

# ARO<sup>®</sup>

## *Pro Series Diaphragm and Piston Pumps*

**Ideal for General Industrial and OEM installation applications.**

Non-Metallic and Metallic Diaphragm Pumps

Low-Ratio Piston Pumps

Specialty Pumps



**IR** Ingersoll Rand<sup>®</sup>

# Pro-Series Pumps

## Introducing the New High-Performance Pro's: PD05, PD03

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

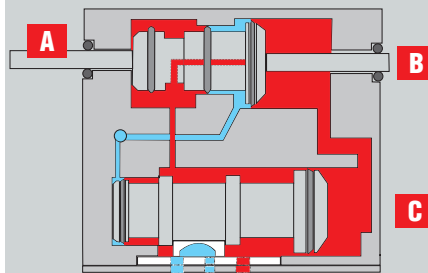
### "D" Valve

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

### "SimulShift™" Valve

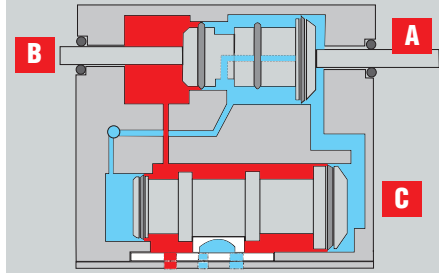
- ▷ Provides an ultra-positive, reliable shift signal that avoids stall-out.
- ▷ Provides faster pump trip-over with more flow.
- ▷ Faster trip-over with less pulsation and superior laminar material flow.

Diaphragm Moving Right to Left



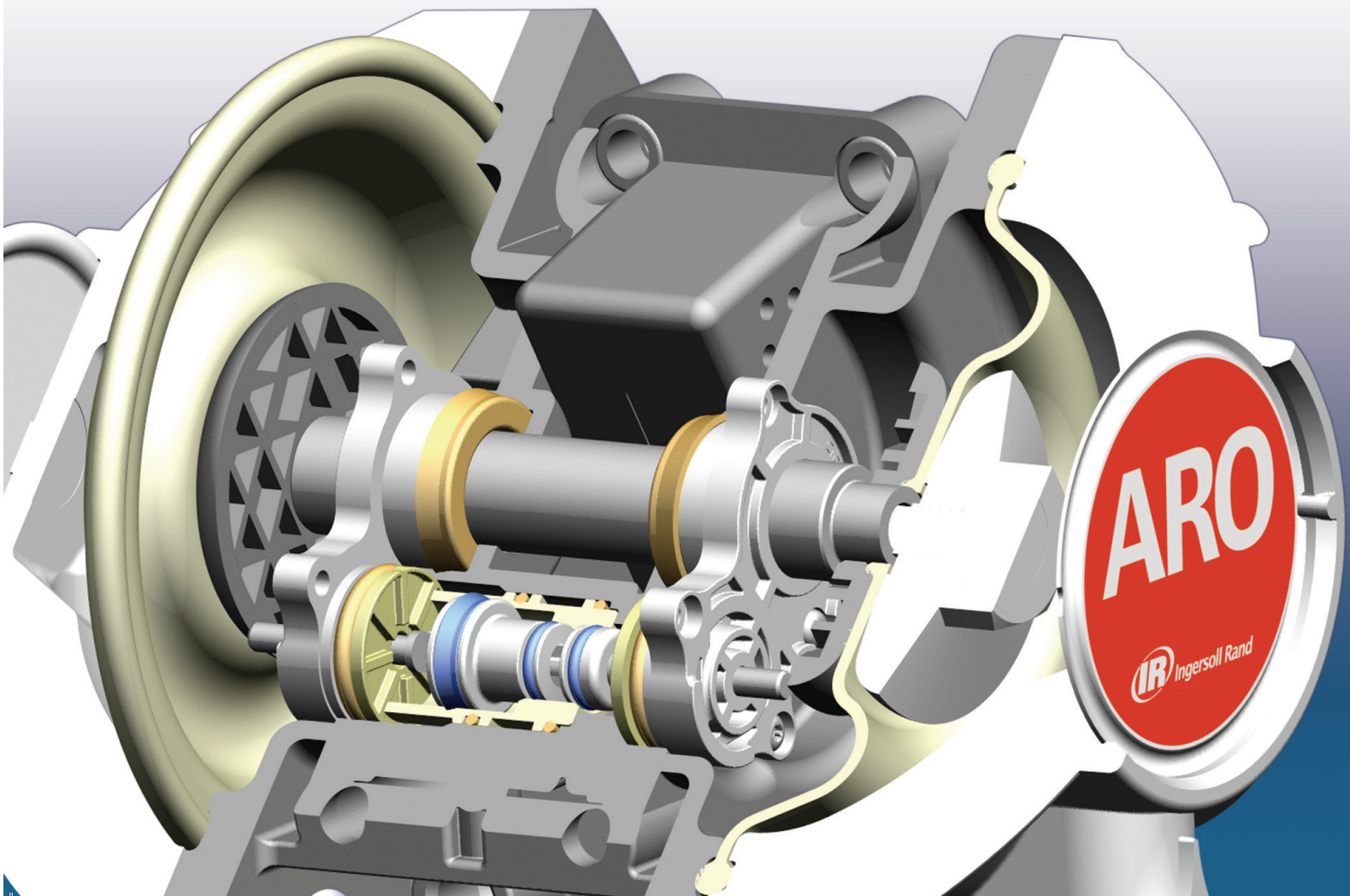
- 1) The diaphragm pushes the right Actuator Pin (B) mechanically moving the SimulShift Valve (A) to the left.
- 2.) Compressed air flows to the large side of the SimulShift Valve, pneumatically moving the valve to the position shown.
- 3.) Compressed air also flows to the large end of the Major Air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

Diaphragm Moving from Left to Right



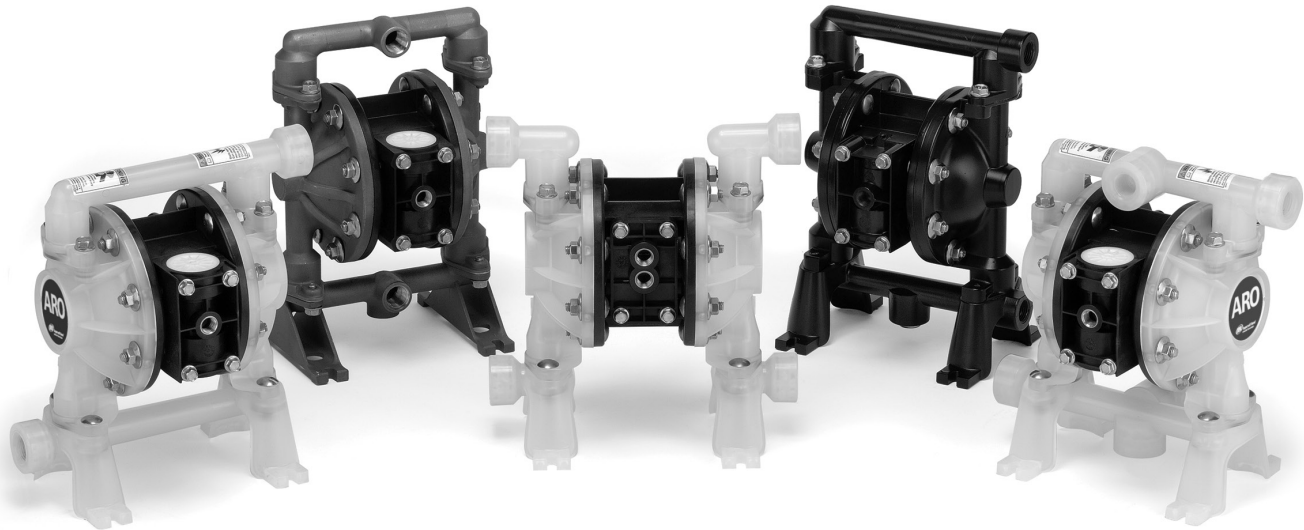
At end of stroke:

- 1.) Diaphragm pushes Pin (B) and SimulShift Valve (A) to the right.
- 2.) Large ends of SimulShift Valve (A) and Major Valve (C) are vented to exhaust pilot signal.
- 3.) Constant compressed air supply acting on the smaller areas of the SimulShift Valve and Major Valve shifts both valves to the right and holds them in position until the next cycle begins



# Big Delivery. High-Performance.

The best-selling 1/2-inch diaphragm pump in the world, just got better!



## *Productivity*



## *Versatility*

Multiple porting options available along with interface options allow you to customize this



## *Reliability*

Lube Free Patented Differential Valve both on Major air valve and Simulshift (Pilot Valve)



## *Environmentally Sound*

Bolted Construction in conjunction with a wide range of material options provides



## *Serviceability*

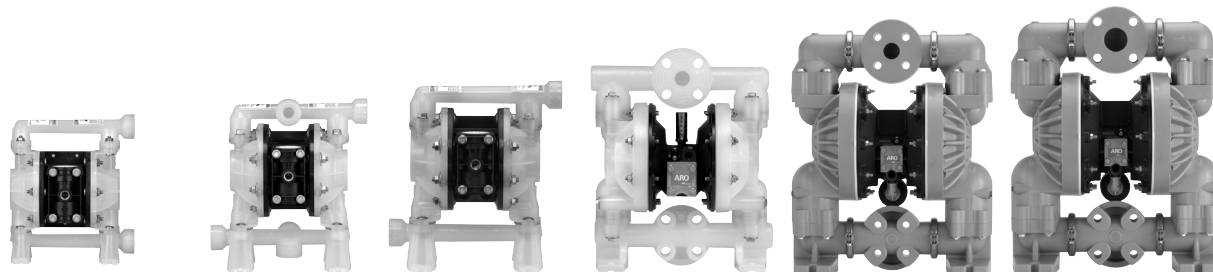
Modular Construction, reduced parts count and simple to use repair kits will minimize repair time and cost

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

# Numerical Index Pro-Series Pumps

| MODEL       | DESCRIPTION                   | PAGE                                    | MODEL             | DESCRIPTION                    | PAGE             |
|-------------|-------------------------------|---|-------------------|--------------------------------|------------------|
| 104104-N02  | Pump Speed Control            | 52                                      | 66779             | Siphon Tube                    | 53               |
| 104104-N04  | Pump Speed Control            | 52                                      | 66779-1           | Siphon Tube                    | 53               |
| 104104-N06  | Pump Speed Control            | 52                                      | 66779-2           | Siphon Tube                    | 53               |
| 104255      | Repair Kit                    | 39                                      | 66779-3           | Siphon Tube                    | 53               |
| 23644-400   | Over Run Control              | 54                                      | 66971             | Drum Cover                     | 53               |
| 59916-1     | Pneumatic Liquid Level Sensor | 52                                      | 66975             | Cycle Counter                  | 51               |
| 59916-2     | Pneumatic Liquid Level Sensor | 52                                      | 67055-B           | Drum Cover                     | 53               |
| 61113       | Wall Mount                    | 32, 34, 37, 54                          | 67072             | Countdown Batcher              | 51               |
| 612041-X    | 1:1 Ratio Piston Pump         | 32                                      | 67078             | Flange Connection Kit          | 10               |
| 612042-1    | 1:1 Ratio Piston Pump         | 32                                      | 67079             | Flange Connection Kit          | 12               |
| 61412       | Siphon Tube                   | 53                                      | 67080             | Flange Connection Kit          | 14               |
| 61879       | Muffler                       | 32, 54                                  | 67142             | Wall Mount                     | 42, 53           |
| 62133       | Wall Mount                    | 24, 53                                  | 67161-2           | Mini-Batch Counter             | 52               |
| 62274       | Air Line Lubricant            | 54                                      | 67165-1           | Solenoid Actuation Kit         | 52               |
| 635040      | Over Run Control              | 54                                      | 67165-2           | Solenoid Actuation Kit         | 52               |
| 635043      | Over Run Control              | 54                                      | 67166-1           | Solenoid Actuation Kit         | 52               |
| 637010      | Fluid Section Service Kit     | 37                                      | 67166-2           | Solenoid Actuation Kit         | 52               |
| 637010-4    | Fluid Section Service Kit     | 37                                      | 67168             | Cycle Sensor                   | 51               |
| 637010-6    | Fluid Section Service Kit     | 37                                      | 67169             | Cycle Sensor                   | 51               |
| 637081      | Fluid Section Service Kit     | 32                                      | 67388             | Wall Mount                     | 4, 53            |
| 637083      | Fluid Section Service Kit     | 32                                      | 76763             | Wall Mount                     | 6, 8, 18, 20, 53 |
| 637084      | Air Section Service Kit       | 32                                      | 94422             | Drum Cover                     | 54               |
| 637118-C    | Air Section Service Kit       | 10, 12, 14, 22, 24                      | A212SD-120-A      | PE Series Pump Control         | 51               |
| 637119-XX-C | Fluid Section Service Kit     | 22                                      | A212SS-120-A      | PE Series Pump Control         | 51               |
| 637124-XX   | Fluid Section Service Kit     | 24                                      | A212SD-012-D      | PE Series Pump Control         | 51               |
| 637161-XX-C | Fluid Section Service Kit     | 10                                      | A212SS-012-D      | PE Series Pump Control         | 51               |
| 637165-XX   | Fluid Section Service Kit     | 12, 14                                  | A212SD-024-D      | PE Series Pump Control         | 51               |
| 637176      | Fluid Section Service Kit     | 37                                      | A212SS-024-D      | PE Series Pump Control         | 51               |
| 637224      | Repair Kit                    | 44                                      | A212PS            | PE Series Pump Control         | 51               |
| 637226      | Repair Kit                    | 44                                      | A212PD            | PE Series Pump Control         | 51               |
| 637227-B    | Repair Kit                    | 45, 46                                  | CBW               | Connector                      | 52               |
| 637228      | Fluid Section Service Kit     | 37                                      | CHW               | Connector                      | 52               |
| 637316      | Air Section Service Kit       | 37                                      | C28453-810        | F-R-L Trio                     | 47               |
| 637338      | Air Section Service Kit       | 42                                      | C28463-810        | F-R-L Trio                     | 47               |
| 637339      | Fluid Section Service Kit     | 42                                      | DAB05-X-X-X       | Drum Pump Packages             | 38               |
| 637339-1    | Fluid Section Service Kit     | 42                                      | H254SS-024-D      | Air Control Actuation Valve    | 52               |
| 637427-XX   | Repair Kit                    | 4, 6, 8, 18, 20, 39                     | H254SS-120-A      | Air Control Actuation Valve    | 52               |
| 637428      | Air Section Service Kit       | 4, 8, 6, 18, 20, 39                     | LP3001-1          | Grease Package                 | 45               |
| 637434      | Air Section Service Kit       | 26, 28                                  | LP3003-1          | Grease Package                 | 46               |
| 637438      | Exhaust Muffler Kit           | 6, 8, 18, 20, 51                        | LP210X-1-B        | Oil Packages                   | 44               |
| 637377      | Air Section Service Kit       | 34                                      | LP310X-1-B        | Oil Packages                   | 44               |
| 637378-X31  | Fluid Section Service Kit     | 34                                      | MQ3728-024-D      | Air Control Actuation Valve    | 52               |
| 637379-X31  | Fluid Section Service Kit     | 34                                      | MQ3728-120-A      | Air Control Actuation Valve    | 52               |
| 637429-XX   | Fluid Section Service Kit     | 4                                       | MQ3729-024-D      | Air Control Actuation Valve    | 52               |
| 637432-XX   | Fluid Section Service Kit     | 26                                      | MQ3729-120-A      | Air Control Actuation Valve    | 52               |
| 637433-XX   | Fluid Section Service Kit     | 28                                      | NM2202X-X1-X31    | 2:1 Ratio Piston Pump          | 34               |
| 637440-X    | Dual Inlet/Outlet Kits        | 7                                       | NM2304A-X1-X11    | 4:1 Ratio Piston Pump          | 36               |
| 65109       | Siphon Tube                   | 53                                      | NM2304B-X1-X1X    | 4:1 Ratio Piston Pump          | 36               |
| 651100      | Pneumatic Material Agitator   | 53                                      | PD03P-X-X         | 3/8" Non-Metallic Pump         | 4                |
| 651103      | Pneumatic Material Agitator   | 53                                      | PD05P-X-X-B       | 1/2" Non-Metallic Pump         | 6                |
| 651851      | Drum Cover                    | 54                                      | PD05X-X-B         | 1/2" Metallic Pump             | 18               |
| 66073-1     | Air Line Connection Kit       | 4, 6, 8, 18, 20, 34, 37, 39, 44, 45, 46 | PD07P-XPS-PXX     | 3/4" Non-Metallic Pump         | 8                |
| 66073-2     | Air Line Connection Kit       | 10, 22                                  | PD07R-XAS-XXXX    | 3/4" Metallic Pump             | 20               |
| 66084-1     | Air Line Connection Kit       | 12, 14, 24                              | PE0XX-XXX-XXX-B0S | PE Series w/B0S Specialty Code | 51               |
| 66100       | Wall Mount                    | 22, 53                                  | PH10A-XSS-XXT     | 3:1 Ratio Dia. Pump            | 42               |
| 66312       | Air Line Connection Kit       | 26, 28                                  | P237AX-EU         | Centrifugal Pump               | 47               |
| 66333-B     | Wet-Sol, Quart                | 54                                      | P39234-600        | Filter-Regulator               | 42               |
| 66334-B     | Wet-Sol, Gallon               | 54                                      | P35A1-EU          | Centrifugal Pump               | 47               |
| 6661AX-X-C  | 1" Non-Metallic Pump          | 10                                      | 66700X-XXX        | Pulsation Dampener             | 49               |
| 66610X-X-C  | 1" Metallic Pump              | 22                                      | SB10X-X-X         | Pulsation Dampener             | 49               |
| 6661TX-X-C  | 1-1/2" Non-Metallic Pump      | 12                                      | SB20X-X-X         | Pulsation Dampener             | 50               |
| 66615X-X-C  | 1-1/2" Metallic Pump          | 24                                      | SB30X-X-X         | Pulsation Dampener             | 50               |
| 6662AX-X-C  | 2" Non-Metallic Pump          | 14                                      |                   |                                |                  |
| 666250-X-C  | 2" Metallic Pump              | 26                                      |                   |                                |                  |
| 666300-X-C  | 3" Metallic Pump              | 28                                      |                   |                                |                  |

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

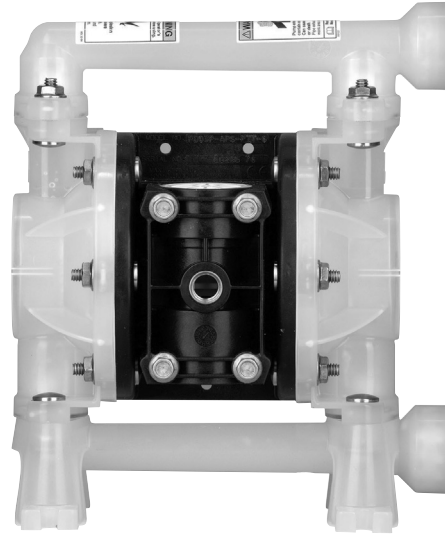


| Model   | 3/8"   | 1/2"   | 3/4"  | 1"   | 1-1/2"  | 2"  |
|---|--|--|---|--|---|---|
| Maximum Flow<br>GPM (LPM)                       | 10.6<br>(40.1)   | 14.4<br>(54.5)   | 14.8<br>(56)  | 47<br>(178)  | 100<br>(378.5)  | 145<br>(548.8)  |
| Maximum<br>Discharge<br>Pressure<br>PSI (BAR)   | 100<br>(6.8)   | 100<br>(6.8)   | 100<br>(6.8)  | 120<br>(8.3)   | 120<br>(8.3)  | 120<br>(8.3)  |
| Fluid Ports<br>Inlet/Outlet<br>(BSP Available)  | 3/8" (F) - In/Out  | 1/2" (F) - In/Out  | 3/4 - 14 N.P.T.F.-1<br>Rp 3/4(3/4-14 BSP, parallel) | 1" ANSI/DIN Flange<br>1" (F) Threaded                      | 1-1/2" ANSI/DIN<br>Flange                               | 2" ANSI/DIN<br>Flange                                   |
| Materials<br>of<br>Construction                 | Polypropylene<br>Groundable<br>Acetal<br>PVDF  | Polypropylene<br>Groundable<br>Acetal<br>PVDF  | Polypropylene                                       | Polypropylene  | Polypropylene   | Polypropylene   |
| Pump<br>Weight<br>lbs. (kg.)                    | 4.2 (1.9) PD03P-XDS-X<br>4.3 (1.9) PD03P-XES-X<br>4.5 (2.0) PD03P-XKS-X<br>4.6 (2.1) PD03P-XLS-X<br>3.4 (1.6) PD03P-XPS-X<br>3.5 (1.6) PD03P-XRS-X | 6.3 (2.9) PD05P-XDS-X-B<br>6.7 (3.0) PD05P-XES-X-B<br>6.8 (3.1) PD05P-XKS-X-B<br>7.2 (3.3) PD05P-XLS-X-B<br>5.2 (2.4) PD05P-XPS-X-B<br>5.4 (2.5) PD05P-XRS-X-B | 5.61 (2.54)   | 20.3 (9.2) Poly<br>28.8 (13.1) Poly w/<br>Cast Iron Center | 62 (28.1) Poly<br>85 (38.5) Poly w/<br>Cast Iron Center | 62 (28.1) Poly<br>85 (38.5) Poly w/<br>Cast Iron Center |
| Maximum<br>Solids<br>Inches (mm)                | 1/16<br>(1.6)  | 3/32<br>(2.4)  | 3/32<br>(2.4)                                       | 1/8<br>(3.2)   | 1/4<br>(6.4)  | 1/4<br>(6.4)  |
| Best<br>Selling<br>Models<br>(BSP<br>Available) | PD03P-AKS-KTT<br>PD03P-APS-PAA<br>PD03P-APS-PTT<br>PD03P-ARS-PAA<br>PD03P-ARS-PTT  | PD05P-AKS-KTT-B<br>PD05P-ALS-KTT-B<br>PD05P-APS-PAA-B<br>PD05P-APS-PTT-B<br>PD05P-ARS-PAA-B<br>PD05P-ARS-PTT-B<br>PD05P-ARS-PUU-B<br>PD05R-ASS-STT-B           | PD07P-APS-PAA                                       | 6661AF-344-C<br>6661AJ-3EB-C<br>6661B3-344-C               | 6661T3-3EB-C<br>6661T3-344-C<br>6661U3-344-C            | 6662A3-3EB-C<br>6662A3-344-C<br>6662B3-344-C            |
| Recommended<br>Filter/<br>Regulator             | P39124-600   | P39124-600   | P39124-600  | P39224-600   | P39334-600  | P39334-600  |
| Air Line Kit                                    | 66073-1  | 66073-1  | 66073-1   | 66073-2  | 66084-1   | 66084-1   |

# 3/8" Non-Metallic Models Pro-Series Pumps

## 3/8" Non-Metallic Performance Specifications

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



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

## Ordering Menu

|  |                                |                             |  |                          |  |  |   |  |          |          |            |
|--|--------------------------------|-----------------------------|--|--------------------------|--|--|---|--|----------|----------|------------|
| <b>PX03</b>                              | <b>P</b>                       | <b>-</b>                    | <b>X</b>   | <b>X</b>                 | <b>S</b>   | <b>-</b>   | <b>X</b>  | <b>X</b>   | <b>X</b> | <b>-</b> | <b>XXX</b> |
| <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>                                 |  |          |          |            |
| D Standard<br>E Remote Actuation Capable | P Polypropylene                | A 3/8" N.P.T.<br>B 3/8" BSP | D Groundable Acetal (single port)<br>E Groundable Acetal (multiple port)<br>K PVDF (single port)<br>L PVDF (multiple port)<br>P Polypropylene (single port)<br>R Polypropylene (multiple port) | S Stainless Steel        | D Acetal<br>K PVDF<br>P Polypropylene<br>S Stainless Steel<br>O Flex check | A Santoprene®<br>C Hytrel®<br>I Nitrile*<br>N Neoprene*<br>S Stainless Steel<br>T PTFE<br>V Viton®<br>* Flex check models. | A Santoprene<br>C Hytrel<br>T PTFE /Santoprene<br>V Viton | - No Extension, Standard<br>- BOS Remote Actuation Capable** |          |          |            |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

Exhaust Threaded Muffler Kit | Kit No. 637438 3/8" NPT

Wall Mount Bracket Kit | Kit No. 67388

Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637429-XX (fluid section)

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

\*\* See options on page 51

Hytrel® and Viton® are registered trademarks of the DuPont company.  
Santoprene® is a registered trademark of Monsanto Company, licensed to Advanced Elastomer Systems, L.P.



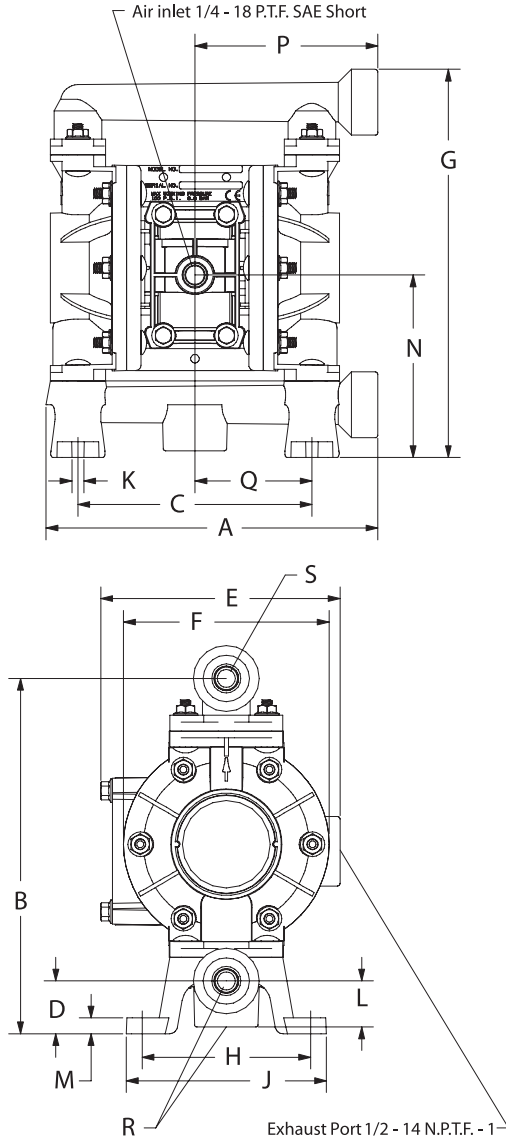
Air Line Connection Kit  
66073-1



Wall Mount Bracket Kit  
67388

# 3/8" Non-Metallic Dimensions and Flow Curves Pro-Series Pumps

## 3/8" Non-Metallic Dimensions and Flow Charts

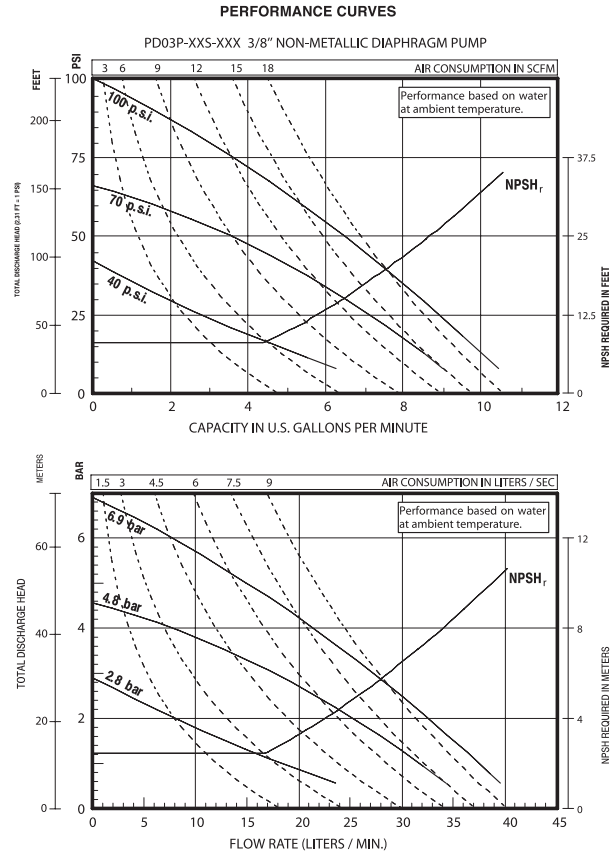


### DIMENSIONS

|   |                     |   |                    |   |                     |
|---|---------------------|---|--------------------|---|---------------------|
| 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         | "R" Material Inlet    | "S" Material Outlet   |
|---------------|-----------------------|-----------------------|
| PD03P-AXS-XXX | 3/8 - 18 N.P.T.F. - 1 | 3/8 - 18 N.P.T.F. - 1 |
| PD03P-BXS-XXX | Rp 3/8 (3/8 - 19 BSP) | Rp 3/8 (3/8 - 19 BSP) |

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



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

For additional information contact  
technical support at 1.800.483.4981



PE03P-APS-PAA-B03  
with 637442-1 Kit

### Dual Inlet/Outlet Kits:

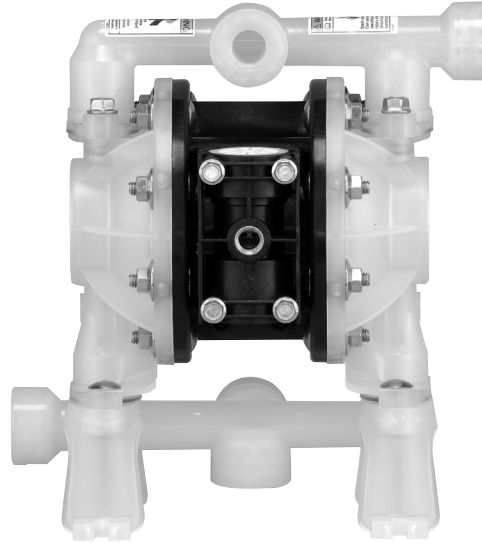
- 637442-1 (N.P.T. Poly)
- 637442-4 (BSP Poly)
- 637442-3 (N.P.T. PVDF)
- 637442-6 (BSP PVDF)
- 637442-2 (N.P.T. Acetal)
- 637442-5 (BSP Acetal)

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

## 1/2" Non-Metallic Performance Specifications

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

Maximum dry suction lift: ft (m) 15.0 (4.5)



## Ordering Menu

|  |                                |          |                             |  |                          |          |  |  |  |          |  |
|--|--------------------------------|----------|-----------------------------|--|--------------------------|----------|--|--|--|----------|--|
| <b>PX05</b>                              | <b>P</b>                       | <b>-</b> | <b>X</b>                    | <b>X</b>   | <b>S</b>                 | <b>-</b> | <b>X</b>   | <b>X</b>   | <b>X</b>   | <b>-</b> | <b>BXX</b>                                   |
| <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>                        |
| D Standard<br>E Remote Actuation Capable | P Polypropylene                |          | A 1/2" N.P.T.<br>B 1/2" BSP | D Groundable Acetal (single port)<br>E Groundable Acetal (multiple port)<br>K PVDF (single port)<br>L PVDF (multiple port)<br>P Polypropylene (single port)<br>R Polypropylene (multiple port) | S Stainless Steel        |          | D Acetal<br>K PVDF<br>P Polypropylene<br>S Stainless Steel | A Santoprene<br>C Hytrel*<br>G Nitrile<br>S Stainless Steel<br>T PTFE<br>U Polyurethane<br>V Viton | A Santoprene<br>C Hytrel*<br>G Nitrile<br>T PTFE/Santoprene<br>U Polyurethane<br>V Viton |          | B Standard<br>B0S Remote Actuation Capable** |

\* Hytrel replaces Nitrile producing superior chemical compatibility and diaphragm life

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

Exhaust Threaded Muffler Kit | Kit No. 637438

Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637427-XX (fluid section)

Wall Mount | 76763

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

\*\* See options on page 51

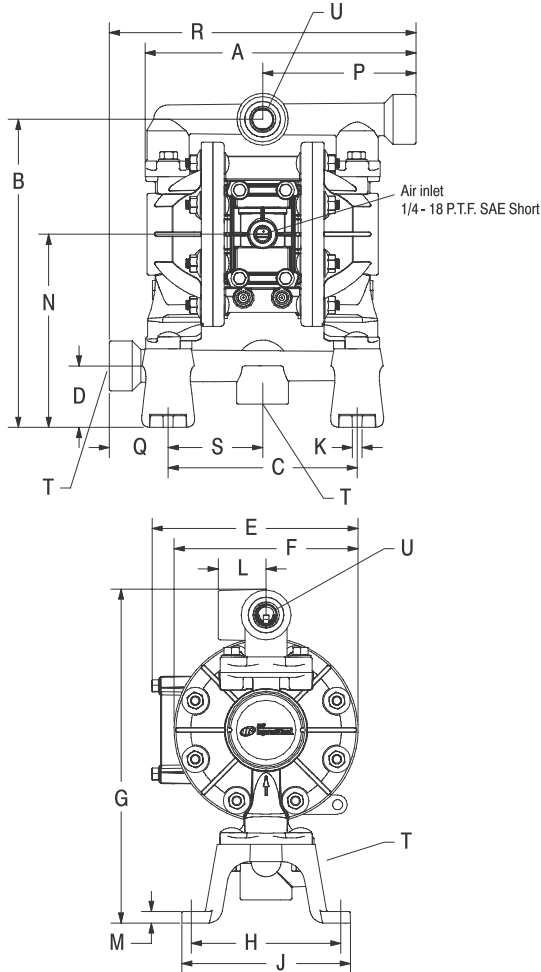


Air Line Connection Kit  
66073-1



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

## 1/2" Non-Metallic Dimensions and Flow Charts

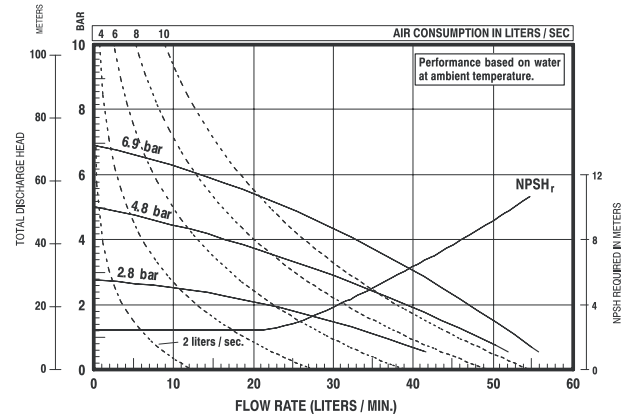
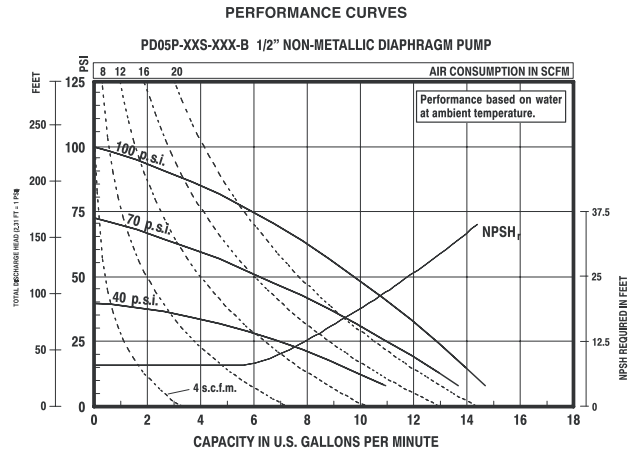


### DIMENSIONS

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

| Model           | "T" Material Inlet    | "U" Material Outlet   |
|-----------------|-----------------------|-----------------------|
| PD05P-AXS-XXX-B | 1/2 - 14 N.P.T.F. - 1 | 1/2 - 14 N.P.T.F. - 1 |
| PD05P-BXS-XXX-B | Rp 1/2 (1/2 - 14 BSP) | Rp 1/2 (1/2 - 14 BSP) |

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



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

For additional information contact technical support at 1.800.483.4981



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

### Dual Inlet/Outlet Kits:

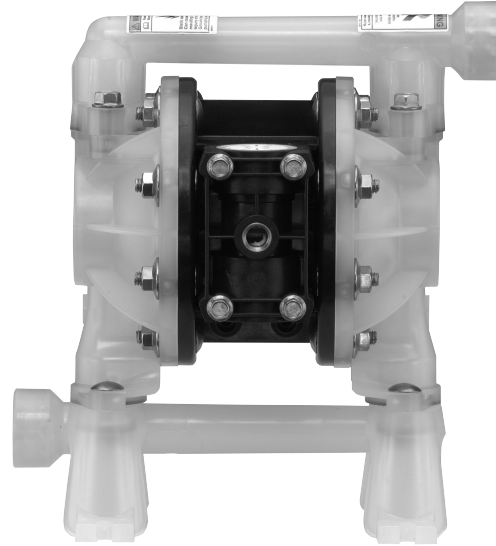
- 637440-1 (N.P.T. Poly)
- 637440-4 (BSP Poly)
- 637440-2 (N.P.T. Acetal)
- 637440-5 (BSP Acetal)
- 637440-3 (N.P.T. PVDF)
- 637440-6 (BSP PVDF)

NON-METALLIC

# 3/4" Non-Metallic Models Pro-Series Pumps

## 3/4" Non-Metallic Performance Specifications

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



## Ordering Menu

|              |                         |                             |                               |                   |                 |                                    |                                    |   |   |
|--------------|-------------------------|-----------------------------|-------------------------------|-------------------|-----------------|------------------------------------|------------------------------------|---|---|
| PD07         | P                       | -                           | X                             | X                 | S               | -                                  | X                                  | X | X |
| Model Series | Center Section Material | Fluid Connection            | Fluid Caps/Manifold Material  | Hardware Material | Seat Material   | Ball Material                      | Diaphragm Material                 |   |   |
| Standard     | P Polypropylene         | A 3/4" N.P.T.<br>B 3/4" BSP | P Polypropylene (single port) | S Stainless Steel | P Polypropylene | A Santoprene<br>C Hytrel<br>T PTFE | A Santoprene<br>C Hytrel<br>T PTFE |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

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

Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637427-XX (fluid section)

Wall Mount | 76763

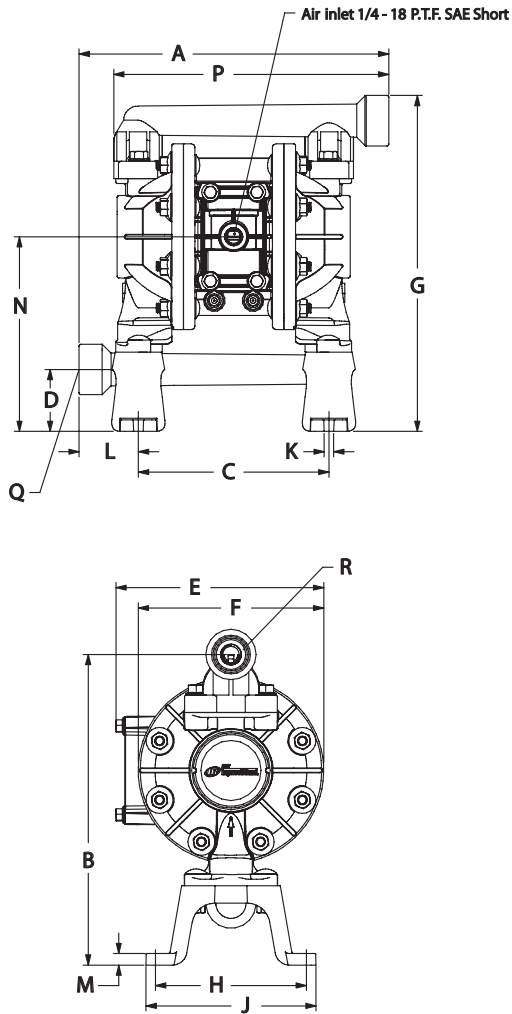
\*Please note pumps are not included with these kits.



Air Line Connection Kit  
66073-1

# 3/4" Non-Metallic Dimensions and Flow Curves Pro-Series Pumps

## 3/4" Non-Metallic Dimensions and Flow Charts

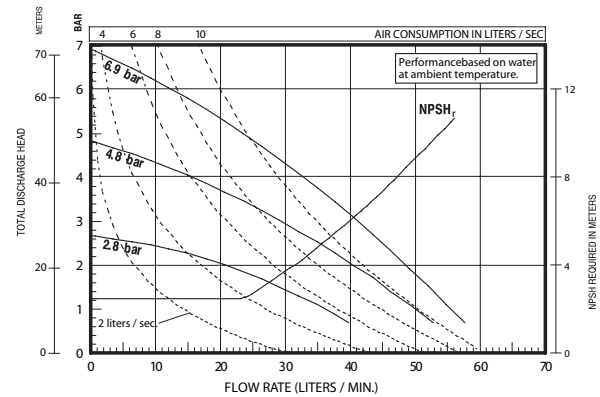
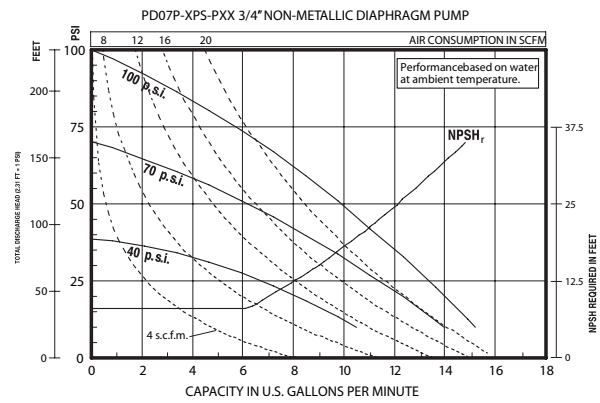


### DIMENSIONS

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

|               |                      |                      |
|---------------|----------------------|----------------------|
| Model         | "Q" Material Inlet   | "R" Material Outlet  |
| PD07P-APS-PXX | 3/4- 14 N.P.T.F. - 1 | 3/4- 14 N.P.T.F. - 1 |
| PD07P-BPS-PXX | Rp 3/4(3/4- 14 BSP)  | Rp 3/4(3/4- 14 BSP)  |

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



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

For additional information contact  
technical support at 1.800.483.4981

NON-METALLIC

# 1" Non-Metallic Models Pro-Series Pumps

## 1" Non-Metallic Performance Specifications

|                             |  |             |
|-----------------------------|--|-------------|
| Ratio:                      | 1:1  |             |
| Maximum Flow:               | 47-g.p.m. (177.9-l.p.m.)   |             |
| Displacement per cycle:     | 0.17-Gallons (0.64-Liters)   |             |
| Air Inlet: (Female)         | 1/4 - 18 N.P.T.  |             |
| Fluid Inlet:                | 1 - 11-1/2 N.P.T.F. - 1<br>Rp 1 (1 - 11 BSP, parallel)<br>1" ANSI/DIN Flange |             |
| Fluid Outlet:               | 1 - 11-1/2 N.P.T.F. - 1<br>Rp 1 (1 - 11 BSP, parallel)<br>1" ANSI/DIN Flange |             |
| Max. operating pressure:    | 120-psi (8.3-bar)  |             |
| Suspended solids max. dia.: | 1/8-inch (3.2-mm)  |             |
| Weight: lbs (kg)            |  |             |
|                             | 6661A3-, 1AE-, 1AJ-, 1AL-  | 20.3 (9.2)  |
|                             | 6661B3-, 1BE-, 1BJ-, 1BL-  | 28.8 (13.1) |
| Maximum dry suction lift:   | ft (m) 15 (4.6)  |             |



## Ordering Menu

|                    |   |                            |                       |                            |                           |   |   |
|--------------------|---|----------------------------|-----------------------|----------------------------|---------------------------|---|---|
| 6661X              | X   | -                          | X                     | X                          | X                         | - | C |
|                    |   |                            |                       |                            |                           |   |   |
| <b>Center Body</b> | <b>Fluid Caps/ Manifold Material</b>                |                            | <b>Seat Material</b>  | <b>Ball Check Material</b> | <b>Diaphragm Material</b> |   |   |
| A Aluminum         | 3 Polypropylene Flange (3-piece manifold)           | 2 316 Stainless Steel      | 3 Viton               | 3 Viton                    |                           |   |   |
| B Cast Iron        | F Polypropylene Flange (one-piece manifold)         | 3 Polypropylene            | 4 PTFE                | 4 PTFE / Santoprene        |                           |   |   |
|                    | J Polypropylene N.P.T. threads (one piece manifold) | 8 Hard 400 Stainless Steel | 8 Polyurethane        | 8 Polyurethane             |                           |   |   |
|                    | L Polypropylene BSP threads (one-piece manifold)    |                            | A 316 Stainless Steel | 9 Hytrel                   |                           |   |   |
|                    |   |                            | C Hytrel              | B Santoprene               |                           |   |   |
|                    |   |                            | E Santoprene          | G Nitrile                  |                           |   |   |
|                    |   |                            | G Nitrile             |                            |                           |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-2

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

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

Kit No. 637161-XX-C (fluid section)

Flange Connection Kit | Kit No. 67078 (for 1" Non-Metallic Pumps)

For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 Klinger synthetic fiber nitrile binder.

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



Air Line Connection Kit  
66073-2

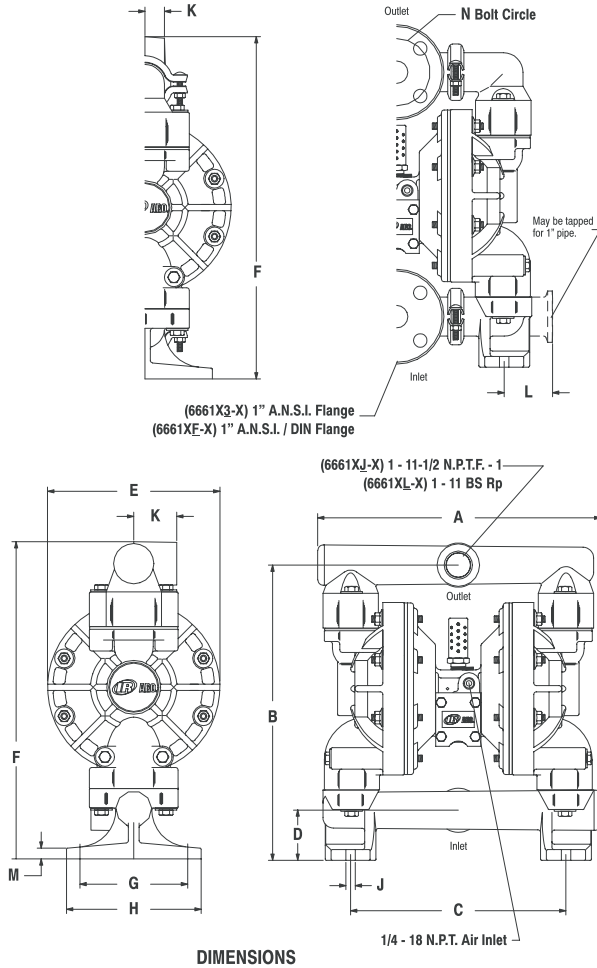


Flange Connection Kit  
67078

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

## DIMENSIONAL DATA

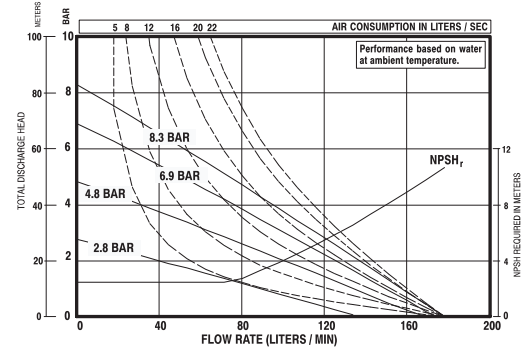
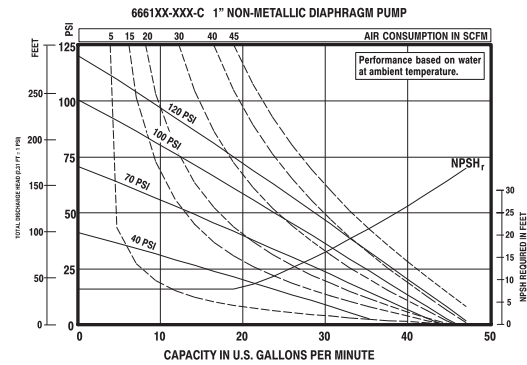
Dimensions shown are for reference only, they are shown in inches and millimeters (mm).



DIMENSIONS

|   | 6661XJ-X           | 6661XL-X           |
|---|--------------------|--------------------|
| A | 12-21/32" (321 mm) | 13-5/32" (334 mm)  |
| B | 13-25/32" (349 mm) | 13-25/32" (350 mm) |
| C | 10-1/16" (255 mm)  | 10-1/16" (255 mm)  |
| D | 2-3/8" (60 mm)     | 2-11/32" (59 mm)   |
| E | 8-1/16" (204 mm)   | 8-1/16" (204 mm)   |
| F | 16" (406 mm)       | 14-13/16" (376 mm) |
| G | 5-1/32" (128 mm)   | 5-1/32" (128 mm)   |
| H | 6-9/32" (160 mm)   | 6-9/32" (160 mm)   |
| J | 7/16" (11 mm)      | 7/16" (11 mm)      |
| K | 15/16" (23 mm)     | 2" (51 mm)         |
| L | 2-9/32" (57 mm)    |                    |
| M | 1/2" (13 mm)       | 1/2" (13 mm)       |
| N | 3.140" (80 mm)     |                    |
|   | 6661XK-X           | 6661XN-X           |
|   | 6661XF-X           |                    |
| A | 13-5/32" (334 mm)  |                    |
| B | 13-25/32" (350 mm) |                    |
| C | 10-1/16" (255 mm)  |                    |
| D | 2-11/32" (59 mm)   |                    |
| E | 8-1/16" (204 mm)   |                    |
| F | 16" (406 mm)       |                    |
| G | 5-1/32" (128 mm)   |                    |
| H | 6-9/32" (160 mm)   |                    |
| J | 7/16" (11 mm)      |                    |
| K | 1-1/32" (26 mm)    |                    |
| L |                    |                    |
| M | 1/2" (13 mm)       |                    |
| N | 3.140" (80 mm)     |                    |

## PERFORMANCE CURVES



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

For additional information contact technical support at 1.800.483.4981

NON-METALLIC

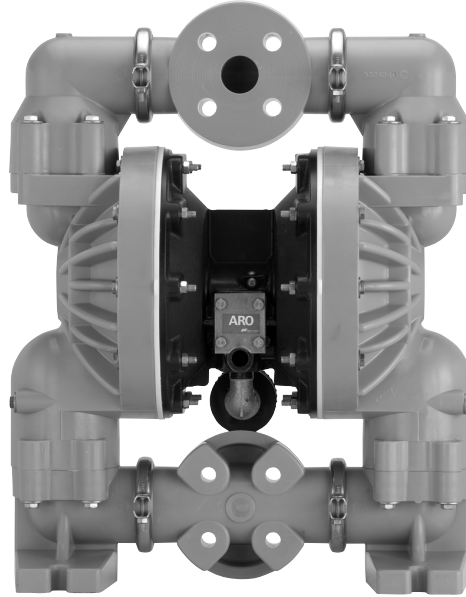
# 1-1/2" Non-Metallic Models Pro-Series Pumps

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

|                             |                            |
|-----------------------------|----------------------------|
| Ratio:                      | 1:1                        |
| Maximum Flow:               | 100-g.p.m. (378.5-l.p.m.)  |
| Displacement per cycle:     | .67-Gallons (2.54-Liters)  |
| Air Inlet: (Female)         | 1/2 - 14 N.P.T.F. - 1      |
| Fluid Inlet:                | 1-1/2" A.N.S.I./DIN Flange |
| Fluid Outlet:               | 1-1/2" A.N.S.I./DIN Flange |
| Max. operating pressure:    | 120-psi (8.3-bar)          |
| Suspended solids max. dia.: | 1/4-in. (6.4-mm)           |
| Weight: lbs (kg)            | 6661T3-X-C 62 (28.1)       |

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

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



## Ordering Menu

|                           |  |   |  |  |   |   |   |
|---------------------------|--|---|--|--|---|---|---|
| 6661X                     | X  | - | X  | X  | X   | - | C |
|                           |  |   |  |  |   |   |   |
| <b>Center Body</b>        | <b>Fluid Caps/ Manifold Material</b>         |   | <b>Seat Material</b>   | <b>Ball Check Material</b>   | <b>Diaphragm Material</b>   |   |   |
| T Aluminum<br>U Cast Iron | 3 Polypropylene Flange<br>(3-piece manifold) |   | 2 316 Stainless Steel<br>3 Polypropylene<br>8 Hard 400 Stainless Steel | 3 Viton<br>4 PTFE<br>8 Polyurethane<br>C Hytrel<br>E Santoprene<br>G Nitrile | 3 Viton<br>4 PTFE / Santoprene<br>9 Hytrel<br>B Santoprene<br>G Nitrile |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66084-1

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

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

Kit No. 637165-XX (fluid section)

Flange Connection Kit | Kit No. 67079 (for 1-1/2" Non-Metallic Pumps)

For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 Klinger synthetic fiber nitrile binder.

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

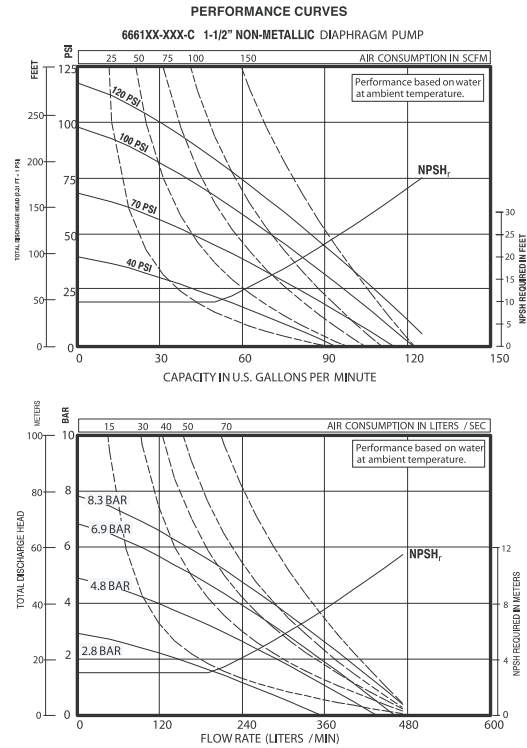
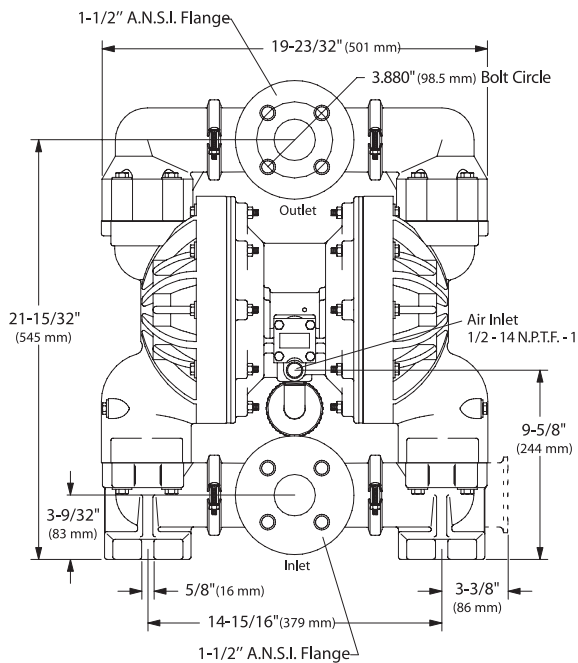
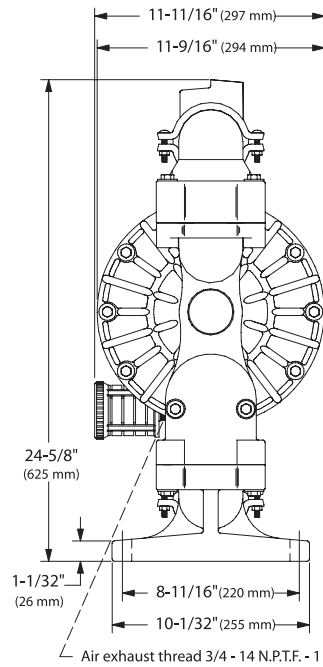


Flange Connection Kit  
67079

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

## 1-1/2" Non-Metallic Dimensions and Flow Charts

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



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

For additional information contact technical support at 1.800.483.4981

NON-METALLIC

# 2" Non-Metallic Models Pro-Series Pumps

## 2" Non-Metallic Performance Specifications

|                             |                           |
|-----------------------------|---------------------------|
| Ratio:                      | 1:1                       |
| Maximum Flow:               | 145-g.p.m. (548.8-l.p.m.) |
| Displacement per cycle:     | 0.72-Gallons (2.7-Liters) |
| Air Inlet: (Female)         | 1/2 - 14 N.P.T.F. - 1     |
| Fluid Inlet:                | 2" A.N.S.I./DIN Flange    |
| Fluid Outlet:               | 2" A.N.S.I./DIN Flange    |
| Max. operating pressure:    | 120-psi (8.3-bar)         |
| Suspended solids max. dia.: | 1/4-in. (6.4-mm)          |
| Weight: lbs (kg)            | 6662A3-X-C 62 (28.1)      |

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

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



## Ordering Menu

|                    |                                      |                       |                      |                            |                           |   |   |
|--------------------|--------------------------------------|-----------------------|----------------------|----------------------------|---------------------------|---|---|
| 6662X              | X                                    | -                     | X                    | X                          | X                         | - | C |
|                    |                                      |                       |                      |                            |                           |   |   |
| <b>Center Body</b> | <b>Fluid Caps/ Manifold Material</b> |                       | <b>Seat Material</b> | <b>Ball Check Material</b> | <b>Diaphragm Material</b> |   |   |
| A Aluminum         | 3 Polypropylene Flange               | 2 316 Stainless Steel | 3 Viton              | 3 Viton                    | 3 Viton                   |   |   |
| B Cast Iron        | (3-piece manifold)                   | 3 Polypropylene       | 4 PTFE               | 4 PTFE                     | 4 PTFE / Santoprene       |   |   |
|                    |                                      | 8 400 Stainless Steel | 8 Polyurethane       | 8 Polyurethane             | 9 Hytrel                  |   |   |
|                    |                                      |                       | C Hytrel             | C Hytrel                   | B Santoprene              |   |   |
|                    |                                      |                       | E Santoprene         | E Santoprene               | G Nitrile                 |   |   |
|                    |                                      |                       | G Nitrile            | G Nitrile                  |                           |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66084-1

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

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

Kit No. 637165-XX (fluid section)

Flange Connection Kit | Kit No. 67080 (for 2" Non-Metallic Pumps)

For pumps with inlet/outlet flange manifolds. Kit meets ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts are stainless steel. Gasket is 4401 klinger synthetic fiber nitrile binder.



Flange Connection Kit  
67080

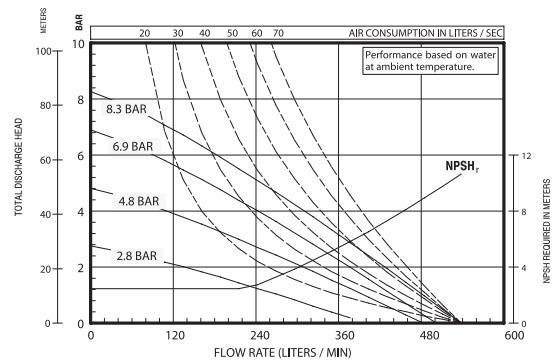
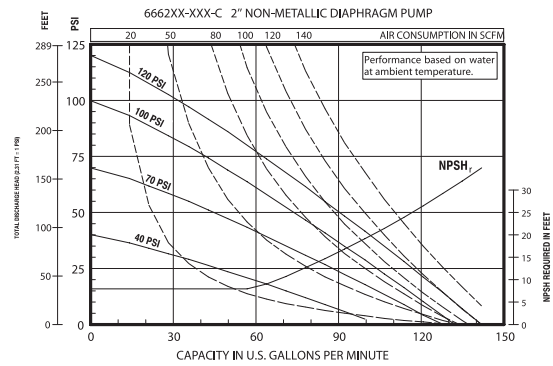
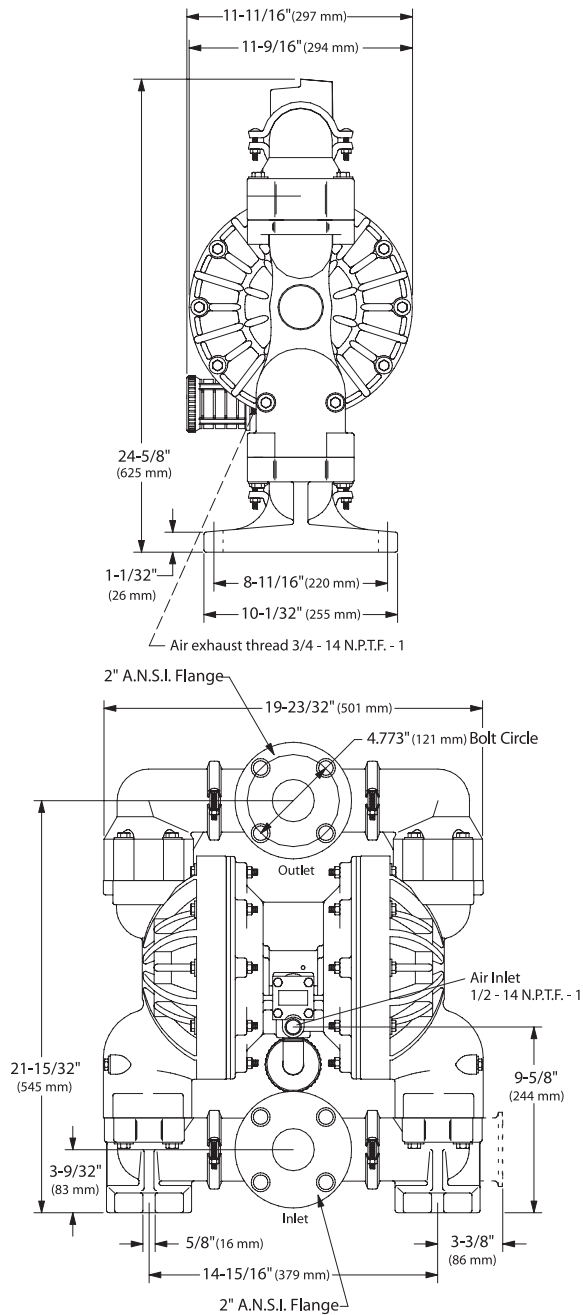
\*Please note pumps are not included with these kits.



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

## 2" Non-Metallic Dimensions and Flow Charts

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

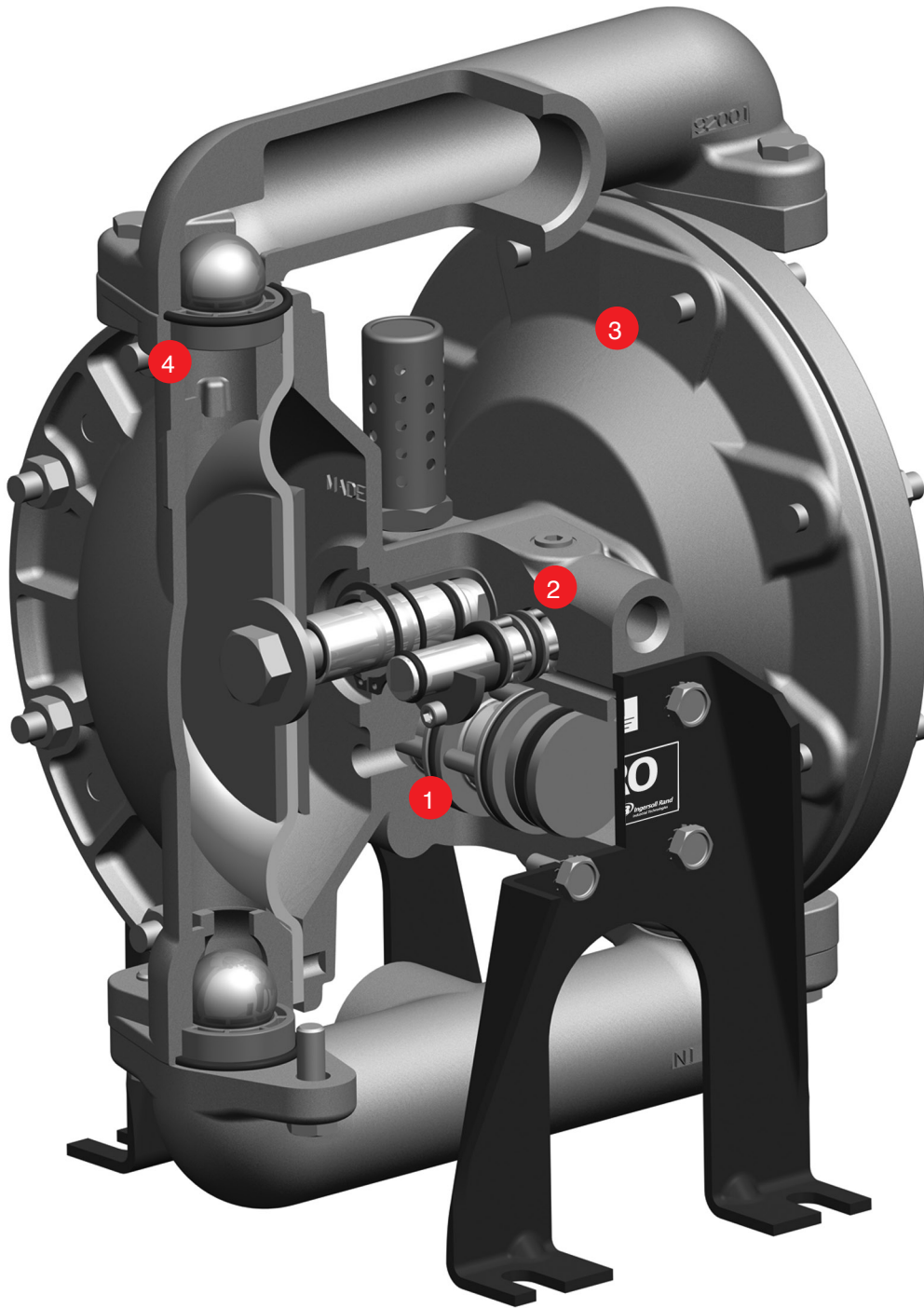


Refer to [www.ingersollrandproducts.com](http://www.ingersollrandproducts.com) for full size flow curves.

For additional information contact technical support at 1.800.483.4981

NON-METALLIC

## Value Proposition Pro-Series Pumps



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

#### 1] “Unbalanced” Major Air Valve

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

#### [2] Independent Pilot Rod

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

#### [3] Broad Material Selection

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

#### [4] Diaphragm/Ball Check Options

- Fit your pump with the diaphragms and ball checks needed to maximize fluid compatibility and abrasion

#### Introducing the New High-Performance Compact: PD05, PD03, PD07:

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

#### Introducing the New High-Flow Pro's: 66625X and 66630X:

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

## Model Overview: Metallic Models Pro-Series Pumps



| MODEL   | 1/2"  | 3/4"   | 1"  | 1-1/2"   | 2"   | 3"   |
|---|---|--|---|--|--|--|
| Maximum Flow<br>GPM (LPM)                       | 12<br>(45.4)  | 13.6<br>(51.5)   | 35<br>(133)   | 90<br>(340.7)  | 172<br>(651)   | 237<br>(897)   |
| Maximum<br>Discharge<br>Pressure<br>PSI (BAR)   | 100<br>(6.9)  | 100<br>(6.8)   | 120<br>(8.3)  | 120<br>(8.3)   | 120<br>(8.3)   | 120<br>(8.3)   |
| Fluid Ports<br>Inlet/Outlet<br>(BSP Available)  | 1/2" (F) - In/Out   | 3/4 - 14 N.P.T.F.-2<br>Rp 3/4(3/4-14BSP, parallel)               | 1" (F) - In/Out   | 1-1/2" (F) In/Out  | 2" (F) In/ Out   | 3" (F) In/ Out   |
| Materials<br>of<br>Construction                 | Aluminum<br>Stainless Steel   | Aluminum   | Aluminum<br>Stainless Steel<br>Cast Iron                          | Aluminum<br>Stainless Steel<br>Cast Iron                                     | Aluminum<br>Stainless Steel<br>Cast Iron                                     | Aluminum<br>Stainless Steel<br>Cast Iron                                     |
| Pump<br>Weight<br>Lbs. (Kg.)                    | 10.4 (4.7) PD05A-XAS-X-B<br>16.6 (7.5) PD05A-XSS-X-B<br>8.0 (3.7) PD05R-XAS-X-B<br>14.3 (6.5) PD05R-XSS-X-B | 8.74 (3.96)  | 19 (8.6) Aluminum*<br>36 (16.3) Stainless<br>31 (14.1) Cast Iron* | 51.5 (23.4) Aluminum*<br>84.5 (38.3) Stainless<br>79.5 (36.1) Cast Iron*     | 65.2 (29.6)<br>129.9 (58.9)<br>124.3 (56.4)                                  | 109.8 (49.8)<br>221.2 (100.8)<br>213.1 (96.7)                                |
|   |   |  | *add 8-lb(3.63-kg) for<br>cast iron center section                | *add 23-lb(10.4-kg) for<br>cast iron center section                          |  |  |
| Maximum<br>Solids<br>Inches (mm)                | 3/32<br>(2.4)   | 3/32<br>(2.4)  | 1/8<br>(3.2)  | 1/4<br>(6.4)   | 1/4<br>(6.4)   | 3/8<br>(9.5)   |
| Best<br>Selling<br>Models<br>(BSP<br>Available) | PD05P-AAS-FAA<br>PD05P-AAS-FTT<br>PD05P-AAS-PGG<br>PD05P-AAS-PTT  | PD07R-AAS-FAA<br>PD07R-AAS-PAA<br>PD07R-AAS-FTT<br>PD07R-AAS-PFF | 666100-122-C<br>666100-144-C<br>666101-244-C<br>666102-3EB-C      | 666150-361-C<br>666150-362-C<br>666150-3EB-C<br>666151-244-C<br>666152-2EB-C | 666250-EEB-C<br>666250-144-C<br>666250-9C9-C<br>666251-244-C<br>666252-EEB-C | 666300-EEB-C<br>666300-144-C<br>666300-9C9-C<br>666301-244-C<br>666302-EEB-C |
| Recommended<br>Filter/<br>Regulator             | P39124-600  | P39124-600   | P39224-600  | P39334-600   | P39334-600   | P39334-600   |
| Air Line Kit                                    | 66073-1   | 66073-1  | 66073-2   | 66084-1  | 66312  | 66312  |

# 1/2" Metallic Models Pro-Series Pumps

## 1/2" Metallic Performance Specifications

|                             |  |            |  |
|-----------------------------|--|------------|--|
| Ratio:                      | 1:1  |            |  |
| Maximum Flow:               | 12.0-g.p.m. (45.4-l.p.m.)                      |            |  |
| Displacement per cycle:     | 0.039-Gallons (0.15-Liters)                    |            |  |
| Air Inlet: (Female)         | 1/4 - 18 P.T.F. SAE Short (PD05R-X-X-B models) |            |  |
|                             | 1/4 - 18 N.P.T.F. - 1 (PD05A-X-X-B models)     |            |  |
| Fluid Inlet:                | 1/2 - 14 N.P.T.F. - 1                          |            |  |
|                             | Rp 1/2 (1/2 - 14 BSP, parallel)                |            |  |
| Fluid Outlet:               | 1/2 - 14 N.P.T.F. - 1                          |            |  |
|                             | Rp 1/2 (1/2 - 14 BSP, parallel)                |            |  |
| Max. operating pressure:    | 100-psi (6.9-bar)                              |            |  |
| Suspended solids max. dia.: | 3/32-in. (2.4-mm)                              |            |  |
| Weight: lbs (kg)            |  |            |  |
|                             | PD05A-XAS-XXX-B                                | 10.4 (4.7) |  |
|                             | PD05A-XSS-XXX-B                                | 16.6 (7.5) |  |
|                             | PD05R-XAS-XXX-B                                | 8.0 (3.7)  |  |
|                             | PD05R-XSS-XXX-B                                | 14.3 (6.5) |  |

Maximum dry suction lift: ft (m) 15 (4.5)



## 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>                        |
| D Standard<br>E Remote Actuation Capable | A Aluminum<br>R Polypropylene  |   | A 1/2" N.P.T.<br>B 1/2" BSP | A Aluminum<br>S Stainless Steel      | S Stainless Steel        |   | F Aluminum<br>P Polypropylene<br>S Stainless Steel | A Santoprene<br>C Hytrel<br>G Nitrile<br>S Stainless Steel<br>T PTFE<br>U Polyurethane<br>V Viton | A Santoprene<br>C Hytrel<br>G Nitrile<br>T PTFE/<br>Santoprene<br>V Viton |   | B Standard<br>B0S Remote Actuation Capable** |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

Exhaust Threaded Muffler Kit | Kit No. 637438

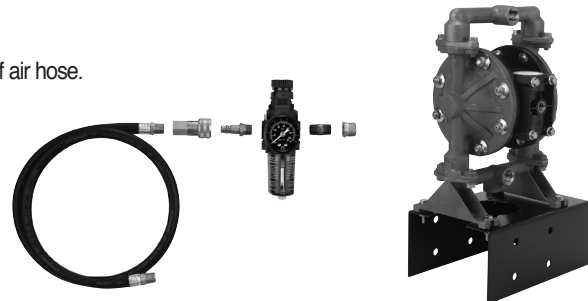
Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637427-XX (fluid section)

Wall Mount | 76763

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

\*\* See options on page 51

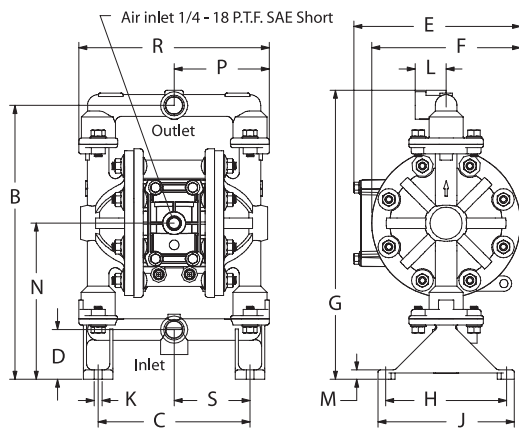
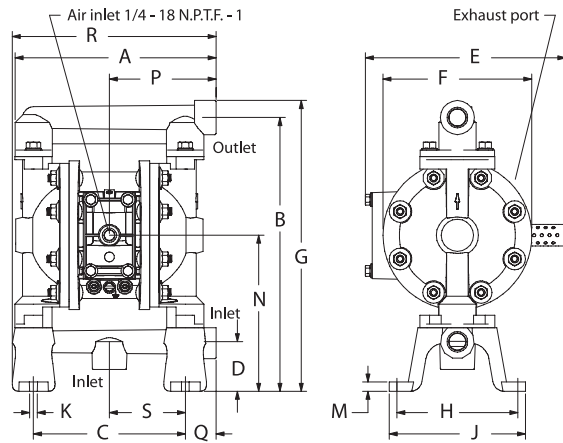


Air Line Connection Kit  
66073-1

Wall Mount  
76763

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

## 1/2" Metallic Dimensions and Flow Charts

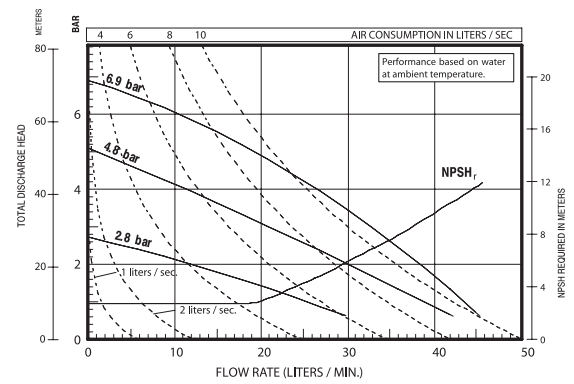
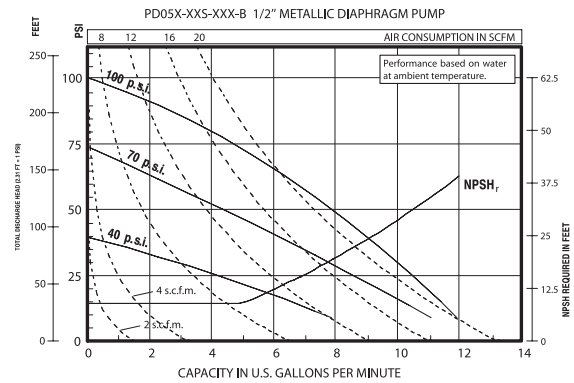


### DIMENSIONS

|                       |                     |                      |
|-----------------------|---------------------|----------------------|
| 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)  |

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



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

For additional information contact technical support at 1.800.483.4981

METALLIC

# 3/4" Metallic Models Pro-Series Pumps

## 3/4" Metallic Performance Specifications

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



## Ordering Menu

|                     |                                |   |                             |                                     |                          |   |  |                                      |                                     |
|---------------------|--------------------------------|---|-----------------------------|-------------------------------------|--------------------------|---|--|--------------------------------------|-------------------------------------|
| PD07                | R                              | - | X                           | X                                   | S                        | - | X  | X                                    | X                                   |
|                     |                                |   |                             |                                     |                          |   |  |                                      |                                     |
| <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>           |
| Standard            | R Polypropylene                |   | A 3/4" N.P.T.<br>B 3/4" BSP | A Aluminum                          | S Stainless Steel        |   | F Aluminum<br>P Polypropylene<br>S Stainless Steel | A Santoprene®<br>C Hytrel®<br>T PTFE | A Santoprene®<br>C Hytrel<br>T PTFE |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

Muffler Kit | Kit No. 637438 (ported exhaust)

Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637427-XX (fluid section)

Wall Mount | 76763

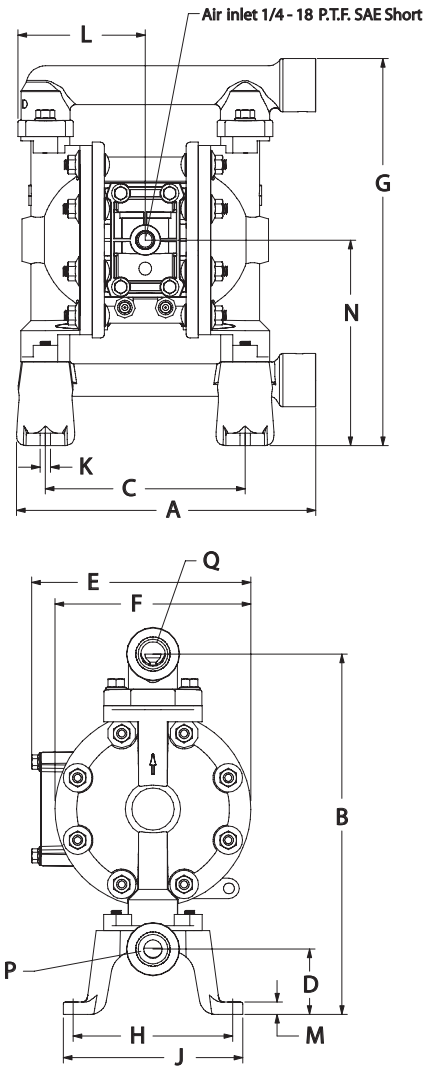
\*Please note pumps are not included with these kits.



Air Line Connection Kit  
66073-1

# 3/4" Metallic Dimensions and Flow Curves Pro-Series Pumps

## 3/4" Metallic Dimensions and Flow Charts

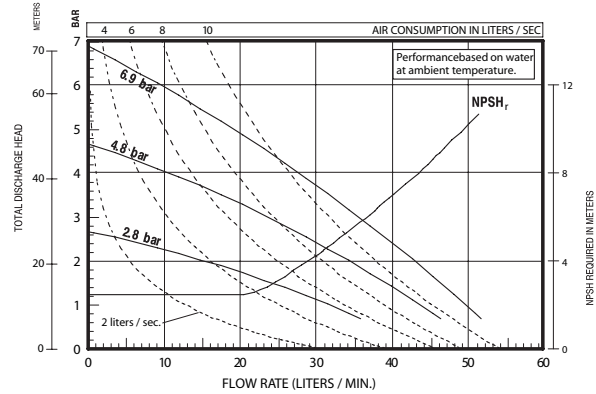
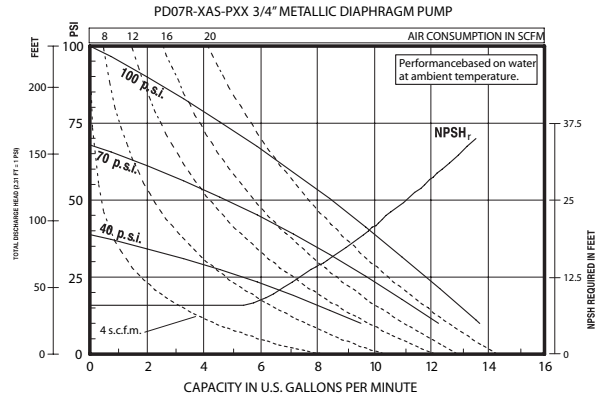


### DIMENSIONS

|                        |                        |                       |
|------------------------|------------------------|-----------------------|
| A - 9-9/32" (235.3mm)  | F - 6" (152.4mm)       | L - 3-29/32" (99.2mm) |
| B - 11-1/16" (280.4mm) | G - 11-7/8" (301.2mm)  | M - 3/8" (9.5mm)      |
| C - 6-1/8" (155.6mm)   | H - 4-29/32" (124.2mm) | N - 6-5/16" (159.8mm) |
| D - 2" (50.8mm)        | J - 5-1/2" (139.7mm)   |                       |
| E - 6-23/32" (170.6mm) | K - 5/16" (8.0mm)      |                       |

|               |                      |                      |
|---------------|----------------------|----------------------|
| Model         | "P" Material Inlet   | "Q" Material Outlet  |
| PD07R-AAS-PXX | 3/4- 14 N.P.T.F. - 2 | 3/4- 14 N.P.T.F. - 2 |
| PD07R-BAS-PXX | Rp 3/4(3/4- 14 BSP)  | Rp 3/4(3/4- 14 BSP)  |

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



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

For additional information contact technical support at 1.800.483.4981

METALLIC

# 1" Metallic Models Pro-Series Pumps

## 1" Metallic Performance Specifications

|                             |                              |           |
|-----------------------------|------------------------------|-----------|
| Ratio:                      | 1:1                          |           |
| Maximum Flow:               | 35-g.p.m. (133-l.p.m.)       |           |
| Displacement per cycle:     | 0.16-Gallons (0.60-Liters)   |           |
| Air Inlet: (Female)         | 1/4 - 18 N.P.T.F. - 1        |           |
| Fluid Inlet:                | 1 - 11-1/2 N.P.T.F. - 1      |           |
|                             | Rp 1 (1-11 BSP parallel)     |           |
| Fluid Outlet:               | 1 - 11-1/2 N.P.T.F. - 1      |           |
|                             | Rp 1 (1-11 BSP parallel)     |           |
| Max. operating pressure:    | 120-psi (8.3-bar)            |           |
| Suspended solids max. dia.: | 1/8-in. (3.2-mm)             |           |
| Weight: lbs (kg)            |                              |           |
|                             | 666100-X-C (aluminum)        | 19 (8.6)  |
|                             | 666101-X-C (stainless steel) | 36 (16.3) |
|                             | 666102-X-C (cast iron)       | 31 (14.1) |

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

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



## Ordering Menu

|                                 |   |   |                            |                            |                               |   |   |
|---------------------------------|---|---|----------------------------|----------------------------|-------------------------------|---|---|
| 6661X                           | X   | - | X                          | X                          | X                             | - | C |
|                                 |   |   |                            |                            |                               |   |   |
| <b>Center Body/<br/>Threads</b> | <b>Fluid Caps/<br/>Manifold<br/>Material</b>        |   | <b>Seat<br/>Material</b>   | <b>Ball Check Material</b> | <b>Diaphragm<br/>Material</b> |   |   |
| 0 Aluminum, N.P.T.F.            | 0 Aluminum (steel hardware)                         |   | 1 Aluminum                 | 3 Viton                    | 3 Viton                       |   |   |
| 1 Cast Iron, N.P.T.F.           |   |   | 2 316 Stainless Steel      | 4 PTFE                     | 4 PTFE / Santoprene           |   |   |
| 2 Aluminum, BSP                 | 1 Stainless Steel (steel hardware)                  |   | 3 Polypropylene            | 8 Polyurethane             | 9 Hytrel                      |   |   |
| 3 Cast Iron, BSP                | 2 Cast Iron (steel hardware)                        |   | 4 PVDF                     | A Stainless Steel          | B Santoprene                  |   |   |
|                                 | 9 Stainless Steel, dual outlet (steel hardware)     |   | 5 Carbon Steel             | C Hytrel                   | G Nitrile                     |   |   |
|                                 | A Aluminum, (stainless hardware)                    |   | 8 Hard 400 Stainless Steel | E Santoprene               |                               |   |   |
|                                 | B Stainless Steel (stainless hardware)              |   |                            | G Nitrile                  |                               |   |   |
|                                 | C Cast Iron (stainless hardware)                    |   |                            |                            |                               |   |   |
|                                 | D Stainless Steel, dual outlet (stainless hardware) |   |                            |                            |                               |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-2

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

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

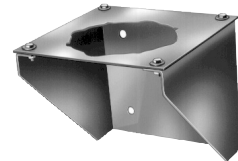
Kit No. 637119-XX-C (fluid section)

Wall Mount | 66100

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



Air Line Connection Kit  
66073-2



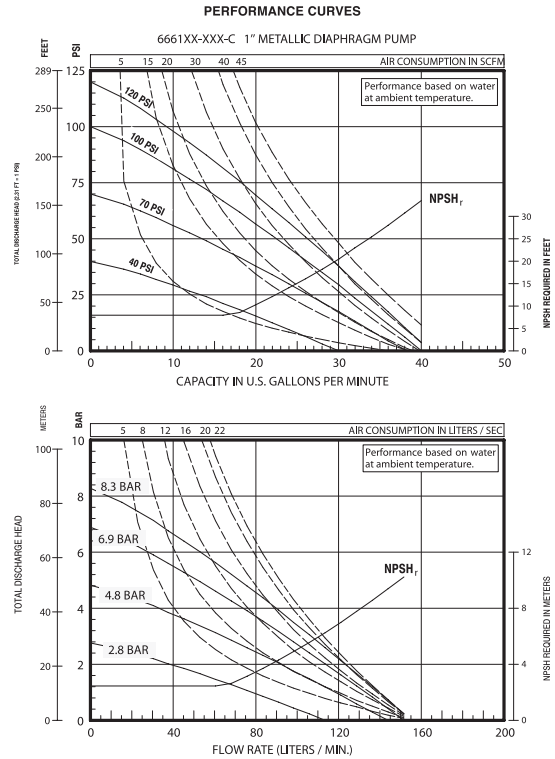
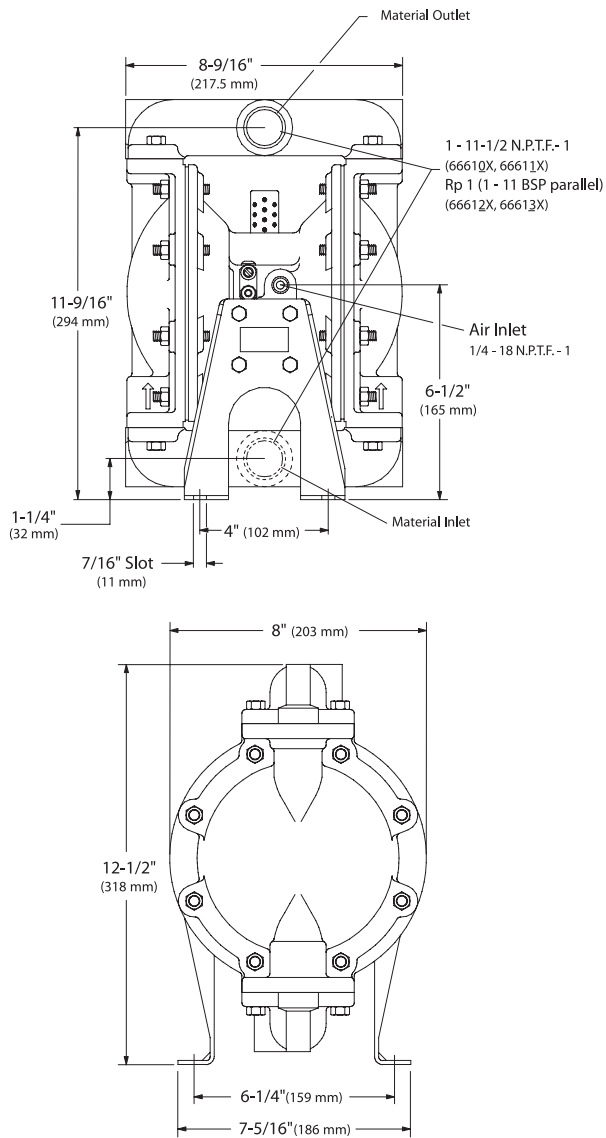
Wall Mount  
66100



# 1" Metallic Dimensions and Flow Curves Pro-Series Pumps

## 1" Metallic Dimensions and Flow Charts

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



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

For additional information contact technical support at 1.800.483.4981

METALLIC

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

## 1-1/2" Metallic Performance Specifications

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

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

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

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



## Ordering Menu

|                                 |  |   |                          |                            |                               |   |   |
|---------------------------------|--|---|--------------------------|----------------------------|-------------------------------|---|---|
| 6661X                           | X  | - | X                        | X                          | X                             | - | C |
|                                 |  |   |                          |                            |                               |   |   |
| <b>Center Body/<br/>Threads</b> | <b>Fluid Caps/<br/>Manifold<br/>Material</b> |   | <b>Seat<br/>Material</b> | <b>Ball Check Material</b> | <b>Diaphragm<br/>Material</b> |   |   |
| 5 Aluminum, N.P.T.F.            | 0 Aluminum (steel hardware)                  |   | 1 Aluminum               | 3 Viton                    | 3 Viton                       |   |   |
| 6 Cast Iron, N.P.T.F.           |  |   | 2 316 Stainless Steel    | 4 PTFE                     | 4 PTFE /                      |   |   |
| 7 Aluminum, BSP                 | 1 Stainless Steel (steel hardware)           |   | 3 Polypropylene          | 8 Polyurethane             | Santoprene                    |   |   |
| 8 Cast Iron, BSP                | 2 Cast Iron (steel hardware)                 |   | 4 PVDF                   | A Stainless Steel          | 9 Hytel                       |   |   |
|                                 | A Aluminum, (stainless hardware)             |   | 5 Carbon Steel           | C Hytel                    | B Santoprene                  |   |   |
|                                 | B Stainless Steel (stainless hardware)       |   | 8 400 Stainless Steel    | E Santoprene               | G Nitrile                     |   |   |
|                                 | C Cast Iron (stainless hardware)             |   |                          | G Nitrile                  |                               |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66084-1

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

### Service Repair Kits | Kit No. 637118-C (air section)

Kit No. 637124-XX (fluid section)

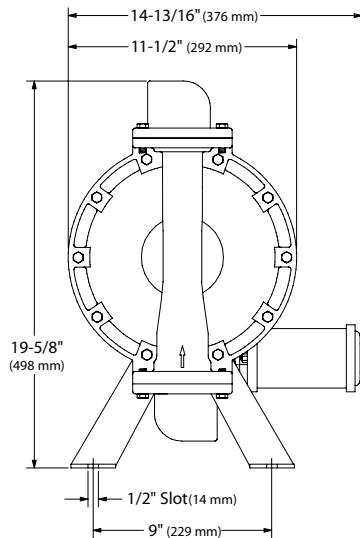
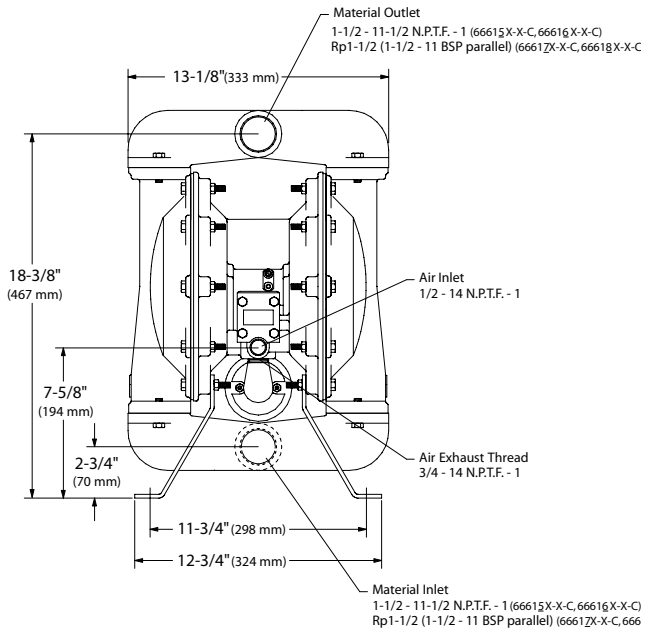
### Wall Mount | 62133

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

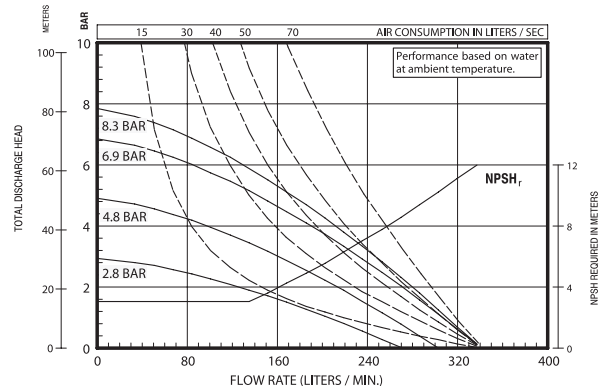
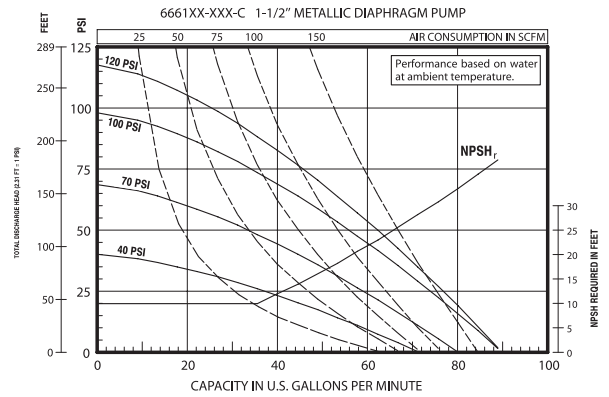
# 1-1/2" Metallic Dimensions and Flow Curves Pro-Series Pumps

## 1-1/2" Metallic Dimensions and Flow Charts

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



### PERFORMANCE CURVES



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

For additional information contact technical support at 1.800.483.4981

METALLIC

# 2" Metallic Models Pro-Series Pumps

## 2" Metallic Performance Specifications

|                                  |  |
|----------------------------------|--|
| Ratio:                           | 1:1  |
| Maximum Flow:                    | 172-g.p.m. (651-l.p.m.)  |
| Displacement per cycle:          | 1.4-Gallons (5.3-Liters)   |
| Air Inlet: (Female)              | 3/4 - 14 N.P.T.F. - 1  |
| Fluid Inlet:                     | 2 - 11-1/2 N.P.T.F. - 1<br>Rp 2 (2 - 11 BSP, parallel)                             |
| Fluid Outlet:                    | 2 - 11-1/2 N.P.T.F. - 1<br>Rp 2 (2 - 11 BSP, parallel)                             |
| Max. operating pressure:         | 120-psi (8.3-bar)  |
| Suspended solids max. dia.:      | 1/4-in. (6.4-mm)   |
| Weight: lbs (kg)                 | 6662X0-XXX-C 65.2 (29.6)<br>6662X1-XXX-C 129.9 (58.9)<br>6662X2-XXX-C 124.3 (58.9) |
| Maximum dry suction lift: ft (m) | 27.2 (8.3)   |



67389 Muffler Kit (not shown)  
included with pump

## Ordering Menu

|   |  |   |   |   |  |   |   |
|---|--|---|---|---|--|---|---|
| 6662X                                   | X  | - | X   | X   | X  | - | C |
|   |  |   |   |   |  |   |   |
| <b>Center Body/<br/>Threads</b>         | <b>Fluid Caps/<br/>Manifold<br/>Material</b>   |   | <b>Seat<br/>Material</b>                            | <b>Ball Check Material</b>                      | <b>Diaphragm<br/>Material</b>                                |   |   |
| 5 Aluminum, N.P.T.F.<br>7 Aluminum, BSP | 0 Aluminum (steel<br>hardware)<br>1 Stainless steel<br>(steel hardware)<br>2 Cast iron<br>(steel hardware) |   | 1 Aluminum<br>9 Hytrel<br>E Santoprene<br>G Nitrile | 4 PTFE<br>C Hytrel<br>E Santoprene<br>G Nitrile | 4 PTFE / Santoprene<br>9 Hytrel<br>B Santoprene<br>G Nitrile |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66312

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

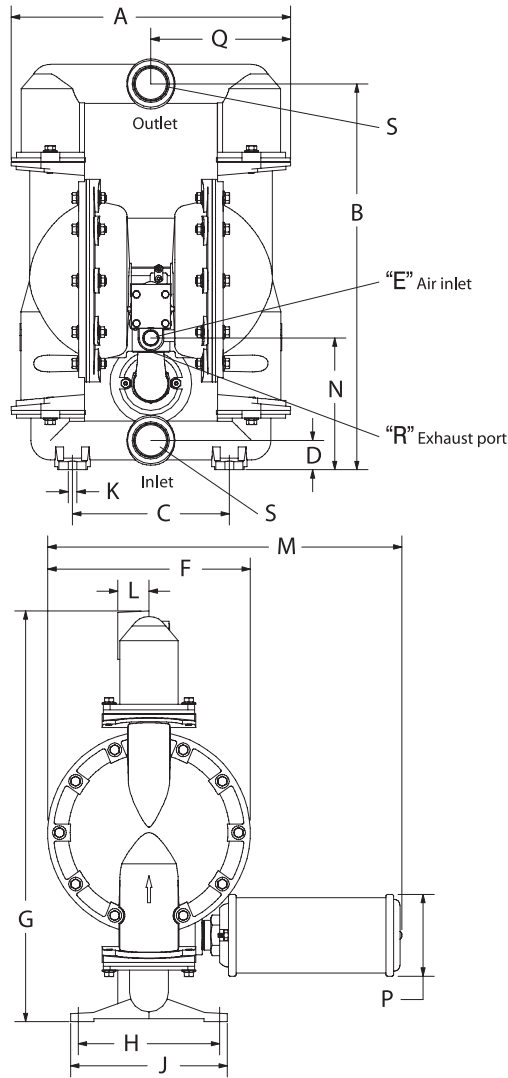
Service Repair Kits | Kit No. 637434 (air section)

Kit No. 637432-XX (fluid section)

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

# 2" Metallic Dimensions and Flow Curves Pro-Series Pumps

## 2" Metallic Dimensions and Flow Charts



### DIMENSIONS

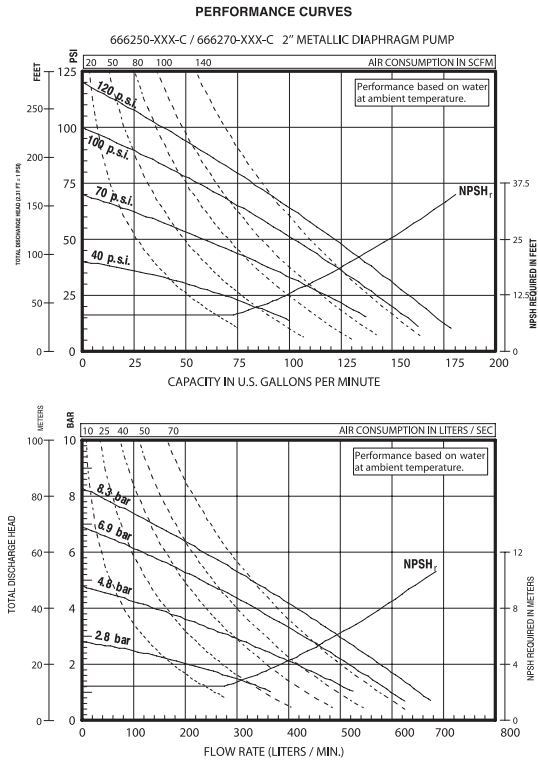
|                         |                       |                             |
|-------------------------|-----------------------|-----------------------------|
| A 17-15/16" (455.1 mm)  | G 26-3/8" (669.5 mm)  | N 8-15/32" (214.6 mm)       |
| B 24-3/4" (628.7 mm)    | H 9-1/16" (230.2 mm)  | P 5-1/4" (133.4 mm)         |
| C 10-1/16" (255.6 mm)   | J 10-1/16" (255.6 mm) | Q 8-13/32" (227.6 mm)       |
| D 1-7/8" (47.6 mm)      | K 9/16" (14.3 mm)     | R 1-1/4 - 11-1/2 N.P.T.F.-1 |
| E 3/4 - 14 N.P.T.F. - 1 | L 2" (50.8 mm)        | S (see below)               |
| F 13" (330.2 mm)        | M 22-3/4" (577.3 mm)  |                             |

"S" Inlet / Outlet

66625-XXX-C 2 - 11-1/2 N.P.T.F. - 1

66627-XXX-C Rp 2 (2 - 11 BSP parallel)

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



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

For additional information contact  
technical support at 1.800.483.4981

METALLIC

# 3" Metallic Models Pro-Series Pumps

## 3" Metallic Performance Specifications

|                                  |                             |
|----------------------------------|-----------------------------|
| Ratio:                           | 1:1                         |
| Maximum Flow:                    | 237-g.p.m. (897-l.p.m.)     |
| Displacement per cycle:          | 2.65-Gallons (10.03-Liters) |
| Air Inlet: (Female)              | 3/4 - 14 N.P.T.F. - 1       |
| Fluid Inlet:                     | 3 - 8 N.P.T.F. - 1          |
|                                  | Rp 3 (3 - 11 BSP parallel)  |
| Fluid Outlet:                    | 3 - 8 N.P.T.F. - 1          |
|                                  | Rp 3 (3 - 11 BSP, parallel) |
| Max. operating pressure:         | 120-psi (8.3-bar)           |
| Suspended solids max. dia.:      | 3/8-in. (9.5-mm)            |
| Weight: lbs (kg)                 |                             |
|                                  | 6663X0-XXX-C 109.8 (49.8)   |
|                                  | 6663X1-XXX-C 222.2 (100.8)  |
|                                  | 6663X2-XXX-C 213.1 (96.7)   |
| Maximum dry suction lift: ft (m) | 17.6 (5.4)                  |



67389 Muffler Kit (not shown)  
included with pump

## Ordering Menu

|                                 |  |   |                          |                            |                               |   |   |
|---------------------------------|--|---|--------------------------|----------------------------|-------------------------------|---|---|
| 6663X                           | X  | - | X                        | X                          | X                             | - | C |
|                                 |  |   |                          |                            |                               |   |   |
| <b>Center Body/<br/>Threads</b> | <b>Fluid Caps/<br/>Manifold<br/>Material</b> |   | <b>Seat<br/>Material</b> | <b>Ball Check Material</b> | <b>Diaphragm<br/>Material</b> |   |   |
| 0 Aluminum, N.P.T.F.            | 0 Aluminum (steel hardware)                  |   | 1 Aluminum               | 4 PTFE                     | 4 PTFE / Santoprene           |   |   |
| 2 Aluminum, BSP                 | 1 Stainless steel (steel hardware)           |   | 9 Hytrel                 | C Hytrel                   | 9 Hytrel                      |   |   |
|                                 | 2 Cast iron (steel hardware)                 |   | E Santoprene             | E Santoprene               | B Santoprene                  |   |   |
|                                 |  |   | G Nitrile                | G Nitrile                  | G Nitrile                     |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66312

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

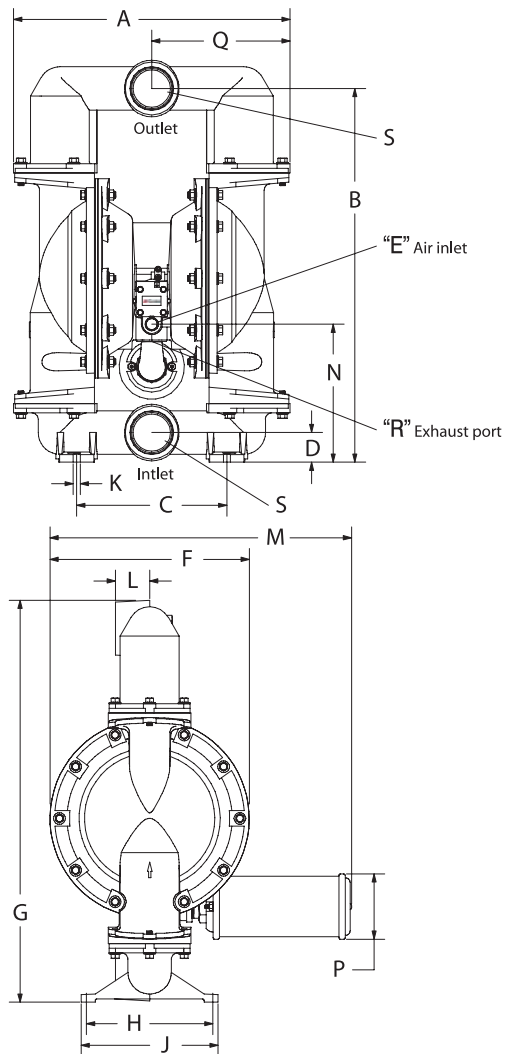
Service Repair Kits | Kit No. 637434 (air section)

Kit No. 637433-XX (fluid section)

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

# 3" Metallic Dimensions and Flow Curves Pro-Series Pumps

## 3" Metallic Dimensions and Flow Charts

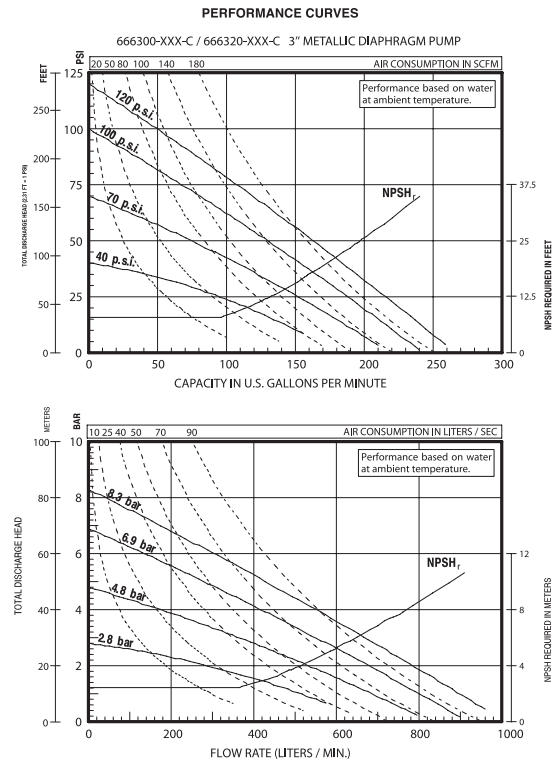


### DIMENSIONS

|                         |                       |                             |
|-------------------------|-----------------------|-----------------------------|
| A 22-7/32" (563.9 mm)   | G 32-9/32" (819.8 mm) | N 11-3/32" (281.4 mm)       |
| B 30" (762.0 mm)        | H 10-5/32" (258.0 mm) | P 5-1/4" (133.4 mm)         |
| C 12-1/16" (306.4 mm)   | J 11" (279.4 mm)      | Q 11-1/8" (281.9 mm)        |
| D 2-3/8" (60.3 mm)      | K 9/16" (14.3 mm)     | R 1-1/4 - 11-1/2 N.P.T.F.-1 |
| E 3/4 - 14 N.P.T.F. - 1 | L 2-3/4" (69.9 mm)    | S (see below)               |
| F 16" (406.4 mm)        | M 24-7/16" (620.7 mm) |                             |

"S" Inlet / Outlet  
 66630-XXX-C 3 - 8 N.P.T.F. - 1  
 66632-XXX-C Rp 3 (3 - 11 BSP parallel)

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



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

For additional information contact  
 technical support at 1.800.483.4981

METALLIC





## 1:1-to-4:1 Ratio Piston and Diaphragm Pumps Pro-Series Pumps



| MODEL   | 1:1 Ratio<br>Piston Pump                    | 2:1 Ratio<br>Piston Pump  | 4:1 Ratio<br>Piston Pump   | 1:1 Ratio<br>Diaphragm Pump   |
|---|---|---|--|---|
| Maximum Flow<br>GPM (LPM)                       | 18<br>(68.1)                                | 4.3<br>(16.3)   | 4.4<br>(16.8)  | 11<br>(41.6)  |
| Maximum<br>Inlet<br>Pressure<br>PSI (BAR)       | 150<br>(10.3)                               | 150<br>(10.3)   | 150<br>(10.3)  | 100<br>(6.8)  |
| Fluid Ports<br>Inlet/Outlet<br>(BSP Available)  | Immersed Inlet<br>3/4" (F) Out<br>(No BSP)  | 1-1/2" (F) In - CS<br>1-1/4" (F) In - SS<br>Immersed<br>3/4" (F) Out                            | 1-1/2" (F) In - CS<br>1-1/4" (F) In - SS<br>Immersed<br>3/4" (F) Out                       | 1/2" Suction Tube In<br>1/2" (F), or Hose<br>Accessory Out  |
| Materials<br>of<br>Construction                 | Carbon Steel                                | Carbon Steel<br>Stainless Steel   | Carbon Steel<br>Stainless Steel  | Polypropylene<br>Stainless Steel<br>Aluminum  |
| Pump<br>Weight<br>Lbs. (Kg.)                    | 13 (5.9)                                    | 17.5 (7.9) CS-Stub<br>19.6 (8.9) CS-55-gallon<br>17.2 (7.8) SS-Stub<br>22.5 (10.2) SS-55-Gallon | 32 (14.5) CS-Stub<br>46 (20.9) CS-55-gallon<br>32 (14.5) SS-Stub<br>46 (20.9) SS-55-Gallon | 22 (10) Polypropylene*<br>26 (11.8) Aluminum*<br>36 (16.3) Stainless*<br>*basic package shipping weight |
| Maximum<br>Solids<br>Inches (mm)                | Clean Fluids                                | Clean Fluids  | Clean Fluids   | 3/32<br>(2.4)   |
| Best<br>Selling<br>Models<br>(BSP<br>Available) | 612041-1<br>612041-3                        | NM2202B-41-731<br>NM2202A-41-731<br>NM2202B-11-731<br>NM2202A-11-731                            | NM2304A-11-311<br>NM2304A-41-311<br>NM2304B-11-311<br>NM2304B-41-311                       | DAB05-PPTT-2-A  |
| Recommended<br>Filter/<br>Regulator             | C28123-600<br>(Filter/Regulator/Lubricator) | P39124-600  | P39124-600   | P39124-600  |
| Air Line Kit                                    | 66073-1                                     | 66073-1   | 66073-1  | 66073-1   |

# Specialty Pumps 1:1 Ratio Piston Models Pro-Series Pumps

## 1:1 Ratio Piston Pump Performance Specifications

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

## Ordering Menus

|                                 |   |                       |
|---------------------------------|---|-----------------------|
| <b>61204X</b>                   | - | <b>X</b>              |
|                                 |   |                       |
| <b>Model Series</b>             |   | <b>Packing Option</b> |
| 1 For use with 55-gallon drums  |   | 1 Nitrile             |
| 2 For use with 275-gallon drums |   | 3 PTFE                |

## Accessories

### Air Line Treatment Combination Unit | C28121-600

Unit contains Piggyback Filter/Regulator and Lubricator. Filter/Regulator features a 20 micron filter, poly bowl with guard and 5-125-psi gauge. Lubricator features a poly bowl with guard. Plumb directly to pump's air inlet.

Service Repair Kits | *Kit No. 637084 (air section)*

*Kit No. 637081 (Nitrile lower pump end repair)*

*Kit No. 637083 (PTFE lower pump end repair)*

### Muffler | 61879

Muffler reduces operating noise level of pump.

### Wall Mount | 61113

Wall-Mount Bracket Permits pump to be wall-mounted near fluid container. Bracket can also be attached to side of open 55-gallon drum.



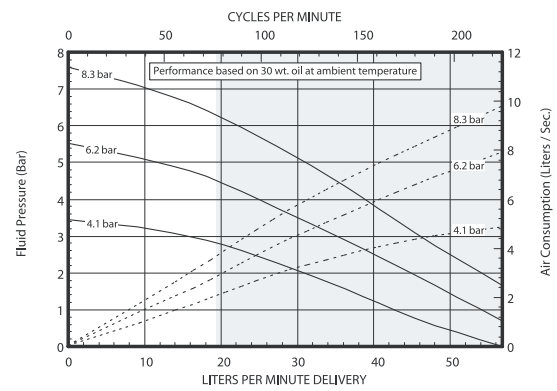
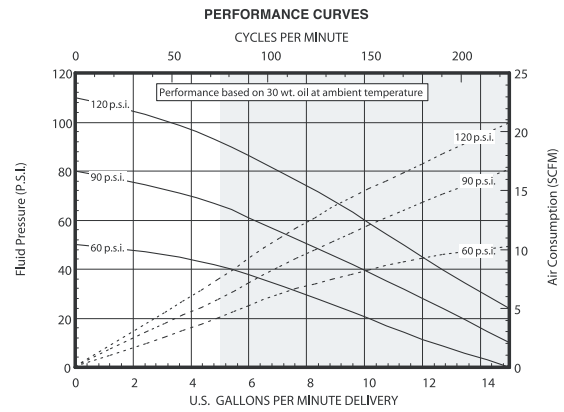
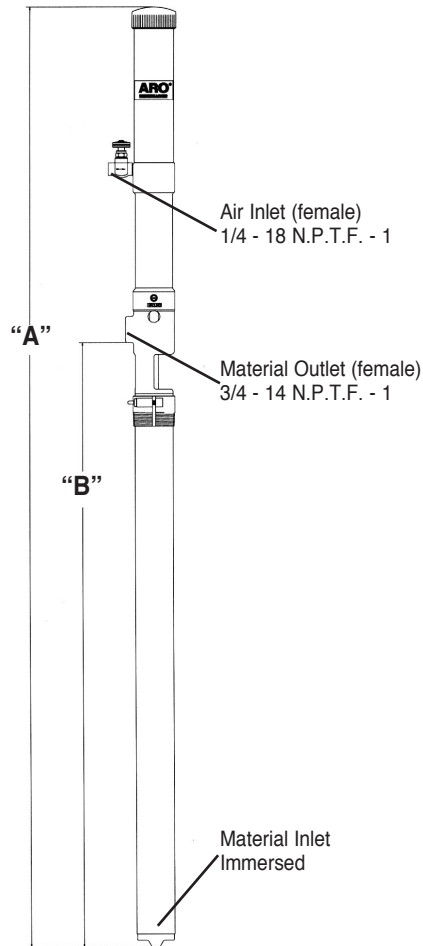
Muffler  
61879



Wall / Drum Mount  
61113

# Specialty Pumps 1:1 Ratio Piston Model Dimensions and Flow Curves Pro-Series Pumps

## 1:1 Ratio Piston Pump Dimensions and Flow Charts



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

For additional information contact technical support at 1.800.483.4981

| Model    | "A"                 | "B"                 |
|----------|---------------------|---------------------|
| 612041-X | 54" (1371.6-mm)     | 34-5/8" (879.5-mm)  |
| 612042-1 | 64-1/4" (1631.9-mm) | 44-7/8" (1139.8-mm) |

SPECIALTY PUMPS

# Specialty Pumps 2:1 Ratio Piston Models Pro-Series Pumps

## 2:1 Ratio Piston Pump Performance Specifications

|                            |  |
|----------------------------|--|
| Ratio:                     | 2:1  |
| Maximum Flow:              | 4.3-g.p.m. (16.3-g.p.m.)   |
| Flow @ 60-Cycles/min.:     | 2.15-g.p.m. (8.14-l.p.m.)  |
| Maximum Rec'd Cycles:      | 120 per minute   |
| Displacement per Cycle:    | 8.3-In <sup>3</sup> (136-cm <sup>3</sup> )   |
| Air Inlet: (Female)        | 1/4 - 18 N.P.T.F. - 1  |
| Fluid Inlet:               | 1-1/2 - 11-1/2 N.P.T.F. - 1 (NM2202A-X)<br>1-1/4 - 11-1/2 N.P.T.F. - 1 (NM2202B-X) |
| Fluid Outlet:              | 3/4 - 14 N.P.T.F. - 1  |
| Max. operating pressure:   | 150-psi (10.3-bar)   |
| Fluid Pressure Range:      | 0-351-psi (0-24.2-bar)   |
| Weight: lbs (kg)           |  |
|                            | NM2202A-11-X31 17.5 (7.9)  |
|                            | NM2202A-41-X31 19.6 (8.9)  |
|                            | NM2202B-11-X31 17.2 (7.8)  |
|                            | NM2202B-41-X31 22.5 (10.2)   |
| Materials of Construction: | Carbon Steel<br>Stainless Steel  |



## Ordering Menu

|  |   |  |   |   |   |             |   |  |   |   |                                      |
|--|---|--|---|---|---|-------------|---|--|---|---|--------------------------------------|
| <b>NM2202X</b><br> <br><b>Model Series</b> | - | <b>X</b><br> <br><b>Container Type</b> | 1 | - | <b>X</b><br> <br><b>Packing Material</b>  | 3           | - | <b>3</b><br> <br><b>Spring Arrangement</b> | 1   | - | <b>1</b><br> <br><b>Plunger Type</b> |
| A Carbon Steel<br>B Stainless Steel        |   | 1 Universal (Stub)<br>4 55-Gallon Drum |   |   | 7 PTFE upper and lower<br>B UHMW-PE upper/PTFE lower<br>C UHMW-PE upper and lower<br>J Polyurethane upper/UHMW-PE lower | 3 No Spring |   |  | 1 Standard<br>Carbon Steel on NM2202A-X models<br>Stainless Steel on NM2202B-X models |   |                                      |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

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

Service Repair Kits | Kit No. 637377 (air section)

Kit No. 637378-X31 (NM2202A-X fluid section)

Kit No. 637379-X31 (NM2202B-X fluid section)

### Wall Mount | 61113

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

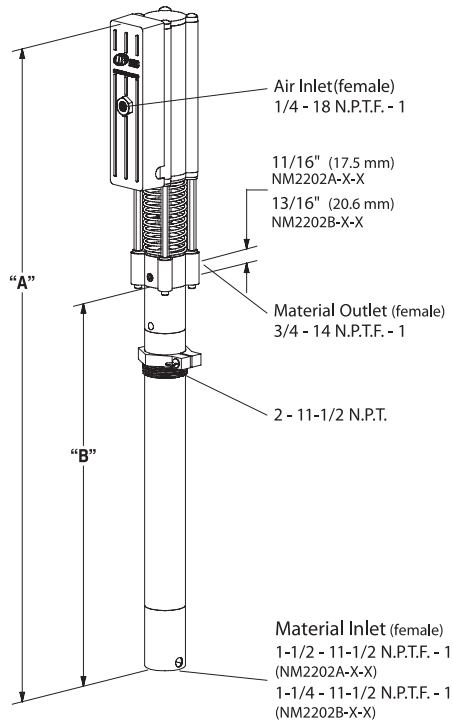
\*Please note pumps are not included with these kits.



Wall / Drum Mount  
61113

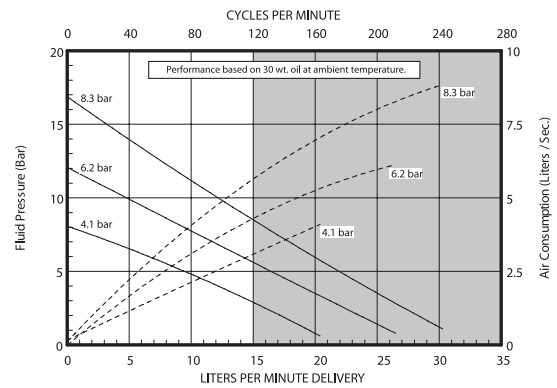
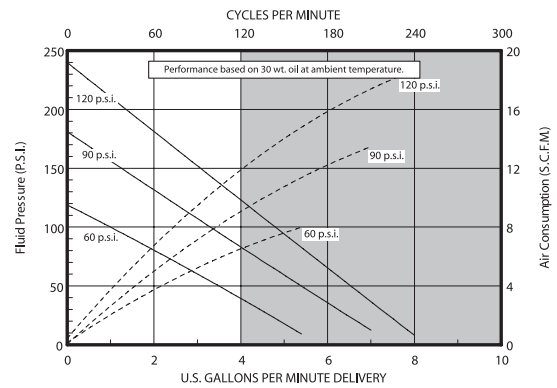
# Specialty Pumps 2:1 Ratio Piston Model Dimensions and Flow Curves Pro-Series Pumps

## 2:1 Ratio Piston Pump Dimensions and Flow Charts



Dimensions: Inches (mm)

| Model Number:  | "A"             | "B"              |
|----------------|-----------------|------------------|
| NM2202A-11-X31 | 34-3/16 (868.0) | 20-1/16 (508.8)  |
| NM2202A-41-X31 | 47-7/8 (1214.8) | 33-11/16 (855.6) |
| NM2202B-11-X31 | 33-7/8 (859.9)  | 19-7/8 (503.7)   |
| NM2202B-41-X31 | 47-3/4 (1211.8) | 33-11/16 (855.6) |



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

For additional information contact technical support at 1.800.483.4981

SPECIALTY PUMPS

# Specialty Pumps 4:1 Ratio Piston Models Pro-Series Pumps

## 4:1 Ratio Piston Pump Performance Specifications

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



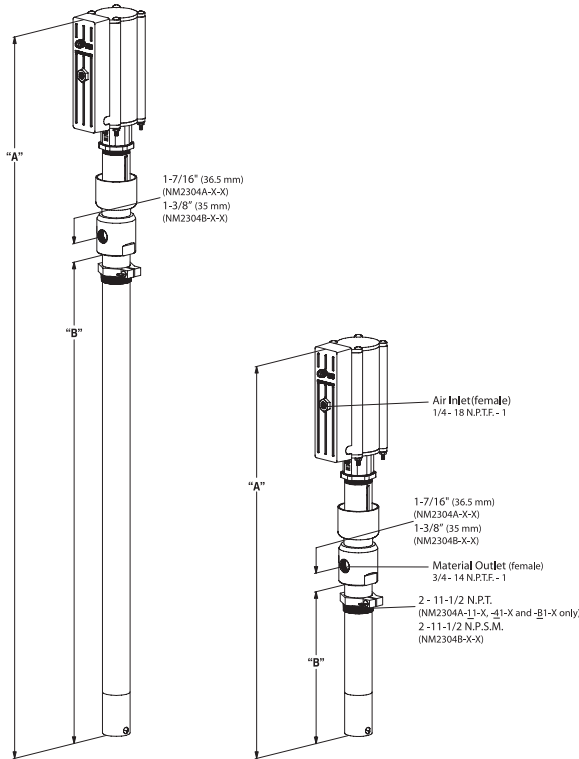
## Ordering Menus

|                     |   |  |          |   |   |                           |                         |
|---------------------|---|--|----------|---|---|---------------------------|-------------------------|
| <b>NM2304A</b>      | - | <b>X</b>   | <b>1</b> | - | <b>X</b>  | <b>1</b>                  | <b>1</b>                |
| <b>Model Series</b> |   | <b>Container Type</b>  |          |   | <b>Packing Material</b>   | <b>Spring Arrangement</b> | <b>Plunger Type</b>     |
| Carbon Steel        |   | 1 Universal (Stub)<br>4 55-Gallon Drum<br>8 Universal (Stub) without bung<br>9 55-Gallon without bung<br>A Stub Follower Plate<br>B Universal (Stub) with alternate bung |          |   | C UHMW-PE upper and lower<br>3 Glass-filled PTFE upper Virgin PTFE lower<br>5 Glass-filled PTFE/Leather staggered upper Virgin PTFE lower | 1 Coil Spring             | 1 Standard Carbon Steel |

|                     |   |  |          |   |   |                           |  |
|---------------------|---|--|----------|---|---|---------------------------|--|
| <b>NM2304B</b>      | - | <b>X</b>                               | <b>1</b> | - | <b>X</b>  | <b>1</b>                  | <b>X</b>   |
| <b>Model Series</b> |   | <b>Container Type</b>                  |          |   | <b>Packing Material</b>   | <b>Spring Arrangement</b> | <b>Plunger Type</b>                                |
| Stainless Steel     |   | 1 Universal (Stub)<br>4 55-Gallon Drum |          |   | C UHMW-PE upper and lower<br>3 PTFE upper and lower<br>W Viton upper/PTFE lower | 1 Coil Spring             | 1 Standard 300-Series Stainless Steel<br>B Ceramic |

# Specialty Pumps 4:1 Ratio Piston Model Dimensions and Flow Curves Pro-Series Pumps

## 4:1 Ratio Piston Pump Dimensions and Flow Charts



### Dimensions: Inches (mm)

| Model Number:  | "A"               | "B"             |
|----------------|-------------------|-----------------|
| NM2304A-11-X11 | 30-1/4 (768.5)    | 11-3/4 (297.7)  |
| NM2304A-41-X11 | 55-5/8 (1413.0)   | 37-1/8 (942.2)  |
| NM2304A-81-X11 | 30-1/4 (768.5)    | 11-3/4 (297.7)  |
| NM2304A-91-X11 | 55-5/8 (1413.0)   | 37-1/8 (942.2)  |
| NM2304A-A1-X11 | 29-9/16 (751.0)   | 11-1/16 (280.2) |
| NM2304A-B1-X11 | 30-1/4 (768.5)    | 11-3/4 (297.7)  |
| NM2304B-11-X1X | 28-1/8 (714.4)    | 9-23/32 (246.8) |
| NM2304B-41-X1X | 51-21/32 (1312.1) | 33-1/4 (844.6)  |

### Accessories

#### Air Line Connection Kit\* | Kit No. 66073-1

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

#### Service Repair Kits | Kit No. 637316 (air section)

Kit No. 637176 (NM2304A-X: 67151-X-311, -X-511 fluid section)

Kit No. 637228 (NM2304A-X: 67151-X-C11 fluid section)

Kit No. 637010 (NM2304B-X: 65106, 65108, 65108-5 fluid section)

Kit No. 637010-4 (

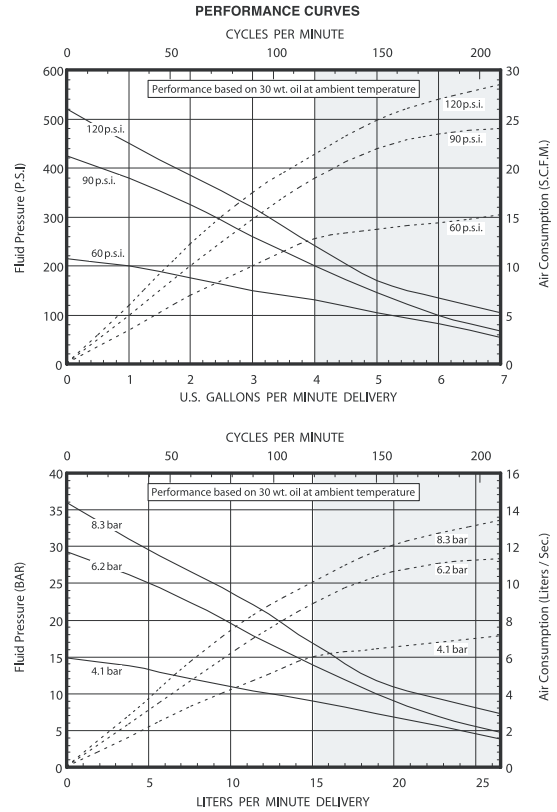
NM2304B-X: 65106-4, 65108-4, 65108-6 fluid section)

Kit No. 637010-6 (NM2304B-X: 65108-8 fluid section)

#### Wall Mount | 61113

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

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



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

For additional information contact technical support at 1.800.483.4981



Wall / Drum Mount  
61113

# Specialty Pumps - Drum Pumps

## Pro-Series Pumps

### 1:1 Ratio Drum Pump Performance Specifications

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



### Drum Pumps

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

### Drum Pump Packages

- Package Components Factory-Matched - ARO Drum Pump package components 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

### Pump Features

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

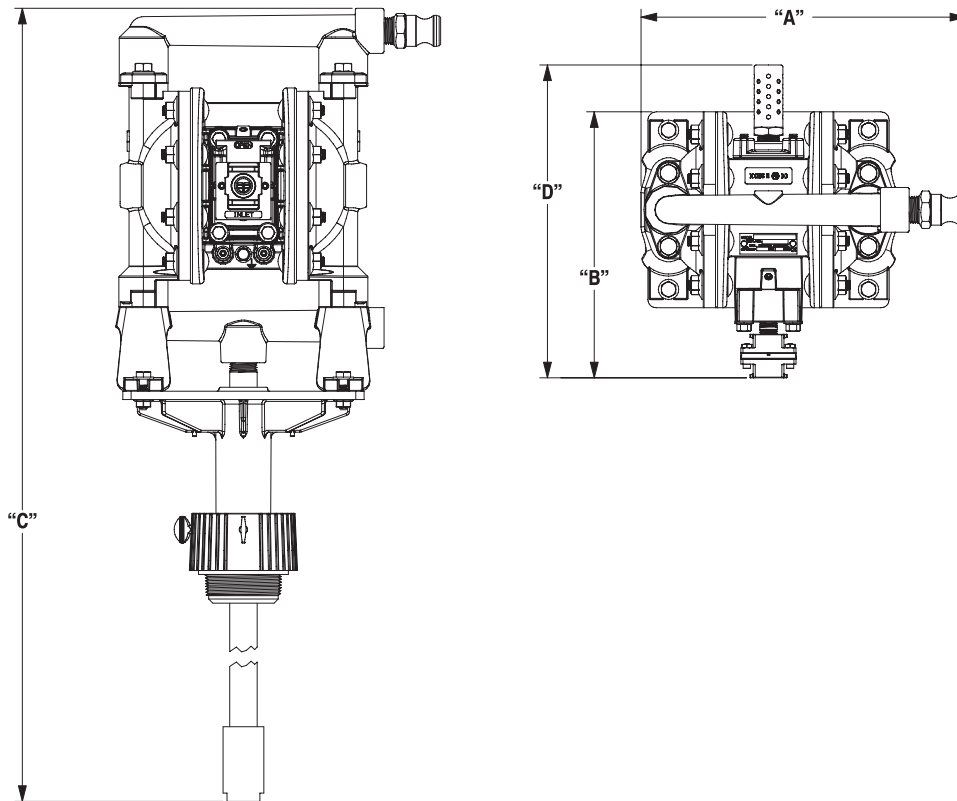
### Ordering Menu

| 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./SS.              | PTFE                | X                             | -          | -                  | -              | SOLVENT                  |
| DAB05-APCC-2-A | ALUM./POLY.            | HYTREL              | X                             | -          | -                  | -              | OIL/SOME SOLVENTS        |
| DAB05-APCC-2-O | ALUM./POLY.            | HYTREL              | X                             | -          | NITRILE            | -              | OIL/SOME SOLVENTS        |
| DAB05-APCC-B-P | ALUM./POLY.            | HYTREL              | X                             | X          | NITRILE            | NO-DRIP        | OIL/SOME SOLVENTS        |
| DAB05-APCC-B-L | ALUM./POLY.            | HYTREL              | X                             | X          | REINFORCED NITRILE | X              | OIL/SOME SOLVENTS        |
| DAB05-ASAA-2-A | ALUM./S.S.             | SANTOPRENE          | X                             | -          | -                  | -              | WATER                    |



# Specialty Pumps - Drum Pump Dimensional Data Pro-Series Pumps

## 1:1 Ratio Drum Pump Dimensional Data



| Model Number:  | "A"               | "B"              | "C"                 | "D"               |
|----------------|-------------------|------------------|---------------------|-------------------|
| DAB05-AXXX-X-X | 9-31/32" (253 mm) | 8-5/32" (207 mm) | 51-5/32" (1299 mm)  | 9-19/32" (243 mm) |
| DAB05-PXXX-X-X | 12-1/32" (306 mm) | 8-3/32" (206 mm) | 50-5/32" (1274 mm)  | --                |
| DAB05-SXXX-X-X | 7-3/4" (197 mm)   | 8-3/32" (206 mm) | 49-25/32" (1264 mm) | --                |

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

### Accessories

#### Air Line Connection Kit\* | Kit No. 66073-1

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

Service Repair Kits | Kit No. 637428 (air section)

Kit No. 637427-XX (fluid section)

Kit No. 104255 (for repair of P29122-600 piggyback filter/regulator)

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



## Specialty Diaphragm, Lubrication and Centrifugal Pumps Pro-Series Pumps



| Model                                       | 3:1 Ratio Power Pump           | Oil Packages                               | Grease Packages                            | Centrifugal Pumps                            |
|---|--------------------------------|--|--|--|
| Maximum Flow<br>GPM (LPM)                   | 24<br>(90.7)                   | 9<br>(34.1)                                | 7.5-lbs/min<br>(3.4-kg/min)                | P237AX-EU=200 (757)<br>P35AX-EU=230(870.5)   |
| Maximum Discharge Pressure<br>PSI (BAR)     | 300<br>(20.7)                  | 450 (31.0)<br>750 (51.7)                   | 7500<br>(517)                              | 90<br>(6.1)                                  |
| Fluid Ports Inlet/Outlet<br>(BSP Available) | 1" (F) - In/Out                | Immersed Inlet<br>Control Handle<br>Outlet | Immersed Inlet<br>Control Handle<br>Outlet | Screened Inlet<br>2" Outlet<br>2-1/2" Outlet |
| Materials of Construction                   | Stainless Steel                | Carbon Steel                               | Carbon Steel                               | Cast Iron                                    |
| Pump Weight<br>Lbs. (Kg.)                   | 94.7 (42.9)                    | 33.9 (15.4)<br>44.7 (20.3)                 | LP3001-1=30.7 (12)<br>LP3003-1=42.1 (19.1) | P237AX=48 (21.8)<br>P35AX=79 (36)            |
| Maximum Solids<br>Inches (mm)               | 1/8<br>(3.2)                   | Clean Fluids                               | Clean Fluids                               | 1/4<br>(6.4)                                 |
| Best Selling Models<br>(BSP Available)      | PH10A-ASS-SST<br>PH10A-BSS-SST | LP2100-1-B<br>LP3100-1-B                   | LP3001-1<br>LP3003-1                       | P237A1-EU<br>P237A3-EU<br>P35A1-EU           |
| Recommended Filter/<br>Regulator            | P39234-600                     | P39224-600                                 | P39224-600                                 | C284X3-810<br>(Filter-Regulator-Lubricator)  |
| Air Line Kit                                | 66073-1                        | 66073-1                                    | 66073-1                                    | 66084-1                                      |

# Specialty Pumps 3:1 Ratio High Pressure Diaphragm Pump Pro-Series Pumps

## High Pressure Diaphragm Pump Performance Specifications

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



## Ordering Menu

|            |                |   |                                     |                   |                   |   |  |                    |
|------------|----------------|---|-------------------------------------|-------------------|-------------------|---|--|--------------------|
| PH10       | A              | - | X                                   | S                 | S                 | - | XX                                       | T                  |
| Base Model | Center Section |   | Port Size                           | Wetted Parts      | Hardware          |   | Seat/Ball Check Material                 | Diaphragm Material |
| 1" Pump    | A Aluminum     |   | A N.P.T.F. Threads<br>B BSP Threads | S Stainless Steel | S Stainless Steel |   | HH 440 SS / 440 SS<br>SS 316 SS / 316 SS | T PTFE             |

## Accessories

### Air Line Filter-Regulator | P39234-600

Piggyback unit features a 40 micron filter, metal bowl with sight glass and 0-125-psi gauge. Plumb directly to pump's air inlet.

Service Repair Kits | Kit No. 637338 (air section)

Kit No. 637339 (PH10X-XXX-XSX fluid section)

Kit No. 637339-1 (PH10X-XXX-XHX fluid section)

### Wall Mount Bracket | 67142

Siphon tube then used to connect pump to fluid supply.

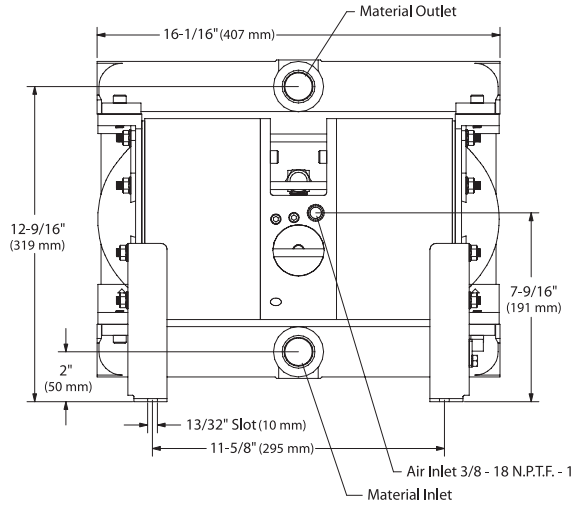
*\*Please note pumps are not included with these kits.*



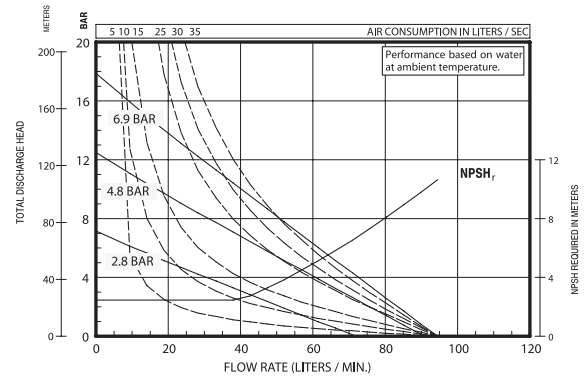
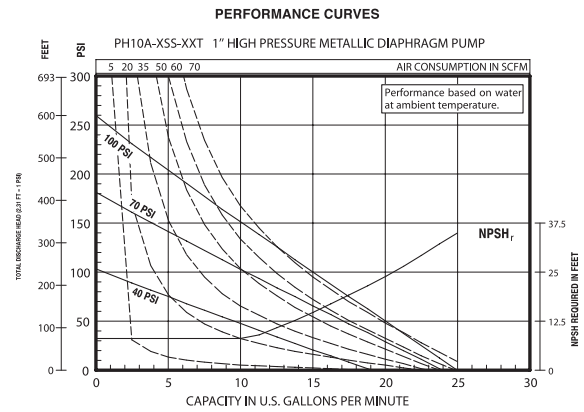
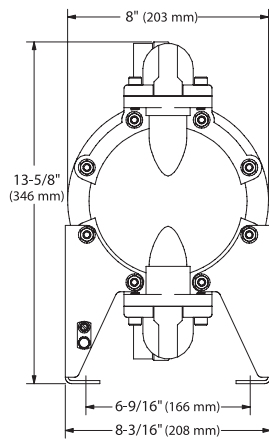
Wall Mount Bracket  
67142

# Specialty Pumps 3:1 Ratio High Pressure Diaphragm Pump Dimensions and Flow Curves Pro-Series Pumps

## High Pressure Diaphragm Pump Dimensions and Flow Charts



|                            | Material Inlet             | Material Outlet            |
|----------------------------|----------------------------|----------------------------|
| PH10A- <del>A</del> SS-XXT | 1 - 11-1/2 N.P.T.F. - 1    | 1 - 11-1/2 N.P.T.F. - 1    |
| PH10A- <del>B</del> SS-XXT | Rp 1 (1 - 11 BSP parallel) | Rp 1 (1 - 11 BSP parallel) |



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

For additional information contact technical support at 1.800.483.4981

**SPECIALTY PUMPS**

# Specialty Pumps - Oil Packages Pro-Series Pumps

## Oil Package Performance Specifications

|                          | LP210X-1-B                                 | LP310X-1-B                                 |
|--------------------------|--|--|
| Ratio:                   | 3:1  | 5:1  |
| Maximum Flow: GPM (LPM)  | 9 (34.1)                                   | 9 (34.1)                                   |
| Max. Working Flow:       | 6-g.p.m. (22.7-l.p.m.)                     | 6-g.p.m. (22.7-l.p.m.)                     |
| Maximum Rec'd Cycles:    | 125  | 170 per minute LM2305A-31-B                |
| Displacement per Cycle:  | 8.3-In <sup>3</sup> (136-cm <sup>3</sup> ) | 8.3-In <sup>3</sup> (136-cm <sup>3</sup> ) |
| Air Inlet: (Female)      | 1/4 - 18 N.P.T.F. - 1                      | 1/4 - 18 N.P.T.F. - 1                      |
| Fluid Inlet:             | 3/4 - 14 N.P.T.                            | 1-1/2 - 11-1/2 N.P.T.F. - 1                |
| Fluid Outlet:            | 1/2 - 14 N.P.T.F. - 1                      | 1/2 - 14 N.P.T.F. - 1                      |
| Max. operating pressure: | 150-psi (10.3-bar)                         | 150-psi (10.3-bar)                         |
| Fluid Pressure Range:    | 0-450-psi (0-31.0-bar)                     | 0-750-psi (0-51.7-bar)                     |
| Weight: lbs (kg)         | 33.9 (15.4)                                | 44.7 (20.3)                                |

## Major Components

|                      | LP210X-1-B                            | LP310X-1-B                            |
|----------------------|---------------------------------------|---------------------------------------|
| Basic Oil Pump       | LM2203A-31-C                          | LM2305A-31-B                          |
| Digital Meter        | 635190-1 (Pints)<br>635190-3 (Liters) | 635190-1 (Pints)<br>635190-3 (Liters) |
| Drum Cover           | 94421                                 | 94421                                 |
| Material Hose        | 623501-6                              | 623501-6                              |
| Fluid Control Handle | 635391-1                              | 635391-1                              |
| Dolly Assembly       | 640058-2                              | 640058-2                              |



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

## Ordering Menu

|  |                   |   |   |   |   |
|--|-------------------|---|---|---|---|
| LP210  | X                 | - | 1 | - | B |
| <b>Model Series</b>                                | <b>Meter Type</b> |   |   |   |   |
| 16-Gallon (120-lb)<br>Portable Gear Oil<br>Package | 0 Pint<br>1 Liter |   |   |   |   |

|  |                   |   |   |   |   |
|--|-------------------|---|---|---|---|
| LP310  | X                 | - | 1 | - | B |
| <b>Model Series</b>                                | <b>Meter Type</b> |   |   |   |   |
| 16-Gallon (120-lb)<br>Portable Gear Oil<br>Package | 0 Pint<br>1 Liter |   |   |   |   |

## Accessories

### Air Line Connection Kit\* | Kit No. 66073-1

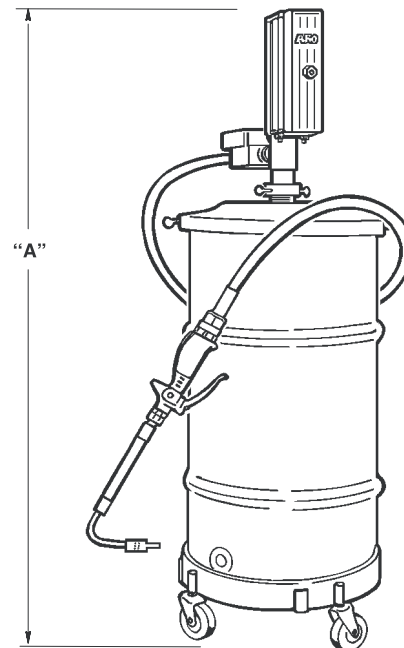
Kit includes Piggyback Filter/Regulator with gauge, pipe nipple and a 5-foot section of air hose.

Service Repair Kits | Kit No. 637224 (LP210X-1-B)

Kit No. 637226 (LP310X-1-B)

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

## LP310X-1-B Dimensions



(Drum not included)

### Dimensions: Inches (mm)

| Model Number: | "A"       |
|---------------|-----------|
| LP310X-1-B    | 45 (1143) |
| LP210X-1-B    | 43 (1092) |

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

For additional information contact technical support at 1.800.483.4981

## Specialty Pumps - Grease Packages Pro-Series Pumps

### Grease Package Performance Specifications

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

### Ordering Menu

LP300X - 1

#### Model Series

1 35-pound (5-gal) Grease Package

### LP3001-1 Major Components

| Item:                   | Description: |
|-------------------------|--------------|
| Basic 50:1 Grease Pump: | LM2350E-21-B |
| Handle:                 | 94334        |
| Drum Cover:             | 94420        |
| Follower Plate:         | 640095-2-B   |
| Material Hose:          | 624201-10    |
| Booster Grease Gun:     | 636103       |
| Z-Swivel:               | 636077       |

### Accessories

#### Air Line Connection Kit\* | Kit No. 66073-1

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

#### Service Repair Kits | Kit No. 637227-B

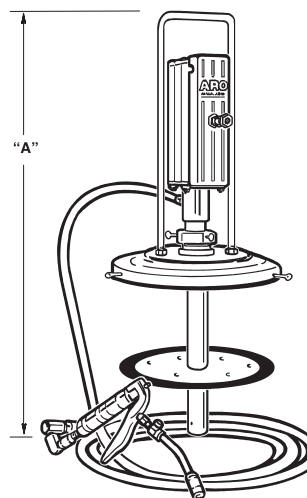
(Pump Rebuild Kit: Contains necessary soft parts to rebuild entire pump.)

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



LP3001-1 Grease Packages  
(Packages do not include containers)

### LP3001-1 Dimensions



#### Dimensions: Inches (mm)

Model Number: "A"

LP3001-1 29 (737)

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

For additional information contact technical support at 1.800.483.4981

## Specialty Pumps - Grease Packages

# Pro-Series Pumps

### Grease Package Performance Specifications

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

### Ordering Menu

LP300X - 1

#### Model Series

3 20-pound (16-gal) Grease Package

### LP3003-1 Major Components

|                         |              |
|-------------------------|--------------|
| Item:                   | Description: |
| Basic 50:1 Grease Pump: | LM2350E-31-B |
| Drum Cover:             | 94421        |
| Follower Plate:         | 640165       |
| Material Hose:          | 624201-10    |
| Booster Grease Gun:     | 636103       |
| Z-Swivel:               | 636077       |
| Dolly Assembly:         | 640057       |

### Accessories

#### Air Line Connection Kit\* | Kit No. 66073-1

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

#### Service Repair Kits | Kit No. 637227-B

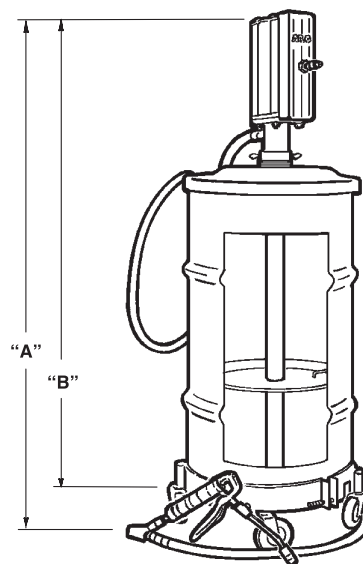
(Pump Rebuild Kit: Contains necessary soft parts to rebuild entire pump.)

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



LP3003-1 Grease Packages  
(Packages do not include containers)

### LP3003-1 Dimensions



#### Dimensions: Inches (mm)

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

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

For additional information contact technical support at 1.800.483.4981



# Specialty Pumps - Centrifugal Pump Models Pro-Series Pumps

## Centrifugal Pump Performance Specifications

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



## Ordering Menus

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

|                     |   |                         |   |    |
|---------------------|---|-------------------------|---|----|
| P35A                | - | 1                       | - | EU |
|                     |   |                         |   |    |
| <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.*

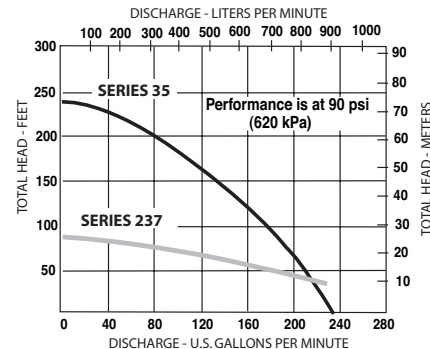
*Refer to Operator's Manuals:  
P237AX-EU Pumps: Form P6856  
P35A1-EU Pumps: Form P7263*

## Centrifugal Pump Dimensional Data and Flow Charts

|   |           |                              |
|---|-----------|------------------------------|
| Height: inches (mm)                                 | P237AX-EU | 17-5/8 (448)                 |
|   | P35A1-EU  | 22-1/2 (570)                 |
| Size of opening pump will pass through: inches (mm) | P237AX-EU | 8-3/4 (222) x 8-3/4 (222)    |
|   | P35A1-EU  | 8-7/16 (214) x 14-1/16 (357) |
| Discharge Pipe Tap:                                 | P237A1-EU | 2-1/2" N.P.T.F.              |
|   | P237A3-EU | 2-1/2" BSP                   |
|   | P35A1-EU  | 2" N.P.T.F.                  |
| Air Inlet Pipe Tap:                                 | P237AX-EU | 3/4" N.P.T.F.                |
|   | P35A1-EU  | 1" N.P.T.F.                  |
| Air Inlet Recommended Hose Size: inches (mm)        | P237AX-EU | 3/4 (19)                     |
|   | P35A1-EU  | 1 (25.4)                     |
| Exhaust Pipe Tap:                                   | P237AX-EU | 1-1/4" N.P.T.F.              |
|   | P35A1-EU  | 1-1/4" N.P.T.F.              |
| Exhaust Recommended Hose Size: inches (mm)          | P237AX-EU | 1-1/4 (31.7)                 |
|   | P35A1-EU  | 1-1/4 (31.7)                 |

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

For additional information contact technical support at 1.800.483.4981



## Accessories / Pulsation Dampeners

# Pro-Series Pumps

### Pulsation Dampeners

Diaphragm and piston pumps of any type have at least two points in their cycle where they provide no pressure or flow to a process. The unwanted result of this pressure fluctuation can often be material foaming, material pulsation, hydraulic shock or material splashing. While traditional pulsation dampeners can help reduce unwanted pulsation and other problems, they also require operator intervention and adjustments.

### Automatic Shock Blockers®

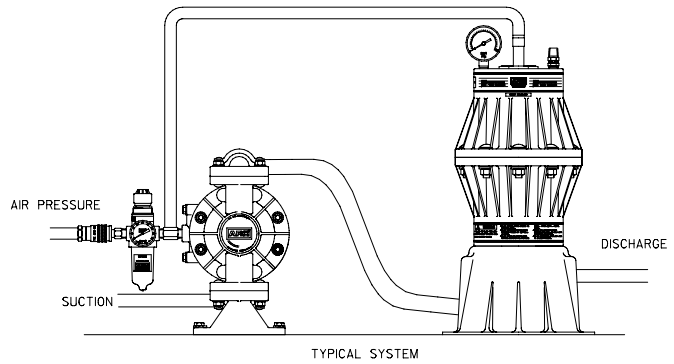
- Automatic Air Adjustment - compensates for fluctuations in fluid pressure without operator intervention.
- Significant Pulsation Reduction - the new Shock Blockers deliver an average 60% - 80% pulsation reduction in high back pressure applications.
- Built for High-Flow/Aggressive Fluid Applications - the 2" models can handle up to 159 in.<sup>3</sup> maximum fluid volume, and 3" models up to 509 in.<sup>2</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" & 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 helps prevent costly fluid pipe and downstream valve damage.
- Bolted Construction - for leak-free vessel integrity and a safer work-site.
- Ultra-Rugged Construction for Long Service Life - both inside and out, the new Shock Blockers are built tough to deliver worry-free, near pulse-free fluid handling.



# Accessories / Pulsation Dampeners Pro-Series Pumps

## 1" Port Models

|  |   |                                 |           |
|--|---|---------------------------------|-----------|
| <b>Pulsation Dampener Type</b>         | Non-Metallic / w/o Air Tamer  |                                 |           |
| <b>Material</b>                        | See model description chart   |                                 |           |
| <b>Weight</b>                          | Polypropylene   | 8.4 lbs                         | (3.8 kgs) |
|  | Conductive Acetal   | 8.6 lbs                         | (3.9 kgs) |
|  | PVDF  | 9.0 lbs                         | (4.1 kgs) |
| <b>Material Inlet/Outlet (female)</b>  | 66700X-01X 1 - 11-1/2 N.P.T.<br>66700X-02X Rp 1 (1-11 BSP parallel) |                                 |           |
| <b>Air Inlet (male)</b>                | Air Tamer is 3/8 - 18 N.P.T.F.-1                                    |                                 |           |
| <b>Maximum Air Inlet Pressure</b>      | 100-psi (6.9 bar)   |                                 |           |
| <b>Maximum Material Inlet Pressure</b> | 100-psi (6.9 bar)   |                                 |           |
| <b>Maximum Temperature Limits</b>      | Polypropylene   | 35° - 150° F<br>(+1.6° - 66° C) |           |
|  | Conductive Acetal   | 10° - 180° F<br>(-12° - 82° C)  |           |
|  | PVDF  | 10° - 200° F<br>(-12° - 93° C)  |           |
| <b>Maximum Fluid Volume</b>            | 57 in. <sup>3</sup> (934 cm <sup>3</sup> )                          |                                 |           |



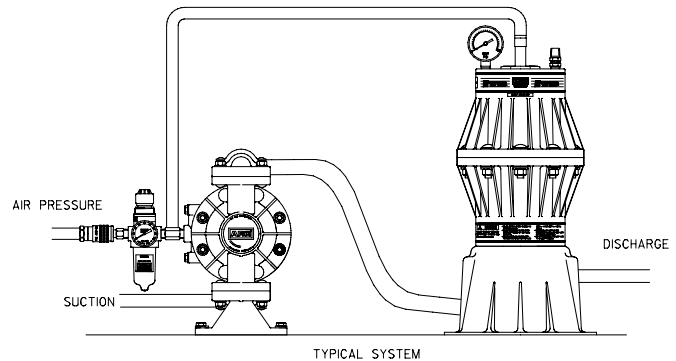
## Ordering Menu

|                     |  |                   |   |
|---------------------|--|-------------------|---|
| 66700               | X  | 0                 | X   |
|                     |  |                   |   |
| <b>Model Series</b> | <b>Fluid Construction</b>  | <b>Thread</b>     | <b>Diaphragm</b>                              |
| 1-inch              | 3 Polypropylene<br>(Glass Filled)<br>6 PVDF<br>7 Conductive Acetal | 1 N.P.T.<br>2 BSP | B Santoprene<br>9 Hytrel<br>8 PTFE<br>3 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.

## 1" Port Models

|  |   |                                 |           |
|--|---|---------------------------------|-----------|
| <b>Pulsation Dampener Type</b>         | Non-Metallic / Automatic  |                                 |           |
| <b>Material</b>                        | See model description chart   |                                 |           |
| <b>Weight</b>                          | Polypropylene   | 8.4 lbs                         | (3.8 kgs) |
|  | Conductive Acetal   | 8.6 lbs                         | (3.9 kgs) |
|  | PVDF  | 9.0 lbs                         | (4.1 kgs) |
| <b>Material Inlet/Outlet (female)</b>  | SB10X-AXX-X 1 - 11-1/2 N.P.T.<br>SB10X-BXX-X Rp 1 (1-11 BSP parallel) |                                 |           |
| <b>Air Inlet (male)</b>                | Air Tamer is 3/8 - 18 N.P.T.  |                                 |           |
| <b>Maximum Air Inlet Pressure</b>      | 100-psi (6.9 bar)   |                                 |           |
| <b>Maximum Material Inlet Pressure</b> | 100-psi (6.9 bar)   |                                 |           |
| <b>Maximum Temperature Limits</b>      | Polypropylene   | 35° - 150° F<br>(+1.6° - 66° C) |           |
|  | Conductive Acetal   | 10° - 180° F<br>(-12° - 82° C)  |           |
|  | PVDF  | 10° - 200° F<br>(-12° - 93° C)  |           |
| <b>Maximum Fluid Volume</b>            | 57 in. <sup>3</sup> (934 cm <sup>3</sup> )                            |                                 |           |



## Ordering Menu

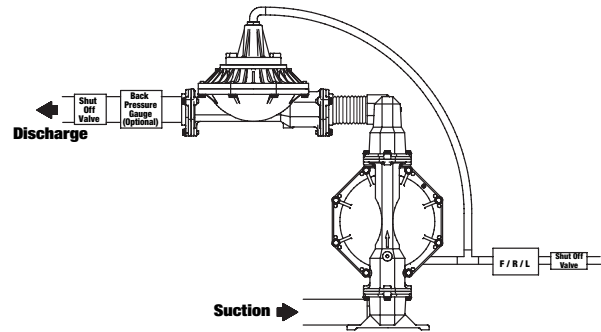
|                     |                     |                 |                                 |                   |                           |                                 |                 |                          |
|---------------------|---------------------|-----------------|---------------------------------|-------------------|----------------------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

**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.

# Accessories / Pulsation Dampeners Pro-Series Pumps

## 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.)   |



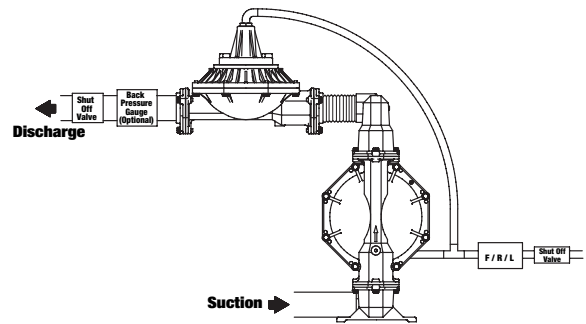
Proper support of piping and pulsation dampener is required.

## 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<br>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<br>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.

# Diaphragm Pump Accessories Pro-Series Pumps

## EXHAUST THREADED MUFFLER KIT

### Description

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



## PE SERIES PUMP CONTROL

### Description

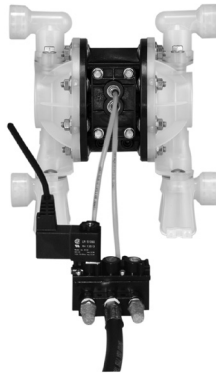
ARO Alpha™ 4-way valve supplies air to cycle pump. Features bonded spool plus many actuator/return and solenoid options. (pump not included)

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

#### Order No.

| Model:       | Actuator/Return:  | Voltage: |
|--------------|-------------------|----------|
| A212SD-120-A | Solenoid/Solenoid | 120-VAC  |
| A212SS-120-A | Solenoid/Spring   | 120-VAC  |
| A212SD-012-D | Solenoid/Solenoid | 12-VDC   |
| A212SS-012-D | Solenoid/Spring   | 12-VDC   |
| A212SD-024-D | Solenoid/Solenoid | 24-VDC   |
| A212SS-024-D | Solenoid/Spring   | 24-VDC   |
| A212PS       | Pilot/Spring      |          |
| A212PD       | Pilot/Pilot       |          |

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



Valve does not include connector, mufflers or fittings

## PE SERIES PUMPS WITH BOS SPECIALTY CODE

### Description

Replaces standard pump air valve. Operate pump with a remote four-way valve. Provides the ultimate cycle rate control for dosing and batching applications.

#### Order No. PE0XX-XXX-XXX-B0S

For 3/8" and 1/2" PD0 Series  
(Remote valve not included in model. See below for four-way valve options.)

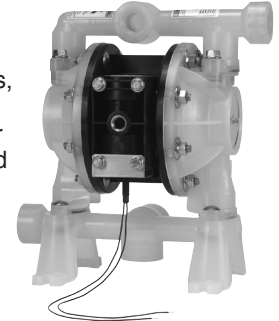


## CYCLE SENSOR

### Description

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

- Order No. 67386** 3/8", 1/2", and 3/4" Non-Metallic Pumps (PD03-X, PD05-X, PD07-X)  
**67168** 3/8" and 1/2" Non-Metallic Pumps (66605X-X)  
**67169** 1", 1-1/2" and 2" Non-Metallic Pumps. 1" and 1-1/2" Metallic Pumps



67386 on PD05P-X-X-B

## COUNTDOWN BATCHER

### Description

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

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



## CYCLE COUNTER KIT

### Description

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

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



# Diaphragm Pump Accessories Pro-Series Pumps

## SOLENOID ACTUATION KIT

### Description

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

**Order No.** 67165-1 (24VDC) for 3/8" and 1/2" ported pumps

67165-2 (120VAC) for 3/8" and 1/2" ported pumps

67166-1 (24VDC) for 1", 1-1/2" and 2" non-metallic and 1", 1-1/2" metallic pumps (less 3:1 models)

67166-2 (120VAC) for 1", 1-1/2" and 2" non-metallic and 1", 1-1/2" metallic pumps (less 3:1 models)



## AIR CONTROL ACTUATION VALVES

### Description

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

120 VAC

**Order No.** MQ3728-120-A for 1/2" and 1" pumps

H254SS-120-A for 1-1/2" pumps

MQ3729-120-A for 2" and 3" pumps

24 VDC

**Order No.** MQ3728-024-D for 1/2" and 1" pumps

H254SS-024-D for 1-1/2" pumps

MQ3729-024-D for 2" and 3" pumps



MQ3728-120-A used on 1/2" and 1" pumps

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

## CONNECTORS

### Description

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

Straight connector with 36" horizontal cable located on back.

**Order No.** CBW

Straight connector with 36" vertical cable located on back.

**Order No.** CHW



CBW



CHW

## DIAPHRAGM PUMP SPEED CONTROLS

### Description

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

**Order No.** 104104-N02 1/4" port size

104104-N04 1/2" port size

104104-N06 3/4" port size



## MINI BATCH COUNTER

### Description

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

**Order No.** 67161-2



67161-2 Mini Batch Counter with 1" pump

## PNEUMATIC LIQUID LEVEL SENSORS

### Description

Used to control pump.

**Order No** 59916-1 to sense when fluid exceeds a desired level

59916-2 to sense when fluid falls below a desired level



# Diaphragm Pump Accessories Pro-Series Pumps

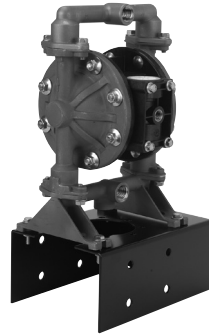
## WALL MOUNT

### Description

Conveniently mount pump above container. Made of heavy gage coated steel. (pump not included)

|                         |                            |
|-------------------------|----------------------------|
| <b>Order No.</b> 67388* | 3/8" Pumps                 |
| 76763*                  | 1/2" Pumps                 |
| 66100*                  | 1" Metallic Pumps          |
| 62133                   | 1-1/2" Metallic Pumps      |
| 67142                   | 1" 3:1 High Pressure Pumps |

\*(does not include mounting hardware)



76763 Wall Mount

## PNEUMATIC MATERIAL AGITATORS

### Description

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

**Order No.** 651100 5-Gallon containers, use with 651851 and 66971 drum covers

651103 55-Gallon drums, use with 66087 drum side-mount adapter. Use with 66197 or 67141 drum covers requires 75704 mount (3), Y8-58-C screws and (3) Y12-5-C nuts



651100 Agitator

## SIPHON TUBE

### Description

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

|                        |  |
|------------------------|--|
| <b>Order No.</b> 61412 | Straight N.P.T. (male) PVD for 1/2" Pumps                                  |
| 65109                  | CS N.P.T. (female) for 1" Pumps  |
| 66779                  | PVC 36" N.P.T. (female) for 1" Pumps                                       |
| 66779-1                | PVC, N.P.T. (female) 14.875" L for 1" pumps used with 275-gallon bulk tank |
| 66779-2                | PVC, N.P.T. (female) 49" L for 1" pumps used with 275-gallon bulk tank     |
| 66779-3                | PVC, N.P.T. (female) 61" L for 1" pumps used with large bulk tanks         |



65109 Siphon Tube

## DRUM COVERS

### Description

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

**Order No.** 67055-B Stainless Steel, for 1/4" Pumps on 5-gal. containers

66971 Stainless Steel, for 1/2" Pumps on 5-gal. containers



# Piston Pump Accessories Pro-Series Pumps

## DRUM / WALL MOUNTS

### Description

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

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



## WET-SOL "PLUS"

### Description

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

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

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



## MUFFLER

### Description

Reduces noise level of air exhaust to acceptable OSHA standards.

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



## AIR LINE LUBRICANT

### Description

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

**Order No.** 62274 one quart bottle

## OVER-RUN CONTROL

### Description

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

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

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

635043 for 3" ported diaphragm pumps



## DRUM COVERS

### Description

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

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

94422 Carbon Steel, 2" bung opening for 55-gal. containers



651851 Drum Cover



94422 Drum Cover



# Viscosity Conversion Chart Pro-Series Pumps

## Viscosity Conversion Chart

| Centi<br>Poise | Poise | Saybolt<br>Universal<br>(SSU) | Saybolt<br>Furool | Ford<br>No. 3 | Ford<br>No. 4 | Zahn<br>No. 1 | Zahn<br>No. 2 | Zahn<br>No. 3 |
|----------------|-------|-------------------------------|-------------------|---------------|---------------|---------------|---------------|---------------|
| 1              | .01   | 31                            |                   |               |               |               |               |               |
| 2              | .02   | 34                            |                   |               |               |               |               |               |
| 4              | .04   | 38                            |                   |               |               |               |               |               |
| 7              | .07   | 47                            |                   | 8             |               |               |               |               |
| 10             | .10   | 60                            |                   | 9             | 5             | 30            | 16            |               |
| 15             | .15   | 80                            | 13                | 10            | 8             | 34            | 17            |               |
| 20             | .20   | 100                           | 15                | 12            | 10            | 37            | 18            |               |
| 25             | .24   | 130                           | 17                | 15            | 12            | 41            | 19            |               |
| 30             | .30   | 160                           | 19                | 19            | 14            | 44            | 20            |               |
| 40             | .40   | 210                           | 24                | 25            | 18            | 52            | 22            |               |
| 50             | .50   | 260                           | 29                | 29            | 22            | 60            | 24            |               |
| 60             | .60   | 320                           | 34                | 33            | 25            | 68            | 27            |               |
| 70             | .70   | 370                           | 39                | 36            | 28            | 72            | 30            |               |
| 80             | .80   | 430                           | 42                | 41            | 31            | 81            | 34            |               |
| 90             | .90   | 480                           | 49                | 45            | 32            | 88            | 37            | 10            |
| 100            | 1.0   | 530                           | 54                | 50            | 34            |               | 41            | 12            |
| 120            | 1.2   | 580                           | 59                | 58            | 41            |               | 49            | 14            |
| 140            | 1.4   | 690                           | 70                | 66            | 45            |               | 58            | 16            |
| 160            | 1.6   | 790                           | 79                | 72            | 50            |               | 66            | 18            |
| 180            | 1.8   | 900                           | 91                | 81            | 54            |               | 74            | 20            |
| 200            | 2.0   | 1000                          | 100               | 90            | 58            |               | 82            | 23            |
| 220            | 2.2   | 1100                          | 110               | 98            | 62            |               | 88            | 25            |
| 240            | 2.4   | 1200                          | 120               | 106           | 65            |               |               | 27            |
| 260            | 2.6   | 1280                          | 128               | 115           | 68            |               |               | 30            |
| 280            | 2.8   | 1380                          | 138               | 122           | 70            |               |               | 32            |
| 300            | 3.0   | 1475                          | 148               | 130           | 74            |               |               | 34            |
| 320            | 3.2   | 1530                          | 153               | 136           | 89            |               |               | 36            |
| 340            | 3.4   | 1630                          | 163               | 142           | 95            |               |               | 39            |
| 360            | 3.6   | 1730                          | 173               | 150           | 100           |               |               | 41            |
| 380            | 3.8   | 1850                          | 185               | 160           | 106           |               |               | 43            |
| 400            | 4.0   | 1950                          | 195               | 170           | 112           |               |               | 46            |
| 420            | 4.2   | 2050                          | 205               | 180           | 118           |               |               | 48            |
| 440            | 4.4   | 2160                          | 216               | 188           | 124           |               |               | 50            |
| 460            | 4.6   | 2270                          | 227               | 200           | 130           |               |               | 52            |
| 480            | 4.8   | 2380                          | 238               | 210           | 137           |               |               | 54            |
| 500            | 5.0   | 2480                          | 248               | 218           | 143           |               |               | 58            |
| 550            | 5.5   | 2660                          | 266               | 230           | 153           |               |               | 64            |
| 600            | 6.0   | 2900                          | 290               | 250           | 170           |               |               | 68            |
| 700            | 7.0   | 3380                          | 338               | 295           | 194           |               |               | 76            |
| 800            | 8.0   | 3880                          | 388               | 340           | 223           |               |               |               |
| 900            | 9.0   | 4300                          | 430               | 365           | 247           |               |               |               |
| 1000           | 10.0  | 4600                          | 460               | 390           | 264           |               |               |               |
| 1100           | 11    | 5200                          | 520               | 445           | 299           |               |               |               |
| 1200           | 12    | 5620                          | 562               | 480           | 323           |               |               |               |
| 1300           | 13    | 6100                          | 610               | 520           | 350           |               |               |               |
| 1400           | 14    | 6480                          | 648               | 550           | 372           |               |               |               |
| 1500           | 15    | 7000                          | 700               | 595           | 400           |               |               |               |
| 1600           | 16    | 7500                          | 750               | 635           | 430           |               |               |               |
| 1700           | 17    | 8000                          | 800               | 680           | 460           |               |               |               |
| 1800           | 18    | 8500                          | 850               | 720           | 490           |               |               |               |
| 1900           | 19    | 9000                          | 900               | 760           | 520           |               |               |               |
| 2000           | 20    | 9400                          | 940               | 800           | 540           |               |               |               |
| 2100           | 21    | 9850                          | 985               | 835           | 565           |               |               |               |
| 2200           | 22    | 10300                         | 1030              | 875           | 592           |               |               |               |
| 2300           | 23    | 10750                         | 1075              | 910           | 617           |               |               |               |
| 2400           | 24    | 11200                         | 1120              | 950           | 645           |               |               |               |
| 2500           | 25    | 11600                         | 1160              | 985           | 676           |               |               |               |
| 3000           | 30    | 14500                         | 1450              | 1230          | 833           |               |               |               |
| 3500           | 35    | 16500                         | 1650              | 1400          | 950           |               |               |               |
| 4000           | 40    | 18500                         | 1850              | 1570          | 1060          |               |               |               |
| 4500           | 45    | 21000                         | 2100              | 1780          | 1175          |               |               |               |
| 5000           | 50    | 23500                         | 2350              |               | 1350          |               |               |               |
| 5500           | 55    | 26000                         | 2600              |               | 1495          |               |               |               |
| 6000           | 60    | 28000                         | 2800              |               | 1605          |               |               |               |
| 6500           | 65    | 30000                         | 3000              |               | 1720          |               |               |               |
| 7000           | 70    | 32500                         | 3250              |               | 1870          |               |               |               |
| 7500           | 75    | 35000                         | 3500              |               | 2010          |               |               |               |
| 8000           | 80    | 37000                         | 3700              |               | 2120          |               |               |               |
| 8500           | 85    | 39500                         | 3950              |               | 2270          |               |               |               |
| 9000           | 90    | 41000                         | 4100              |               | 2360          |               |               |               |
| 9500           | 95    | 43000                         | 4350              |               | 2470          |               |               |               |
| 10000          | 100   | 46500                         | 4650              |               | 2670          |               |               |               |
| 15000          | 150   | 69400                         | 6940              |               |               |               |               |               |
| 20000          | 200   | 92500                         | 9250              |               |               |               |               |               |
| 30000          | 300   | 138600                        | 13860             |               |               |               |               |               |
| 40000          | 400   | 185000                        | 18500             |               |               |               |               |               |
| 50000          | 500   | 231000                        | 23100             |               |               |               |               |               |
| 60000          | 600   | 277500                        | 27750             |               |               |               |               |               |
| 70000          | 700   | 323500                        | 32350             |               |               |               |               |               |
| 80000          | 800   | 370000                        | 37000             |               |               |               |               |               |
| 90000          | 900   | 415500                        | 41550             |               |               |               |               |               |
| 100000         | 1000  | 462000                        | 46200             |               |               |               |               |               |
| 125000         | 1250  | 578000                        | 57800             |               |               |               |               |               |
| 150000         | 1500  | 694000                        | 69400             |               |               |               |               |               |
| 175000         | 1750  | 810000                        | 81000             |               |               |               |               |               |
| 200000         | 2000  | 925000                        | 92500             |               |               |               |               |               |

# Pump Airborne Noise Emissions Pro-Series Pumps

## Pump Airborne Noise Emissions

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

|                        | Pump Port Size (Inches) | Air Operating Pressure (PSI) | Cycles/Minute | Sound Pressure (LAeq)    |
|------------------------|-------------------------|------------------------------|---------------|--------------------------|
| <b>Diaphragm Pumps</b> |                         |                              |               |                          |
|                        | 1/2                     | 70                           | 60            | 75.0 db(A)               |
|                        | 1                       | 70                           | 60            | 79.7 db(A)<br>80.6 db(A) |
|                        | 1-1/2                   | 70                           | 60            | 81.0 db(A)<br>82.8 db(A) |
|                        | 2                       | 70                           | 60            | *85.0 db(A)              |
|                        | 3                       | 70                           | 50            | *83.0 db(A)              |

## 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) | 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>Hytrel</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>                | 175 (80)                           | 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.

# 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**  
**Extrusion Packages**  
**Dispensing Systems**  
**Lubrication Equipment**  
**Pneumatic Valves**  
**Pneumatic Cylinders**  
**Air System Components**



Ingersoll Rand (NYSE:IR) advances the quality of life by creating and sustaining safe, comfortable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Schlage®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; secure homes and commercial properties; and increase industrial productivity and efficiency. Ingersoll Rand products range from complete compressed air systems, tools and material and fluid handling systems. The diverse and innovative products, services and solutions enhance our customers' energy efficiency, productivity and operations. Ingersoll Rand is a \$14 billion global business committed to a world of sustainable progress and enduring results. For more information, visit [ingersollrand.com](http://ingersollrand.com) or [ingersollrandproducts.com](http://ingersollrandproducts.com).



[www.ingersollrandproducts.com](http://www.ingersollrandproducts.com)



Ingersoll Rand, IR and the IR logo are trademarks of Ingersoll Rand, its subsidiaries and/or affiliates. All other trademarks are the property of their respective owners. Nothing contained on these pages is intended to extend any warranty or representation, expressed or implied, regarding the product described herein. Any such warranties or other terms and conditions of sale of products shall be in accordance with Ingersoll Rand's standard terms and conditions of sale for such products, which are available upon request.

Product improvement is a continuing goal at Ingersoll Rand. Designs and specifications are subject to change without notice or obligation.