.3 - 48.4)
Max Cycles/Minute 60
Displacement/Cycle cu in (cm³) 108.1 (1771.4)
Cycles/gal (L) 2.1 (0.5)
Flow @ 60 Cycles gpm (L/min) 32.8 (124.0)
Noise Level @ 60 psi dBA 86.8
Weight* lb (kg) 96 (43.5)
Container Suitability Remote Mounting

DIMENSIONS

A in (mm) 48.73 (1237.72)
B in (mm) 25.67 (652.12)
C in (mm) 19.54 (496.32)

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

** Add “-1” to Model No. for Ball Valve Regulator

Materials:

Paint, Chemicals, Varnishes, Enamels, Lacquers

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

67445-3 Muffler Kit
66334-8 Wet-Sol Packing Lubricant
23644-400 ARO-Stop Valve
67187-1 Mounting Post
67442 Ball Valve Regulator
637489 Universal Air Motor Service Kit

*Estimated weight. Contact Technical Support for exact weight.
AF0807 Series Pumps

Materials: Paint, Chemicals, Varnishes, Enamels, Lacquers

Pump Specifications

Ratio 7:1
Stroke (double acting) 6" (15.24 cm)
Material Inlet 1-1/2" NPT(F)
2" NPT(M)
Material Outlet 1" NPT(F)
Air Inlet (female) 3/4" NPT(F)
Air Inlet Pressure Range 30 - 120 psi (bar) (2.1 - 8.3)
Fluid Pressure Range 210 - 1009 psi (bar) (14.5 - 69.6)
Max Cycles/Minute 60
Displacement/Cycle cu in (cm³) 82.1 (1345)
Cycles/gal (L) 2.8 (0.7)
Flow @ 60 Cycles gpm (L/min) 23.5 (88.8)
Noise Level @ 60 psi dBA 86.8
Weight* lb (kg) 94 (42.6)
Container Suitability Remote Mounting

DIMENSIONS

A in (mm) 48.73 (1237.72)
B in (mm) 25.67 (652.12)
C in (mm) 19.54 (496.32)

*Estimated weight. Contact Technical Support for exact weight.

Recommended Accessories

- 67445-3 Muffler Kit
- 66334-8 Wet-Sol Packing Lubricant
- 23644-400 ARO-Stop Valve
- 67187-1 Mounting Post
- 67442 Ball Valve Regulator
- 637489 Universal Air Motor Service Kit
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