

# ARO

## *EXPert Series Diaphragm Pumps*

*3/8" thru 3" Fluid Ports*



**IR** **Ingersoll Rand**  
Industrial Technologies

# Where's Your EXP Opportunity?

- ▷ Tanker / Truck / Train Unloading
- ▷ Bulk Tank / Tank Farm Transfer
- ▷ Waste Water Treatment / Fluid Filtration
- ▷ Formulation
- ▷ Basic Transfer / Supply
- ▷ Packaging / Filling
- ▷ Batching / Blending
- ▷ System Flush
- ▷ Recirculation / Reclamation

### Chemical Processing

#### Formulation Of:

- Soaps
- Detergents
- Cleansing / Polishing Agents
- Paints / Dyes
- Adhesives
- Inks
- Shear Sensitive Materials

### Surface Preparation:

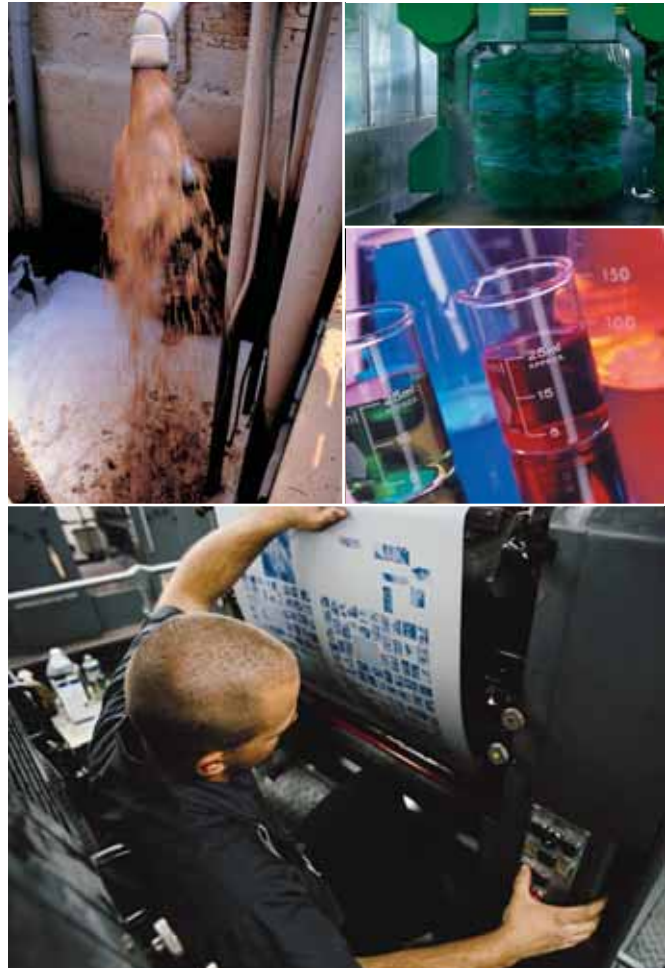
#### Supply and Transfer of:

- E-Coat
- Etching
- Plating

### Pharmaceuticals

#### Supply and Transfer of:

- FDA Materials



### Why Diaphragm Pumps?

- Sealsless Design
- Explosion-Proof
- Low Material Shear
- Ease of Maintenance
- Can be Run Dry Without Damage
- Portable
- Self Priming
- Easy-to-Apply

### Why ARO® Diaphragm Pumps?

- Efficient: The Best "Total Cost of Ownership" in the Industry
- Worldwide Distribution Network for Sales and Service
- 5-Year Warranty

# What Does Your Pumps Cost You?

## EXPer Series Pumps

The purchase price of a traditional diaphragm pump is the smallest piece of the total pump cost-of-ownership pie. There are downtime costs, energy costs, parts costs and labor costs to consider as well. Add all these up and you're dealing with a sizeable financial commitment that gets tougher to swallow with each passing quarter. With EXP, you can slice the total cost-of-ownership pie down to a much more digestible size. This is what "Solutionizing" is all about; providing smart products that not only demonstrate superior performance, but earn their keep while they're at it.

### EXP Reliability

| Traditional Pump Downtime Problems            | EXP Solution                             | The Payoff                                                                   |
|-----------------------------------------------|------------------------------------------|------------------------------------------------------------------------------|
| Pump Freezing                                 | Quick Dump™ Checks                       | Downtime from Freezing Eliminated                                            |
| Pump Stalling                                 | SimulShift™ Valve / Unbalanced Air Valve | Process Production Uptime;<br>No More Hammers or Restart Buttons             |
| Diaphragm Failure                             | Convolute Diaphragms                     | Up to 4-Times the Life of<br>Traditional Diaphragms                          |
| Air Motor Corrosion Due to<br>Chemical Attack | Engineered Thermoplastic Construction    | Extended Pump Life                                                           |
| Pump Leakage                                  | Engineered Bolted Construction           | Zero Leakage Downtime<br>Safer, Cleaner Environment<br>Material Cost Savings |

### EXP Efficiency

| Traditional Pump Design Issues                        | EXP Design Solution                    | The Payoff                        |
|-------------------------------------------------------|----------------------------------------|-----------------------------------|
| Compressed Air "Blow-By" Caused by<br>Inferior Design | Positive Seal, Ceramic "D" Valve       | No Energy Wasted During Pump Idle |
| Poor Energy Efficiency                                | Quick Dump Checks<br>SimulShift Valves | Lower Energy Costs                |

### EXP Serviceability

| Traditional Pump Service Problems                                                                                                            | EXP Service Solution                                                                                             | The Payoff                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Labor/Time: Pulling & Replacing Failed Pumps<br>Labor/Time: Tearing Down and<br>Replacing Failed Parts<br>Complex or Incomplete Service Kits | Longer Lasting Wear Parts i.e.<br>Convolute Diaphragms<br>Easy-Access Major Air Valve<br>Simplified Service Kits | Significantly Reduced Labor and Parts Costs                         |
| Cost Of Stocking Spares (Inventory)                                                                                                          | Longer - Lasting Wear Components<br>Reduced Kits                                                                 | Reduced Parts Inventory<br>(Tied-Up Capital, Stocking, Taxes, etc.) |

### Are EXP Energy Savings For Real? Let's Do The Math:

#### EXP (ARO) Vs. Most "Advanced" Competitor

**Test Subjects:** 2" (Ports) Polypropylene Constructed Pumps with Teflon Diaphragms

**Pump Operation:** 8 Hours a Day/5 Days a Week/250 Days a Year = 2,000 Hours

**Pump Delivery:** 100 GPM @ 25 PSI (Back Pressure)

**Energy Cost:** \$0.06 Per Kilowatt Hour

**EXP Air CFM Advantage:** 37 @ 100 GPM

**EXP Annual Cost Savings Per Pump: \$618.93**

**Note:** Testing of pumps based on Hydraulic Institute / ANSI (10.6) air-operated pump test guidelines. All tests were conducted on new, out-of-the-box models. Both pumps were tested on Hydraulic Institute - conforming test loop at 25 PSI back pressure, pumping 100 gallons per minute. The fluid being pumped was water. For complete test guidelines and procedure information, contact the manufacturer.

# High Performance Diaphragm Pumps EXPerT Series Pumps



## 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.

### The Key To EXP: Patented ARO Air Motor Technology

#### “Simul-Shift™” Valve

- Provides an ultra-positive, reliable shift signal that avoids stall-out.
- Provides faster pump trip-over with more flow.
- Faster trip-over improves delivery with less pulsation and superior material flow.

#### “D” Valve

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

#### “Unbalanced” Major Air Valve

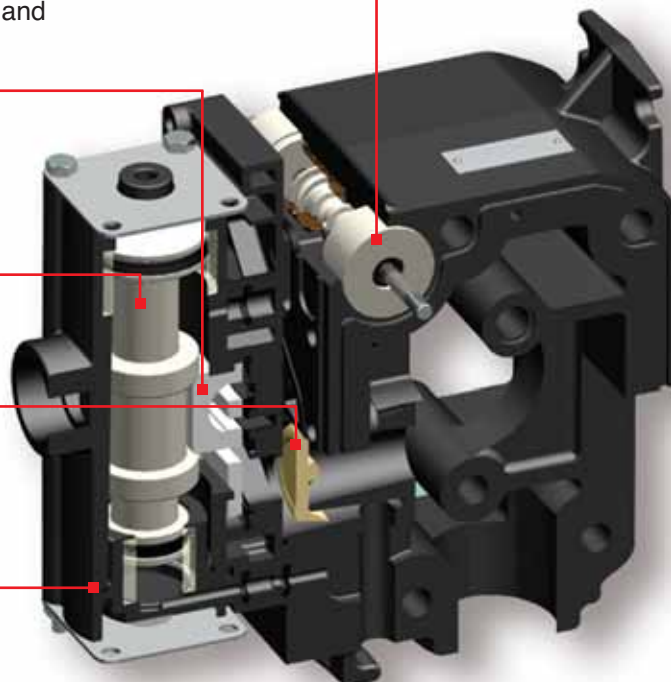
- Unbalanced valve design eliminates valve centering and pump stall-out, even under low air inlet pressures.

#### “Quick Dump™” Checks

- Eliminates pump ice-up by diverting cold, wet exhaust air away from the major air valve.
- Removes the need for space heaters, hot water taps or other ice preventive contraptions.

#### Simplified Major Air Valve Block

- New valve block design is easy to access, simple to service and lube free.
- Engineered thermoplastic body combines strength with corrosion resistance.



EXP Motor Cutaway

# Patented Valve Technology in Operation

## EXPerT Series Pumps

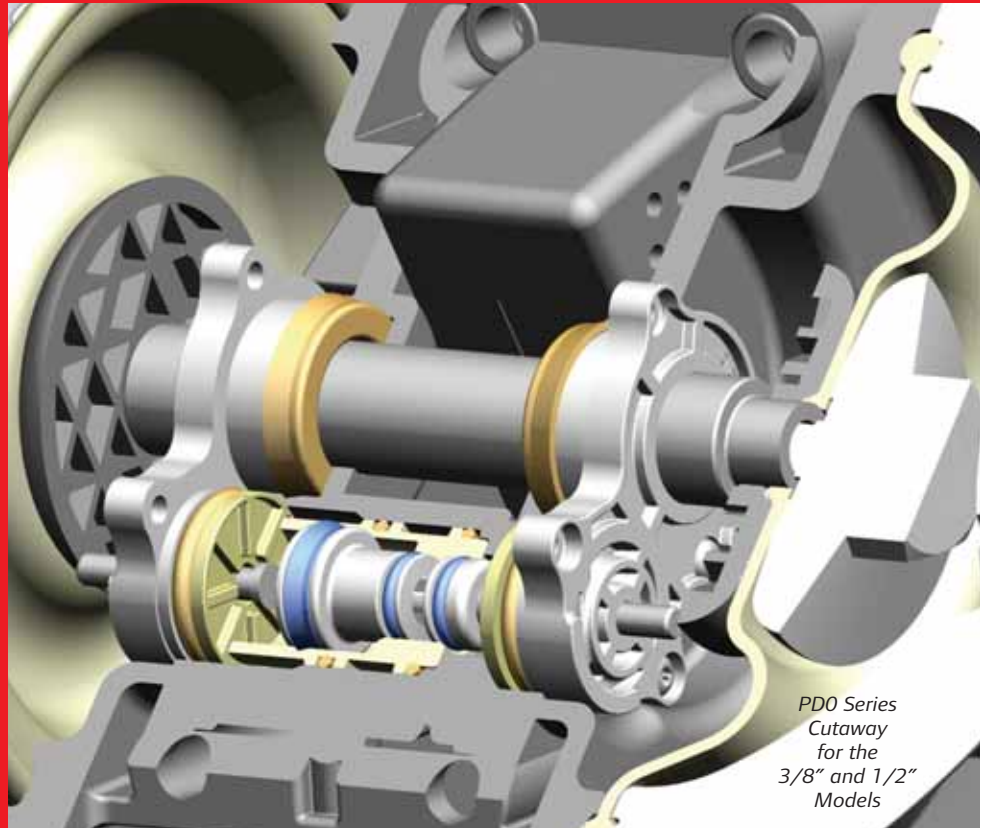
Unbalanced valve design eliminates valve centering and pump stall-out even under low air inlet pressures.

### "D" Valve

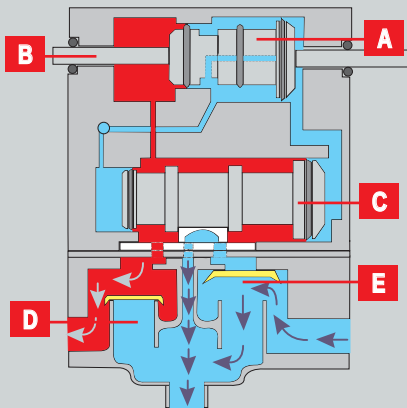
- ▷ Provides a positive seal.
- ▷ Helps insure optimum energy efficiency while avoiding costly air "blow-by."
- ▷ Ceramic construction insures long service life.

### "Simul-Shift" 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 material flow.



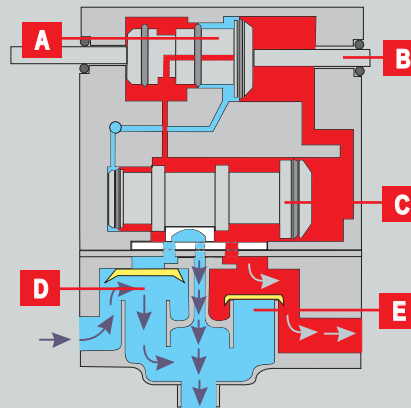
**Diaphragm Moving from Left to Right**



Diaphragm has pushed actuator pin (B) and Simul-Shift Valve (A) to the right.

- 1.) Compressed Air (red) pneumatically holds the Simul-Shift Valve (A) and the Major Air Valve (C) in position. Large ends of the Simul-Shift Valve (A) and Major Air Valve (C) are vented to exhaust.
- 2.) The left Quick Dump Check (D) blocks the exhaust port. Compressed air flows around Quick Dump Check (D) into the left diaphragm chamber.
- 3.) The right Quick Dump Check (E) lifts to open the exhaust port and allows cold, wet exhaust air (blue) from the right diaphragm chamber to flow into the expansion chamber, while diverting cold, wet exhaust air (blue) from the Major Air Valve.
- 4.) Diaphragm reverses direction (C)

**Diaphragm Moving Right to Left**



- 1.) The diaphragm pushes the right Actuator Pin (B) mechanically moving the Simul-Shift Valve (A) to the left.

- 2.) Compressed air flows to the large side of the Simul-Shift 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.
- 4.) Shift of the Major Air Valve (C) results in an air pressure differential between the Quick Dump Checks (D&E) - causing the Quick Dump Checks to shift position.
- 5.) The right Quick Dump Check (E) blocks the exhaust port. Compressed air (red) flows around the Quick Dump Check into the right diaphragm chamber.
- 6.) The left Quick Dump Check (D) lifts to open the exhaust port and allows cold, wet exhaust air (blue) from the left diaphragm chamber to flow into the expansion chamber, while diverting cold, wet exhaust air (blue) from the Major Air Valve (C).
- 7.) Diaphragms reverse direction

# The Ultimate Process Pump

## EXPer Series Pumps: Non-Metallic Models

From its simple beginnings as a utility dewatering / trash pump, through its various phases of design evolution, the diaphragm pump has been a favorite with process professionals everywhere. Why? Simplicity. The ARO EXP design team has taken this fundamental feature and

engineered efficiency, compatibility and economy into every aspect of the new EXP Diaphragm Pump. Economy in fewer repair parts and labor. Economy in saved energy. Economy in superior performance. Do you want to reduce pump downtime while boosting production? Here it is.

### Five Year Warranty

#### Side Fluid Inlet/Outlet Ports

Easy to install side-porting permits fast plumb-up while avoiding fluid material leaking directly onto the pump. The EXP flange bolt pattern meets both DIN and ANSI requirements.

#### Body Materials of Construction

Choose from natural PVDF or natural polypropylene for optimum fluid compatibility and corrosion resistance.

#### Ribless Fluid Caps

Originally intended to provide greater structural integrity, many non-metallic diaphragm pump designs incorporate ribbed fluid caps. Since that time, state-of-the-art Finite Element Analysis has proven that fluid cap ribs are actually stress points that weaken rather than strengthen overall structural integrity. No ribs also allow for easier cleaning and washdown.

#### Corrosion - Resistant Center Body

**Non-Metallic Air Motor** - Featuring a glass-filled polypropylene construction and thermoset vinyl ester, the EXP air motor is both strong and resistant to chemical attack.

**Stainless Steel Hardware** - EXP air motor and end cap fasteners are made of 316 stainless steel for complete corrosion resistance.

#### Long-Lasting Convoluted Diaphragms

EXP convoluted diaphragms can last as long as four times that of traditional diaphragms under normal operating conditions.

#### Stall-Free, Ice-Free Air Motor Design

The new EXP air motor has exclusive Simul-Shift™ valve technology to help insure faster pump trip-over with smoother flow. It also features Quick Dump valves; the final answer to pump stalling due to ice build-up.

## Model Overview: Non-Metallic EXpert Series Pumps: Non-Metallic Models

NON-METALLIC



| <b>Models:</b>                                           | <b>3/8"</b>                                                                                                                                                                                                     | <b>1/2"</b>                                                                            | <b>1"</b>                                                                                                                                                                                                     | <b>1-1/2"</b>                                                                                                                               | <b>2"</b>                              |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>Maximum Flow<br/>GPM (LPM)</b>                        | 10.6<br>(40.1)                                                                                                                                                                                                  | 14.4<br>(54.5)                                                                         | 53<br>(200)                                                                                                                                                                                                   | 123<br>(465)                                                                                                                                | 184<br>(696)                           |
| <b>Maximum Discharge<br/>Pressure<br/>PSI (BAR)</b>      | 100<br>(6.9)                                                                                                                                                                                                    | 100<br>(6.9)                                                                           | 120<br>(8.3)                                                                                                                                                                                                  | 120<br>(8.3)                                                                                                                                | 120<br>(8.3)                           |
| <b>Fluid Ports<br/>Inlet/Outlet<br/>(BSP)</b>            | 3/8 - 18 N.P.T.F. - 1<br>Rp 3/8(3/8-19 BSP)<br>Parallel<br>(Side or Center)                                                                                                                                     | 1/2 - 18 N.P.T.F. - 1<br>Rp 1/2(1/2-14 BSP)<br>Parallel<br>(Side or Center)            | 1" ANSI/DIN Flange<br>(Side or Center)<br>1 - 11-1/2" NPT<br>Rp 1(1-11 BSP)<br>(Center Discharge)                                                                                                             | 1-1/2" ANSI/DIN Flange<br>(Side or Center)                                                                                                  | 2" ANSI/DIN Flange<br>(Side Discharge) |
| <b>Materials<br/>of<br/>Construction</b>                 | Acetal<br>Polypropylene<br>PVDF                                                                                                                                                                                 | Acetal<br>Polypropylene<br>PVDF                                                        | Polypropylene<br>PVDF                                                                                                                                                                                         | Polypropylene<br>PVDF                                                                                                                       | Polypropylene<br>PVDF                  |
| <b>Pump Weight<br/>lbs (Kg.)</b>                         | 4.16 (1.89) Acetal<br>Single Port<br>4.26 (1.93) Acetal<br>Multi Port<br>4.50 (2.04) PVDF<br>Single Port<br>4.62 (2.10) PVDF<br>Multi Port<br>3.44 (1.56) Poly<br>Single Port<br>3.55 (1.59) Poly<br>Multi Port | 6.28 (2.85)<br>6.67 (3.03)<br>6.78 (3.08)<br>7.24 (3.28)<br>5.21 (2.36)<br>5.44 (2.47) | 19.35 (8.78) Poly<br>Threaded<br>19.59 (8.89) Poly<br>Center Port<br>19.87 (9.01) Poly<br>Side Port<br>25.83 (11.72) PVDF<br>Threaded<br>26.72 (12.12) PVDF<br>Center Port<br>27.15 (12.32) PVDF<br>Side Port | 42.60 (19.32) Poly<br>Side Port<br>63.94 (29.0) PVDF<br>Side Port<br>42.30 (19.19) Poly<br>Center Port<br>55.94 (25.37) PVDF<br>Center Port | 85.3 (38.7) Poly<br>110.9 (50.3) PVDF  |
| <b>Maximum Solids<br/>inches (mm)</b>                    | 1/16" (1.6)                                                                                                                                                                                                     | 3/32" (2.4)                                                                            | 1/8" (3.2)                                                                                                                                                                                                    | 1/4" (6.4)                                                                                                                                  | 1/4" (6.4)                             |
| <b>Maximum Dry<br/>Suction Lift ft (m)</b>               | 8.5 (2.6)<br>(PTFE fitted)                                                                                                                                                                                      | 7.9 (2.4)<br>(PTFE fitted)                                                             | 19 (5.7)                                                                                                                                                                                                      | 14 (4.2)                                                                                                                                    | 14 (4.2)                               |
| <b>Recommended<br/>Filter/Regulator<br/>Air Line Kit</b> | P29122-600<br>66073-1                                                                                                                                                                                           | P29122-600<br>66073-1                                                                  | P29221-610<br>66073-2                                                                                                                                                                                         | P29241-610<br>66084-1                                                                                                                       | P29351-600<br>66109                    |

## 3/8" Non-Metallic Models OEM / Transfer Pumps

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

|                                                 |                                                                                                                                                                            |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                                                                        |
| <b>Maximum GPM (LPM):</b>                       | 10.6 (40.1)                                                                                                                                                                |
| <b>Displacement per cycle</b> Gallons (Liters): | 0.022 (.083)                                                                                                                                                               |
| <b>Air Inlet</b> (Female):                      | 1/4 - 18 P.T.F. SAE Short                                                                                                                                                  |
| <b>Fluid Inlet:</b>                             | 3/8 - 18 N.P.T.F. - 1 (side or center)<br>Rp 3/8 (3/8 - 19 BSP side or center)                                                                                             |
| <b>Fluid Outlet:</b>                            | 3/8 - 18 N.P.T.F. - 1 (side)<br>Rp 3/8 (3/8 - 19 BSP side)                                                                                                                 |
| <b>Max. operating pressure</b> psi (bar):       | 100 (6.9)                                                                                                                                                                  |
| <b>Suspended solids max. dia.</b> in. (mm):     | 1/16" (1.6)                                                                                                                                                                |
| <b>Weight</b> lbs (kg):                         | PD03P-XDS-XXX 4.16 (1.89)<br>PD03P-XES-XXX 4.26 (1.93)<br>PD03P-XKS-XXX 4.50 (2.04)<br>PD03P-XLS-XXX 4.62 (2.10)<br>PD03P-XPS-XXX 3.44 (1.56)<br>PD03P-XRS-XXX 3.55 (1.59) |
| <b>Maximum dry suction lift</b> ft (m):         | 8.5 (2.6) PTFE fitted                                                                                                                                                      |
| <b>Sound Level:</b>                             |                                                                                                                                                                            |
|                                                 | PSI                      Cycles / Min                      db(A)                                                                                                           |
|                                                 | 70                                  60                                  72.7                                                                                               |



## Ordering Menu

|                                      |                        |   |                                            |                          |                      |                          |                      |                                       |
|--------------------------------------|------------------------|---|--------------------------------------------|--------------------------|----------------------|--------------------------|----------------------|---------------------------------------|
| <b>PX03</b>                          | <b>P</b>               | - | <b>X</b>                                   | <b>X</b>                 | -                    | <b>X X X</b>             | -                    | <b>XXX</b>                            |
| <b>Model Series</b>                  | <b>Center Section</b>  |   | <b>Connection</b>                          |                          | <b>Hardware</b>      |                          |                      | <b>Specialty Code</b>                 |
| <b>PD03</b> Standard Pump            | <b>P</b> Polypropylene |   | <b>A</b> 3/8 - 18 N.P.T.F.-1               | <b>S</b>                 | Stainless Steel      |                          |                      | - No Extension Standard               |
| <b>PE03</b> Remote Actuation Capable |                        |   | <b>B</b> Rp 3/8 (3/8 - 19 BSP)             |                          |                      |                          |                      | <b>A0S</b> Remote Actuation Capable** |
|                                      |                        |   | <b>Wetted Parts</b>                        |                          |                      |                          |                      |                                       |
|                                      |                        |   | <b>D</b> Groundable Acetal (Single Port)   |                          |                      |                          |                      |                                       |
|                                      |                        |   | <b>E</b> Groundable Acetal (Multiple Port) |                          |                      |                          |                      |                                       |
|                                      |                        |   | <b>K</b> PVDF (Single Port)                | <b>D</b> Acetal          | <b>Seat Material</b> | <b>A</b> Santoprene®     | <b>Ball Material</b> | <b>A</b> Santoprene                   |
|                                      |                        |   | <b>L</b> PVDF (Multiple Port)              | <b>K</b> PVDF            |                      | <b>C</b> Hytrel®         |                      | <b>C</b> Hytrel                       |
|                                      |                        |   | <b>P</b> Polypropylene (Single Port)       | <b>P</b> Polypropylene   |                      | <b>S</b> Stainless Steel |                      | <b>T</b> PTFE / Santoprene            |
|                                      |                        |   | <b>R</b> Polypropylene (Multiple Port)     | <b>S</b> Stainless Steel |                      | <b>T</b> PTFE            |                      | <b>V</b> Viton                        |
|                                      |                        |   |                                            |                          |                      | <b>V</b> Viton®          |                      |                                       |
|                                      |                        |   |                                            |                          |                      |                          |                      |                                       |

## 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.

**Cycle Counter Kit | Kit No. 67386**

Provides a closed contact output for monitoring pump operation. Can be used to monitor cycle rates, preventative maintenance and rough flow rate indication.

## Service Repair Kits | Kit No. 637428 (air motor)

Kit No. 637429-XX (fluid section)

**Wall Mount Bracket | 67388**



Wall Mount Bracket Kit  
67388

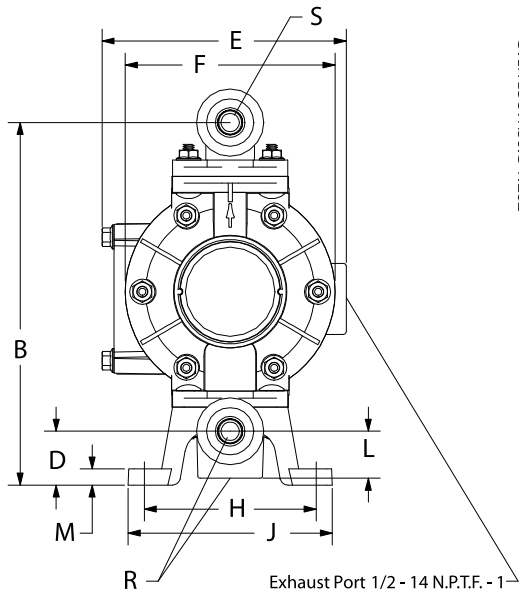
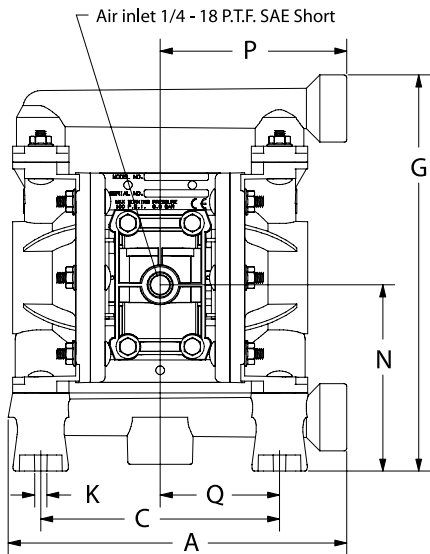
*\*Please note pumps are not included with these kits.*

**\*\*See options on page 45.**

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# 3/8" Non-Metallic Dimensions and Flow Curves OEM / Transfer Pumps



## DIMENSIONS

|                       |                      |                       |
|-----------------------|----------------------|-----------------------|
| A 7-29/32" (200.2 mm) | F 4-7/8" (123.9 mm)  | L 1-3/32" (27.8 mm)   |
| B 8-7/16" (214.3 mm)  | G 9-7/32" (234.2 mm) | M 3/8" (9.5 mm)       |
| C 5-9/16" (141.3 mm)  | H 4" (101.6 mm)      | N 4-11/32" (110.1 mm) |
| D 1-1/4" (31.8 mm)    | J 4-3/4" (120.7 mm)  | P 4-11/32" (110.3 mm) |
| E 5-23/32" (145.2 mm) | K 9/32" (7.1 mm)     | Q 2-25/32" (70.6 mm)  |

## Model

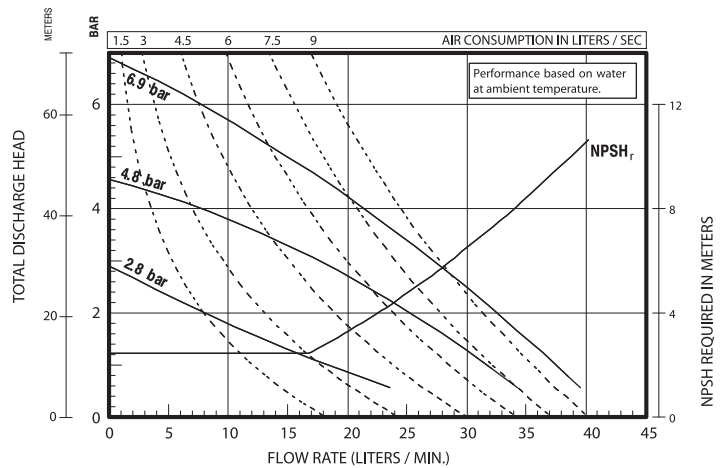
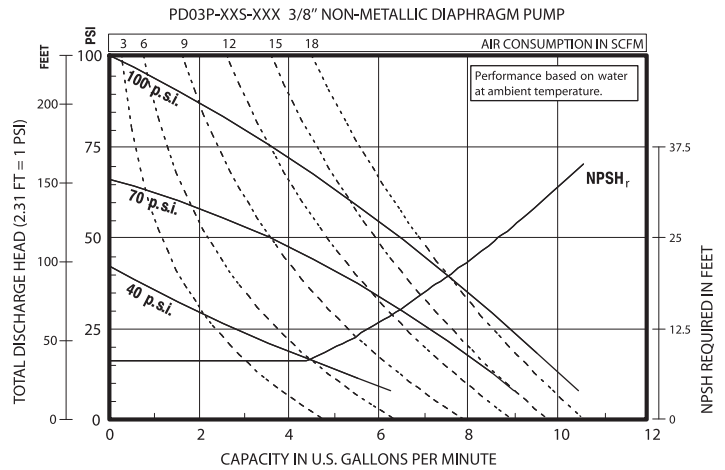
PD03P-AXS-XXX  
PD03P-BXS-XXX

## "R" Material Inlet

3/8 - 18 N.P.T.F. - 1  
Rp 3/8 (3/8 - 19 BSP)

## "S" Material Outlet

3/8 - 18 N.P.T.F. - 1  
Rp 3/8 (3/8 - 19 BSP)



PE03P-APS-PAA -A0S  
with 637442-1 kit

## Dual Inlet/Outlet Kits

637442-1 (NPT Poly)  
637442-4 (BSP Poly)  
637442-3 (NPT PVDF)  
637442-6 (BSP PVDF)  
637442-2 (NPT ACETAL)  
637442-5 (BSP ACETAL)

NON-METALLIC

# 1/2" Non-Metallic Models OEM / Transfer Pumps

## 1/2" Non-Metallic Performance Specifications

|                                                 |                                                                                                                                                                                                                                         |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                                                                                                                                     |
| <b>Maximum GPM (LPM):</b>                       | 14.4 (54.5)                                                                                                                                                                                                                             |
| <b>Displacement per cycle Gallons (Liters):</b> | 0.039 (.15)                                                                                                                                                                                                                             |
| <b>Air Inlet (Female):</b>                      | 1/4 -18 P.T.F. SAE SHORT                                                                                                                                                                                                                |
| <b>Fluid Inlet/Outlet:</b>                      | 1/2 - 14 N.P.T.F. - 1<br>1/2 -14 BSP, parallel                                                                                                                                                                                          |
| <b>Max. operating pressure psi (bar):</b>       | 100 (6.9)                                                                                                                                                                                                                               |
| <b>Suspended solids max. dia. in. (mm):</b>     | 3/32" (2.4)                                                                                                                                                                                                                             |
| <b>Weight lbs (kg):</b>                         | PD05P-XDS-XXX-B 6.28 (2.85)<br>PD05P-XES-XXX-B 6.67 (3.03)<br>PD05P-XKS-XXX-B 6.78 (3.08)<br>PD05P-XLS-XXX-B 7.24 (3.28)<br>PD05P-XPS-XXX-B 5.21 (2.36)<br>PD05P-XRS-XXX-B 5.44 (2.47)<br>Note: PE05P-XXS-XXX-B0S, subtract 0.42 (0.19) |
| <b>Maximum dry suction lift ft (m):</b>         | 7.9 (2.4) PTFE fitted                                                                                                                                                                                                                   |
| <b>Sound Level:</b>                             |                                                                                                                                                                                                                                         |

|     |              |       |
|-----|--------------|-------|
| PSI | Cycles / Min | db(A) |
| 70  | 60           | 71.0  |



## Ordering Menu

| PX05                          | P                       | -                | X                                   | X                 | S                 | -                 | X                  | X                              | X | - | BXX |
|-------------------------------|-------------------------|------------------|-------------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------------------|---|---|-----|
| Model Series                  | Center Section Material | Fluid Connection | Fluid Caps/<br>Manifold Material    | Hardware Material | Seat Material     | Ball Material     | Diaphragm Material | Specialty Code                 |   |   |     |
| PD05 Standard                 | P Polypropylene         | A 1/2" NPT       | D Groundable Acetal (single port)   | S Stainless Steel | D Acetal          | A Santoprene      | A Santoprene       | B Standard                     |   |   |     |
| PE05 Remote Actuation Capable |                         | B 1/2" BSP       | E Groundable Acetal (multiple port) |                   | K PVDF            | C Hytrel†         | C Hytrel†          | B0S Remote Actuation Capable** |   |   |     |
|                               |                         |                  | K PVDF (single port)                |                   | P Polypropylene   | G Nitrile         | G Nitrile          |                                |   |   |     |
|                               |                         |                  | L PVDF (multiple port)              |                   | S Stainless Steel | S Stainless Steel | T PTFE/Santoprene  |                                |   |   |     |
|                               |                         |                  | P Polypropylene (single port)       |                   |                   | T PTFE/Santoprene | U Polyurethane     |                                |   |   |     |
|                               |                         |                  | R Polypropylene (multiple port)     |                   |                   | U Polyurethane    | V Viton            |                                |   |   |     |
|                               |                         |                  |                                     |                   |                   | V Viton           |                    |                                |   |   |     |

† Hytrel replaces Buna, Geolast, Polyurethane and Nitrile producing superior chemical compatibility and diaphragm life

<sup>†</sup> Hytrel replaces Buna, Geolast, Polyurethane and Nitrile producing superior chemical compatibility and diaphragm life

## Accessories\* (for specialty pump application options and additional accessories see pages 40-45)

### 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 motor for PX05P)  
Kit No. 637427-XX (fluid section)

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

**Wall Mount Kit|** 76763

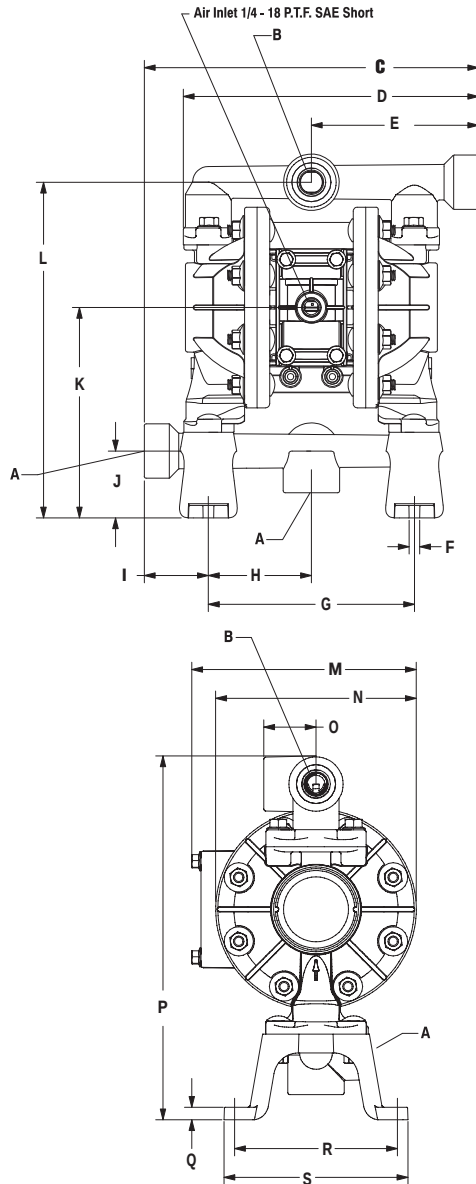
\*Please note pumps are not included with these kits.

\*\*See options on page 45.



Air Line Connection  
Kit 66073-1

# 1/2" Non-Metallic Dimensions and Flow Curves OEM / Transfer Pumps

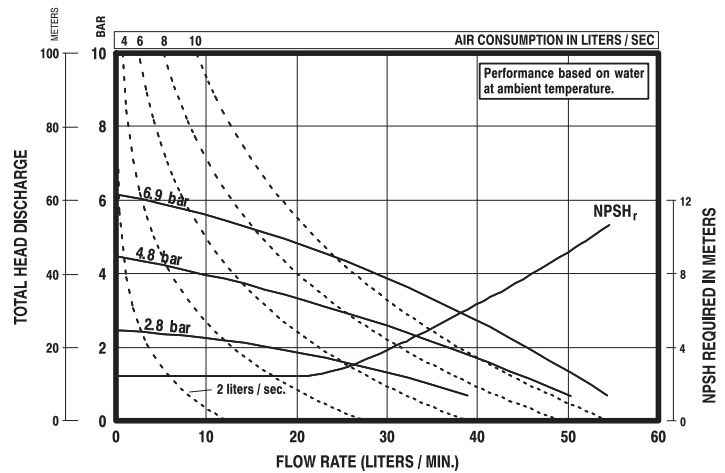
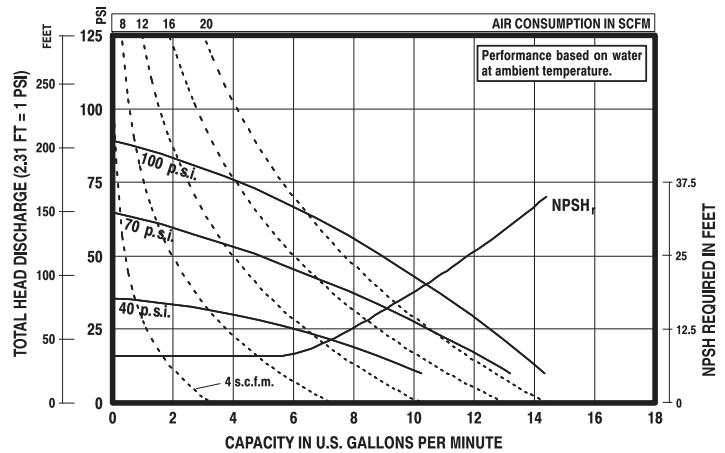


|                          |                                 |
|--------------------------|---------------------------------|
| <b>Pump Model</b>        | <b>"A" Material Inlet</b>       |
| PD05P- <b>A</b> XS-XXX-B | 1/2 - 14 NPTF-1                 |
| <b>Pump Model</b>        | <b>"B" Material Outlet</b>      |
| PD05P- <b>A</b> XS-XXX-B | 1/2 - 14 NPTF-1                 |
| <b>Pump Model</b>        | <b>"A" Material Inlet</b>       |
| PD05P- <b>B</b> XS-XXX-B | Rp 1/2 (1/2 - 14 BSP, parallel) |
| <b>Pump Model</b>        | <b>"B" Material Outlet</b>      |
| PD05P- <b>B</b> XS-XXX-B | Rp 1/2 (1/2 - 14 BSP, parallel) |

## DIMENSIONS

|                         |                         |                        |
|-------------------------|-------------------------|------------------------|
| C - 10" (254.0 mm)      | I - 1-59/64" (48.8 mm)  | O - 1-9/16" (39.7 mm)  |
| D - 8-27/32" (224.3 mm) | J - 2" (50.8 mm)        | P - 10-7/8" (275.7 mm) |
| E - 5" (127.0 mm)       | K - 6-5/16" (159.9 mm)  | Q - 3/8" (9.5 mm)      |
| F - 5/16" (8.0 mm)      | L - 10-1/16" (255.0 mm) | R - 4-7/8" (123.8 mm)  |
| G - 6.164" (156.6 mm)   | M - 6-23/32" (170.6 mm) | S - 5-1/2" (139.7 mm)  |
| H - 3-3/32" (78.3 mm)   | N - 6" (152.4 mm)       |                        |

PD05P-XXX-XXX 1/2" NON-METALLIC DIAPHRAGM PUMPS



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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



PE05P-APS-PAA-B0S  
with 637440-1 kit

## Dual Inlet/Outlet Kits

- 637440-1 (NPT Poly)
- 637440-4 (BSP Poly)
- 637440-2 (NPT Acetal)
- 637440-5 (BSP Acetal)
- 637440-3 (NPT PVDF)
- 637440-6 (BSP PVDF)

NON-METALLIC

# 1" Non-Metallic Models EXPert Series Pumps

## 1" Non-Metallic Performance Specifications

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------|------------------------------|--------------|----------------------------|--------------|---------------------|---------------|---------------------|---------------|-------------------|---------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Maximum GPM (LPM):</b>                       | 53 (200)                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Displacement per cycle Gallons (Liters):</b> | 0.226 (.86)                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Air Inlet (Female):</b>                      | 1/4 - 18 N.P.T.                                                                                                                                                                                                                                                                                                                                                                                                               |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Fluid Inlet:</b>                             | 1 - 11-1/2 N.P.T.F., Rp1(1-11 BSP)<br>1" A.N.S.I./DIN flange (side or center)                                                                                                                                                                                                                                                                                                                                                 |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Fluid Outlet:</b>                            | 1 - 11-1/2 N.P.T.F., Rp1(1-11 BSP)<br>1" A.N.S.I./DIN flange (side or center)                                                                                                                                                                                                                                                                                                                                                 |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Max. operating pressure psi (bar):</b>       | 120 (8.3)                                                                                                                                                                                                                                                                                                                                                                                                                     |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Suspended solids max. dia. in.(mm):</b>      | 1/8" (3.2)                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| <b>Weight lbs (kg):</b>                         | <table border="0"> <tr> <td>Polypropylene, Threaded Port</td><td>19.35 (8.78)</td></tr> <tr> <td>Polypropylene, Center Ported</td><td>19.59 (8.89)</td></tr> <tr> <td>Polypropylene, Side Ported</td><td>19.87 (9.01)</td></tr> <tr> <td>PVDF, Threaded Port</td><td>25.83 (11.72)</td></tr> <tr> <td>PVDF, Center Ported</td><td>26.72 (12.12)</td></tr> <tr> <td>PVDF, Side Ported</td><td>27.15 (12.32)</td></tr> </table> | Polypropylene, Threaded Port | 19.35 (8.78) | Polypropylene, Center Ported | 19.59 (8.89) | Polypropylene, Side Ported | 19.87 (9.01) | PVDF, Threaded Port | 25.83 (11.72) | PVDF, Center Ported | 26.72 (12.12) | PVDF, Side Ported | 27.15 (12.32) |
| Polypropylene, Threaded Port                    | 19.35 (8.78)                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| Polypropylene, Center Ported                    | 19.59 (8.89)                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| Polypropylene, Side Ported                      | 19.87 (9.01)                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| PVDF, Threaded Port                             | 25.83 (11.72)                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| PVDF, Center Ported                             | 26.72 (12.12)                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |
| PVDF, Side Ported                               | 27.15 (12.32)                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |              |                              |              |                            |              |                     |               |                     |               |                   |               |



**Maximum dry suction lift** ft(m) : 19 (5.7) Elastomer fitted  
**Sound Level:**

|     |              |       |
|-----|--------------|-------|
| PSI | Cycles / Min | db(A) |
| 70  | 60           | 79.7  |

## Ordering Menu

| <u>PX10</u>  |                                      |   | <u>X</u>                 | - | <u>X</u>                        | <u>X</u> |  | <u>S</u>        | - | <u>X</u>                   | <u>X</u> | <u>X</u>                 | <u>X</u> |
|--------------|--------------------------------------|---|--------------------------|---|---------------------------------|----------|--|-----------------|---|----------------------------|----------|--------------------------|----------|
| Model Series |                                      |   | Center Section           |   | Connection                      |          |  | Hardware        |   | Seat Material              |          | Diaphragm Material       |          |
| PD10         | Standard Pump                        | E | Conductive Polypropylene | A | NPTF Thread                     | S        |  | Stainless Steel | H | 440 Stainless Steel (Hard) | A        | Santoprene               |          |
| PE10         | Electronic Interface Accessible Pump | P | Polypropylene            | B | BSP Thread                      |          |  |                 | K | PVDF                       | C        | Hytrek                   |          |
|              |                                      |   |                          | F | 1" A.N.S.I./DIN Flange (Side)   |          |  |                 | P | Polypropylene              | G        | Nitrile                  |          |
|              |                                      |   |                          | Y | 1" A.N.S.I./DIN Flange (Center) |          |  |                 | S | 316 Stainless Steel        | M        | Medical grade Santoprene |          |
|              |                                      |   |                          |   | Wetted Parts                    |          |  |                 |   |                            | T        | PTFE/ Santoprene         |          |
|              |                                      |   |                          | E | Conductive Polypropylene        |          |  |                 |   |                            | V        | Viton                    |          |
|              |                                      |   |                          | K | PVDF                            |          |  |                 |   |                            |          | Ball Material            |          |
|              |                                      |   |                          | P | Polypropylene                   |          |  |                 |   |                            | A        | Santoprene               |          |
|              |                                      |   |                          |   |                                 |          |  |                 |   |                            | C        | Hytrek                   |          |

## 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.

## Diaphragm Failure Detection (DFD)\* | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE10X pump model is required)

**Cycle Counter Kit\* | Kit No. 67350**

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE10X pump model is required)

## Service Repair Kits | Kit No. 637397 (air motor for PX10P)

Kit No. 637396-XX (fluid section)

Kit No. 637395-X (major air valve assembly)

**Flange Connection Kit |** *Kit No. 67341-E10N (side flange)*

Kit No. 67341-C10N (center flange)

Use with non-metallic EXP pumps with the flange manifold option. Flange kits meet DIN / A.N.S.I. specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel.

*\*Please note pumps are not included with these kits.*



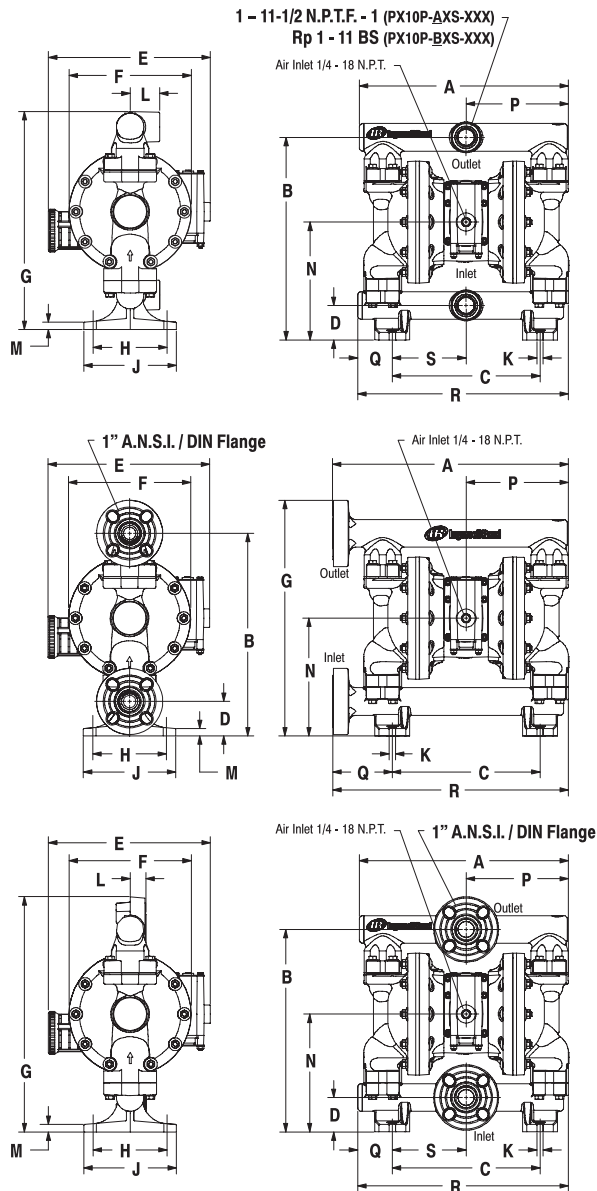
Air Line Connection  
Kit 66073-2



### Flange Connection Kit

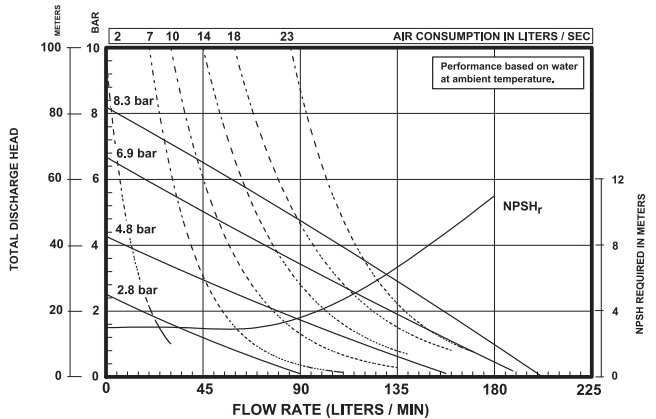
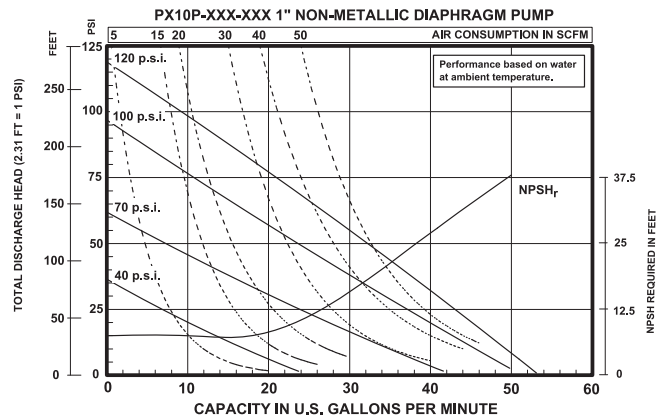
# 1" Non-Metallic Dimensions and Flow Curves EXpert Series Pumps

NON-METALLIC



## DIMENSIONS

|                                 |                               |                                  |
|---------------------------------|-------------------------------|----------------------------------|
| A - see below                   | G - see below                 | N - 8-1/32" (203.4 mm)           |
| B - 13-25/32" (349.8 mm)        | H - 5-1/32" (127.6 mm)        | P - 6-31/32" (176.6 mm)          |
| C - 10-1/16" (255.3 mm)         | J - 6-9/32" (159.6 mm)        | Q - see below                    |
| D - 2-11/32" (59.4 mm)          | K - 7/16" (11.1 mm)           | R - see below                    |
| E - 11-1/32" (279.5 mm)         | L - see below                 | S - 5-1/32" (127.6 mm)           |
| F - 8-5/16" (211.1 mm)          | M - 1/2" (12.7 mm)            |                                  |
| PX10P-AXS-, -BXS-<br>(Threaded) | PX10P-FXS-XXX<br>(End Flange) | PX10P-YXS-XXX<br>(Center Flange) |
| A - 14-7/32" (361.2 mm)         | 16-1/32" (407.3 mm)           | 14-7/32" (361.2 mm)              |
| G - 14-27/32" (376.5 mm)        | 16-1/32" (407.3 mm)           | 16" (406.3 mm)                   |
| L - 2" (50.8 mm)                | -----                         | 1-1/32" (25.6 mm)                |
| Q - 2-3/8" (59.7 mm)            | 4-1/16" (103.0 mm)            | 2-3/8" (59.7 mm)                 |
| R - 14-11/32" (364.0 mm)        | 16-1/32" (407.3 mm)           | 14-11/32" (364.0 mm)             |



Refer to [www.irtools.com/ARO](http://www.irtools.com/ARO) for full size flow curves.

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

# 1-1/2" Non-Metallic Models EXpert Series Pumps

## 1-1/2" Non-Metallic Performance Specifications

|                                                 |                                                                                                                                                      |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                                                  |
| <b>Maximum GPM (LPM):</b>                       | 123 (465)                                                                                                                                            |
| <b>Displacement per cycle</b> Gallons (Liters): | 0.617 (2.34)                                                                                                                                         |
| <b>Air Inlet (Female):</b>                      | 1/2 - 14 N.P.T.                                                                                                                                      |
| <b>Fluid Inlet:</b>                             | 1-1/2" A.N.S.I./DIN flange (side or center)                                                                                                          |
| <b>Fluid Outlet:</b>                            | 1-1/2" A.N.S.I./DIN flange (side or center)                                                                                                          |
| <b>Max. operating pressure</b> psi (bar):       | 120 (8.3)                                                                                                                                            |
| <b>Suspended solids max. dia.</b> in. (mm):     | 1/4" (6.4)                                                                                                                                           |
| <b>Weight</b> lbs (kg):                         | Polypropylene, Side Ported 42.6 (19.3)<br>PVDF, Side Ported 63.9 (29)<br>Polypropylene, Center Ported 42.3 (19.2)<br>PVDF, Center Ported 55.9 (25.3) |
| <b>Maximum dry suction lift</b> ft (m) :        | 14 (4.2) Elastomer fitted                                                                                                                            |
| <b>Sound Level:</b>                             |                                                                                                                                                      |

|     |              |       |
|-----|--------------|-------|
| PSI | Cycles / Min | db(A) |
| 70  | 60           | 81.0  |



## Ordering Menu

| Model Series                                     | Center Section                    | Connection                                   | Hardware                 | Seat Material                       | Diaphragm Material                | Ball Material                |
|--------------------------------------------------|-----------------------------------|----------------------------------------------|--------------------------|-------------------------------------|-----------------------------------|------------------------------|
| <b>PX15</b>                                      | <b>X</b>                          | <b>X</b>                                     | <b>X</b>                 | <b>X</b>                            | <b>X</b>                          | <b>X</b>                     |
| <b>PD15</b> Standard Pump                        | <b>E</b> Conductive Polypropylene | <b>F</b> 1-1/2" A.N.S.I./DIN Flange (Side)   | <b>S</b> Stainless Steel | <b>H</b> 440 Stainless Steel (Hard) | <b>A</b> Santoprene               | <b>A</b> Santoprene®         |
| <b>PE15</b> Electronic Interface Accessible Pump | <b>P</b> Polypropylene            | <b>Y</b> 1-1/2" A.N.S.I./DIN Flange (Center) |                          | <b>K</b> PVDF                       | <b>C</b> Hytrel                   | <b>C</b> Hytrel®             |
|                                                  |                                   | <b>Wetted Parts</b>                          |                          | <b>P</b> Polypropylene              | <b>G</b> Nitrile                  | <b>G</b> Nitrile             |
|                                                  |                                   | <b>E</b> Conductive Polypropylene            |                          | <b>S</b> 316 Stainless Steel        | <b>M</b> Medical Grade Santoprene | <b>S</b> 316 Stainless Steel |
|                                                  |                                   | <b>K</b> PVDF                                |                          |                                     | <b>T</b> PTFE/Santoprene          | <b>T</b> PTFE                |
|                                                  |                                   | <b>P</b> Polypropylene                       |                          |                                     | <b>V</b> Viton                    | <b>V</b> Viton®              |

## 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.

### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE15X pump model is required)

### Cycle Counter Kit | Kit No. 67350

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE15X pump model is required)

### Service Repair Kits | Kit No. 637389 (air motor for PX15P)

Kit No. 637391-XXX (fluid section)

Kit No. 637390-X (major air valve assembly)

### Flange Connection Kit | Kit No. 67341-E15N (side flange)

Kit No. 67341-C15N (center flange)

Use with non-metallic EXP pumps with the flange manifold option. Flange kits meet A.N.S.I. / DIN specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel.

\*Please note pumps are not included with these kits.

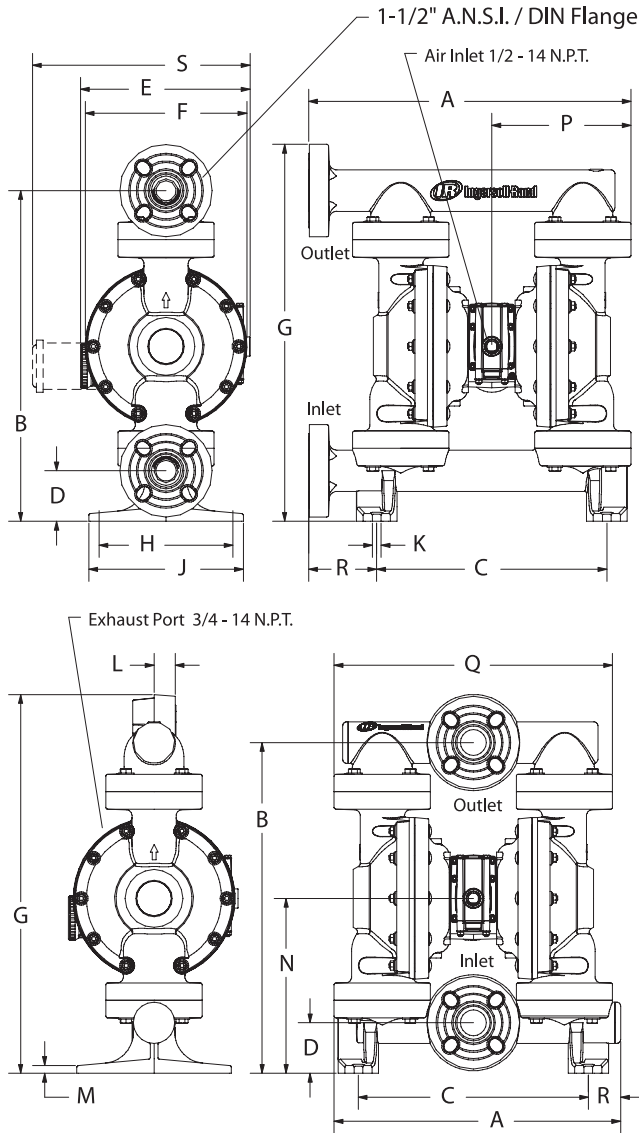


Air Line Connection  
Kit 66084-1



Flange Connection Kit

# 1-1/2" Non-Metallic Dimensions and Flow Curves EXpert Series Pumps

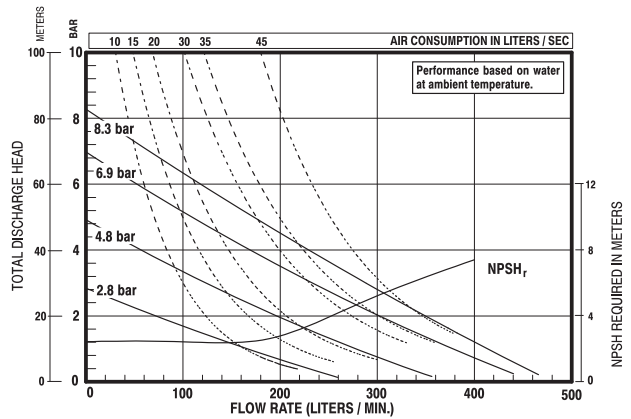
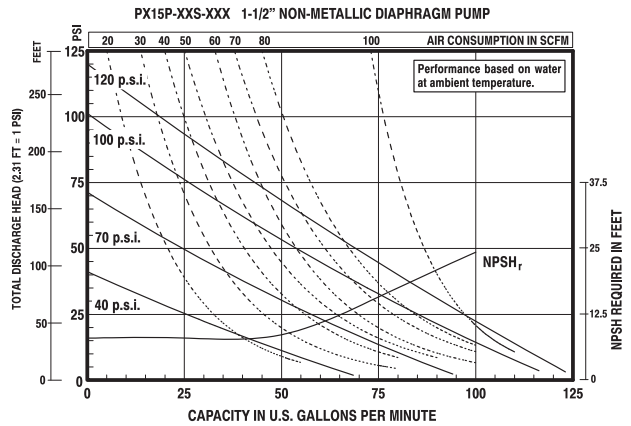


## DIMENSIONS

|                          |                         |                        |
|--------------------------|-------------------------|------------------------|
| A - see below            | G - see below           | N - 11-3/8" (288.4 mm) |
| B - 21-15/32" (545.3 mm) | H - 8-11/16" (220.7 mm) | P - 9-1/32" (229.5 mm) |
| C - 14-15/16" (379.4 mm) | J - 10-1/32" (254.8 mm) | Q - see below          |
| D - 3-9/32" (83.3 mm)    | K - 9/16" (14.3 mm)     | R - see below          |
| E - see below            | L - see below           | S - see below          |
| F - 10-1/2" (266.3 mm)   | M - 17/32" (13.0 mm)    |                        |

| PX15P-FXS-XXX<br>(End Flange) | PX15P-YXS-XXX<br>(Center Flange) |
|-------------------------------|----------------------------------|
| A - 20-15/16" (531.6 mm)      | 18-19/32" (472.3 mm)             |
| G - 24-15/32" (621.5 mm)      | 24-19/32" (624.5 mm)             |
| L - ———                       | 1-3/8" (34.9 mm)                 |
| Q - ———                       | 18-3/32" (459.0 mm)              |
| R - 4-7/16" (112.4 mm)        | 2-3/32" (53.1 mm)                |

| "E"                            | "S"                |
|--------------------------------|--------------------|
| PX15E-XXX-XXX<br>PX15P-XXX-XXX | 14-1/8" (358.5 mm) |
| 11" (279.5 mm)                 | ———                |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

NON-METALLIC

## 2" Non-Metallic Models EXpert Series Pumps

### 2" Non-Metallic Performance Specifications

|                                                 |                                                |
|-------------------------------------------------|------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                            |
| <b>Maximum GPM (LPM):</b>                       | 184 (696)                                      |
| <b>Displacement per cycle</b> Gallons (Liters): | 1.4 (5.3)                                      |
| <b>Air Inlet (Female):</b>                      | 3/4 - 14 N.P.T.                                |
| <b>Fluid Inlet:</b>                             | 2" A.N.S.I./DIN flange (side)                  |
| <b>Fluid Outlet:</b>                            | 2" A.N.S.I./DIN flange (side)                  |
| <b>Max. operating pressure</b> psi (bar):       | 120 (8.3)                                      |
| <b>Suspended solids max. dia.</b> in. (mm):     | 1/4" (6.4)                                     |
| <b>Weight</b> lbs (kg):                         | Polypropylene 85.3 (38.7)<br>PVDF 110.9 (50.3) |
| <b>Maximum dry suction lift</b> ft (m):         | 14 (4.2) Elastomer fitted                      |

#### Sound Level:

| PSI | Cycles / Min | db(A) |
|-----|--------------|-------|
| 70  | 60           | 85.0  |



### Ordering Menu

| <b>PX20</b>                               | <b>X</b>                   | <b>-</b> | <b>F</b>                    | <b>X</b> | <b>S</b>        | <b>-</b> | <b>X</b>             | <b>X</b> | <b>X</b>                   |
|-------------------------------------------|----------------------------|----------|-----------------------------|----------|-----------------|----------|----------------------|----------|----------------------------|
| <b>Model Series</b>                       | <b>Center Section</b>      |          | <b>Connection</b>           |          | <b>Hardware</b> |          | <b>Seat Material</b> |          | <b>Diaphragm Material</b>  |
| PD20 Standard Pump                        | E Conductive Polypropylene |          | F 2" ANSI/DIN Flange (Side) | S        | Stainless Steel |          | K PVDF               |          | A Santoprene               |
| PE20 Electronic Interface Accessible Pump | P Polypropylene            |          |                             |          |                 |          | P Polypropylene      |          | G Nitrile                  |
|                                           |                            |          |                             |          |                 |          |                      |          | M Medical Grade Santoprene |
|                                           |                            |          |                             |          |                 |          |                      |          | T PTFE/Santoprene          |
|                                           |                            |          |                             |          |                 |          |                      |          | V Viton                    |
|                                           |                            |          | <b>Wetted Parts</b>         |          |                 |          |                      |          | <b>Ball Material</b>       |
|                                           |                            |          | E Conductive Polypropylene  |          |                 |          |                      |          | A Santoprene               |
|                                           |                            |          | K PVDF                      |          |                 |          |                      |          | G Nitrile                  |
|                                           |                            |          | P Polypropylene             |          |                 |          |                      |          | T PTFE                     |
|                                           |                            |          |                             |          |                 |          |                      |          | V Viton                    |

### Accessories\*

#### Air Line Connection Kit | Kit No. 66109

Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

#### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE20X pump model is required)

#### Cycle Counter Kit | Kit No. 67350-1

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE20X pump model is required)

#### Service Repair Kits | Kit No. 637369 (air motor for PX20P)

Kit No. 637373-XX (fluid section)

Kit No. 637374-X (major air valve assembly)

#### Continuous-Duty Muffler | Kit No. 67323

Helps reduce possibility of pump freeze-over caused by moisture in air supply. Recommended for continuous-duty and high-flow applications. Muffler features large expansion chamber, permitting cold exhaust air to exit pump.

#### Flange Connection Kit | Kit No. 67341-E20N

Use with non-metallic EXP pumps with the flange manifold option. Flange kits meet A.N.S.I. / DIN specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel.

\*Please note pumps are not included with these kits.



66312  
Air Line Connection



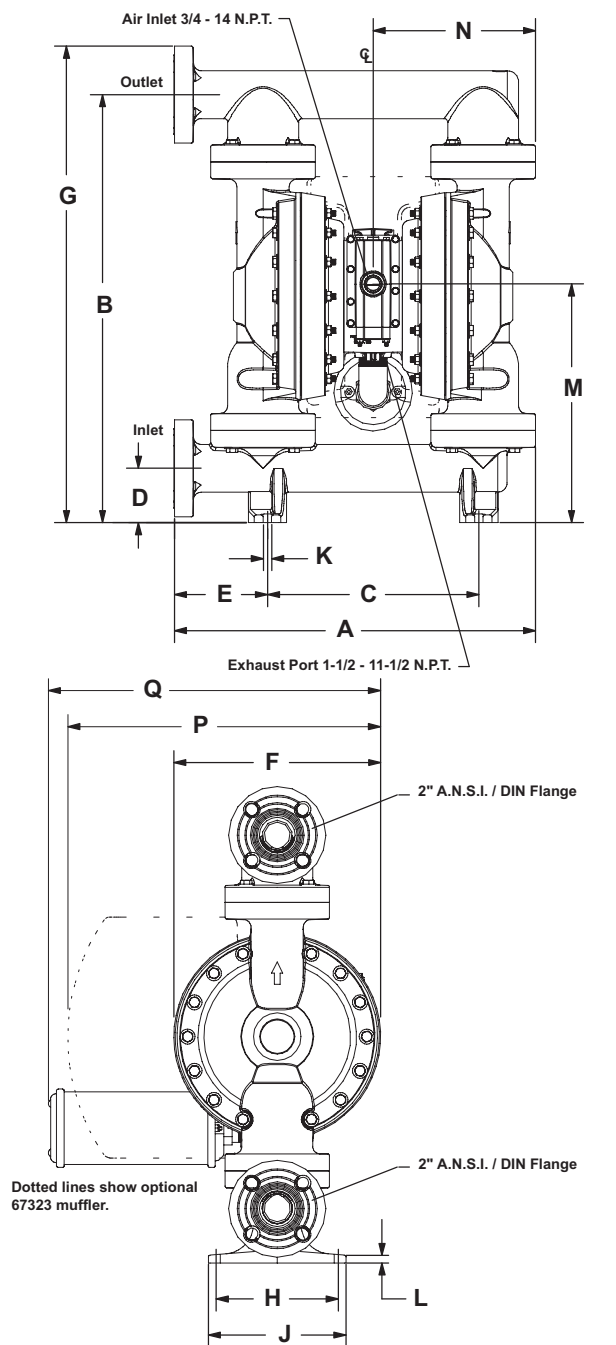
67323 Continuous Duty Muffler



67341-E20N Flange Connection Kit

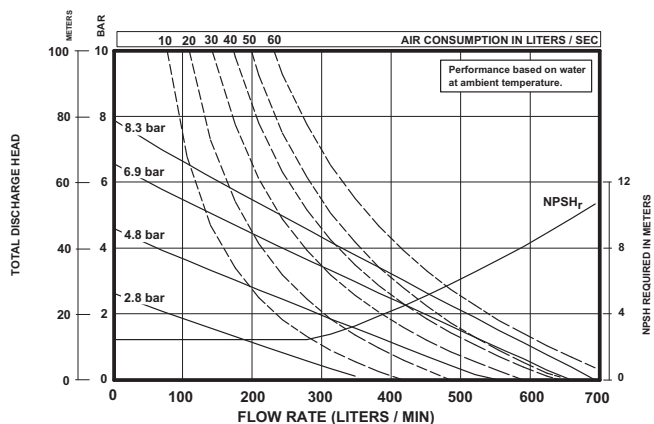
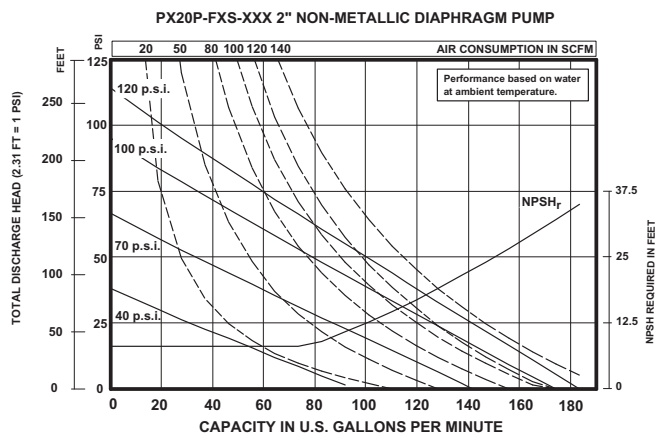
# 2" Non-Metallic Dimensions and Flow Curves EXpert Series Pumps

NON-METALLIC



## DIMENSIONS

|                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| A - 24-3/16" (614.3mm)  | F - 13-7/8" (352.0mm)   | L - 1/2" (12.7mm)       |
| B - 28-21/32" (728.0mm) | G - 31-29/32" (810.5mm) | M - 16" (405.9mm)       |
| C - 14-5/32" (360.0mm)  | H - 8-3/16" (207.8mm)   | N - 10-7/8" (276.2mm)   |
| D - 3-5/8" (92.2mm)     | J - 9-7/32" (234.2mm)   | P - 20-31/32" (532.2mm) |
| E - 6-1/4" (158.3mm)    | K - 9/16" (14.3mm)      | Q - 22-9/32" (565.5mm)  |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

# The Ultimate Process Pump

## EXpert Series Pumps: Metallic Models

From its simple beginnings as a utility / dewatering / trash pump, through its various phases of design evolution, the diaphragm pump has been a favorite with process professionals everywhere. Why? Simplicity. The ARO EXP design team has taken this fundamental feature and engineered efficiency, compatibility and economy into

every aspect of the new EXP Diaphragm Pump. Economy in fewer repair parts and labor. Economy in saved energy. Economy in superior performance. Do you want to reduce pump downtime while boosting production? Here it is.

### Inlet/Outlet Port Options

NPT and BSP threaded versions available on stainless steel, aluminum and cast iron models. Center flanges are available in some sizes.

### Long-Lasting Convoluted Diaphragms

EXP convoluted diaphragms can last as long as four times that of traditional diaphragms under normal operating conditions.

### Five Year Warranty

### Body Material

Choose from aluminum, cast iron, Hastelloy® or stainless steel for overall durability and corrosion-resistance in the nastiest of process applications and environments.

### Stall-Free, Ice-Free Air Motor Design

The new EXP air motor has exclusive Simul-Shift valve technology to help insure faster pump trip-over with smoother flow. It also features Quick Dump valves; the final answer to pump stalling due to ice build-up.

### Bolted Construction

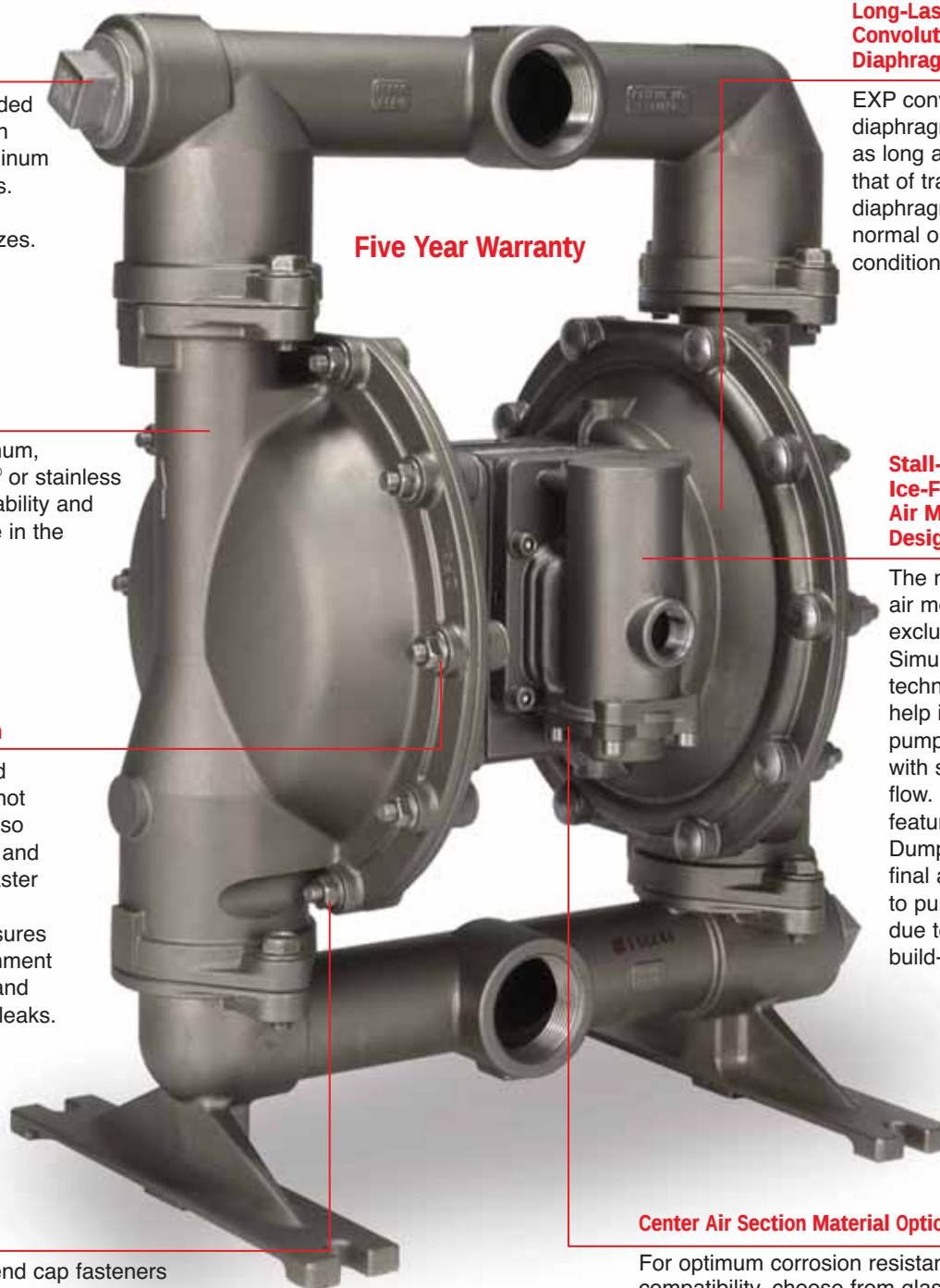
EXP utilizes a bolted construction that is not only leak-tight but also makes disassembly and reassembly much faster and easier. Bolted construction also insures a safer work environment by avoiding messy and dangerous material leaks.

### Hardware Options

EXP air motor and end cap fasteners are available in stainless steel for complete corrosion resistance.

### Center Air Section Material Options

For optimum corrosion resistance and compatibility, choose from glass-filled polypropylene, aluminum or all stainless steel center sections.



## Model Overview: Metallic EXpert Series Pumps: Metallic Models



| Models:                                         | 1/2"                                                                                                           | 1"                                                                                                                                                             | 1-1/2"                                                                                                                                                            | 2"                                                                                                                                              | 3"                                                                                                              |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Maximum Flow<br>GPM (LPM)                       | 12<br>(45.4)                                                                                                   | 52<br>(197)                                                                                                                                                    | 123<br>(465)                                                                                                                                                      | 172<br>(651)                                                                                                                                    | 275<br>(1,041)                                                                                                  |
| Maximum Discharge<br>Pressure<br>PSI (BAR)      | 100<br>(6.9)                                                                                                   | 120<br>(8.3)                                                                                                                                                   | 120<br>(8.3)                                                                                                                                                      | 120<br>(8.3)                                                                                                                                    | 120<br>(8.3)                                                                                                    |
| Fluid Ports<br>Inlet/Outlet<br>(BSP)            | 3/8 - 18 NPTF-1<br>Rp 3/8 (3/8-19 BSP<br>Parallel)<br>(Side or Center)                                         | 1-11-1/2" NPT<br>Rp1(1-11 BSP)<br>(Side or Center)                                                                                                             | 1-1/2 - 11-1/2 NPTF<br>Rp1-1/2(1-1/2 -11 BSP)<br>(Side or Center)<br>1-1/2 ANSI/DIN<br>(SS only/Center)                                                           | 2" NPTF<br>Rp2(2-11 BSP)<br>(Side or Center)<br>2" ANSI Flange<br>with 2" pipe tap<br>(SS only/Center)                                          | 3" NPTF<br>Rp3(3-11 BSP)<br>(Center)                                                                            |
| Materials<br>of<br>Construction                 | Aluminum<br>Stainless Steel                                                                                    | Aluminum<br>Cast Iron<br>Stainless Steel<br>Hastelloy®                                                                                                         | Aluminum<br>Cast Iron<br>Stainless Steel<br>Hastelloy                                                                                                             | Aluminum<br>Cast Iron<br>Stainless Steel<br>Hastelloy                                                                                           | Aluminum<br>Cast Iron<br>Stainless Steel<br>Hastelloy                                                           |
| Pump<br>Weight<br>lbs. (Kg.)                    | 10.36 (4.7) AL/AL Motor<br>16.57 (7.52) SS/AL Motor<br>8.04 (3.65) AL/Poly Motor<br>14.25 (6.46) SS/Poly Motor | 20.7 (9.4) Alum.<br>35.2 (16.0) CI<br>38.2 (17.3) SS<br>39.6 (18) Hastelloy<br>add 4.65 (2.11) for<br>Alum. air motor,<br>add 11.09 (5.03) for<br>SS air motor | 37.7 (17.1) Alum.<br>73.2 (33.2) CI<br>61.2 (27.8) SS<br>86.9 (39.4) Hastelloy<br>add 3.08 (1.40) for<br>Alum. air motor,<br>add 14.39 (6.53) for<br>SS air motor | 64 (29) Alum.<br>133 (60) CI<br>122 (55.3) SS Threaded<br>114 (51.7) SS Flange<br>122 (55.3) Hastelloy<br>add 34 (15) for CI or<br>SS air motor | 113 (51.3) Alum.<br>197 (89.4) CI<br>203 (92.1) SS<br>203 (92.1) Hastelloy<br>add 40 (18.1) for<br>SS air motor |
| Maximum Solids<br>inches (mm)                   | 3/32" (2.4)                                                                                                    | 1/8" (3.32)                                                                                                                                                    | 1/4" (6.4)                                                                                                                                                        | 1/4" (6.4)                                                                                                                                      | 3/8" (9.5)                                                                                                      |
| Maximum Dry<br>Suction Lift ft. (m)             | 9.1 (2.8)<br>(PTFE Fitted)                                                                                     | 19 (5.7)<br>(Elastomeric Fitted)                                                                                                                               | 14 (4.2)<br>(Elastomeric Fitted)                                                                                                                                  | 19 (5.7)<br>(Elastomeric Fitted)                                                                                                                | 19 (5.7)<br>(Elastomeric Fitted)                                                                                |
| Recommended<br>Filter/Regulator<br>Air Line Kit | P29122-600<br>66073-1                                                                                          | P29221-610<br>66073-2                                                                                                                                          | P29241-610<br>66084-1                                                                                                                                             | P29351-600<br>66109                                                                                                                             | P29351-600<br>66109                                                                                             |

METALLIC

Hastelloy-C® is a registered trademark of Haynes International, Inc.

# 1/2" Metallic Models OEM / Transfer Pumps

## 1/2" Metallic Performance Specifications

|                                                 |                                                                                                                            |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                        |
| <b>Maximum GPM (LPM):</b>                       | 12 (45.4)                                                                                                                  |
| <b>Displacement per cycle</b> Gallons (Liters): | 0.039 (.15)                                                                                                                |
| <b>Air Inlet (Female):</b>                      | 1/4 -18 P.T.F. SAE SHORT                                                                                                   |
| <b>Fluid Inlet/Outlet:</b>                      | 1/2 - 14 N.P.T.F. -1<br>Rp 1/2(1/2 - 14 BSP, parallel)                                                                     |
| <b>Max. operating pressure</b> psi (bar):       | 100 (6.9)                                                                                                                  |
| <b>Suspended solids max. dia.</b> in. (mm):     | 3/32" (2.4)                                                                                                                |
| <b>Weight</b> lbs (kg):                         | PD05A-XAS-XXX-B 10.36 (4.7)<br>PD05A-XSS-XXX-B 16.57 (7.52)<br>PD05R-XAS-XXX-B 8.04 (3.65)<br>PD05R-XSS-XXX-B 14.25 (6.46) |
| <b>Maximum dry suction lift</b> ft (m):         | 9.1 (2.8) PTFE fitted                                                                                                      |
| <b>Sound Level:</b>                             |                                                                                                                            |
|                                                 | PSI      Cycles / Min      db(A)                                                                                           |
|                                                 | 70          60          71.1                                                                                               |



## Ordering Menu

|                               |                                |                         |                                      |                          |                      |                       |                           |                                |   |   |     |
|-------------------------------|--------------------------------|-------------------------|--------------------------------------|--------------------------|----------------------|-----------------------|---------------------------|--------------------------------|---|---|-----|
| PX05                          | X                              | -                       | X                                    | X                        | S                    | -                     | X                         | X                              | X | - | BXX |
| <b>Model Series</b>           | <b>Center Section Material</b> | <b>Fluid Connection</b> | <b>Fluid Caps/ Manifold Material</b> | <b>Hardware Material</b> | <b>Seat Material</b> | <b>Ball Material</b>  | <b>Diaphragm Material</b> | <b>Specialty Code</b>          |   |   |     |
| PD05 Standard                 | A Aluminum                     | A 1/2" N.P.T.           | A Aluminum <sup>1</sup>              | S Stainless Steel        | F Aluminum           | A Santoprene          | A Santoprene              | B Standard                     |   |   |     |
| PE05 Remote Actuation Capable | R Polypropylene                | B 1/2" BSP              | S Stainless Steel                    |                          | P Polypropylene      | C Hytrel <sup>2</sup> | C Hytrel <sup>2</sup>     | BOS Remote Actuation Capable** |   |   |     |
|                               |                                |                         |                                      |                          | S Stainless Steel    | G Nitrile             | G Nitrile                 |                                |   |   |     |
|                               |                                |                         |                                      |                          |                      | S Stainless Steel     | T PTFE/ Santoprene        |                                |   |   |     |
|                               |                                |                         |                                      |                          |                      | T PTFE                | U Polyurethane            |                                |   |   |     |
|                               |                                |                         |                                      |                          |                      | U Polyurethane        | V Viton                   |                                |   |   |     |
|                               |                                |                         |                                      |                          |                      | V Viton               |                           |                                |   |   |     |

<sup>1</sup> Components Anodized to Provide Superior Corrosion and Abrasion Resistance

<sup>2</sup> Hytrel replaces Buna, Geolast, Polyurethane and Nitrile producing superior chemical compatibility and diaphragm life

## Accessories\* (for specialty pump application options and additional accessories see pages 40-45)

### 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 motor for PX05)

Kit No. 637427-XX (fluid section)

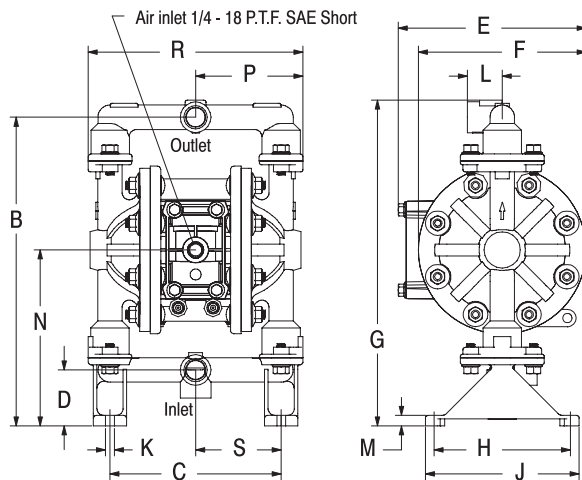
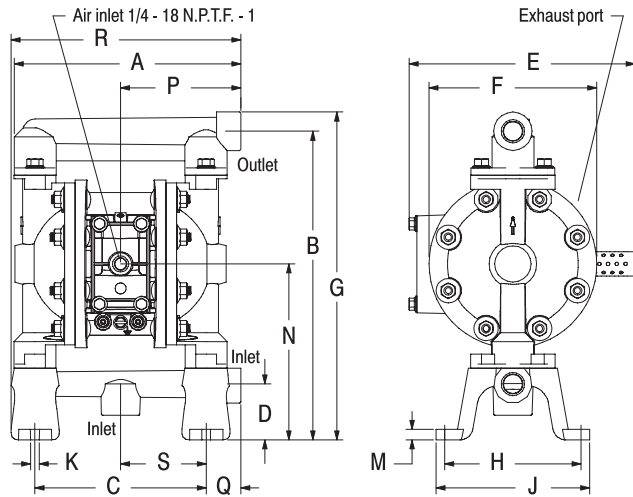
\*Please note pumps are not included with these kits.

\*\*See options on page 45.



Air Line Connection  
Kit 66073-1

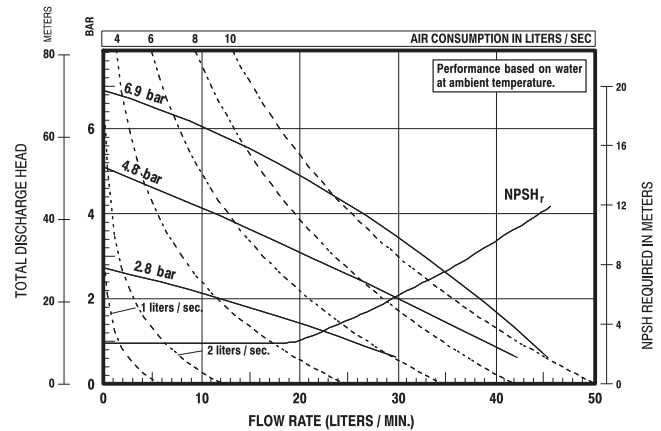
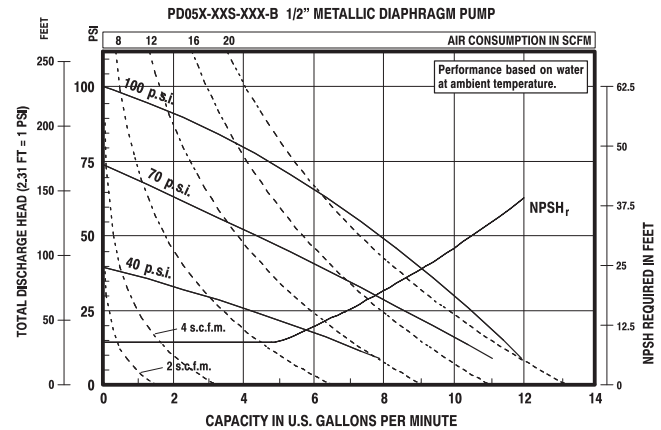
# 1/2" Metallic Dimensions and Flow Curves OEM / Transfer Pumps



## DIMENSIONS

|                       |                     |                      |
|-----------------------|---------------------|----------------------|
| A 8-1/8" (206.0 mm)   | G see below         | N 6-5/16" (159.9 mm) |
| B 11-1/16" (280.4 mm) | H 4-7/8" (123.8 mm) | P see below          |
| C 6-1/8" (155.6 mm)   | J 5-1/2" (139.7 mm) | Q 1-1/4" (31.6 mm)   |
| D 2" (50.8 mm)        | K 5/16" (8.0 mm)    | R see below          |
| E see below           | L 1-1/4" (31.8 mm)  | S 3-1/16" (77.8 mm)  |
| F 6" (152.4 mm)       | M 3/8" (9.5 mm)     |                      |

| Dimension | PD05A-XXS-XXX-B    | PD05R-XXS-XXX-B      |
|-----------|--------------------|----------------------|
| "E"       | 8-3/32" (205.5 mm) | 6-23/32" (170.6 mm)  |
| "G"       | 11-3/4" (297.9 mm) | 11-21/32" (296.0 mm) |
| "P"       | 4-5/16" (109.3 mm) | 3-27/32" (97.4 mm)   |
| "R"       | 8-7/32" (208.5 mm) | 7-11/16" (194.9 mm)  |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

METALLIC

# 1" Metallic EXP Models EXpert Series Pump

## 1" Metallic Performance Specifications

|                                                                                                                     |                                                                                                                                                                                                                                     |               |            |               |             |               |             |               |             |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|---------------|-------------|---------------|-------------|---------------|-------------|
| <b>Ratio:</b>                                                                                                       | 1:1                                                                                                                                                                                                                                 |               |            |               |             |               |             |               |             |
| <b>Maximum GPM (LPM):</b>                                                                                           | 52 (197)                                                                                                                                                                                                                            |               |            |               |             |               |             |               |             |
| <b>Displacement per cycle Gallons (Liters):</b>                                                                     | 0.232 (.88)                                                                                                                                                                                                                         |               |            |               |             |               |             |               |             |
| <b>Air Inlet (Female):</b>                                                                                          | 1/4 - 18 N.P.T.                                                                                                                                                                                                                     |               |            |               |             |               |             |               |             |
| <b>Fluid Inlet:</b>                                                                                                 | 1 - 11-1/2 N.P.T.F.-1, Rp1(1-11 BSP)                                                                                                                                                                                                |               |            |               |             |               |             |               |             |
| <b>Fluid Outlet:</b>                                                                                                | 1 - 11-1/2 N.P.T.F., Rp1(1-11 BSP)                                                                                                                                                                                                  |               |            |               |             |               |             |               |             |
| <b>Max. operating pressure psi (bar):</b>                                                                           | 120 (8.3)                                                                                                                                                                                                                           |               |            |               |             |               |             |               |             |
| <b>Suspended solids max. dia. in. (mm):</b>                                                                         | 1/8" (3.3)                                                                                                                                                                                                                          |               |            |               |             |               |             |               |             |
| <b>Weight lbs (kg):</b>                                                                                             | <table> <tr> <td>PX10R-XAX-XXX</td><td>20.7 (9.4)</td></tr> <tr> <td>PX10R-XCX-XXX</td><td>35.2 (16.0)</td></tr> <tr> <td>PX10R-XHX-XXX</td><td>39.6 (18.0)</td></tr> <tr> <td>PX10R-XSX-XXX</td><td>38.2 (17.3)</td></tr> </table> | PX10R-XAX-XXX | 20.7 (9.4) | PX10R-XCX-XXX | 35.2 (16.0) | PX10R-XHX-XXX | 39.6 (18.0) | PX10R-XSX-XXX | 38.2 (17.3) |
| PX10R-XAX-XXX                                                                                                       | 20.7 (9.4)                                                                                                                                                                                                                          |               |            |               |             |               |             |               |             |
| PX10R-XCX-XXX                                                                                                       | 35.2 (16.0)                                                                                                                                                                                                                         |               |            |               |             |               |             |               |             |
| PX10R-XHX-XXX                                                                                                       | 39.6 (18.0)                                                                                                                                                                                                                         |               |            |               |             |               |             |               |             |
| PX10R-XSX-XXX                                                                                                       | 38.2 (17.3)                                                                                                                                                                                                                         |               |            |               |             |               |             |               |             |
| <b>Note:</b> Add 4.65 lbs (2.11 kg) for aluminum air motor<br>Add 11.09 lbs (5.03 kg) for stainless steel air motor |                                                                                                                                                                                                                                     |               |            |               |             |               |             |               |             |
| <b>Maximum dry suction lift ft(m):</b>                                                                              | 19 (5.7) Elastomer fitted                                                                                                                                                                                                           |               |            |               |             |               |             |               |             |
| <b>Sound Level:</b>                                                                                                 |                                                                                                                                                                                                                                     |               |            |               |             |               |             |               |             |
|                                                                                                                     | PSI    Cycles / Min    db(A)                                                                                                                                                                                                        |               |            |               |             |               |             |               |             |
|                                                                                                                     | 70        60        79.7                                                                                                                                                                                                            |               |            |               |             |               |             |               |             |



## Ordering Menu

| PX10                                      |                   | -                 | X                 | X | X                            | -                          | X             | X | X                  |
|-------------------------------------------|-------------------|-------------------|-------------------|---|------------------------------|----------------------------|---------------|---|--------------------|
| Model Series                              | Center Section    |                   | Connection        |   | Hardware                     |                            | Seat Material |   | Diaphragm Material |
| PD10 Standard Pump                        | A Aluminum        | A NPTF Thread     | P Plated Steel    |   | A Santoprene                 | A Santoprene               |               |   |                    |
| PE10 Electronic Interface Accessible Pump | R Polypropylene   | B BSP Thread      | S Stainless Steel |   | C Hytrel                     | C Hytrel                   |               |   |                    |
|                                           | S Stainless Steel |                   |                   |   | E Carbon Steel               | G Nitrile                  |               |   |                    |
|                                           |                   | Wetted Parts      |                   |   | F Aluminum                   | M Medical grade Santoprene |               |   |                    |
|                                           |                   | A Aluminum        |                   |   | G Nitrile                    | T PTFE/Santoprene          |               |   |                    |
|                                           |                   | C Cast Iron       |                   |   | H 440 Stainless Steel (Hard) | V Viton                    |               |   |                    |
|                                           |                   | H Hastelloy-C     |                   |   | L Hastelloy-C                |                            |               |   |                    |
|                                           |                   | S Stainless Steel |                   |   | S 316 Stainless Steel        | Ball Material              |               |   |                    |
|                                           |                   |                   |                   |   |                              | A Santoprene               |               |   |                    |
|                                           |                   |                   |                   |   |                              | C Hytrel                   |               |   |                    |
|                                           |                   |                   |                   |   |                              | G Nitrile                  |               |   |                    |
|                                           |                   |                   |                   |   |                              | S 316 Stainless Steel      |               |   |                    |
|                                           |                   |                   |                   |   |                              | T PTFE                     |               |   |                    |
|                                           |                   |                   |                   |   |                              | V Viton                    |               |   |                    |

Accessories\*

## 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.

### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE10X pump model is required)

### Cycle Counter Kit | Kit No. 67350

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE10X pump model is required)

### Service Repair Kits | Kit No. 637397 (air motor for PX10A, PX10R and PX10S)

Kit No. 637401-XX (fluid section)

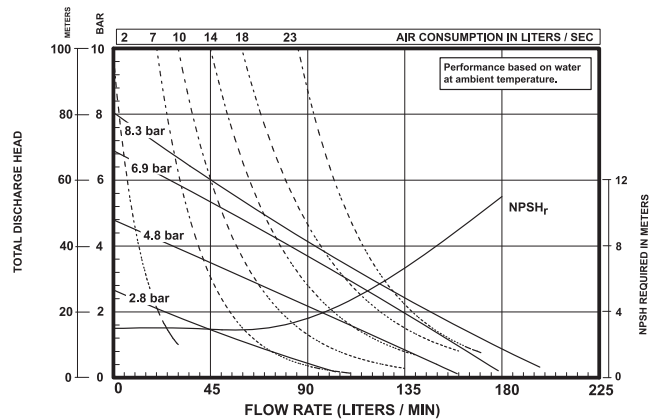
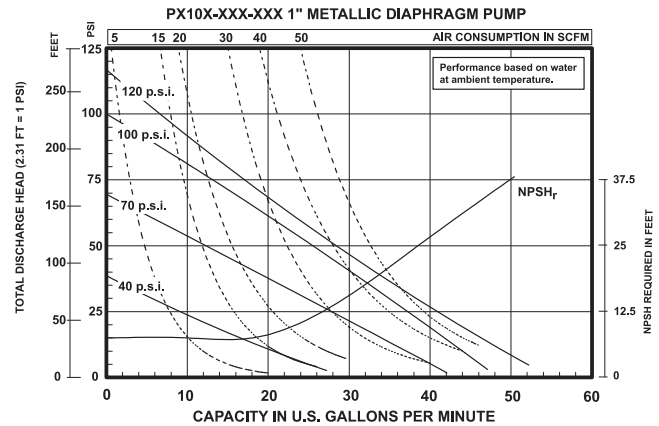
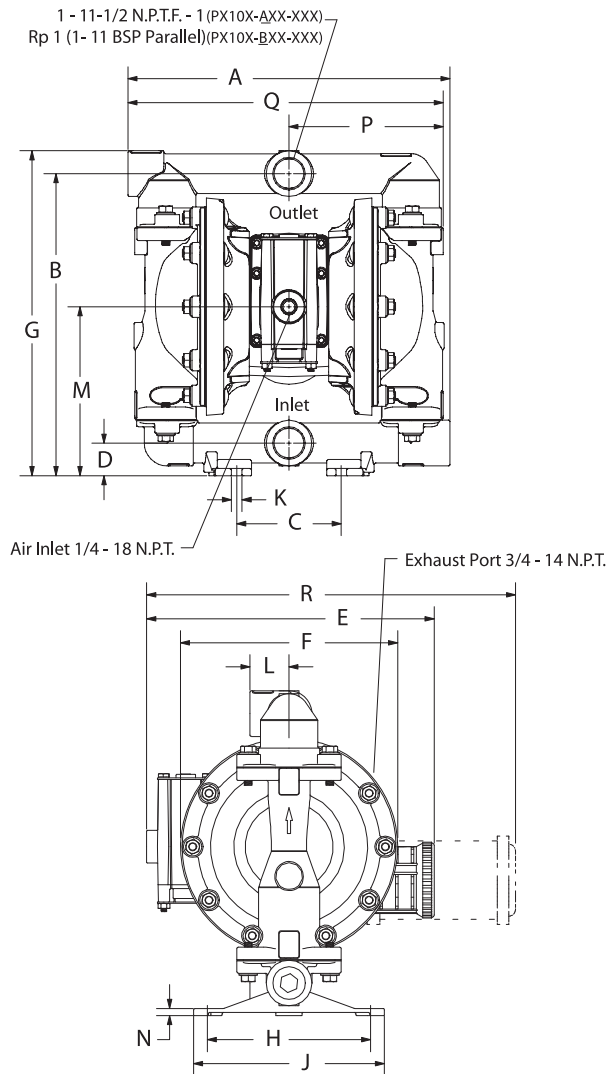
Kit No. 637395-X (major air valve assembly)

\*Please note pumps are not included with these kits.



Air Line Connection  
Kit 66073-2

# 1" Metallic Dimensions and Flow Curves EXpert Series Pumps



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

## DIMENSIONS

|                          |                         |                         |
|--------------------------|-------------------------|-------------------------|
| A - 12-11/32" (313.2 mm) | G - 12-7/16" (315.9 mm) | N - see below           |
| B - 11-9/16" (293.7 mm)  | H - 6-1/4" (158.8 mm)   | P - 5-27/32" (148.2 mm) |
| C - 4" (101.6 mm)        | J - 7-5/16" (185.7 mm)  | Q - 12" (304.8 mm)      |
| D - 1-1/4" (31.8 mm)     | K - 13/32" (10.3 mm)    | R - see below           |
| E - see below            | L - 1-1/2" (38.1 mm)    |                         |
| F - see below            | M - 6-15/32" (164.3 mm) |                         |

| "E"           | "F"                | "R"                  |
|---------------|--------------------|----------------------|
| PX10A-XXX-XXX | 8-1/8" (206.4 mm)  | 14-1/32" (356.2 mm)  |
| PX10B-XXX-XXX | 8-5/16" (211.1 mm) |                      |
| PX10C-XXX-XXX | 8-3/16" (207.9 mm) | 13-27/32" (351.4 mm) |

| "N"           |
|---------------|
| PX10X-XAX-XXX |
| PX10X-XCX-XXX |
| PX10X-XHX-XXX |
| PX10X-XSX-XXX |

|                |
|----------------|
| 1/4" (6.4 mm)  |
| 9/32" (7.1 mm) |
| 9/32" (7.1 mm) |
| 9/32" (7.1 mm) |

# 1-1/2" Metallic Models EXpert Series Pumps

## 1-1/2" Metallic Performance Specifications

|                                                 |                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                   | 1:1                                                                                                                                                                                                                                                             |
| <b>Maximum GPM (LPM):</b>                       | 123 (465)                                                                                                                                                                                                                                                       |
| <b>Displacement per cycle</b> Gallons (Liters): | 0.617 (2.34)                                                                                                                                                                                                                                                    |
| <b>Air Inlet (Female):</b>                      | 1/2 - 14 N.P.T.                                                                                                                                                                                                                                                 |
| <b>Fluid Inlet:</b>                             | 1-1/2" - 11-1/2 N.P.T.F.-1, Rp1-1/2(1-1/2-11 BSP)<br>1-1/2" A.N.S.I./DIN flange                                                                                                                                                                                 |
| <b>Fluid Outlet:</b>                            | 1-1/2" - 11-1/2 N.P.T.F.-1, Rp1-1/2(1-1/2-11 BSP)<br>1-1/2" A.N.S.I./DIN flange                                                                                                                                                                                 |
| <b>Max. operating pressure</b> psi (bar):       | 120 (8.3)                                                                                                                                                                                                                                                       |
| <b>Suspended solids max. dia.</b> in.(mm):      | 1/4" (6.4)                                                                                                                                                                                                                                                      |
| <b>Weight</b> lbs (kg):                         | PX15R-XAX-XXX 37.7 (17.1)<br>PX15R-XCX-XXX 73.2 (33.2)<br>PX15R-XSX-XXX 61.2 (27.8)<br>PX15R-XHX-XXX 86.9 (39.4)<br><small>Note: add 3.08 lbs (1.4 kg) for aluminum air motor section<br/>add 14.39 lbs (6.53 kg) for stainless steel air motor section</small> |
| <b>Maximum dry suction lift</b> ft(m):          | 14 (4.2) Elastomer fitted                                                                                                                                                                                                                                       |
| <b>Sound Level:</b>                             |                                                                                                                                                                                                                                                                 |
|                                                 | PSI    Cycles / Min    db(A)                                                                                                                                                                                                                                    |
|                                                 | 70        50        81.0                                                                                                                                                                                                                                        |



## Ordering Menu

| Model Series                                     | Center Section           | Connection                                           | Hardware                 | Seat Material                       | Diaphragm Material                |
|--------------------------------------------------|--------------------------|------------------------------------------------------|--------------------------|-------------------------------------|-----------------------------------|
| <b>PX15</b>                                      | <b>X</b>                 | <b>X</b>                                             | <b>X</b>                 | <b>X</b>                            | <b>X</b>                          |
| <b>PD15</b> Standard Pump                        | <b>A</b> Aluminum        | <b>A</b> N.P.T.F. Thread                             | <b>P</b> Plated Steel    | <b>A</b> Santoprene                 | <b>A</b> Santoprene               |
| <b>PE15</b> Electronic Interface Accessible Pump | <b>R</b> Polypropylene   | <b>B</b> BSP Thread                                  | <b>S</b> Stainless Steel | <b>C</b> Hytrel                     | <b>C</b> Hytrel                   |
|                                                  | <b>S</b> Stainless Steel | <b>Y</b> 1-1/2" A.N.S.I./DIN Flange (Center) SS Only |                          | <b>E</b> Carbon Steel               | <b>G</b> Nitrile                  |
|                                                  |                          | <b>Wetted Parts</b>                                  |                          | <b>F</b> Aluminum                   | <b>M</b> Medical grade Santoprene |
|                                                  |                          | <b>A</b> Aluminum                                    |                          | <b>G</b> Nitrile                    | <b>T</b> PTFE/Santoprene          |
|                                                  |                          | <b>C</b> Cast Iron                                   |                          | <b>H</b> 440 Stainless Steel (Hard) | <b>V</b> Viton                    |
|                                                  |                          | <b>H</b> Hastelloy-C                                 |                          | <b>L</b> Hastelloy-C                |                                   |
|                                                  |                          | <b>S</b> Stainless Steel                             |                          | <b>S</b> 316 Stainless Steel        | <b>Ball Material</b>              |
|                                                  |                          |                                                      |                          |                                     | <b>A</b> Santoprene               |
|                                                  |                          |                                                      |                          |                                     | <b>C</b> Hytrel                   |
|                                                  |                          |                                                      |                          |                                     | <b>G</b> Nitrile                  |
|                                                  |                          |                                                      |                          |                                     | <b>S</b> 316 Stainless Steel      |
|                                                  |                          |                                                      |                          |                                     | <b>T</b> PTFE                     |
|                                                  |                          |                                                      |                          |                                     | <b>V</b> Viton                    |

## 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.

### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE15X pump model is required)

### Cycle Counter Kit | Kit No. 67350

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE15X pump model is required)

### Service Repair Kits | Kit No. 637389 (air motor for PX15X)

Kit No. 637375-XX (fluid section)

Kit No. 637390-X (major air valve assembly)

### Screened Inlet Adapter Kit | Kit No. 67174-15

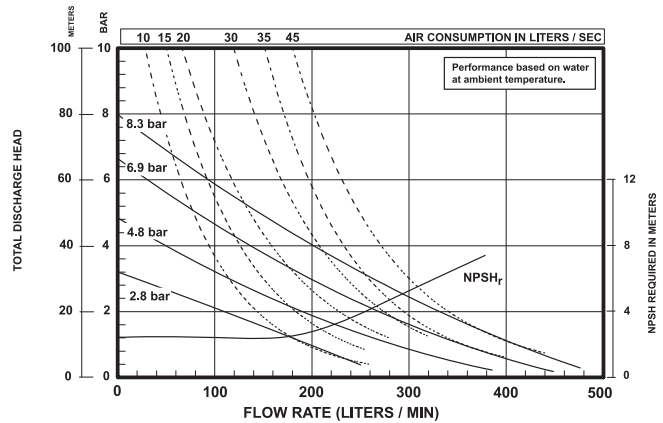
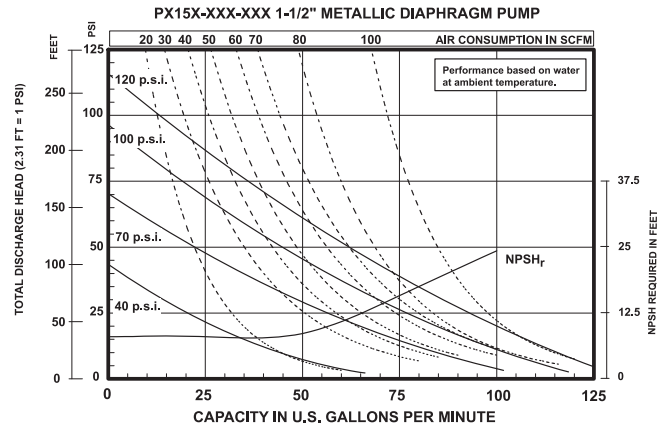
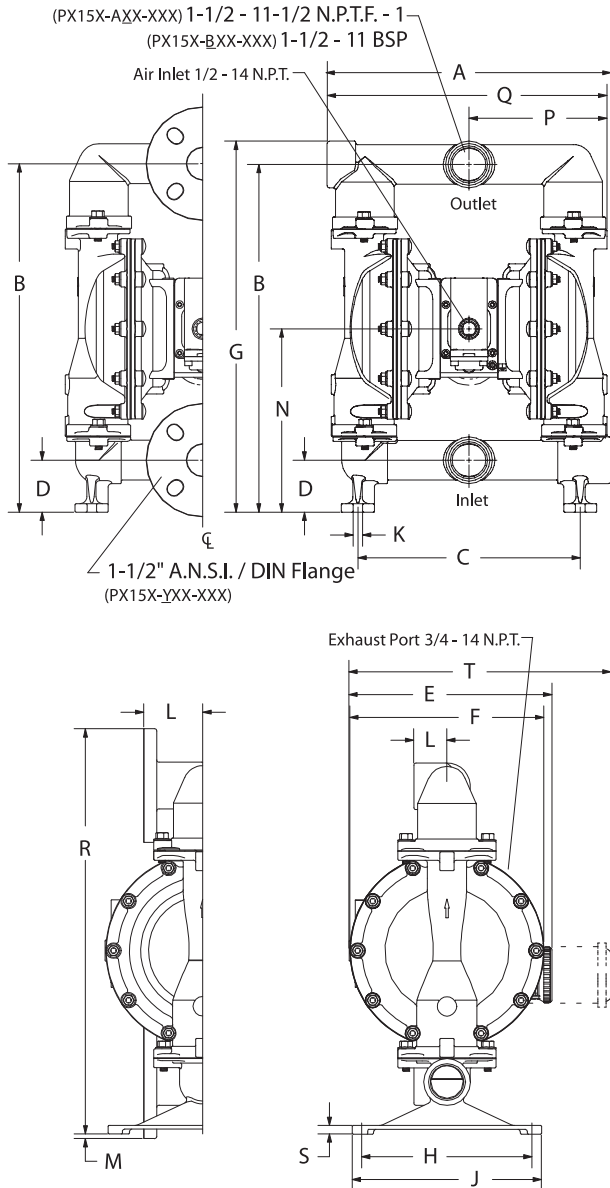
Carbon steel, E-coated screen prevents unwanted solids from entering pump. Kit includes hardware for attachment to pump.

\*Please note pumps are not included with these kits.



67174-15 Screened Inlet

# 1-1/2" Metallic Dimensions and Flow Curves EXpert Series Pump



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

## DIMENSIONS

|                        |                        |                         |
|------------------------|------------------------|-------------------------|
| A - see below          | G - 19-5/8" (498.1 mm) | N - 9-11/16" (246.0 mm) |
| B - 18-3/8" (466.7 mm) | H - 9" (228.6 mm)      | P - see below           |
| C - 11-3/4" (298.5 mm) | J - 10" (254.0 mm)     | Q - see below           |
| D - 2-3/4" (69.9 mm)   | K - 1/2" (12.7 mm)     | R - 21-7/16" (543.9 mm) |
| E - see below          | L - see below          | S - see below           |
| F - 10-1/4" (260.4 mm) | M - 1/4" (6.4 mm)      | T - see below           |

|                     | "A"                  | "L"              | "P"                | "Q"                  | "S"              |
|---------------------|----------------------|------------------|--------------------|----------------------|------------------|
| PX15X-XAX-XXX       | 14-7/8" (377.8 mm)   | 1-3/4" (44.5 mm) | 7-7/32" (183.4 mm) | 14-23/32" (373.9 mm) | 1/2" (12.7 mm)   |
| PX15X-XCX-XXX       | 14-5/8" (371.5 mm)   | 1-3/4" (44.5 mm) | 7-3/16" (182.6 mm) | 14-1/2" (368.3 mm)   | 1/4" (6.4 mm)    |
| PX15X-XHX-XXX       | 14-9/16" (370.0 mm)  | 3-1/8" (79.4 mm) | 7-3/16" (182.6 mm) | 14-1/2" (368.3 mm)   | 1/4" (6.4 mm)    |
| PX15X-ASX-XXX, -BSX | 14-25/32" (375.5 mm) | 1-3/4" (44.5 mm) | 7-9/32" (185.0 mm) | 14-13/16" (375.5 mm) | 15/32" (11.4 mm) |
| PX15X-YSX-XXX       | 14-9/16" (370.0 mm)  | 3-1/8" (79.4 mm) | 7-9/32" (185.0 mm) | 14-9/16" (370.0 mm)  | 15/32" (11.4 mm) |

|               | "E"                 | "T"                  |
|---------------|---------------------|----------------------|
| PX15A-XXX-XXX | -----               | 14-1/32" (356.2 mm)  |
| PX15B-XXX-XXX | 11-3/32" (281.3 mm) | -----                |
| PX15S-XXX-XXX | -----               | 13-27/32" (351.4 mm) |

METALLIC

## 2" Metallic EXP Models EXPerT Series Pump

### 2" Metallic Performance Specifications

|                                                              |                                                                                                                                        |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                                | 1:1                                                                                                                                    |
| <b>Maximum GPM (LPM):</b>                                    | 172 (651)                                                                                                                              |
| <b>Displacement per cycle:</b><br>@ 100 psi Gallons (Liters) | 1.4 (5.3)                                                                                                                              |
| <b>Air Inlet (Female):</b>                                   | 3/4 - 14 N.P.T.F.-1                                                                                                                    |
| <b>Fluid Inlet/Outlet (Female):</b>                          | PX20X-AXX-XXX-B( ) 2 - 11-1/2 N.P.T.F.-1<br>PX20X-BXX-XXX-B( ) Rp 2 (2 - 11 BSP parallel)<br>PX20X-FXX-XXX-B( ) 2" A.N.S.I./DIN Flange |
| <b>Max. operating pressure psi (bar):</b>                    | 120 (8.3)                                                                                                                              |
| <b>Suspended solids max. dia. in. (mm):</b>                  | 1/4" (6.4)                                                                                                                             |
| <b>Maximum dry suction lift ft (m):</b>                      | 14 (4.2) Elastomer fitted                                                                                                              |
| <b>Weight lbs (kg):</b>                                      |                                                                                                                                        |

|                    | Air Motor | Connection | Wetted | Pump Wgt     |                                                            | Air Motor | Connection | Wetted | Pump Wgt     |
|--------------------|-----------|------------|--------|--------------|------------------------------------------------------------|-----------|------------|--------|--------------|
| PD20A              | AL        | Thread     | AL     | 91.4 (41.5)  | PD20S                                                      | SS        | Thread     | AL     | 120.3 (54.6) |
|                    | AL        | Thread     | CI     | 147.4 (66.9) |                                                            | SS        | Thread     | CI     | 176.3 (80)   |
|                    | AL        | Thread     | H      | 155 (70.3)   |                                                            | SS        | Thread     | H      | 183.9 (83.4) |
|                    | AL        | Thread     | SS     | 149.8 (68)   |                                                            | SS        | Thread     | SS     | 178.7 (81.1) |
|                    | AL        | Flange     | H      | 162.2 (73.6) |                                                            | SS        | Flange     | H      | 191.1 (86.7) |
|                    | AL        | Flange     | SS     | 162.2 (73.6) |                                                            | SS        | Flange     | SS     | 191.1 (86.7) |
| PD20R <sup>1</sup> | Poly      | Thread     | CI     | 165 (74.8)   | AL-Aluminum, CI-Cast Iron, H-Hastelloy, SS-Stainless Steel |           |            |        |              |
|                    | Poly      | Thread     | H      | 154 (69.9)   |                                                            |           |            |        |              |
|                    | Poly      | Thread     | SS     | 154 (69.9)   |                                                            |           |            |        |              |
|                    | Poly      | Flange     | H      | 146 (66.2)   |                                                            |           |            |        |              |
|                    | Poly      | Flange     | SS     | 146 (66.2)   |                                                            |           |            |        |              |
|                    |           |            |        |              |                                                            |           |            |        |              |

### Sound Level:

| PSI | Cycles / Min | db(A) |
|-----|--------------|-------|
| 70  | 50           | 85.0  |

### Ordering Menu

| PX20                                      | X                             | - | X                                     | X | X               | - | X                          | X | X                        | - | B |
|-------------------------------------------|-------------------------------|---|---------------------------------------|---|-----------------|---|----------------------------|---|--------------------------|---|---|
| Model Series                              | Center Section                |   | Connection                            |   | Hardware        |   | Seat Material              |   | Diaphragm Material       |   |   |
| PD20 Standard Pump                        | A Aluminum                    | A | N.P.T.F. Thread                       | P | Plated Steel    | A | Santoprene                 | A | Santoprene               |   |   |
| PE20 Electronic Interface Accessible Pump | R Polypropylene w/SS Air Caps | B | BSP Thread                            | S | Stainless Steel | C | Hytrel                     | C | Hytrel                   |   |   |
|                                           | S Stainless Steel             | F | 2" A.N.S.I./DIN Flange (Center)       |   |                 | E | Carbon Steel               | G | Nitrile                  |   |   |
|                                           | Y Polypropylene w/CI Air Caps |   | <b>Wetted Parts</b>                   |   |                 | F | Aluminum                   | M | Medical Grade Santoprene |   |   |
|                                           |                               | A | Aluminum <sup>1</sup>                 |   |                 | G | Nitrile                    | T | PTFE/Santoprene          |   |   |
|                                           |                               | C | Cast Iron                             |   |                 | H | 440 Stainless Steel (Hard) | V | Viton                    |   |   |
|                                           |                               | H | Hastelloy                             |   |                 | K | PVDF                       |   |                          |   |   |
|                                           |                               | S | Stainless Steel                       |   |                 | L | Hastelloy-C                |   | <b>Ball Material</b>     |   |   |
|                                           |                               |   | <sup>1</sup> Not available on PD20R-X |   |                 | S | 316 Stainless Steel        | A | Santoprene               |   |   |
|                                           |                               |   |                                       |   |                 |   |                            | C | Hytrel                   |   |   |
|                                           |                               |   |                                       |   |                 |   |                            | G | Nitrile                  |   |   |
|                                           |                               |   |                                       |   |                 |   |                            | S | 316 Stainless Steel      |   |   |
|                                           |                               |   |                                       |   |                 |   |                            | T | PTFE                     |   |   |
|                                           |                               |   |                                       |   |                 |   |                            | V | Viton                    |   |   |

### Accessories\*

#### Air Line Connection Kit | Kit No. 66019

Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

#### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE20X pump model is required)

#### Cycle Counter Kit | Kit No. 67350-1

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE20X pump model is required)

#### Service Repair Kits | Kit No. 637369 (air motor for PX20R and PX20Y)

Kit No. 637421 (air motor for PX20A and PX20S)

Kit No. 637309-XX (fluid section)

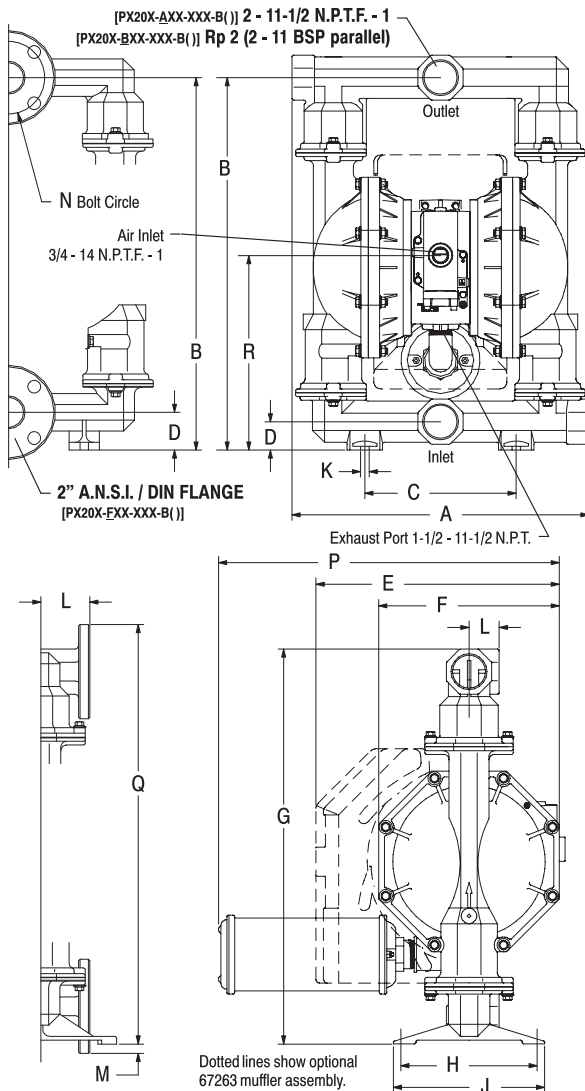
Kit No. 637374-X (major air valve assembly)

\*Please note pumps are not included with these kits.



66019  
Air Line Connection

## 2" Metallic Dimensions and Flow Curves EXpert Series Pump

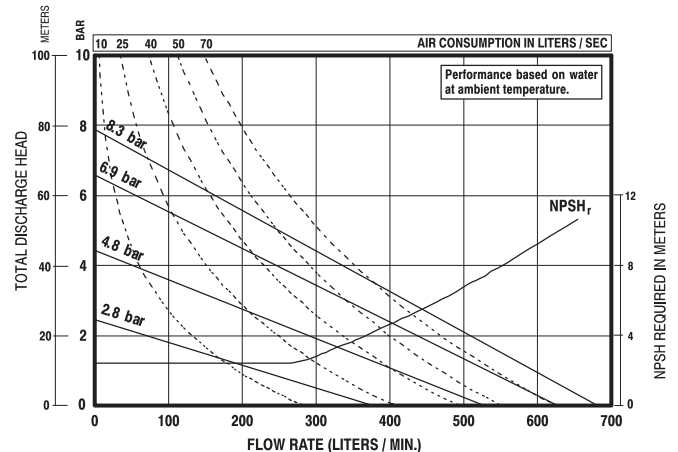
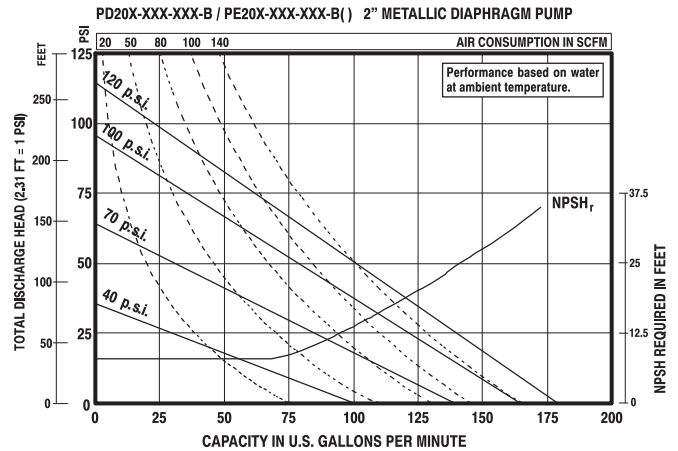


### DIMENSIONS

|   |                     |   |                     |   |                    |
|---|---------------------|---|---------------------|---|--------------------|
| A | see below           | G | 26-1/4" (666.8 mm)  | M | 5/8" (15.9 mm)     |
| B | 24-3/4" (628.7 mm)  | H | 9-1/16" (230.2 mm)  | N | 4.834" (122.8 mm)  |
| C | 10-1/16" (255.6 mm) | J | 10-1/16" (255.6 mm) | P | 21-5/8" (548 mm)   |
| D | see below           | K | 9/16" (14.3 mm)     | Q | 27-7/8" (708.0 mm) |
| E | 16-3/16" (411.2 mm) | L | see below           | R | see below          |
| F | 12" (304.8 mm)      |   |                     |   |                    |

|                          |                    |                  |                   |                     |                      |     |                      |
|--------------------------|--------------------|------------------|-------------------|---------------------|----------------------|-----|----------------------|
| "A"                      | 19-3/4" (501.4 mm) | "D"              | 1-7/8" (47.6 mm)  | "L"                 | 2" (50.8 mm)         | "R" | 12-15/16" (328.6 mm) |
| PX20X-XAX-XXX-B( )       | 19-3/4" (501.4 mm) | 1-7/8" (47.6 mm) | 2" (50.8 mm)      | 2" (50.8 mm)        | 12-15/16" (328.6 mm) |     |                      |
| PX20X-XCX-XXX-B( )       | 19-1/4" (488.7 mm) | 2-1/2" (63.5 mm) | 2-3/32" (53.0 mm) | 13-9/16" (344.5 mm) |                      |     |                      |
| PX20X-AHX-XXX-B( ), -BHX | 19-1/4" (488.7 mm) | 2-1/2" (63.5 mm) | 2-3/32" (53.0 mm) | 13-9/16" (344.5 mm) |                      |     |                      |
| PX20X-ASX-XXX-B( ), -BSX | 19-1/4" (488.7 mm) | 2-1/2" (63.5 mm) | 3-1/4" (82.6 mm)  | 13-9/16" (344.5 mm) |                      |     |                      |
| PX20X-FHX-XXX-B( ), -FSX | 19-1/4" (488.7 mm) | 2-1/2" (63.5 mm) | 3-1/4" (82.6 mm)  | 13-9/16" (344.5 mm) |                      |     |                      |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

## Accessories\*

### Continuous-Duty Muffler | No. 67263

Helps reduce possibility of pump freeze-over caused by moisture in air supply. Recommended for continuous-duty and high-flow applications. Muffler features large expansion chamber, permitting cold exhaust air to exit pump.

### Screened Inlet Adapter Kit | Kit No. 67174-20

Carbon steel, E-coated screen prevents unwanted solids from entering pump. Kit includes hardware for attachment to pump.

\*Please note pumps are not included with these kits.



67263 Continuous Duty Muffler



67174-20 Screened Inlet

METALLIC

## 3" Metallic Models EXpert Series Pumps

### 3" Metallic Performance Specifications

|                                             |                                                                                 |
|---------------------------------------------|---------------------------------------------------------------------------------|
| <b>Ratio:</b>                               | 1:1                                                                             |
| <b>Maximum GPM (LPM):</b>                   | 275 (1041)                                                                      |
| <b>Displacement per cycle:</b>              | 2.8 (10.6)                                                                      |
| <b>@ 100 psi Gallons (Liters)</b>           |                                                                                 |
| <b>Air Inlet: (Female)</b>                  | 3/4 - 14 N.P.T.F. - 1                                                           |
| <b>Fluid Inlet / Outlet (Female):</b>       | 3" - 8 N.P.T.F. - 1                                                             |
|                                             | Rp 3 (3 - 11 BSP parallel)                                                      |
| <b>Max. operating pressure psi (bar):</b>   | 120 (8.3)                                                                       |
| <b>Suspended solids max. dia. in. (mm):</b> | 3/8 (9.5)                                                                       |
| <b>Weight lbs (kg):</b>                     | PX30A-XAX-XXX-C 129.5 (58.8)                                                    |
|                                             | PX30A-XCX-XXX-C 216.6 (98.2)                                                    |
|                                             | PX30A-XSX-XXX-C 228.8 (103.8)                                                   |
|                                             | PX30A-XHX-XXX-C 249.8 (113.3)                                                   |
|                                             | PX30R-XCX-XXX-C 242.3 (109.9)                                                   |
|                                             | PX30R-XSX-XXX-C 253.3 (114.9)                                                   |
|                                             | <small>Note: Add 40 lbs (18.2 kg) for stainless steel air motor section</small> |
| <b>Maximum dry suction lift ft (m):</b>     | 14 (4.2) Elastomer fitted                                                       |
| <b>Sound Level:</b>                         |                                                                                 |

|     |              |       |
|-----|--------------|-------|
| PSI | Cycles / Min | db(A) |
| 70  | 50           | 83.0  |



### Ordering Menu

| Model Series                                     | Center Section                       | Connection                                                  | Hardware                 | Seat Material                       | Diaphragm Material       | Ball Material       |
|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|---------------------|
| <b>PX30</b>                                      | <b>X</b>                             | <b>X</b>                                                    | <b>X</b>                 | <b>X</b>                            | <b>X</b>                 | <b>X</b>            |
| <b>PD30</b> Standard Pump                        | <b>A</b> Aluminum                    | <b>A</b> N.P.T.F. Thread                                    | <b>P</b> Plated Steel    | <b>A</b> Santoprene                 | <b>A</b> Santoprene      | <b>A</b> Santoprene |
| <b>PE30</b> Electronic Interface Accessible Pump | <b>R</b> Polypropylene w/SS air Caps | <b>B</b> BSP Thread                                         | <b>S</b> Stainless Steel | <b>C</b> Hytrel                     | <b>C</b> Hytrel          | <b>C</b> Hytrel     |
|                                                  | <b>S</b> Stainless Steel             | <b>Wetted Parts</b>                                         |                          | <b>E</b> Carbon Steel               | <b>G</b> Nitrile         | <b>G</b> Nitrile    |
|                                                  |                                      | <b>A</b> Aluminum <sup>1</sup>                              |                          | <b>F</b> Aluminum                   | <b>T</b> PTFE/Santoprene | <b>T</b> PTFE       |
|                                                  |                                      | <b>C</b> Cast Iron                                          |                          | <b>G</b> Nitrile                    | <b>V</b> Viton           | <b>V</b> Viton      |
|                                                  |                                      | <b>H</b> Hastelloy-C <sup>1</sup>                           |                          | <b>H</b> 440 Stainless Steel (Hard) |                          |                     |
|                                                  |                                      | <b>S</b> Stainless Steel                                    |                          | <b>K</b> PVDF                       |                          |                     |
|                                                  |                                      | <small><sup>1</sup> Not available on PD30R-X models</small> |                          | <b>L</b> Hastelloy                  |                          |                     |
|                                                  |                                      |                                                             |                          | <b>S</b> 316 Stainless Steel        |                          |                     |

### Accessories\*

#### Air Line Connection Kit | Kit No. 66109

Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

#### Diaphragm Failure Detection (DFD) | Kit No. 67237

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance. (PE30X pump model is required)

#### Cycle Counter Kit | No. 67350-1

Like the odometer on your car, ARO's cycle sensing / cycle counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line. (PE30X pump model is required)

#### Service Repair Kits | Kit No. 637369 (air motor for PX30R)

Kit No. 637421 (air motor for PX30A and PX30S)

Kit No. 637374-X (major air valve assembly)

Kit No. 637303-XX (fluid section)

#### Continuous-Duty Muffler | No. 67263

Helps reduce possibility of pump freeze-over caused by moisture in air supply. Recommended for continuous-duty and high-flow applications. Muffler features large expansion chamber, permitting cold exhaust air to exit pump.

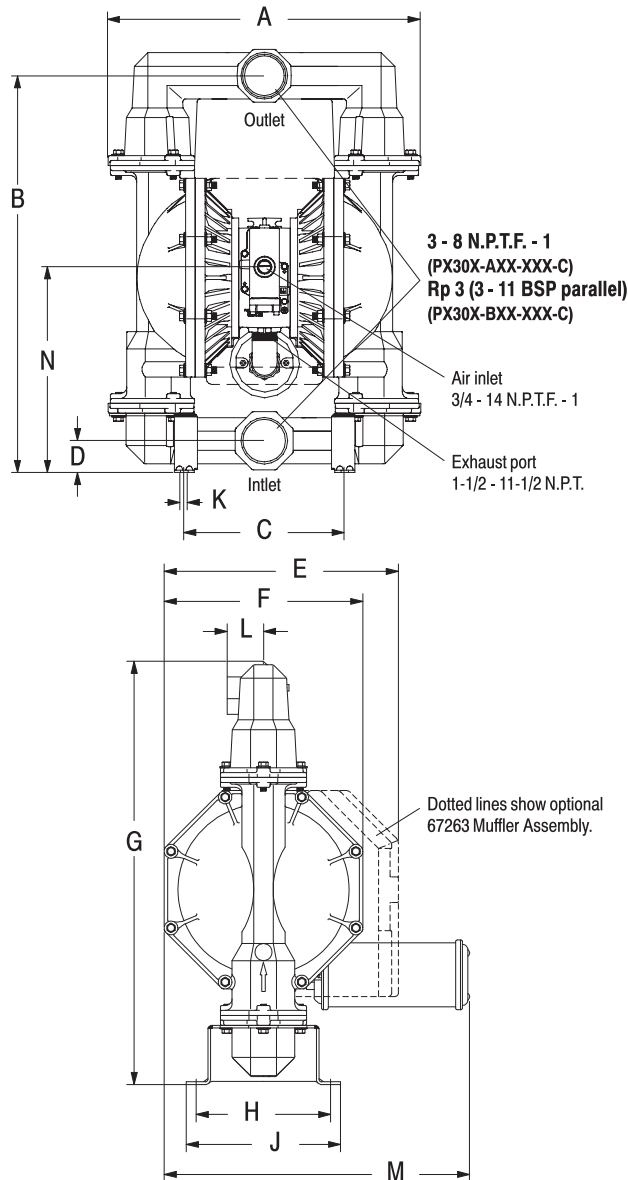
#### Screened Inlet Adapter Kit | Kit No. 67174-30

Carbon steel, E-coated screen prevents unwanted solids from entering pump. Kit includes hardware for attachment to pump.

\*Please note pumps are not included with these kits.



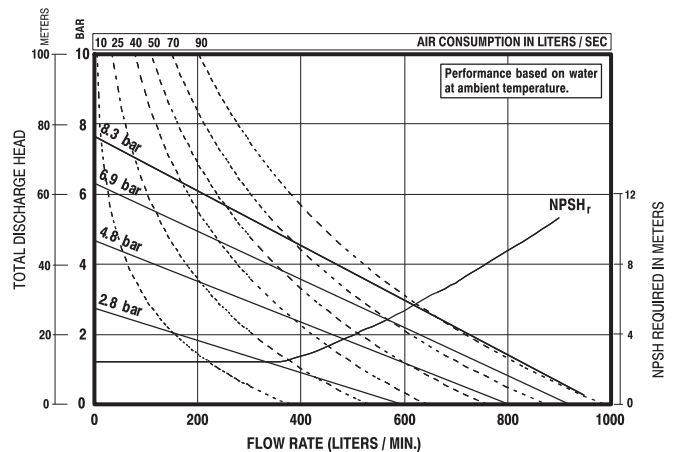
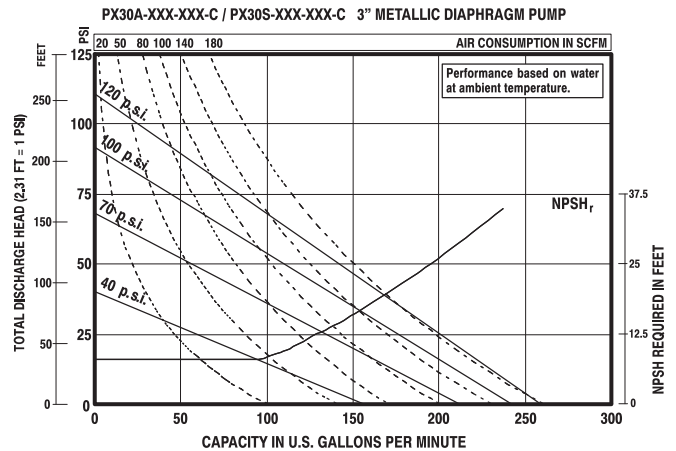
# 3" Metallic Dimensions and Flow Curves EXpert Series Pumps



## DIMENSIONS

|                        |                     |                       |
|------------------------|---------------------|-----------------------|
| A see below            | F 15" (381 mm)      | K 9/16" (14.3 mm)     |
| B 30" (761.7 mm)       | G 32" (812.5 mm)    | L 2-3/4" (69.9 mm)    |
| C 12-1/16" (306.5 mm)  | H 10-5/32" (258 mm) | M 23-3/32" (586.3 mm) |
| D see below            | J see below         | N see below           |
| E 17-11/16" (449.2 mm) |                     |                       |

|                 | "A"                | "D"               | "J"                  | "N"                |
|-----------------|--------------------|-------------------|----------------------|--------------------|
| PX30X-XAX-XXX-C | 23-5/8" (598.7 mm) | 2-3/8" (60.3 mm)  | 11" (279.4 mm)       | 15-1/2" (393.7 mm) |
| PX30X-XCX-XXX-C | 23-5/8" (598.7 mm) | 2-7/16" (61.1 mm) | 11-11/16" (296.1 mm) | 15-1/2" (393.7 mm) |
| PX30X-XHX-XXX-C | 23-1/8" (587.3 mm) | 2-3/4" (69.9 mm)  | 11-11/16" (296.1 mm) | 16" (406.4 mm)     |
| PX30X-XSX-XXX-C | 23-1/8" (587.3 mm) | 2-3/4" (69.9 mm)  | 11-11/16" (296.1 mm) | 16" (406.4 mm)     |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

METALLIC

## 2" Metallic Flap Valve Specialty Pumps

### 2" Flap Valve Performance Specifications

|                                                               |                                                                                     |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Ratio:</b>                                                 | 1:1                                                                                 |
| <b>Maximum GPM (LPM):</b>                                     | 172 (651)                                                                           |
| <b>Displacement per cycle:<br/>@ 100 psi Gallons (Liters)</b> | 1.4 (5.3)                                                                           |
| <b>Air Inlet (Female):</b>                                    | 3/4 - 14 N.P.T.F.-1                                                                 |
| <b>Fluid Inlet/Outlet (Female):</b>                           | PF20X-AXX-XXX-B 2 - 11-1/2 N.P.T.F.-1<br>PF20X-BXX-XXX-B Rp 2 (2 - 11 BSP parallel) |
| <b>Max. operating pressure psi (bar):</b>                     | 120 (8.3)                                                                           |
| <b>Suspended solids max. dia. in. (mm):</b>                   | 2" (51)                                                                             |
| <b>Maximum dry suction lift ft (m):</b>                       | 14 (4.2) Elastomer fitted                                                           |
| <b>Weight lbs (kg):</b>                                       | PF20X-XAX-SXX-B 74 (34)<br>PF20X-XCX-SXX-B 161 (73)<br>PF20X-XSX-SXX-B 188 (85)     |

#### Sound Level:

| PSI | Cycles / Min | db(A) |
|-----|--------------|-------|
| 70  | 60           | 85.0  |



### Ordering Menu

|                     |                                                                                                   |                                                                       |                                     |                      |                                                                                |
|---------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|----------------------|--------------------------------------------------------------------------------|
| <b>Model Series</b> | <b>Center Section</b>                                                                             | <b>Connection</b>                                                     | <b>Hardware</b>                     | <b>Seat Material</b> | <b>Diaphragm Material</b>                                                      |
| PF20 Standard Pump  | A Aluminum<br>R Polypropylene w/SS Air Caps<br>S Stainless Steel<br>Y Polypropylene w/CI Air Caps | A N.P.T.F. Thread<br>B BSP Thread                                     | P Plated Steel<br>S Stainless Steel | S Stainless Steel    | A Santoprene<br>G Nitrile<br>T PTFE/Santoprene<br>V Viton                      |
|                     |                                                                                                   | <b>Wetted Parts</b><br>A Aluminum<br>C Cast Iron<br>S Stainless Steel |                                     |                      | <b>Flap Material</b><br>A Santoprene<br>G Nitrile<br>U Polyurethane<br>V Viton |

### Accessories\*

#### Air Line Connection Kit | Kit No. 66109

Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

#### Service Repair Kits | Kit No. 637369 (air motor for PF20R and PF20Y)

Kit No. 637421 (air motor for PF20A and PF20S)

Kit No. 637310-XX (fluid section)

#### Continuous-Duty Muffler | No. 67263

Helps reduce possibility of pump freeze-over caused by moisture in air supply. Recommended for continuous-duty and high-flow applications. Muffler features large expansion chamber, permitting cold exhaust air to exit pump.

#### Int. Muffler | No. 94117

\*Please note pumps are not included with these kits.



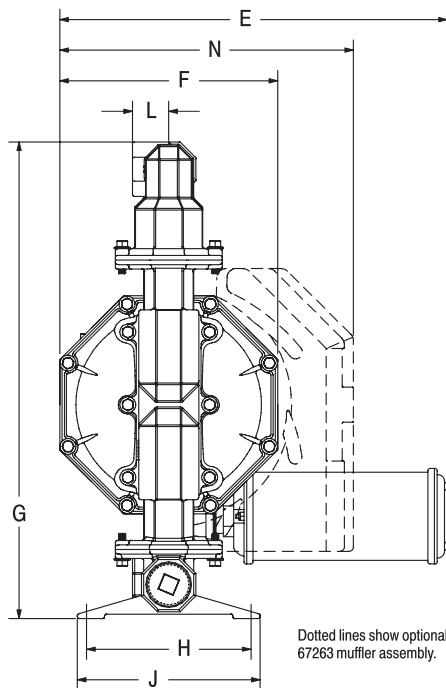
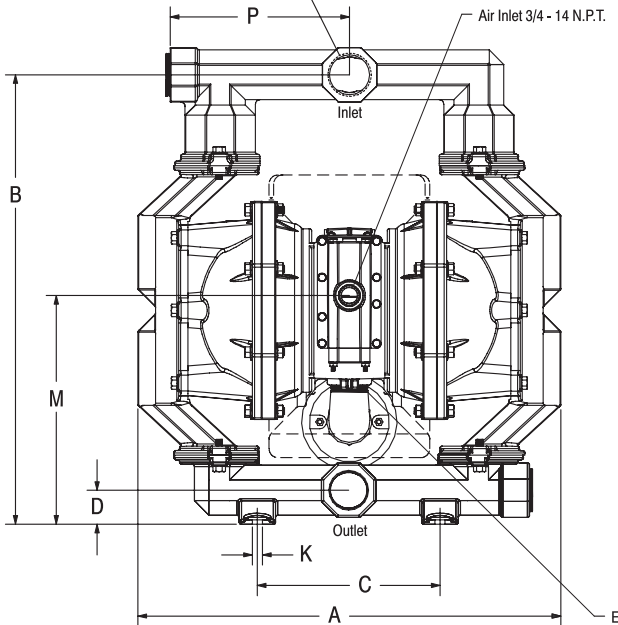
67263 Continuous Duty Muffler



66109 Air Line Connection

# 2" Metallic Flap Valve Specialty Pumps

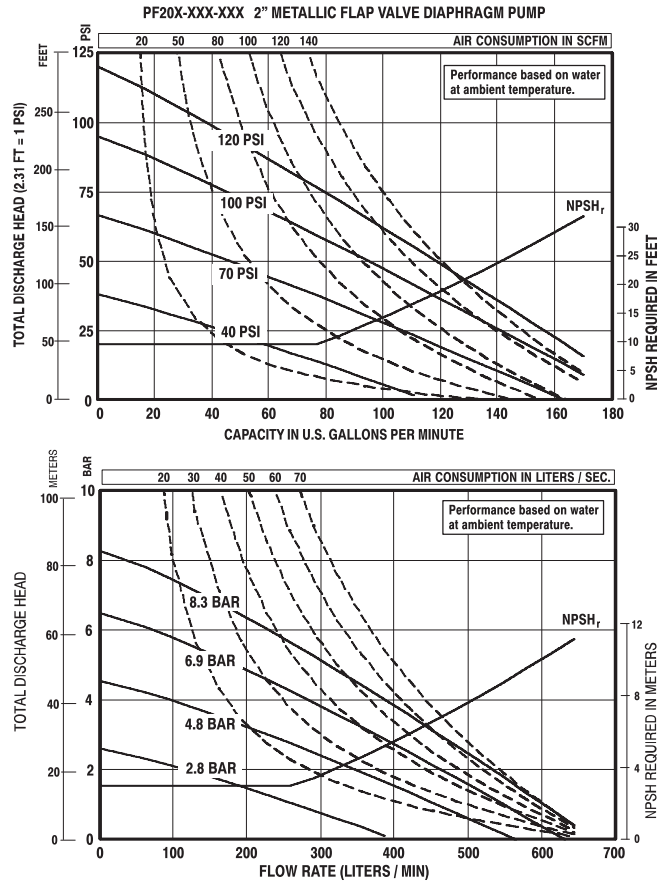
(PF20X-AXX-SXX-B) 2 - 11-1/2 N.P.T.F. - 1  
(PF20X-BXX-SXX-B) Rp 2 (2 - 11 BSP parallel)



## DIMENSIONS

|                         |                          |                         |                         |
|-------------------------|--------------------------|-------------------------|-------------------------|
| A - 23-9/32" (591.3 mm) | E - 21-11/32" (541.9 mm) | J - 10-1/16" (255.6 mm) | N - 16-3/16" (410.8 mm) |
| B - 24-3/4" (628.7 mm)  | F - 12" (304.8 mm)       | K - 9/16" (14.3 mm)     | P - see below           |
| C - 10-1/16" (255.6 mm) | G - 26-1/4" (666.8 mm)   | L - see below           |                         |
| D - see below           | H - 9-1/16" (230.2 mm)   | M - see below           |                         |

|                  | "D"              | "L"               | "M"                  | "P"               |
|------------------|------------------|-------------------|----------------------|-------------------|
| PF20X-XCXX-SXX-B | 1-7/8" (47.6 mm) | 2" (50.8 mm)      | 12-19/32" (319.9 mm) | 9-7/8" (250.7 mm) |
| PF20X-XSXX-SXX-B | 2-1/2" (63.5 mm) | 2-3/32" (53.0 mm) | 13-1/4" (336.6 mm)   | -----             |



Refer to [www.irttools.com/ARO](http://www.irttools.com/ARO) for full size flow curves.

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

## PW Series Specialty Pumps

Ingersoll Rand / ARO has made it as simple as possible for you to switch to the Expert Series (EXP) line of air operated double diaphragm pumps. If you presently use Wilden® "P4," "T4" or "M4" pumps, or a Versa-Matic® "E4" pump, you can now upgrade to EXP with minimal effort. The PW10X-X EXP pumps have the same

footprint and fluid inlet/outlet dimensions as the aforementioned Wilden® and Versa-Matic® models. Leave the stalling issues and leaking band-clamps behind. Switch to EXP and watch energy efficiency go up while downtime and repair costs go down.

### **ARO PW Series pumps provide:**

- ▷ Increased air efficiency, consumes up to 40% less air.
- ▷ Competitive output performance with PTFE diaphragms.
- ▷ Non-stalling, non-icing operation
- ▷ Leak free integrity
- ▷ Productivity provides higher flow output (GPM) per SCFM

#### **Structural Integrity**

Bolted Construction eliminates problems associated with leaking band-clamps and reduces maintenance costs.

#### **Matching Footprint**

The Ingersoll Rand / ARO PW10X-X EXP pump has the same footprint as the Wilden® T4, M4 and W4 pumps, plus the Versa-Matic® E4 pumps.



#### **Simplified Plumbing**

The Ingersoll Rand / ARO PW10X-X EXP pump matches the fluid inlet/outlet port dimensions of the Wilden P4, T4 and M4 pumps, plus the Versa-Matic E4 pumps.

#### **Stall-Free, Ice-Free Air Motor Design**

The EXP air motor has exclusive Simul-Shift valve technology for faster pump trip-over and smoother flow. It also features Quick Dump valves; the final answer to pump stalling due to ice build-up.

### **Five Year Warranty**

# PW Series Specialty Pumps

## 1" Metallic EXP Performance Specifications

|                                          |                             |
|------------------------------------------|-----------------------------|
| Ratio:                                   | 1:1                         |
| Maximum GPM (LPM):                       | 60 (227.1)                  |
| Displacement per cycle Gallons (Liters): | 0.234 (.89)                 |
| Air Inlet (Female):                      | 1/2 - 14 N.P.T.             |
| Fluid Inlet:                             | 1-1/2 - 11-1/2 N.P.T.F - 1  |
| Fluid Outlet:                            | 1-1/4 - 11-1/2 N.P.T.F. - 1 |
| Max. operating pressure psi (bar):       | 120 (8.3)                   |
| Suspended solids max. dia. in. (mm):     | 1/8" (3.2)                  |
| Weight lbs (kg):                         | PW10A-XXX-XXX 26.2 (11.9)   |
| Maximum dry suction lift ft (m):         | 19 (5.8) Elastomer fitted   |

## Sound Level:

| PSI | Cycles / Min | db(A) |
|-----|--------------|-------|
| 70  | 60           | 79.7  |

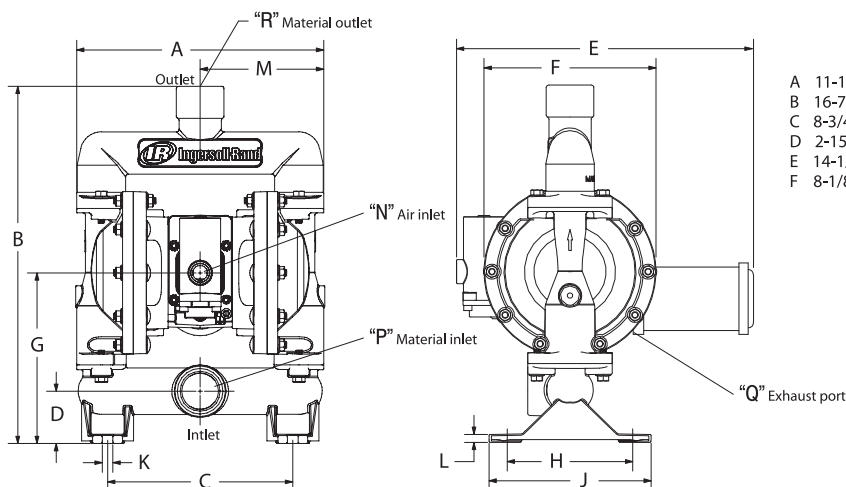


## Ordering Menu

| Model Series       | Center Section | Connection                 | Hardware                               | Seat Material                                       | Diaphragm Material                                                        | Ball Material                                              |
|--------------------|----------------|----------------------------|----------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------|
| PW10 Standard Pump | A Aluminum     | A N.P.T.F. Thread          | P S<br>Plated Steel<br>Stainless Steel | A Santoprene<br>B Hytrel<br>F Aluminum<br>G Nitrile | A Santoprene<br>C Hytrel<br>G Nitrile<br>T PTFE/<br>Santoprene<br>V Viton | A Santoprene<br>C Hytrel<br>G Nitrile<br>T PTFE<br>V Viton |
|                    |                | Wetted Parts<br>A Aluminum |                                        |                                                     |                                                                           |                                                            |

## Accessories

Service Repair Kits | Kit No. 637397 (air motor)  
 Kit No. 637401-XX (fluid section)  
 Kit No. 637390-X (major air valve assembly)



## DIMENSIONS

|                        |                       |                             |
|------------------------|-----------------------|-----------------------------|
| A 11-11/16" (296.4 mm) | G 8-1/16" (204.7 mm)  | N 1/2 - 14 N.P.T.           |
| B 16-7/8" (428.6 mm)   | H 5-15/16" (150.8 mm) | P 1-1/2 - 11-1/2 N.P.T.F.-1 |
| C 8-3/4" (222.3 mm)    | J 7-21/32" (194.5 mm) | Q 3/4 - 14 N.P.T.           |
| D 2-15/32" (62.7 mm)   | K 1/2" (12.7 mm)      | R 1-1/4 - 11-1/2 N.P.T.F.-1 |
| E 14-1/32" (356.2 mm)  | L 3/8" (9.5 mm)       |                             |
| F 8-1/8" (206.4 mm)    | M 5-27/32" (148.2 mm) |                             |

# Powder Transfer Specialty Pumps

## Challenge:

Transferring and handling your dry process powders quicker, cleaner and at a fraction of the cost associated with installed "systems".

## Performance:

The weights and flowability of powders can be extremely different from one to the next. ARO Transfer Systems have proven to be successful in the transfer of powders ranging from 5 to 45 pounds per cubic foot. For more specific performance information on a special powder application contact ARO at (800)495-0276.

## Solution:

ARO's Powder Transfer System. Transfer and handle your dry process powders faster, cleaner and at a fraction of the cost associated with installed "systems".

### Replace Manual Powder Processes.

- **Reduce Airborne Contamination** - With direct transfer from the powder container to your recipe.
- **Unique Patented Air-Induction System** - Avoids the possibility of powder pack-out.
- **Economical and Simple** - Unlike large, complex systems.
- **Portable** - Can be moved from site to site.

### Delay Timer

Built-in timer insures proper fluidization of the powder before start-up.

### Air Filter / Regulator

Included with pump.

### 4-Way Efficiency Valve

Reduces the amount of air or other inert gas required for operation. A critical cost and energy-saving feature.

### 4-Way Efficiency Valve

ARO's Air valve features patented, stall-free design.

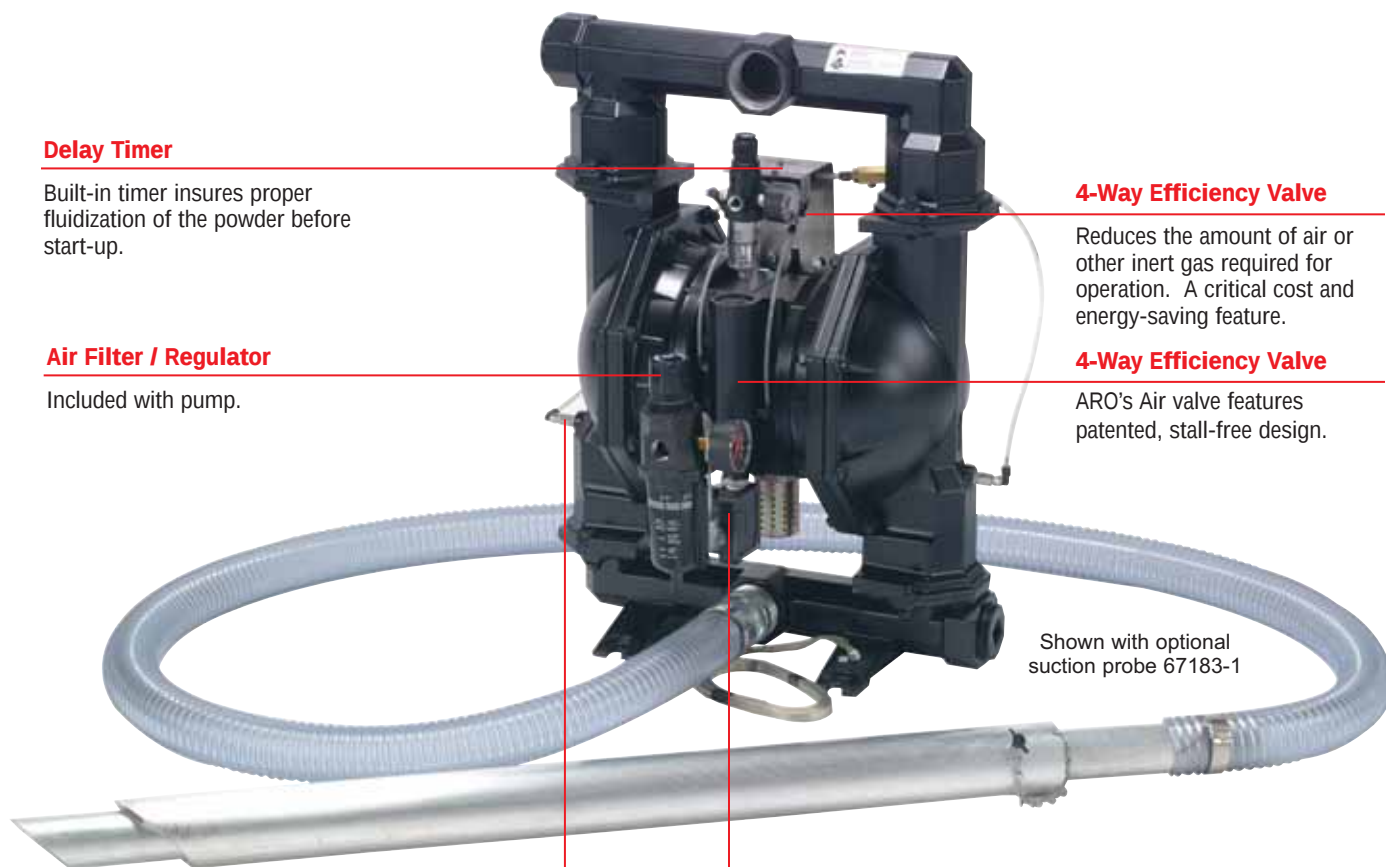
Shown with optional suction probe 67183-1

### Air Induction Valve

Special valve increases air velocity for optimum powder aeration and diffusion.

### Main Air Control Valve

Directly controlled by the delay timer, main start-up valve supplies air pressure directly to the pump's major air valve.



# Powder Transfer Specialty Pumps

For the Consistent Trouble Free Transfer of Powders up to 45-lbs. Per Cubic Foot (721 Kgs. Per Cubic Meter) Dry-Weight.

**Including:** Carbon Black, Expanded Mica, Silicones, Acrylic Resins and Pharmaceuticals

## Performance Specifications

|                                             |                              |               |
|---------------------------------------------|------------------------------|---------------|
| <b>Port:</b>                                | 2" and 3"                    |               |
| <b>Material:</b>                            | Aluminum and Stainless Steel |               |
| <b>Max. operating pressure</b> psi (bar):   | 100 (6.9)                    |               |
| <b>Suspended solids max. dia.</b> in. (mm): | 1/4" (6.4) PP20A Models      |               |
|                                             | 3/8" (9.5) PP30A Models      |               |
| <b>Weight:</b> lbs (kg)                     | PP20A-XAX-AAA                | 99.4 (45.1)   |
|                                             | PP20A-XSX-AAA                | 157.8 (71.6)  |
|                                             | P30A-XAX-AAA                 | 137.5 (62.4)  |
|                                             | PP30A-XSX-AAA                | 236.8 (107.4) |



## Ordering Menu

|                     |                |          |                       |                          |                          |          |                      |                           |            |
|---------------------|----------------|----------|-----------------------|--------------------------|--------------------------|----------|----------------------|---------------------------|------------|
| <b>PP20A</b>        |                | -        | <b>X</b>              | <b>X</b>                 | <b>X</b>                 | -        | <b>A</b>             | <b>A</b>                  | <b>A</b>   |
| <b>Model Series</b> |                |          | <b>Connection</b>     | <b>Wetted Parts</b>      | <b>Hardware</b>          |          | <b>Seat Material</b> | <b>Diaphragm Material</b> |            |
| <b>2</b>            | <b>2" Port</b> | <b>A</b> | 2-11-1/2 N.P.T.F. - 1 | <b>A</b> Aluminum        | <b>P</b> Plated Steel    | <b>A</b> | Santoprene           | <b>A</b>                  | Santoprene |
|                     |                | <b>B</b> | Rp2(2-11 BSP)         | <b>S</b> Stainless Steel | <b>S</b> Stainless Steel |          |                      | <b>Ball Material</b>      |            |
|                     |                |          |                       |                          |                          |          |                      | <b>A</b>                  | Santoprene |
| <b>PP30A</b>        |                | -        | <b>X</b>              | <b>X</b>                 | <b>X</b>                 | -        | <b>A</b>             | <b>A</b>                  | <b>A</b>   |
| <b>Model Series</b> |                |          | <b>Connection</b>     | <b>Wetted Parts</b>      | <b>Hardware</b>          |          | <b>Seat Material</b> | <b>Diaphragm Material</b> |            |
| <b>3</b>            | <b>3" Port</b> | <b>A</b> | 3-8 N.P.T.F. - 1      | <b>A</b> Aluminum        | <b>P</b> Carbon Steel    | <b>A</b> | Santoprene           | <b>A</b>                  | Santoprene |
|                     |                | <b>B</b> | Rp3(3-11 BSP)         | <b>S</b> Stainless Steel | <b>S</b> Stainless Steel |          |                      | <b>Ball Material</b>      |            |
|                     |                |          |                       |                          |                          |          |                      | <b>A</b>                  | Santoprene |

## Accessories\*

### Air Line Connection Kit | Kit No. 66109

Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

### Service Repair Kits | Kit No. 637421 (air section)

Kit No. 637303-XX (fluid section for PP30A)

Kit No. 637309-XX (fluid section for PP20A)

### Suction Probe | No. 67183-1

Aluminum Suction Probe - Includes all necessary pump attachment hardware and 10 ft. of groundable hose. Probe can be used with both 2" and 3" ported powder pumps.

\*Please note pumps are not included with these kits.



Air Line  
Connection Kit

# Sanitary Transfer Specialty Pumps

- Constructed of FDA Accepted Materials
- Electro-Polished 316 Stainless Steel Fluid Section
- Bolted Construction with all Stainless Steel Hardware
- All Investment Cast Wetted Parts

## Typical Applications:

Food Processing  
Cosmetics  
Pharmaceutical  
Chemical Additives  
Adhesives (Food grade)  
Paint  
Applications Requiring Quick-Disconnect  
Fluid Connections



## S-Tran Performance Specifications

| Ratio:                             | PM05X-X-X-A02 (1/2") | PM10X-X-X-A02 (1")                                                                        | PM15X-X-X-A02 (1-1/2")                                                                    | PM20X-X-X-B02 (2")*                                                                       | PM30X-X-X-C02 (3")*                                                                          |
|------------------------------------|----------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                    | 1:1                  | 1:1                                                                                       | 1:1                                                                                       | 1:1                                                                                       | 1:1                                                                                          |
| Maximum GPM (lpm):                 | 13.0 (49.2)          | 52.2 (197.6)                                                                              | 123 (465.6)                                                                               | 172 (651)                                                                                 | 275 (1041)                                                                                   |
| Displacement per Cycle GPM (lpm):  | 0.040 (.15)          | .232 (.88)                                                                                | .617 (2.34)                                                                               | 1.4 (5.3)                                                                                 | 2.8 (10.6)                                                                                   |
| Air Inlet (Female):                | 1/4 - 18 N.P.T.      | 1/4 - 18 N.P.T.                                                                           | 1/2 - 14 N.P.T.                                                                           | 3/4 - 14 N.P.T.F.-1                                                                       | 3/4 - 14 N.P.T.                                                                              |
| Fluid Inlet:                       | 1-1/2" Tri-Clamp     | 1-1/2" Tri-Clamp                                                                          | 2" Tri-Clamp                                                                              | 2-1/2" Tri-Clamp                                                                          | 3" Tri-Clamp                                                                                 |
| Fluid Outlet:                      | 1-1/2" Tri-Clamp     | 1-1/2" Tri-Clamp                                                                          | 2" Tri-Clamp                                                                              | 2-1/2" Tri-Clamp                                                                          | 3" Tri-Clamp                                                                                 |
| Max. Operating Pressure: PSI (bar) | 100 (6.9)            | 120 (8.3)                                                                                 | 120 (8.3)                                                                                 | 120 (8.3)                                                                                 | 120 (8.3)                                                                                    |
| Suspended solids in.(mm):          | 3/32" (2.4)          | 1/8" (3.3)                                                                                | 1/4" (6.4)                                                                                | 1/4" (6.5)                                                                                | 3/8" (9.5)                                                                                   |
| Weight lbs (kg.):                  | 14.75 (6.7)          | PM10A-CSS-X-A02 44.3 (20.1)<br>PM10R-CSS-X-A02 38.2 (17.3)<br>PM10S-CSS-X-A02 51.1 (23.2) | PM15A-CSS-X-A02 61.9 (28.1)<br>PM15R-CSS-X-A02 60.3 (27.3)<br>PM15S-CSS-X-A02 77.9 (35.3) | PM20A-CSS-X-B02 142.8(64.8)<br>PM20R-CSS-X-B02 157.4(71.4)<br>PM20S-CSS-X-B02 171.7(77.9) | PM30A-CSS-X-C02 227.5(103.2)<br>PM30R-CSS-X-C02 253.3(114.9)<br>PM30S-CSS-X-C02 267.2(121.2) |

\*Muffler not included, order as an accessory item.

## Ordering Menu

| PMXX             | X                                                        | - | C           | S            | S                 | - | X                 | X             | X                          | - | X02                             |
|------------------|----------------------------------------------------------|---|-------------|--------------|-------------------|---|-------------------|---------------|----------------------------|---|---------------------------------|
| Model Series     | Center Section                                           |   | Connection  | Wetted Parts | Hardware          |   | Seat Material     | Ball Material | Diaphragm Material         |   |                                 |
| PM05 1/2" Pump   | A Aluminum                                               |   | C Tri-Clamp | S            | S Stainless Steel |   | A Santoprene      | A Santoprene  | A Santoprene               |   | A 1/2", 1", 1-1/2" ported pumps |
| PM10 1" Pump     | R Polypropylene                                          |   |             |              |                   |   | S Stainless Steel | T PTFE        | M Medical grade Santoprene |   | B 2" ported pumps               |
| PM15 1-1/2" Pump | S Stainless Steel                                        |   | S           | S            |                   |   |                   |               | T PTFE/Santoprene          |   | C 3" ported pumps               |
| PM20 2" Pump     |                                                          |   |             |              |                   |   |                   |               |                            |   |                                 |
| PM30 3" Pump     | P Polypropylene<br>PM05P sole designation for 1/2" pumps |   |             |              |                   |   |                   |               |                            |   |                                 |

# High Pressure Specialty Pumps



670045-X  
3" 2:1 Ratio Pump



PH10A-XXX-XXX  
3:1 Ratio Pump

The high pressure pumps were developed for applications requiring fluid pressures in excess of the 100 psi developed by traditional pumps. Compared to a standard diaphragm pump, these high-pressure pumps can produce up to 200 psi (2:1 Ratio Pump) and nearly 300 psi (3:1 Ratio Pump), at about half the flow rate.

The 2:1 ratio is accomplished by using the effective surface area of both diaphragms to double the output pressure. The 3:1 ratio is accomplished by using two power pistons that drive the fluid handling diaphragms.

## 2:1 Ratio High-Pressure Pump

- Bolted Construction for Leak Free Integrity
- Simul-Shift and Quick Dump Valve Technology for Stall Free / Ice Free Performance
- Convuluted Diaphragms for Long Life
- Modular Major Valve for Ease of Repair

### Applications:

- High Viscosity Fluids
- High Solids Fluids
- Charging Filter Presses
- High Head / Back Pressure

| Model                              | Maximum Gallons GPM (Liters) | Displacement @ 100 PSI Cycles Per Gallons (Liters) | Fluid Inlet/Outlet (female) | Maximum Operating pressure PSI(bar) |
|------------------------------------|------------------------------|----------------------------------------------------|-----------------------------|-------------------------------------|
| <b>2:1 Ratio 3" Diaphragm Pump</b> |                              |                                                    |                             |                                     |
| 670045                             | 160 (605.6)                  | 1.4 (5.3)                                          | 3-8 N.P.T.F. - 1            | 200 (13.8)                          |
| 670045-1                           | 160 (605.6)                  | 1.4 (5.3)                                          | Rp 3(3-11BSP Parallel)      | 200 (13.8)                          |

**Accessories:** Air line connection kit - 66109  
Muffler - 94117

## 3:1 Ratio High-Pressure Pump

- Can generate nearly 300 psi on standard 100 psi shop air
- Stall-Free
- Exceptional material compatibility
- Easy to maintain
- 5-Year warranty

### Ideal Transfer of:

- Paint recirculation and high solid coatings
- Inks
- Adhesives
- Filled Material
- Drilling Grout
- Caulking
- Solvent reclamation
- Resins

| Model                                                   | Maximum Gallons GPM (Liters) | Displacement @ 100 PSI Cycles Per Gallons (Liters) | Fluid Inlet/Outlet (female) | Maximum Operating pressure PSI(bar) |
|---------------------------------------------------------|------------------------------|----------------------------------------------------|-----------------------------|-------------------------------------|
| <b>Stainless Steel**Construction - NPT Inlet/Outlet</b> |                              |                                                    |                             |                                     |
| PH10A-ASS-HHT                                           | 26(98.4)                     | 0.06(.23)                                          | 1-Inch                      | 300(20.4)                           |
| PH10A-ASS-SST                                           | 26(98.4)                     | 0.06(.23)                                          | 1-Inch                      | 300(20.4)                           |
| <b>Stainless Steel Construction - BSP Inlet/Outlet</b>  |                              |                                                    |                             |                                     |
| PH10A-BSS-HHT                                           | 26(98.4)                     | 0.06(.23)                                          | 1-Inch                      | 300(20.4)                           |
| PH10A-BSS-SST                                           | 26(98.4)                     | 0.06(.23)                                          | 1-Inch                      | 300(20.4)                           |

\*\* All Stainless Steel is electro-polished/passivated

# Dewatering Specialty Pumps

## Centrifugal Type

- Simple design, few moving parts
- Handles a wide variety of debris-laden applications
- Can also be used for simple transfer requiring high flows (200 + GPM/750 LPM Avg.) with high discharge head (65 feet/20 meters avg.)
- Self-Priming
- Adjustable impeller and impeller cover help maintain peak performance
- Closed-type impeller promotes greater efficiency when pumping against high heads
- Ultra-rugged body construction insures durability
- Lightweight and extremely portable
- Pressurized lubrication of the impeller shaft seals prolongs operational life



P237A1  
Centrifugal Pump

## Centrifugal Pump Performance Specifications

|                                             |                                                                           |           |
|---------------------------------------------|---------------------------------------------------------------------------|-----------|
| <b>Maximum Flow</b> GPM (LPM):              | 200 (757) P237AX-EU<br>230 (870.5) P35AX-EU                               |           |
| <b>Air Inlet</b> (Female):                  | 3/4 -14 N.P.T. (P237AX-EU)<br>1 - 11-1/2 N.P.T. (P35A1-EU)                |           |
| <b>Fluid Inlet:</b>                         | Screened Inlet                                                            |           |
| <b>Fluid Outlet:</b>                        | 2" N.P.T.F. P35A1-EU<br>2-1/2" N.P.T.F. P237A1-EU<br>2-1/2" BSP P237A3-EU |           |
| <b>Max. operating pressure</b> psi (bar):   | 90 (6.2)                                                                  |           |
| <b>Air Consumption in CFM:</b>              | P237AX-EU                                                                 | 100       |
|                                             | P35A1-EU                                                                  | 160       |
| <b>Suspended solids max. dia.</b> in. (mm): | 1/4" (6.4)                                                                |           |
| <b>Pump Housing Material:</b>               | P237AX-EU                                                                 | Cast Iron |
|                                             | P35A1-EU                                                                  | Cast Iron |
| <b>Weight</b> lbs (kg):                     | P237AX-EU                                                                 | 48 (21.8) |
|                                             | P35A1-EU                                                                  | 79 (36)   |

## Ordering Menus

|                     |                         |          |           |
|---------------------|-------------------------|----------|-----------|
| <b>P237A</b>        | <b>X</b>                | <b>-</b> | <b>EU</b> |
| <b>Model Series</b> | <b>Discharge Thread</b> |          |           |
| 200-GPM (757-LPM)   | 1 2-1/2" N.P.T.         |          |           |
|                     | 3 2-1/2" BSP            |          |           |

|                     |                         |          |           |
|---------------------|-------------------------|----------|-----------|
| <b>P35A</b>         | <b>1</b>                | <b>-</b> | <b>EU</b> |
| <b>Model Series</b> | <b>Discharge Thread</b> |          |           |
| 230-GPM (870-LPM)   | 1 2" N.P.T.             |          |           |

## Accessories

**Air Line Unit** | 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

# Drum Pumps Specialty Pumps

## Drum Pumps

- Choose from Aluminum, Stainless Steel or Polypropylene Body Construction - ARO Drum Pumps are available in three body materials for optimum fluid compatibility.
- 14.4 GPM (54.5 lpm) Flow Capability for non-metallic diaphragm pumps.
- 12.0 GPM (45.4 lpm) Flow Capability for metallic diaphragm pumps.
- 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 - Unlike traditional band-clamp style pumps, ARO Diaphragm Drum Pumps utilize bolted fasteners for leak-tight integrity.
- Five Year Warranty.

## Drum Pump Packages

- Factory-Matched - ARO Drum Pump package components (adapters, siphon tubes, etc.) contain pre-specified, matching materials of construction for complete fluid compatibility.
- 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



DAB05-PPCC-B-J  
Drum Pump

## Ordering

**Basic Package** - Each package includes Pump, Bung Adapter, Air Shut-off, Siphon Tube, Weather Seal and Base

| MODEL NO.      | PUMP HOUSING and SEATS | PUMP DIA. and BALLS | LOCK OUT VALVE (P/N 104253-2) | FOOT VALVE | 10' HOSE ASM       | DISPENSE VALVE | FLUID SERVICE            |
|----------------|------------------------|---------------------|-------------------------------|------------|--------------------|----------------|--------------------------|
| DAB05-PPTT-2-A | POLYPROPYLENE          | PTFE                | X                             | -          | -                  | -              | ACIDS & CAUSTICS         |
| DAB05-PPCC-2-A | POLYPROPYLENE          | HYTREL              | X                             | -          | -                  | -              | OIL                      |
| DAB05-PPUU-2-A | POLYPROPYLENE          | POLYURETHANE        | X                             | -          | -                  | -              | WATER/OIL                |
| DAB05-PPAA-2-A | POLYPROPYLENE          | SANTOPRENE          | X                             | -          | -                  | -              | MILD ACIDS/MILD CAUSTICS |
| DAB05-PPCC-2-N | POLYPROPYLENE          | HYTREL              | X                             | -          | NITRILE            | -              | OIL                      |
| DAB05-PPCC-B-M | POLYPROPYLENE          | HYTREL              | X                             | X          | NITRILE            | NO-DRIP        | OIL                      |
| DAB05-PPAA-2-B | POLYPROPYLENE          | SANTOPRENE          | X                             | -          | EPDM               | -              | MILD ACIDS/MILD CAUSTICS |
| DAB05-PPUU-2-C | POLYPROPYLENE          | POLYURETHANE        | X                             | -          | VINYL              | -              | WATER/OIL                |
| DAB05-PPCC-B-J | POLYPROPYLENE          | HYTREL              | X                             | X          | REINFORCED NITRILE | X              | OIL                      |
| DAB05-PPAA-B-K | POLYPROPYLENE          | SANTOPRENE          | X                             | X          | EPDM               | X              | MILD ACIDS/MILD CAUSTICS |
| DAB05-SSTT-2-A | STAINLESS STEEL        | PTFE                | X                             | -          | -                  | -              | SOLVENT                  |
| DAB05-ASTT-2-A | ALUM / STAIN STEEL     | PTFE                | X                             | -          | -                  | -              | SOLVENT                  |
| DAB05-APCC-2-A | ALUMINUM / POLYPRO     | HYTREL              | X                             | -          | -                  | -              | OIL/SOME SOLVENTS        |
| DAB05-APCC-2-O | ALUMINUM / POLYPRO     | HYTREL              | X                             | -          | NITRILE            | -              | OIL/SOME SOLVENTS        |
| DAB05-APCC-B-P | ALUMINUM / POLYPRO     | HYTREL              | X                             | X          | NITRILE            | NO-DRIP        | OIL/SOME SOLVENTS        |
| DAB05-APCC-B-D | ALUMINUM / POLYPRO     | HYTREL              | X                             | X          | -                  | X              | OIL/SOME SOLVENTS        |
| DAB05-APCC-B-L | ALUMINUM / POLYPRO     | HYTREL              | X                             | X          | REINFORCED NITRILE | X              | OIL/SOME SOLVENTS        |
| DAB05-ASAA-2-A | ALUM / STAIN STEEL     | SANTOPRENE          | X                             | -          | -                  | -              | WATER                    |

## Overview Accessories

### A / Pump Actuation Valves

Ingersoll Rand/ARO pump actuation valves include needle style air control valves as well as heavy-duty 2 and 3-way solenoid or direct-acting models. ARO control valves are an economical and reliable path to simple pump interface and actuation.

### B / Air Treatment

ARO offers a comprehensive array of ARO air filters, regulators and air line accessories that provide the perfect measure of protection and precision to your EXP Pump. Ask your EXP Distributor to size one for your pump today.

### C / Diaphragm Failure Detection

Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance.

### How ARO Diaphragm Failure Detection (DFD) Works

A refractive infrared light sensor installed into the air side of the diaphragm housing sends and receives a continuous optic signal. If diaphragm failure occurs and fluid enters the air side, the sensor's beam is absorbed and an output signal is sent indicating failure.

### When and Where to Use ARO DFD

- When pumping aggressive or hazardous materials that could pose a threat to the work environment.
- In remote locations where constant monitoring is critical.
- When pumping expensive materials.
- Where OSHA or EPA standards and codes require monitoring.

### D / Cycle Sensing and Counting

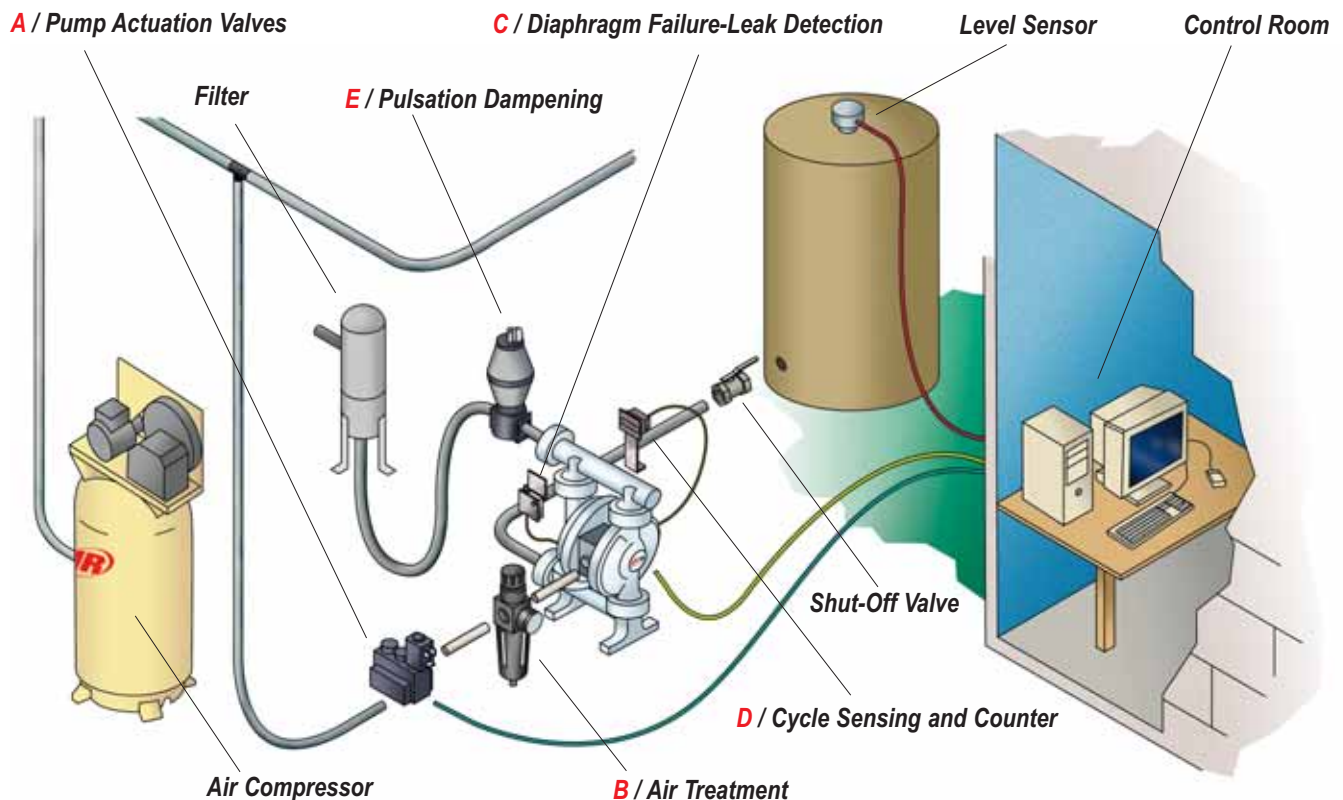
Like the odometer on your car, ARO's cycle sensor / counter lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. Easy to install, the cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump operation on-line.

### E / Pulsation Dampeners

ARO Shock Blocker® pulsation dampeners are installed in fluid transfer / supply operations to avoid material pulsation and foaming. Pulsation dampeners also help reduce "hammering" or stress on fluid piping that can occur when reciprocating pumps are operated at slow or intermittent cycle rates.

### Before You Order...

Be sure to first order the EXP PE15X, PE10X, PE20X and PE30X (Electronic Interface Equipped) model series for easy add-on of these important predictive maintenance (diaphragm failure, cycle sensing) components.



# Air Controls Accessories

## Air Line Connection Kits

- Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

### Kit Number Pump Model

|                |                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------|
| <b>66073-1</b> | PD03P-X, PD05P-X, PD05X-X                                                                                        |
| <b>66073-2</b> | PD10P-X, PD10X-X, PE10P-X, PE10X-X, PM10X-X, PW10X-X                                                             |
| <b>66084-1</b> | PD15P-X, PD15X-X, PE15P-X, PE15X-X, PM15X-X                                                                      |
| <b>66109</b>   | PD20P-X, PE20P-X, PD20X-X-B, PF20X-X-B, PP20X-X-X, PM20X-X-X-B02, PD30X-X-C, PD03R-X-C, PP30A-X-X, PM30X-X-X-C02 |



## Air Filter/Regulator

- The Module/Air Series units extend the life of air operated equipment while reducing operating costs. These units efficiently remove solid particles from compressed air lines - making them the perfect choice for large flow applications.



## Ordering Information

| Model Number    | Description                       | Pumps Used With            | N.P.T. Inlet | Gauge Ports | Max. Inlet PSI | Pressure Range | Max. CFM | Micron Element | Size L x W |
|-----------------|-----------------------------------|----------------------------|--------------|-------------|----------------|----------------|----------|----------------|------------|
| <b>MOD 1000</b> |                                   |                            |              |             |                |                |          |                |            |
| P29122-600      | Filter / Reg. w/gauge             | 1/4", 3/8", and 1/2"(Dia.) | 1/4          | 1/8         | 150            | 0-125          | 12       | 20             | 6.0 x 2.0  |
| <b>MOD 2000</b> |                                   |                            |              |             |                |                |          |                |            |
| P29221-610      | Filter / Reg. w/gauge             | 1/2", 1" Models            | 1/4          | 1/4         | 175            | 0-125          | 93       | 40             | 9.5 x 2.6  |
| P29231-610      | Filter / Reg. w/gauge             | 3:1 (Dia.)                 | 3/8          | 1/4         | 175            | 0-125          | 135      | 40             | 9.5 x 2.6  |
| P29241-610      | Filter / Reg. w/gauge             | 1-1/2" Models              | 1/2          | 1/4         | 175            | 0-125          | 140      | 40             | 9.5 x 2.6  |
| <b>MOD 3000</b> |                                   |                            |              |             |                |                |          |                |            |
| P29351-600      | Filter / Reg. w/gauge and bracket | 2" & 3" Models             | 3/4          | 1/4         | 170            | 0-170          | 300      | 40             | 10.3 x 4.3 |

# Pulsation Dampeners Accessories

## 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.

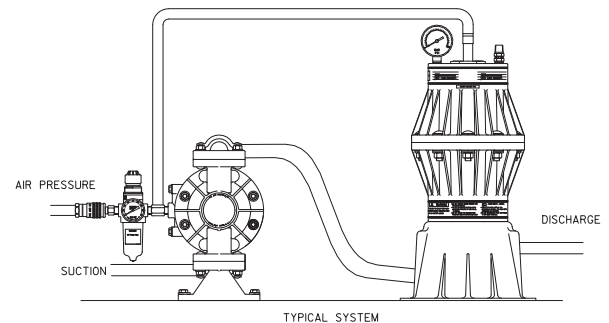
## Automatic Shock Blockers

- Automatic Air Adjustment - compensates for fluctuations in fluid pressure without operator intervention.
- Significant Pulsation Reduction - 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.<sup>3</sup> maximum fluid volume, and 3" models up to 509 in.<sup>3</sup> maximum fluid volume.
- Broad Material Range for Compatibility - choose from PVDF, polypropylene, groundable acetal (1" models) or aluminum, cast iron or stainless steel (2" and 3" models) body materials for optimum pump-to-pulsation dampener compatibility.
- Broad Diaphragm/Bladder Fluid Compatibility - choose from Santoprene, Nitrile, PTFE, Hytrel, Viton or Urethane for optimum fluid-to-diaphragm compatibility.
- Perfect for Process Applications - pulsation reduction in long piping runs help 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.



## 1" Port Models

|                                                   |                                                                                           |                                     |       |
|---------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------|-------|
| <b>Pulsation Dampener Type:</b>                   | Non-Metallic / Automatic                                                                  |                                     |       |
| <b>Material:</b>                                  | See model description chart                                                               |                                     |       |
| <b>Weight</b> lbs (kg):                           | Polypropylene                                                                             | 8.4                                 | (3.8) |
|                                                   | Conductive Acetal                                                                         | 8.6                                 | (3.9) |
|                                                   | PVDF                                                                                      | 9.0                                 | (4.1) |
| <b>Material Inlet/Outlet:</b>                     | SB10X-AXX 1" - 11-1/2 N.P.T. (Female)<br>(Both are available)<br>SB10X-BXX Rp1(1- 11 BSP) |                                     |       |
| <b>Air Inlet:</b>                                 | 3/8 - 18 N.P.T.F-1 (Male) (Standard)                                                      |                                     |       |
| <b>Maximum Air Inlet Pressure</b> psi (bar):      | 100 (6.9)                                                                                 |                                     |       |
| <b>Maximum Material Inlet Pressure</b> psi (bar): | 100 (6.9)                                                                                 |                                     |       |
| <b>Maximum Temperature Limits:</b>                | Polypropylene                                                                             | 35° F - 150° F<br>(+1.6° C - 66° C) |       |
|                                                   | Conductive Acetal                                                                         | 10° F - 180° F<br>(-12° C - 82° C)  |       |
|                                                   | PVDF                                                                                      | 10° F - 200° F<br>(-12° C - 93° C)  |       |
|                                                   |                                                                                           |                                     |       |
| <b>Maximum Fluid Volume:</b>                      | 57 In. <sup>3</sup> (0.931 lit)                                                           |                                     |       |



## Ordering Menu

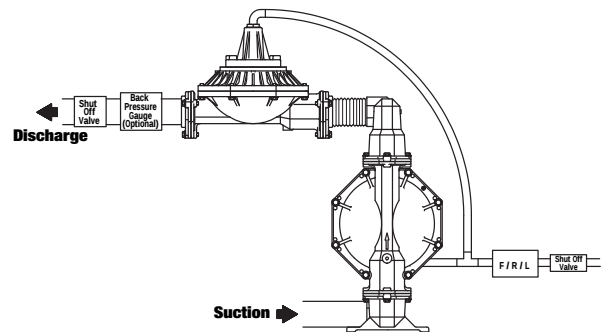
|                     |                     |                                |   |                                |          |                       |   |                  |
|---------------------|---------------------|--------------------------------|---|--------------------------------|----------|-----------------------|---|------------------|
| <b>SB</b>           | <b>XX</b>           | <b>X</b>                       | - | <b>X</b>                       | <b>X</b> | <b>X</b>              | - | <b>X</b>         |
| <b>Model Series</b> | <b>Blocker Size</b> | <b>Air Body</b>                |   | <b>Thread</b>                  |          | <b>Hardware</b>       |   | <b>Diaphragm</b> |
| 10                  | 1-Inch              | P Polypropylene (Glass Filled) | A | N.P.T.                         | S        | Stainless Steel (304) | A | Santoprene       |
|                     |                     | K PVDF                         | B | BSP                            |          |                       | C | Hytrel           |
|                     |                     | D Conductive Acetal            |   | <b>Fluid Construction</b>      |          |                       | T | PTFE             |
|                     |                     |                                |   | P Polypropylene (Glass Filled) |          |                       | U | Urethane         |
|                     |                     |                                |   | K PVDF                         |          |                       |   |                  |
|                     |                     |                                |   | D Conductive Acetal            |          |                       |   |                  |

**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.

# Pulsation Dampeners Accessories

## 2" Port Models

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



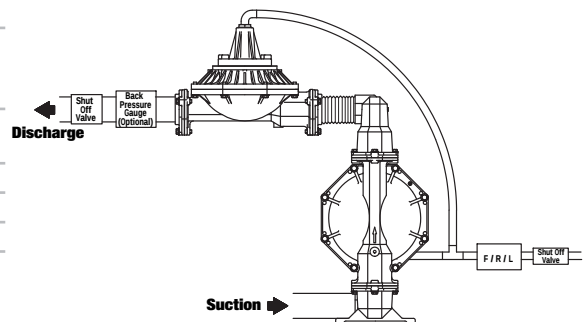
Proper support of piping and pulsation dampener is required.

## Ordering Menu

|              |              |                                                |   |                    |                                                |                                           |   |                                                               |
|--------------|--------------|------------------------------------------------|---|--------------------|------------------------------------------------|-------------------------------------------|---|---------------------------------------------------------------|
| <b>SB</b>    | <b>XX</b>    | <b>X</b>                                       | - | <b>X</b>           | <b>X</b>                                       | <b>X</b>                                  | - | <b>X</b>                                                      |
| Model Series | Blocker Size | Air Body                                       |   | Thread             | Fluid Construction                             | Hardware                                  |   | Diaphragm                                                     |
|              | 20 2-Inch    | A Aluminum<br>C Cast Iron<br>S Stainless Steel |   | A N.P.T.F<br>B BSP | A Aluminum<br>C Cast Iron<br>S Stainless Steel | S Stainless Steel (304)<br>P Plated Steel |   | A Santoprene<br>G Nitrile<br>T PTFE/<br>Santoprene<br>V Viton |

## 3" Port Models

|                                                   |                                                                                                                                                                                      |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pulsation Dampener Type:</b>                   | Metallic / Automatic                                                                                                                                                                 |
| <b>Material:</b>                                  | See model description chart                                                                                                                                                          |
| <b>Weight lbs (kg):</b>                           | Aluminum (fluid cap) 41 (18.6)<br>Cast Iron (fluid cap) 94 (42.6)<br>Stain. Steel (fluid cap) 96 (43.5)                                                                              |
| <b>Material Inlet/Outlet:</b>                     | SB30X-AXX-X 3" - 8 N.P.T.-1<br>SB30X-BXX-X Rp 3(3-11 BSP)                                                                                                                            |
| <b>Air Inlet:</b>                                 | 3/4" - 14 N.P.T. (female)                                                                                                                                                            |
| <b>Maximum Air Inlet Pressure psi (bar):</b>      | 120 (8.3)                                                                                                                                                                            |
| <b>Maximum Material Inlet Pressure psi (bar):</b> | 120 (8.3)                                                                                                                                                                            |
| <b>Maximum Temperature Limits:</b>                | EPR -60° - 280°F (-51° - 138°C)<br>Nitrile 10° - 180°F (-12° - 82°C)<br>Santoprene -40° - 225°F (-40° - 107°C)<br>PTFE 40° - 225°F (4° - 107°C)<br>Viton -40° - 350°F (-40° - 177°C) |
| <b>Maximum Fluid Volume:</b>                      | 509 in. <sup>3</sup> (8.34 lit.)                                                                                                                                                     |



Proper support of piping and pulsation dampener is required.

## Ordering Menu

|              |              |                                 |   |                   |                                                |                                           |   |                                                               |
|--------------|--------------|---------------------------------|---|-------------------|------------------------------------------------|-------------------------------------------|---|---------------------------------------------------------------|
| <b>SB</b>    | <b>XX</b>    | <b>X</b>                        | - | <b>X</b>          | <b>X</b>                                       | <b>X</b>                                  | - | <b>X</b>                                                      |
| Model Series | Blocker Size | Air Body                        |   | Thread            | Fluid Construction                             | Hardware                                  |   | Diaphragm                                                     |
|              | 30 3-Inch    | A Aluminum<br>S Stainless Steel |   | A N.P.T.<br>B BSP | A Aluminum<br>C Cast Iron<br>S Stainless Steel | S Stainless Steel (304)<br>P Plated Steel |   | A Santoprene<br>G Nitrile<br>T PTFE/<br>Santoprene<br>V Viton |

**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.

# Covers / Agitators / Wall Mounts / Siphon Tubes / Counting Accessories

## Drum Cover

- Available in stainless steel (SS), durable drum cover will accommodate both diaphragm pump and agitator, where needed.

## Material Agitators

- Agitators available for both 5 and 55-gallon containers. Air-operated agitator motors generate between 500-1,000 RPM (5 gal. model), and 300-3,000 RPM (55 gal. model). Agitator shaft and propellers are constructed of corrosion-resistant 316 stainless steel.



| Description       | Model Number            | Used With                                 |
|-------------------|-------------------------|-------------------------------------------|
| Drum Cover        | 66971 (stainless steel) | 1/2" Pump<br>5-Gallon Container           |
| Material Agitator | 651100<br>651103        | 5-Gallon Container<br>55-Gallon Container |

## Wall Mount Brackets

- Sturdy wall mount brackets provide a convenient means of mounting pumps for centralized transfer operations. Mounts are constructed of heavy-gauge, coated steel and include mounting hardware.



| Description        | Model Number                                  | Used With                         |
|--------------------|-----------------------------------------------|-----------------------------------|
| Wall Mount Bracket | 76763<br>(Does Not include mounting hardware) | 1/2" Pump                         |
|                    | 66100                                         | 1" Pump (Metallic Only)           |
|                    | 62133                                         | 1-1/2" Pump (Metallic Only)       |
|                    | 67142                                         | 1" Pump and 3:1 1" Diaphragm Pump |

## Mini Batch Counter Kit

- Converts a diaphragm pump into a simple batching system. Can be powered by 110VAC or 12-15VDC. Kits include 67161-2 Mini Batch Counter, 59891 Air-to-Electric Interface Switch, CHW-30 Connector, and TB0XXB-X-X Valve.



67337-X Mini Batch Counter Kit with PE10P-X Pump

| Description            | Kit     | Kit Options                                 | Pump Model                                                                             |
|------------------------|---------|---------------------------------------------|----------------------------------------------------------------------------------------|
| Mini Batch Counter Kit | 67337-X | -1 (24 VDC)<br>-2 (120 VAC)<br>-3 (No Coil) | PE10X, PE10P, PD15X, PD15P<br>PE10X, PE10P, PD15X, PD15P<br>PE10X, PE10P, PD15X, PD15P |
|                        | 67338-X | -1 (24 VDC)<br>-2 (120 VAC)<br>-3 (No Coil) | PE20X, PE30X<br>PE20X, PE30X<br>PE20X, PE30X                                           |

**Ordering Note:** Select the PE (Electronic Interface Accessible) model pump for add-on of accessories like the Cycle Actuation Kit, Cycle Counter or Mini Batch Counter.

## Siphon Tubes

- For use when pumping from a 55-gallon container, siphon tubes are available in plastic (PVC, PP, PTFE), carbon steel (CS), or 316 stainless steel (SS). 1-inch siphon tubes come with foot valve for positive priming. Both 1/2-inch and 1-inch models include bung adapters and are constructed of corrosion-resistant 316 stainless steel.



| Description  | Model Number                    | Used With                                  |
|--------------|---------------------------------|--------------------------------------------|
| Siphon Tubes | 61409<br>PVC 90° N.P.T.(M)      | 1/2" (Non-Metallic)<br>55-Gallon Container |
|              | 61412<br>PVC Straight N.P.T.(M) | 1/2" (Non-Metallic)<br>55-Gallon Container |
|              | 65109<br>(CS) N.P.T.(F)         | 1" (Non-Metallic)<br>55-Gallon Container   |
|              | 66568<br>(SS) N.P.T.(F)         | 1" (Non-Metallic)<br>55-Gallon Container   |
|              | 66779<br>(PVC) N.P.T.(F)        | 1" (Non-Metallic)<br>55-Gallon Container   |

## Countdown Batcher

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



| Description       | Model No. | Pump Model                     |
|-------------------|-----------|--------------------------------|
| Countdown Batcher | 67072     | 3/8", 1/2" and 1" ported pumps |

# Control / Leak Detection Accessories

## Cycle Actuation Kits

- Kits allow operator to control cycling of an Ingersoll Rand/ARO EXP Pump with an electrical signal from PLC's, pH or Pressure Sensors, or even a simple Line Switch. Electric signal actuates valve, which in turn supplies air to large end of unbalanced valve, allowing pump to cycle. When electrical signal is removed, the pump's air valve resets itself, completing cycle.



Cycle Actuation Kit on PE10P-X Pump

## Cycle Counter / Sensor Kits

- Like the odometer on your car, ARO's cycle counter / cycle sensing lets you know how many pump cycles have elapsed so you can be prepared to perform preventive maintenance. The cycle sensor is a cost-efficient way to save maintenance costs while keeping your pump on-line.



67350 Cycle Counter on PE10P-X Pump

## Cycle Sensor Kits

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



67386 Cycle Sensor

| Description         | Kit     | Kit Options                                 | Pump Model                                                                               |
|---------------------|---------|---------------------------------------------|------------------------------------------------------------------------------------------|
| Cycle Actuation Kit | 67165-X | -1 (24 VDC)<br>-2 (120 VAC)<br>-3 (No Coil) | PD03P-X, PD05P-X-B, PD05X-X-B                                                            |
|                     | 67355-X | -1 (24 VDC)<br>-2 (120 VAC)<br>-3 (No Coil) | PE10P-X, PE10X-X, PE15-X, PE15X-X                                                        |
|                     | 67357-X | -1 (24 VDC)<br>-2 (120 VAC)<br>-3 (No Coil) | PE20X-X                                                                                  |
| Cycle Counter Kit   | 67350   | -                                           | PE10P-X, PE10X-X, PE15P-X, PE15X-X, PE20P-X                                              |
|                     | 67350-1 | -                                           | PE20X-X-B, PE30X-X-C                                                                     |
| Cycle Sensor Kit    | 67386   | -                                           | PD03P-X, PD05P-X-B, PD05X-X-B, PE20P-X                                                   |
|                     | 637390  | -                                           | PD10P-X, PE10P-X, PD10E-X, PD10R-X, PE10R-X, PD15P-X, PE15P-X, PD15E-X, PD15R-X, PE15R-X |
|                     | 637391  | -                                           | PD20P-X, PE20P-X, PD20R-X-B, PE20R-X-B, PD30R-X-C, PE30R-X-C                             |
|                     | 637392  | -                                           | PD10X-X, PE10X-X, PW10A-X, PD15X-X, PE15X-X                                              |
|                     | 637393  | -                                           | PD20X-X-B, PE20X-X-B, PF20X-B, PP20X-X, PD30X-C, PE30X-X-C, PP30X-X                      |
|                     |         |                                             |                                                                                          |

**Ordering Note:** Select the PE (Electronic Interface Accessible) model pump for add-on of accessories like the Cycle Actuation Kit, Cycle Counter or Mini Batch Counter.

## Diaphragm Failure Detection

- Costly production downtime due to pump diaphragm failure and resulting (possibly hazardous) material leakage is a very real problem in many process operations. ARO Diaphragm Failure Detection is one simple, cost-effective way to get your pumps wired for preventive maintenance.



DFD Kit 67237 on PD15S-X Pump

## How ARO Diaphragm Failure Detection (DFD) Works

A refractive infrared light sensor installed into the air side of the diaphragm housing sends and receives a continuous optic signal. If diaphragm failure occurs and fluid enters the air side, the sensor's beam is absorbed and an output signal is sent indicating failure.

### Kit Description

**67237** Diaphragm Failure Detection Kit

**\*Ordering Note:** Select the PE (Electronic Interface Accessible) model pump for add-on of accessories like the Diaphragm Failure Detection Kit.

**Note:** PLC and computer system not included.

## Externally Controlled Pumps

- For the ultimate control of your pumping process, choose the "BOS" version of the 1/2", or choose the "AOS" version of the 1" or 1-1/2" EXP Pumps. Air Valves are removed from the pumps, which are then controlled with solenoid or pilot actuated four-way valves. Cycle-rate and speed can be matched to specific application requirements. To order, add "BOS" to the end of the pump's model number. *Example: PE15P-FPS-PTT-BOS*



PE10P-FPS-X-A0S showing air valve removed from center-body of pump.

| Pump   | Model Number                 |
|--------|------------------------------|
| 3/8"   | PE03P-X-X-A0S                |
| 1/2"   | PE05P-X-X-B0S, PE05X-X-X-B0S |
| 1"     | PE10P-X-X-A0S, PE10X-X-X-A0S |
| 1-1/2" | PE15P-X-X-A0S, PE15X-X-X-A0S |

## Field Conversion Kits

Convert existing 1" and 1-1/2" EXP Pumps to externally controlled models. Kits contain materials needed to complete conversion.

| Kit          | Pump Number                |
|--------------|----------------------------|
| <b>67360</b> | PE10P-XX-A0S, PE10XX-X-A0S |
| <b>67361</b> | PE15P-XX-A0S, PE15XX-X-A0S |

# Service Kit / Air Line Chart

## Reference

### Service Kits, Air Filter/Regulator Units, Air Line Kits

| Pump<br>Port<br>Size       | SERVICE KITS        |                                                 | AIR LINE KITS                                        |                    |
|----------------------------|---------------------|-------------------------------------------------|------------------------------------------------------|--------------------|
|                            | Air<br>Valve<br>Kit | Fluid<br>Section<br>Kit<br>(Diaphragm Material) | Recommended<br>Air Line<br>Filter/Regulator<br>Units | Air<br>Line<br>Kit |
| <b>3/8" Non-Metallic</b>   |                     |                                                 |                                                      |                    |
| PD03P, PE03P               | 637428              | 637429-XX                                       | P29122-600                                           | 66073-1            |
| <b>1/2" Non-Metallic</b>   |                     |                                                 |                                                      |                    |
| PD05P, PE05P               | 637428              | 637427-XX                                       | P29122-600                                           | 66073-1            |
| PM05P                      | 637141              | 637140-XX                                       | P29221-610                                           | 66073-2            |
|                            |                     |                                                 | P29122-600                                           | 66073-1            |
| <b>1/2" Metallic</b>       |                     |                                                 |                                                      |                    |
| PD05A, PE05A, PD05R        | 637428              | 637427-XX                                       | P29122-600                                           | 66073-1            |
| PE05R                      | 637428              | 637427-XX                                       | P29221-610                                           | 66073-2            |
| <b>1" Non-Metallic</b>     |                     |                                                 |                                                      |                    |
| PD10P, PE10P, PD10E        | 637397              | 637396-XX                                       | P29221-610                                           | 66073-2            |
| PE10E                      |                     |                                                 |                                                      |                    |
| <b>1" Metallic</b>         |                     |                                                 |                                                      |                    |
| PD10A, PE10A, PD10R        | 637397              | 637401-XX                                       | P29221-310                                           | 66073-2            |
| PE10R, PD10S, PE10S        |                     |                                                 |                                                      |                    |
| PM10A, PM10R, PM10S        |                     |                                                 |                                                      |                    |
| PW10A                      |                     |                                                 |                                                      |                    |
| 3:1 PH10A-XSS-SST          | 637338              | 637339                                          | P29231-610                                           | N/A                |
| <b>1-1/2" Non-Metallic</b> |                     |                                                 |                                                      |                    |
| PD15P, PE15P, PD15E        | 637389              | 637391-XX                                       | P29241-610                                           | 66084-1            |
| PE15E                      |                     |                                                 |                                                      |                    |
| <b>1-1/2" Metallic</b>     |                     |                                                 |                                                      |                    |
| PD15A, PE15A, PD15R        | 637389              | 637375-XX                                       | P29241-610                                           | 66084-1            |
| PE15R, PD15S, PE15S        |                     |                                                 |                                                      |                    |
| PM15A, PM15R, PM15S        |                     |                                                 |                                                      |                    |
| <b>2" Non-Metallic</b>     |                     |                                                 |                                                      |                    |
| PD20P, PE20P, PD20E,       | 637369              | 637373-XX                                       | P29351-600                                           | 66109              |
| PE20E                      |                     |                                                 |                                                      |                    |
| <b>2" Metallic</b>         |                     |                                                 |                                                      |                    |
| PD20A, PD20S, PE20A        | 637421              | 637309-XX                                       | P29351-600                                           | 66109              |
| PE20S, PM20A, PM20S,       |                     |                                                 |                                                      |                    |
| PP20A                      |                     |                                                 |                                                      |                    |
| PD20R, PD20Y, PD20R        | 637369              | 637309-XX                                       | P29351-600                                           | 66109              |
| PE20Y, PM20R               |                     |                                                 |                                                      |                    |
| PF20A, PF20S               | 637421              | 637310-XX                                       | P29351-600                                           | 66109              |
| PF20R, PF20Y               | 637369              | 637310-XX                                       | P29351-600                                           | 66109              |
| <b>3" Metallic</b>         |                     |                                                 |                                                      |                    |
| PD30A, PE30A, PD30S        | 637421              | 637303-XX                                       | P29351-600                                           | 66109              |
| PE30S, PP30A, PM30A        |                     |                                                 |                                                      |                    |
| PM30S                      |                     |                                                 |                                                      |                    |
| PD30R, PE30R, PM30R        | 637369              | 637303-XX                                       | P29351-600                                           | 66109              |
| 670045-X                   | 637369              | 637441                                          | P29351-600                                           | 66109              |

## Air Valve Kits Reference

### Upgrade your current 2" and 3" ARO Metallic Pumps to EXP Technology

- **Easily update existing PD20X-X and PD30X-X-B pumps to EXP**
  - ❑ Infield retrofit with valve kit
  - ❑ **637374-2:** For aluminum pumps
  - ❑ **637374-3:** Aluminum pumps with cycle counter
  - ❑ **637374-4:** For stainless steel pumps
  - ❑ **637374-5:** Stainless steel with cycle counter
- **EXP Valve Kit fits directly onto existing ARO Pump**
- **EXP Air Valve has fewer parts**
  - ❑ Provides a 47% parts reduction over the original PD20X-X and PD30X-X-B air valves.
  - ❑ Simplifies repairs
  - ❑ Lower start-up pressure
  - ❑ Long lasting ceramic valve components

**Original PD20X-X and PD30X-X-B Air Valve**



**PD20X-X-B and PD30X-X-C EXP Style Air Valve**



# Material Service Guideline / Warranty Reference

## Material Service Guideline

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

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

\* 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.

All ARO Pumps are backed up by our famous 5-year warranty, as a measure of the confidence we place in the quality of these products. A confidence that you can share.

## PUMP FIVE-YEAR WARRANTY

Ingersoll Rand/ARO warrants to the original use purchaser of IR/ARO manufactured pumps that Ingersoll Rand/ARO will repair or replace, free of charges, including return shipping costs within the Continental United States of America, any such product which under normal use and service proves defective in material or workmanship, as determined by Ingersoll Rand/ARO Inspection, within FIVE YEARS from date of shipment from Ingersoll Rand/ARO, provided the claimed defective product, or part thereof, is promptly returned to the Ingersoll Rand/ARO factory or Ingersoll Rand/ARO authorized warranty repair center with transportation prepaid.

This warranty does not cover failure of parts or components due to normal wear or damage, which in the judgment of Ingersoll Rand/ARO, arises from misuse, abrasion, corrosion, negligence, accident, substitution of non-Ingersoll Rand/ARO parts, faulty installation or tampering.

If Ingersoll Rand/ARO Inspection discloses no defect in material or workmanship, repair or replacement and return will be made at customary charges.

This warranty covers Ingersoll Rand/ARO manufactured pumps shipped on or after July 4, 1988.

Equipment not covered by Ingersoll Rand/ARO warranty: accessories or components of equipment sold by Ingersoll Rand/ARO that are not manufactured by Ingersoll Rand/ARO (such as switches, hoses, gasoline engines, etc.) are subject to the warranty, if any, of their manufacturer. Ingersoll Rand/ARO will provide the purchaser with reasonable assistance in making such claims.

The foregoing warranty supersedes, voids and is in lieu of all or any other warranties, express or implied, and no warranty or merchantability or fitness for particular purpose is intended or made. Ingersoll Rand/ARO's sole obligation and the original use purchaser's sole remedy is as stated above and in no event shall Ingersoll Rand/ARO be liable for any special, direct, indirect, incidental, consequential or other damages, or expenses of any nature including, without limitation, loss of profits or production time incurred by the original use purchaser or any other party.

## Plant Audit **EXPert Series Pumps**

### Schedule a Fluid Solutions Air-Operated Diaphragm Pump Plant Audit

A pre-audit feasibility study is conducted by an Ingersoll Rand Specialty Distributor or Ingersoll Rand Sales Manager to determine if an audit can enhance your situation or solve your problem. A plant audit is conducted by an Ingersoll Rand SWAT team member who specializes in identifying opportunities and providing solutions. Once the audit is completed, an audit report will be generated that will identify all pumps, their location, as well as the application that they are being used for. This report will indicate the annual customer cost-savings based on reduced energy costs using Ingersoll Rand/ARO EXP pumps.

#### *Plant Air Audit: What's in it for me?*

##### ■ **Reduced Operating Costs**

- Reduce air consumption by up to 40%
- Decreased frequency between repairs
- Lower repair costs

##### ■ **Improved Manufacturing Productivity**

- Longer mean time between failures
  - *Eliminate Stalling – Unbalanced Valve*
  - *Eliminate Freezing – Non-Icing Valve*
  - *Leak free integrity – Bolted design*
  - *Audit Solution Process*

##### ■ **Finance Program**

Budgets are tight, Ingersoll Rand offers a finance program that allows the customer the opportunity to upgrade their pumps to the energy efficient Ingersoll Rand/ARO EXP Pumps. Based on Total Cost of Ownership (energy costs, installation /repair, spares, purchase price, downtime) the Ingersoll Rand/ARO EXP pump could pay for itself within a few months.

To schedule your **FREE** plant audit call (800) 495-0276 or go online at [www.irttools.com/ARO](http://www.irttools.com/ARO)



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# 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.



## **Piston Pumps**

Ingersoll Rand/ARO Piston Pumps are used in some of the toughest applications throughout industry. This broad range of pumps are used with low-to-high viscosity fluids for general transfer, fluid recirculation and extrusion.

## **Extrusion Packages**

Extrusion Packages allow you to get an application up and running as easily as possible. These are divided into three categories: lift mount, single-post rams and two-post rams. In all cases, the package comes ready to use, no assembly required. Attach an outlet hose, fluid container and air supply, and your Ingersoll Rand/ARO Extrusion Package is up and running.

## **Dispensing Systems**

Ingersoll Rand Dispense Systems creates turnkey systems for automatic and manual dispensing applications. Our complete dispensing solutions are configured from standard components to meet customer specific requirements for applications within many different industries.

## **Lubrication Equipment**

Ingersoll Rand lubrication equipment has a full range of products that will keep all types of fluids moving efficiently. They are backed by more than 70 years of experience in pump and air system technology, and include models specifically designed for popular applications.

## **Pneumatic Valves**

Ingersoll Rand/ARO offers a full line of pneumatic valves to meet all your needs. Valves are offered in configurations of 2-, 3-, and 4-Way, available with electric, manual, mechanical, and pneumatic actuators. Miniature to full size valves to fit any application. A line of accessory and specialty valves are also available.

## **Pneumatic Cylinders**

Small bore non-repairable interchangeable cylinders, round and square compact, interchangeable cylinders perfect for OEM and MRO applications, as well as medium-heavy duty round line repairable cylinders. NFPA, interchangeable cylinders are available in extruded aluminum barrel up to 4" bore and in an entirely stainless steel cylinder with tie rod construction up to 8" bore.

## **Air System Components**

With Ingersoll Rand /ARO brand filters, regulators, and lubricators (FRLs) in your operation, you get a cost-effective solution to increasing the life of your pneumatic equipment. You can save space, time, and piping costs. Our FRLs also give you greater mounting flexibility and convenience.

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).



Ingersoll Rand Industrial Technologies provides products, services, and solutions to enhance the efficiency and productivity of our commercial, industrial, and process customers. Our innovative products include air compressors, air systems components, tools, pumps, material and fluid handling systems and microturbines.

[www.irttools.com/aro](http://www.irttools.com/aro)