

Pumps and Accessories for the Process Industries

COMPONENT



COMPLETE



Get in the
IR ARO ZONE

IR ARO®

APPLICATIONS | OVERVIEW | DIAPHRAGM | SPECIALTY DIAPHRAGM | PULSATION DAMPENERS | PISTON STYLE | ACCESSORIES | AIR F/R/L | PUMP CONTROL



Where Process
and Product
Converge
to Achieve
Optimum
Results.

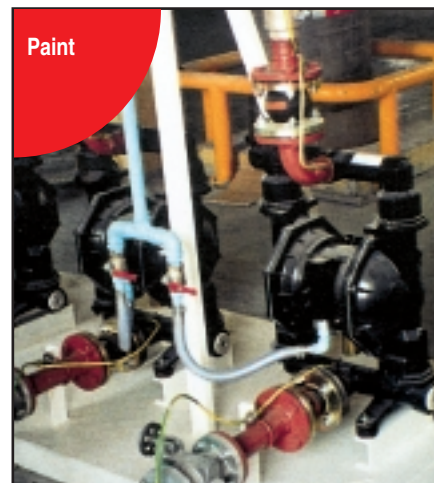
Welcome to the ARO® Zone.

The place where your production processes and our engineered products “converge to achieve optimum results”. But beyond process and product there is a third essential element that makes the “zone” a very real place: the ARO Pumps Distributor. To make the leap from acceptable to “optimum results”, it takes in-depth working knowledge of both process and product. Your ARO Pumps Distributor knows both, and its knowledge and expertise, not hype, that will usher you and your operation into this new dimension of productivity.

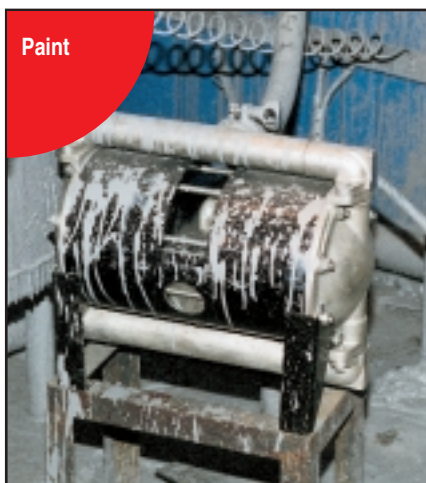
The ARO-Zone... get into it!



An ARO PD20A-X transfers paint formulation materials between tanks.



ARO PD20X-A Pumps used in the manufacture of varnish



An ARO 3:1 Power Pump circulates injection molding colorant.



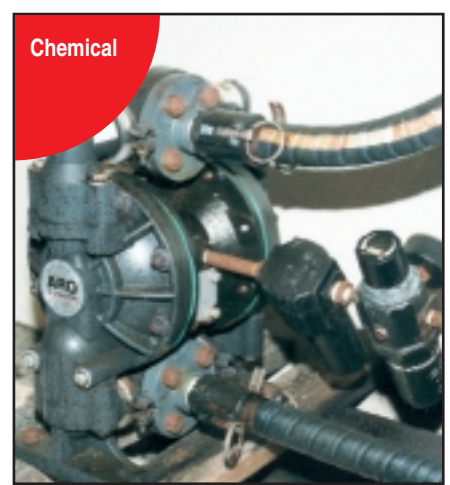
This ARO 666057-444 pumps magnesium sulfate



ARO 1" stainless steel diaphragm pumps transfer caustic material from 55-gallon drums into mixing tanks.



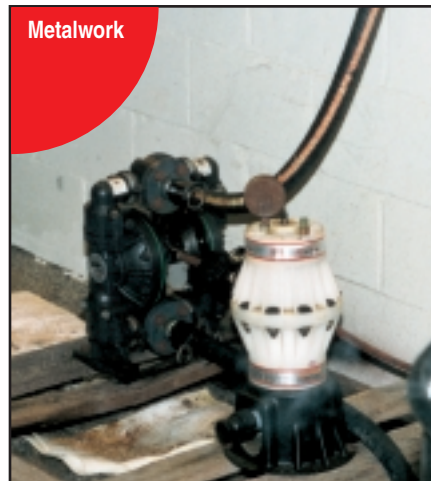
3" ARO diaphragm pump (located outdoors) transfer chemicals from train/truck tanks.



A 1' non - metallic (Kynar®) pumps moves caustic soda to a holding tank.



A 1-1/2' non-metallic ARO pump used in a waste water facility



An ARO 6661B4-344 is used to pump muriatic acid.



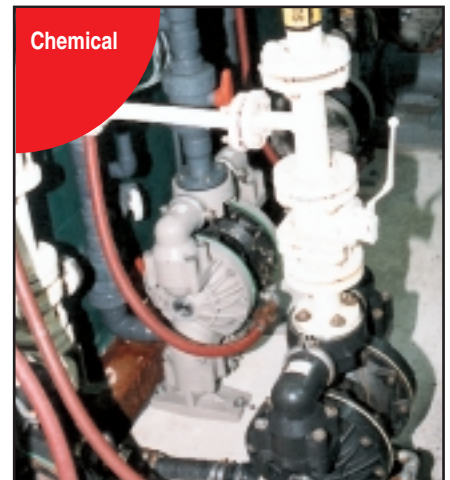
Non-metallic ARO pumps are used to move a variety of acids.



ARO 1/2" diaphragm pumps supply waste water treatment chemicals.



An ARO 2" piston pump supplies metalwork solvent.

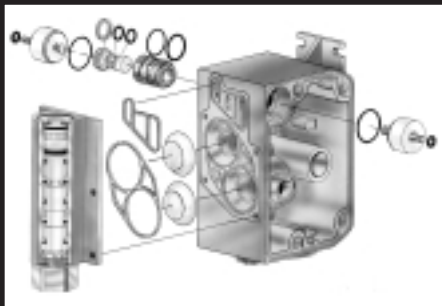


These pumps pull material from 55-gallon drums to a mixing area.



From
“Unstallable™”
to unstoppable,
with ARO, its
features that
provide the
force.

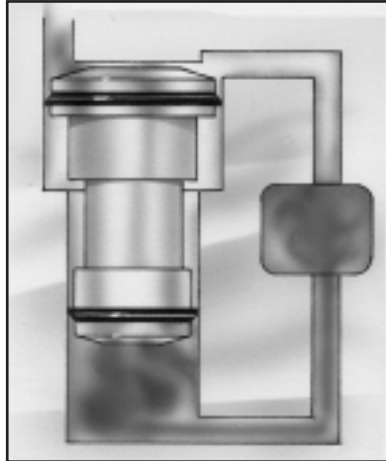
Large pump air
valve features.



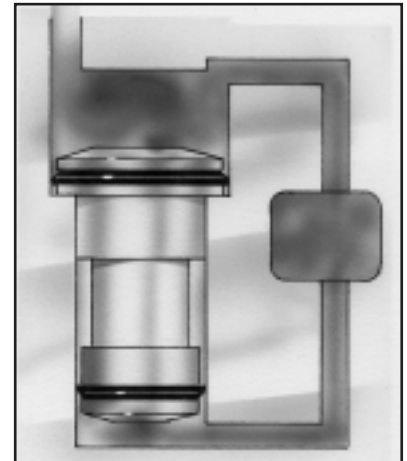
The ARO 2" and 3" pump design combines an unbalanced valve (in the main spool and trip pilot) with Quick Dump™ technology.

ARO, Owner of the “Unstallable” Air Valve Design

As relevant today as the day it came to market, ARO is still the sole owner of the technology and the title: *Unstallable*. ARO uses no magnets, springs, re-set buttons, or other secondary actuators to insure pump shifting - only air.



ARO's patented “unbalanced” major air valve has constant air pressure applied to its small end. This assures that the pump resets. Competitive designs lose their signal during every shift, making them vulnerable to stalling.



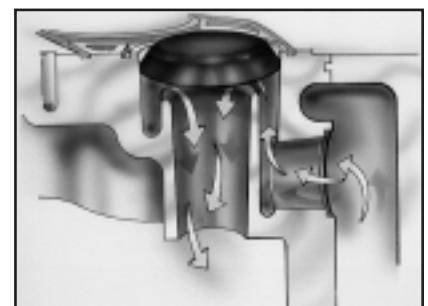
To reverse the valve, air pressure is supplied to the larger end of the valve, allowing the valve to shift - note that constant air pressure continues to be applied to the small end.

The Ice Age Is Over.

Following closely on the heels of pump stall-out is the infamous freezing problem inherent in most diaphragm pumps. At ARO, the ice age has been over since the introduction of our unique, enlarged “Quick Dump™” patented air exhaust valve, which diverts air exhaust from critical, ice-prone passages. Available on the ARO 2" (Ball & Flap) and 3" models.

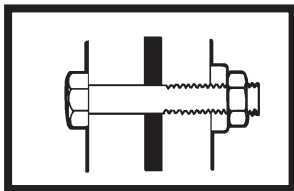


When the main valve opens and pressurizes the diaphragm air chamber, the Quick Dump operates like a normal air passage and admits air into the diaphragm's air chamber.



When the main air valve is ready to exhaust, the Quick Dump diverts all of the cold/wet exhaust air coming from the diaphragm air chamber away from the main air valve, avoiding ice formation in the critical valve passages.

For Safety, Reliability and Ease of Assembly: Bolted Is Better



ARO Diaphragm Pumps feature bolted construction to avoid the proven problems created by clampband type pump fasteners. These include material spills and leaks, bolt loosening and breakage due to poor joint integrity, and difficult reassembly.



ARO's Bryan, Ohio facility, where our diaphragm pumps are manufactured, is registered by Underwriters Laboratories Inc. to ISO 9001 Quality Standards.

An Air Valve that Forgives and Forgets



ARO's major air valve requires no added lubrication and the "wiping" action of the seals makes it extremely forgiving of contaminated compressed air supplies.



ARO Diaphragm Pumps are backed by a generous 5-year warranty on materials and workmanship for your purchasing peace of mind.

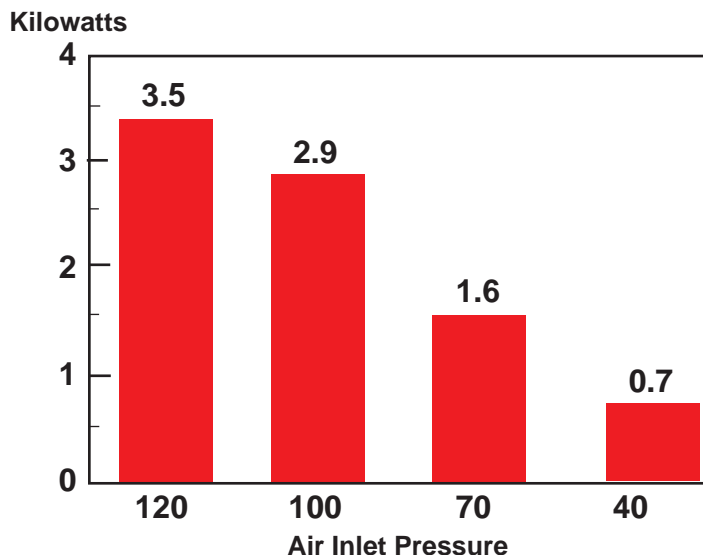
Lost Air Is No Bargain

If your diaphragm pumps are not ARO Diaphragm Pumps, chances are their air valves are blowing out perfectly good air to atmosphere, at no small expense. And this is not intermittent. This is whenever and wherever these pumps are operating.



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

Competitive Pump Design Kilowatts Wasted

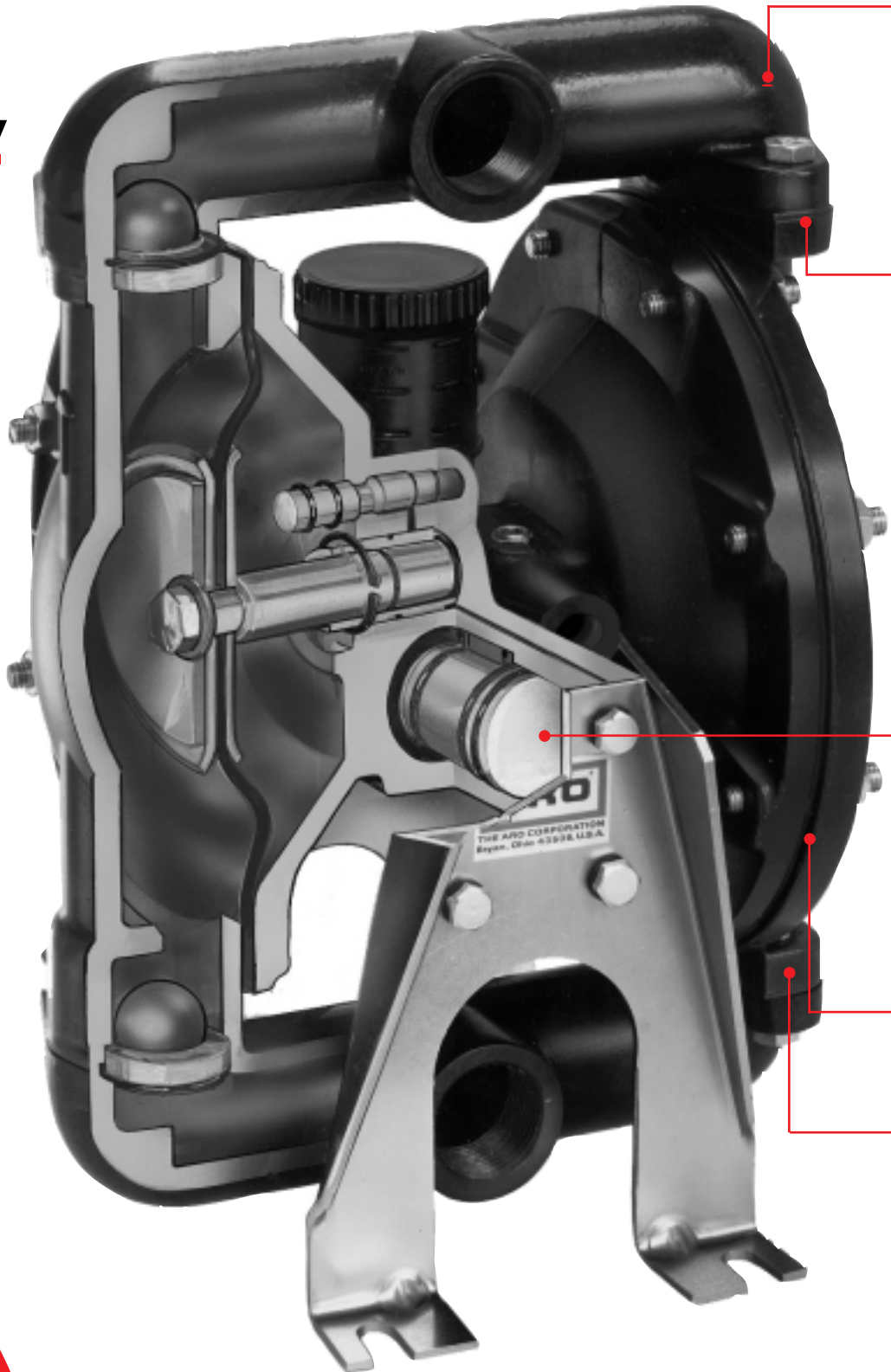


The close fitting air valve designs used on competitive pumps allow air to by-pass continually - wasting air - even when not pumping!



Design Features

5
YEAR
WARRANTY



Ideal For Abrasion And Solids Handling

Because it does not use rotating, sliding seals, like rotary/centrifugal pumps, more process engineers look to ARO diaphragm pumps for handling tough abrasion applications.

From Top to Bottom, ARO's "Flap" Valve Pump is Your Best High Solids - Handling Choice

The ARO 2" Flap Valve Pump uses a top-suction porting design. Top suction porting is ideal for pumping abrasives and large particles because it uses gravity to assist in draining solids from the pump. Conventional high-solids pump designs use bottom suction; forcing the pump to fight (and lose against) gravity, allowing sediment and solids to accumulate, ultimately "packing out" the pump. See page 19.

Bolted Construction For Safe Reliability and Ease of Assembly:

All ARO diaphragm pumps use bolted construction that process professionals demand. And, ARO Non Metallic Diaphragm Pumps utilize fasteners that are constructed of 300 series stainless steel for maximum chemical resistance.

Bolted is Safer - bolted construction reduces the risk of spills, environmental contamination and the attendant, mandatory reports to regulatory agencies that spills can create.

Bolted is Reliable - Bolted construction withstands the heavy loading that diaphragm pumps are subjected to, without concerns of breakage or loosening.

Bolted is Easier to Assemble - ARO's bolted design allows for easy positioning and alignment of parts during reassembly. This is a significant advantage over band-clamp style pump fasteners, which are difficult to align and hold together during reassembly.

Bolted is Less Expensive - ARO's design uses standard bolts which cost significantly less to replace. Non standard fastening devices (such as band clamps) are considered "wear parts" and are more expensive to replace.

ARO's Patented "Unbalanced" Air Valve

ARO's "Unbalanced" air valve design makes this, and all of ARO'S Diaphragm Pumps "Unstallable". Because the unbalanced valve cannot settle in a neutral position when the pump is shut down, it can't become stuck, requiring the operator to hammer on the pump in order to start pumping again.

- Eliminates Shifting/Freezing Problems
- Does Not Require Lubrication
- Uses Significantly Less Power Than Competition
- Forgiving In Dirty Air

"Unstallable" Air Motor Design Expanded: Introducing Simul-Shift™

ARO Diaphragm Pumps are known throughout industry as "The Unstallables", thanks in large part to their patented "unbalanced" air valve design, which eliminates air valve stalling, sticking and centering. With the new 2" and 3" pumps, Quick Dump and Simul-Shift™ valve technology. Simul-Shift's unique design applies constant air pressure to both the pilot and major shift valves to further enhance pump performance and significantly reduce pulsation.

"Quick-Dump™" Anti-Freeze Valve Design

ARO's "Quick-Dump" exhaust valve, eliminates air motor icing, the second most prevalent problem with conventional air motor designs by diverting cold wet exhaust air away from the critical air valve passages. Incorporated in the new 2" and 3" pumps, Quick Dump and Simul Shift have removed the Diaphragm Pump's stall-out stumbling block, it is, by far, the most energy efficient air valve on the market. Quick Dump will help reduce your energy costs. **Note:** Quick-Dump is incorporated in 2" and 3" models.

Broad Material Selection

ARO offers a wide selection of materials, allowing your choice of the best possible wetted and non-wetted materials suited to your application.

Positive Priming Provides Instant Start-Ups

Check valves are located close to the diaphragm chambers, ensuring a positive prime first time every time.

Model Overview



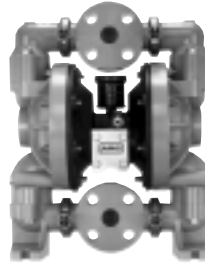
**1/4" Ports
Non-Metallic**



**1/2" Ports
Non-Metallic**



**1/2" Ports
Metallic**



**1" Ports
Non-Metallic**



**1" Ports
Metallic**



**1" Ports
Stainless
(3:1 Ratio)**

MODEL	1/4" (Non-Met.)	1/2" (Non-Met.)	1/2" (Met.)	1" (Non-Met.)	1" (Met.)	1", 3:1 (Met.)
Maximum Flow GPM (LPM)	4.6 (17.4)	13 (49)	13 (49)	47 (178)	35 (133)	24 (90.7)
Maximum Discharge Pressure PSI (BAR)	100 (6.8)	100 (6.8)	100 (6.8)	120 (8.3)	120 (8.3)	300 (20.7)
Fluid Ports Inlet/Outlet (BSP Available)	3/8" (F) - In 1/4" (F) - Out (No BSP)	1/2" (F) - In/Out (No BSP)	1/2" (F) - In/Out (No BSP)	1" ANSI Flange	1" (F) - In/Out	1" (F) - In/Out
Materials of Construction	Polypropylene Groundable Acetal Kynar®	Polypropylene Groundable Acetal Kynar®	Stainless Steel Aluminum	Polypropylene Kynar (PVDF)	Aluminum Stainless Steel Cast Iron	Stainless Steel
Pump * Weight Lbs. (Kg.)	4.1 (1.85) Poly 4.6 (2.10) Acetal 9.5 (4.3) Kynar	8.8 (4.0) Acetal 7.2 (3.3) Poly 9.5 (4.3) Kynar	14.6(6.6)SST 8.4(3.8)Alum	*20.3 (9.2) Poly *28.5 (12.9) Kynar	*19 (8.6) Alum *36 (16.3) S. S. *31 (14.1) Cast Iron	*90 (40.7) S.S.
Maximum Solids Inches (mm)	Clean Fluids	3/32 (2.4)	3/32 (2.4)	1/8 (3.2)	1/8 (3.2)	1/8 (3.2)
Best Selling Models (BSP Available)	PD02P-APS-PTA PD02P-APS-PTT PD02P-ADS-DTT PD02P-AKS-KTT	66605J-388 66605J-3EB 66605J-344 66605H-244 66605K-444 66605H-2A4	PD05P-ASS-SAA PD05P-ASS-STT PD05P-AAS-STT PD05P-AAS-PGG	6661A3-3EB-C 6661A3-344-C 6661B3-344-C 6661A4-444-C	666100-322-C 666100-344-C 666101-344-C 666101-3EB-C 666111-244-C 666112-8EB-C	PH10A-ASS-SST
Recommended Filter/ Regulator	P29122-600 (Filter/Regulator)	P29122-600 (Filter/Regulator)	P29122-600 (Filter/Regulator)	P29221-610 (Filter/Regulator)	P29221-610 (Filter/Regulator)	P29231-610 (Filter/Regulator)
Air Line Kit	66073-1	66073-1	66073-1	66073-2	66073-2	-

See Page

9

11

10

13

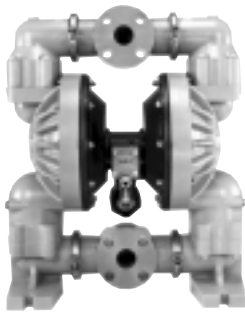
14

22

* Weights listed are for aluminum air motor models
 "Teflon®" is a registered trademark of Dupont Company, Santoprene® is a registered
 trademark of Monsanto Company, licensed to Advanced Elastomer Systems, L.P."

Model Overview

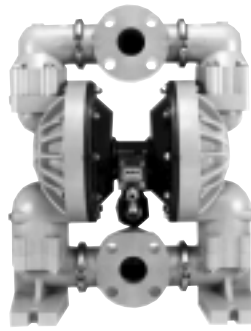
OVERVIEW



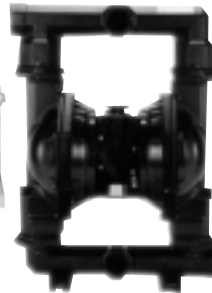
1-1/2" Ports
Non-Metallic



1-1/2" Ports
Metallic



2" Ports
Non-Metallic



2" Ports
Ball Valve



2" Ports
"Flap" Valve



3" Ports
Metallic

MODEL	1-1/2" (Non-Met.)	1-1/2" (Met.)	2" (Non-Met.)	2" Ball (Met.)	2" Flap (Met.)	3" (Met.)
Max. Flow GPM (Liters)	100 (379)	100 (379)	145 (548)	170 (644)	170 (644)	275 (1,041)
Maximum Operating Pressure PSI (BAR)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)
Fluid Ports BSP Available	1-1/2" Flange Ansi	1-1/2" (F)	2" ANSI Flange	2" (F) (2" SST Model uses ANSI Flange with pipe tap)	2" (F) 2" Flange (2" SST Model uses Flange pipe tap)	3" (F)
Materials of Construction	Polypropylene Kynar®	Aluminum Stainless Steel Cast Iron	Polypropylene Kynar	Aluminum Stainless Steel Cast Iron	Aluminum Stainless Steel Cast Iron	Alum., Stn Stl. Cast Iron Hastelloy
Pump Weight* Lbs. (Kg.)	*62 (28) Poly *92 (42) Kynar	*51 (23.1) Alum *79 (35.8) Cast Iron 84(38.1) S. S.	*62 (28) Poly *92 (42) Kynar	*64 (29) Alum *154 (70) S. S. *133 (60) Cast Iron	*74 (34) Alum *188 (85) S. S. *161 (73) Cast Iron	*110 (50) Alum *195 (88) S. S. *190 (86) Cast Iron *195 (88) Hastelloy
Maximum Solids Inches (mm)	1/4 (6.4)	1/4 (6.4)	1/4 (6.4)	1/4 (6.4)	2 Semi (50) Solid	3/8 (9.5)
Best Selling Models	6661T3-3EB-C 6661T3-344-C 6661U3-344-C 6661U4-444-C	666150-322-C 666150-344-C 666152-3EB-C 666151-344-C 666151-3EB-C 666161-244-C	6662A3-3EB-C 6662A3-344-C 6662B3-344-C 6662B4-444-C	PD20A-AAP-GGG PD20A-AAP-KTT PD20A-ACP-AAA PD20A-ASP-AAA PD20A-ASP-KTT PD20C-ASS-KTT	PF20A-AAP-SAA PF20A-ACP-SAA PF20A-ASS-SAA PF20C-ASS-SAA PF20A-AAP-SUA PF20C-ASS-SVT	PD30A-AAP-GGG-B PD30A-AAP-KTT-B PD30A-ACS-AAA-B PD30A-ASS-AAA-B PD30A-ASP-KTT-B PD30S-ASS-STT-B
Recommended Filter/ Regulator	P29241-610 (Filter/Regulator)	P29241-610 (Filter/Regulator)	P29241-610 (Filter/Regulator)	P29241-610 (Filter/Regulator)	P29241-610 (Filter/Regulator)	F25451-110 (Filter) 27354-600 (Reg.)
Air Line Kit	66084-1	66084-1	66084-1	66312	66312	66109

See Page 15 16 17 18 19 20

* weights listed are for aluminum air motor models

Model Overview



Sanitary Transfer Tri-Clamp (S-Tran)



1:1 Ratio Piston



2:1 Ratio Piston



4:1 Ratio

MODEL	Tri-Clamp (S-Tran) Pumps	1:1 Ratio Piston	2:1 Ratio Piston	4:1 Ratio Piston
Maximum Flow	2-1/2"=170 GPM (644 lpm) 3"=275 GPM (1041 lpm)	9 GPM (34.01 lpm)	4 GPM (15.1 lpm)	4.1 GPM (15.8 lpm)
Maximum Operating Pressure PSI (BAR)	120 (8.3)	150 (10.2)	150 (10.2)	150 (10.2)
Materials of Construction	Stainless Steel	Carbon Steel	Carbon Steel Stainless Steel	Carbon Steel Stainless Steel
Pump Weight Lbs. (Kg.)	2"=178 (80.7) 3"=248 (112.5)	12 (5.4)	12 (5.4) Carbon Steel Models 16 (7.2) S.S. Stub 19 (8.6) S.S. Drum	32 (14.5) Stub 46 (20.9) Drum
Maximum Solids Inches (mm)	2"=1/4" (6.4) 3"=3/8" (9.5)	Clean Fluids	Clean Fluids	Clean Fluids
Best Selling Models	PM20S-CSS-SAA-A02 PM30S-CSS-SAA-A02	612041-1 612041-3	650110-1C 650115-1C 650132-C 650133	NM2304A-11-311 NM2304A-41-311 NM2304B-11-311 NM2304B-41-311
Recommended Filter/Regulator	2"=F25451-110 3"=F254610-110 R27461-100	C28123-600	C28123-600	C28123-600
Air Line Kit	2"=66312 3"=66109			

See Page

21

27

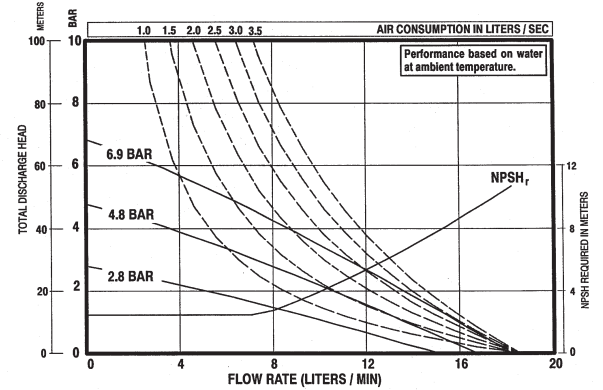
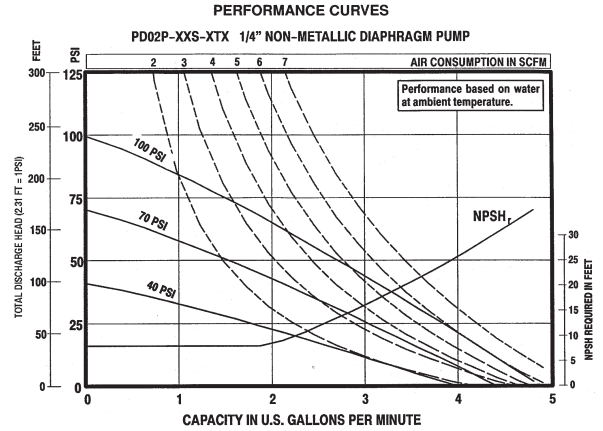
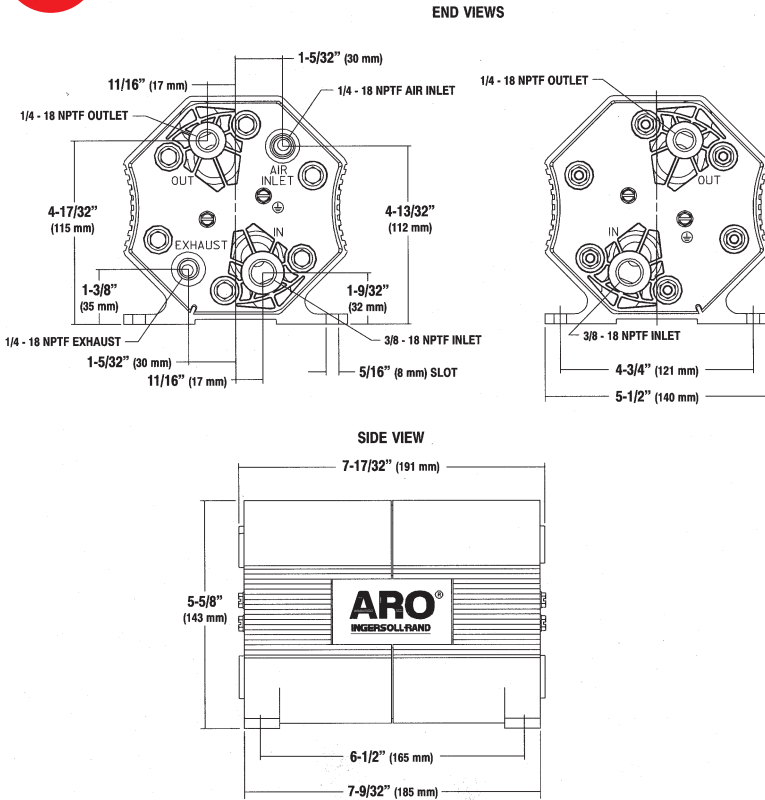
28-29

30-31

Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	4.6 (17.4)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.014 (.053)
AIR INLET:	1/4" (F)
FLUID INLET:	3/8" (F)
FLUID OUTLET:	1/4" (F)
MAX. OPERATING PRESSURE PSI (bar):	100 (6.8)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	Clean Fluid Only
WEIGHT - LBS. (KGS):	4.1 (1.85) Poly, 4.6 (2.10) Acetal, 4.9 (2.2) Kynar
MAX. DRY SUCTION LIFT:	20 ft.

Dimensional Data



Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29122-600

For complete airline connection kit, see page 32, item "B". Pulsation Dampener, see page 24.

For Diaphragm Pump Accessories see pages 32-34.

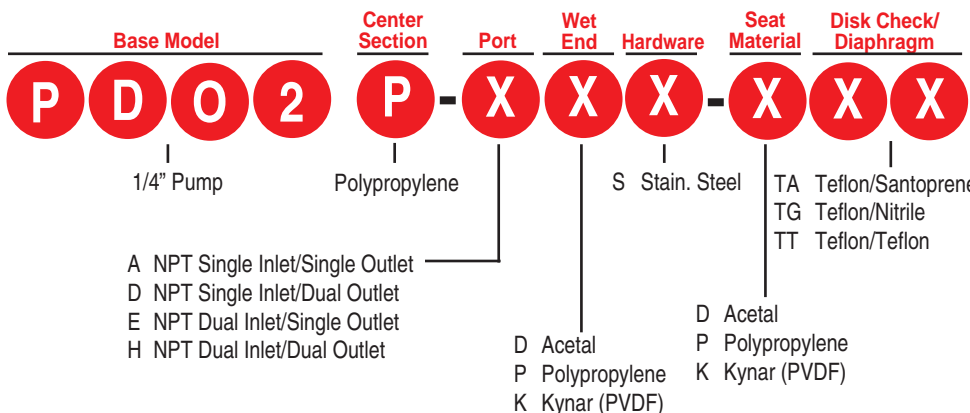
For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.



P29122-600

Ordering

Best Selling Models | PD02P-APS-PTA, PD02P-APS-PTT, PD02P-ADS-DTT, PD02P-AKS-KTT



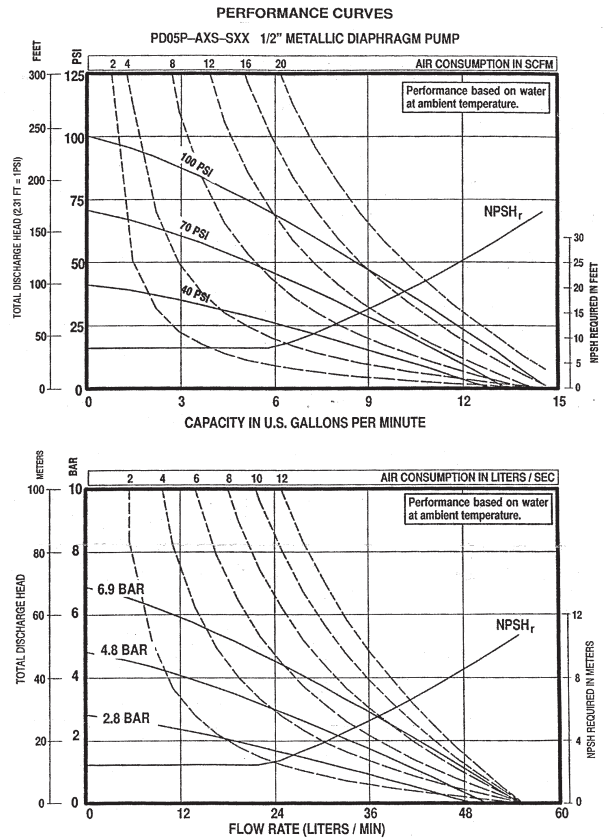
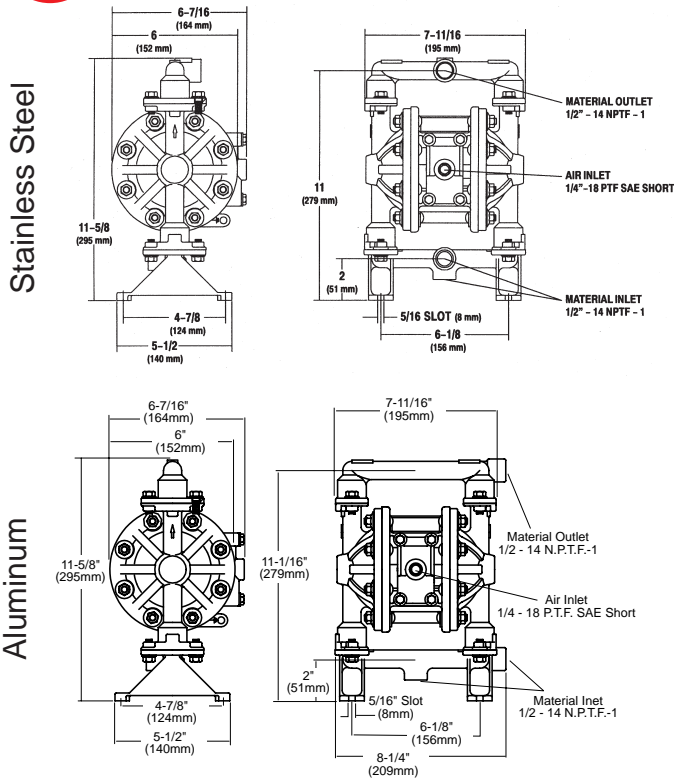
360°
mounting
versatility!



Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	13 (49)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.040 (.15)
AIR INLET:	1/4-inch NPT (F)
FLUID INLET:	1/2-inch NPT (F)
FLUID OUTLET:	1/2-inch NPT (F)
MAX. OPERATING PRESSURE PSI (bar):	100 psi (6.9 bar)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/32" (2.4mm)
WEIGHT - LBS. (Kg):	14.6 lbs (6.6 kgs) SST, 8.4 lbs (3.8 kgs) Alum
MAX DRY SUCTION LIFT:	10 ft. (Teflon fitted)

Dimensional Data



Accessories

Recommended Filter/Regulator
(See Page 36)

Filter / Regulator: P29122-600

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 24.

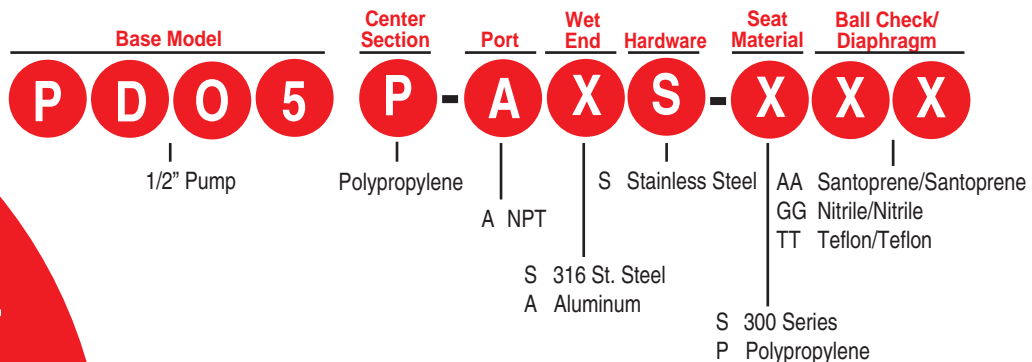


P29122-600

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering Best Selling Models | PD05-ASS-SAA, PD05P-ASS-STT, PD05P-ASS-SXX, PD05P-AAS-PGG

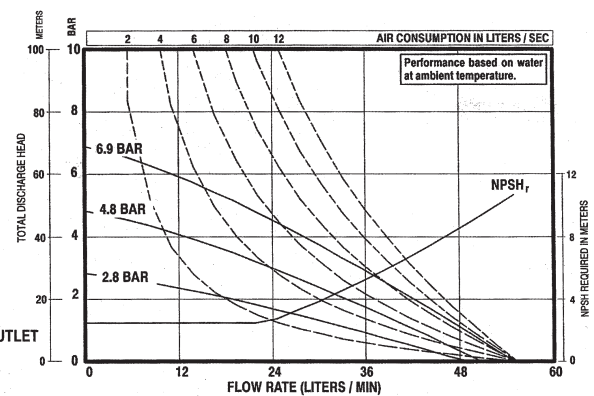
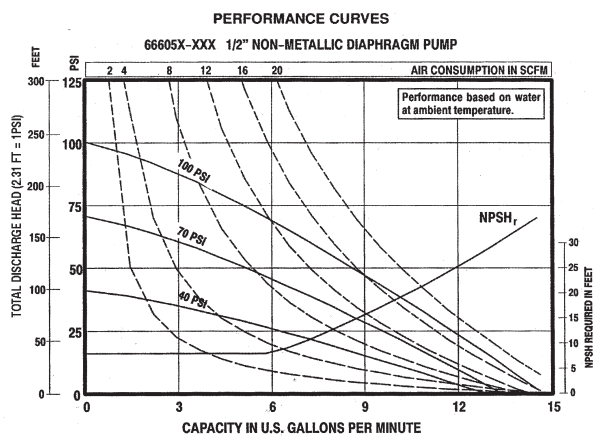


Perfect for rugged applications.

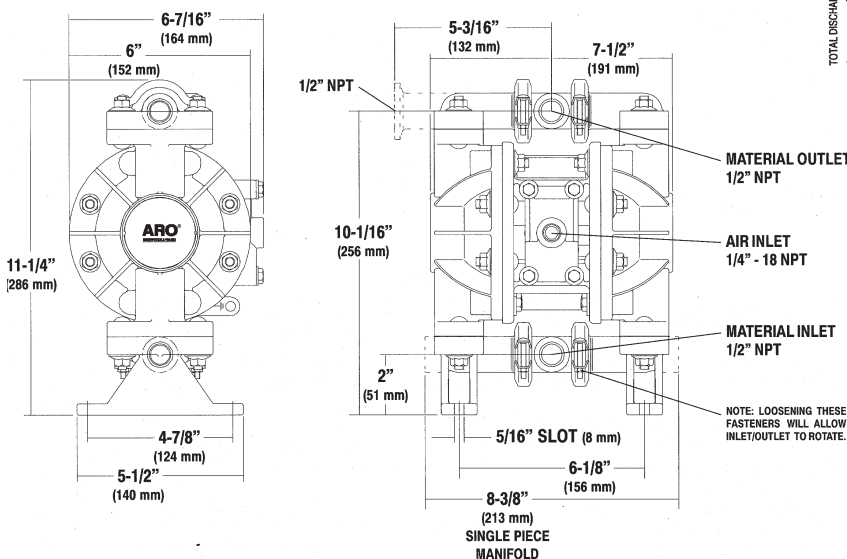


Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	13 (49) Ball 10 (37.9) Duckbill Check
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.04 (.15) Ball .032 (.12) Duckbill Check
AIR INLET:	1/4-inch NPT(F)
FLUID INLET:	1/2-inch NPT(F)
FLUID OUTLET:	1/2-inch NPT(F)
MAX. OPERATING PRESSURE PSI (bar):	100 (6.9)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/32-inch (2.4) Duckbill Check- Fibers
WEIGHT - LBS. (Kg):	7.2 (3.3) Polypropylene 9.5 (4.3) Kynar(PVDF)
MAX. DRY SUCTION LIFT:	10 ft. (Teflon fitted)



Dimensional Data



Single-Piece Manifold Model
(Order models 66605J,H, or K)

Accessories

Recommended Filter/Regulator
(See Page 36)

Filter / Regulator: P29122-600

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 24.



P29122-600

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

Best Selling Models | 66605J-388, 66605J-3EB, 66605J-344, 66605K-444

Base Model	Air Motor	Wetted Parts	Check Valve Seats	Ball Check/ Diaphragm
6 6 6 0	5	X	X X X	X X X
| 1/2" Pump	| Polypropylene	| J* Polypropylene K* Kynar (PVDF) 3 Polypropylene 7 Kynar (PVDF)	| 2 Stainless Steel 3 Polypropylene 4 Kynar (PVDF) 6 Acetal 0 Duckbill	| 22 Nitrile/Nitrile 44 Teflon/Teflon 88 Polyurethane/Polyurethane EB Santoprene/Santoprene D2 Nitrile/Nitrile A4 Stainless/Teflon

All hardware is 300 Series Stainless Steel.

* Single piece manifold

DIAPHRAGM

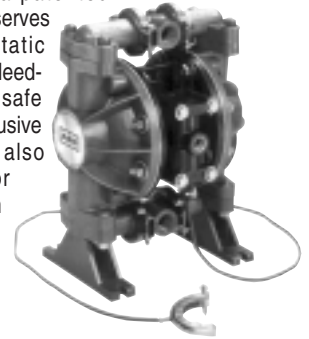


Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	13 (49)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.04 (.15)
AIR INLET:	1/4-inch NPT(F)
FLUID INLET:	1/2- inch NPT(F)
FLUID OUTLET:	1/2 inch NPT(F)
MAX. OPERATING PRESSURE PSI (bar):	100 (6.9)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/32-inch (2.3)
WEIGHT - LBS. (Kg):	8.8 (4.0) Acetal
MAX. DRY SUCTION LIFT:	10 ft. (Teflon fitted)

Model Overview

ARO® Groundable Diaphragm Pump is constructed from a patented material blend that serves to route electrostatic buildup to a single bleed-off point, ensuring safe operation. This exclusive body composition also provides superior compatibility with harsh industrial solvents and other volatile materials.



Dimensional Data

See 1/2-inch (ports) non-metallic pump dimensional and flow data on page 11.

Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29122-600

For complete airline connection kit, see page 32, item "B". Pulsation Dampener, see page 24.

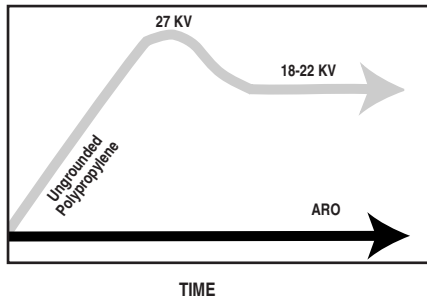


P29122-600

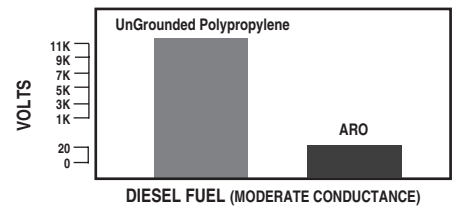
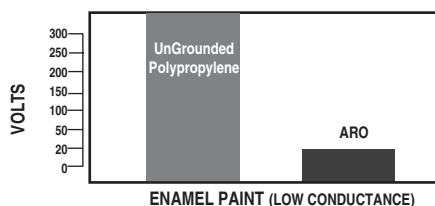
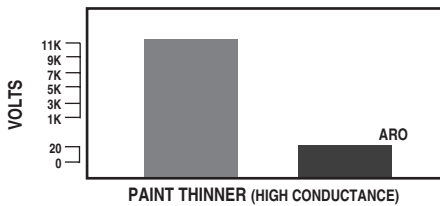
For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Independent Laboratory Test Results



UNRESTRICTED FLOW TESTS
This test involved readings taken with an electro-static field strength meter during free-flow operation of the three pumps. Readings were taken at each pump's metallic clamps and fasteners, traditional electro-static "hot-spots."



An independent lab test showed that the ARO Groundable pump, pumping materials such as paint thinner, diesel fuel and enamel paint under high flow conditions, accumulated a maximum of .0032 millijoules of energy. The report concluded that energies of this magnitude are not sufficient to ignite flammable vapors. Reported minimum ignition energies of several flammable fluids are as follows:

- Methyl Ethyl Ketone: 0.53 millijoules
- Acetone: 1.15 millijoules
- Isopropyl Alcohol: 0.65 millijoules
- Hydrogen: 0.02 millijoules

Ordering Best Selling Models | 66605H-2A4, 66605H-244

Base Model				Air Motor	Wetted Parts	Check Valve Seats	Ball Check/ Diaphragm
6	6	6	0	5	X	X	X
1/2" Pump				Polypropylene		2 Stainless Steel 6 Acetal	A4 Stainless S./Teflon 44 Teflon/Teflon
				H Single Piece Manifold/Acetal 6 3 Piece Manifold/Acetal			

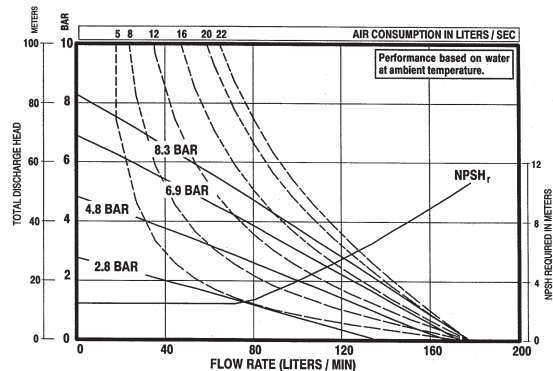
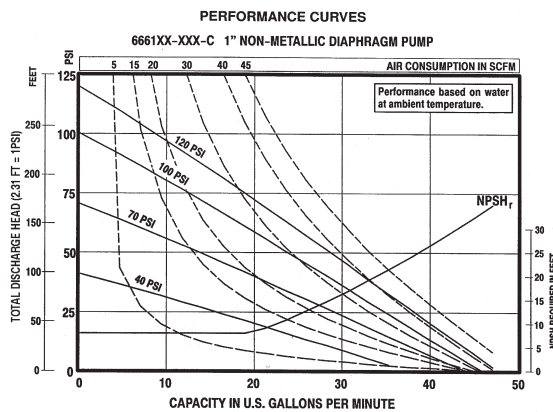
Perfect for solvents, or solvent based paints, lacquers and coatings.



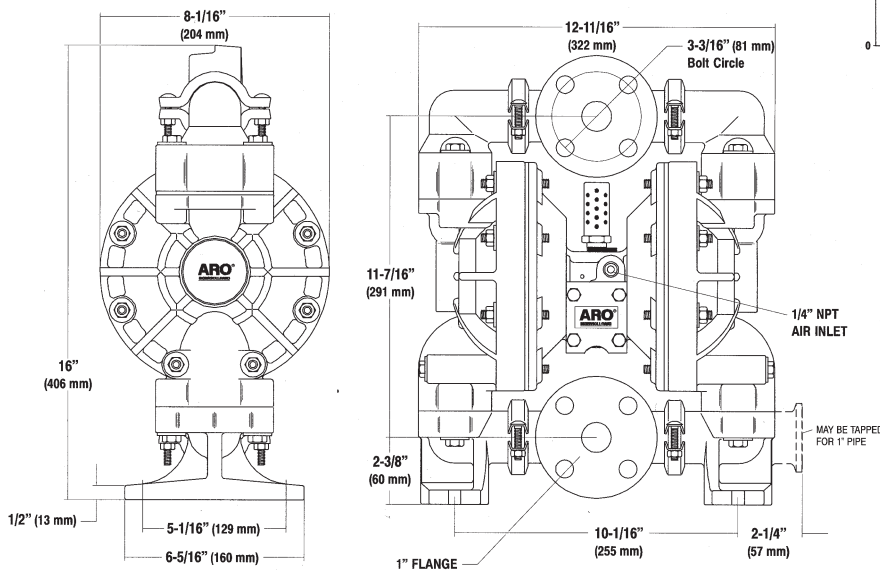
* A groundable pump is defined as one which is not able to accumulate a charge of sufficient energy to ignite flammable vapors. Be sure that every component in your system is properly grounded.

Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	47 (178)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.170 (.64)
AIR INLET:	1/4-inch NPT(F)
FLUID INLET:	ANSI Class 150, 1-inch Pipe Flange
FLUID OUTLET:	ANSI Class 150, 1-inch Pipe Flange
MAX. OPERATING PRESSURE PSI (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/8-inch (3.2)
WEIGHT - LBS. (Kg):	20.2 (9.2) Polypropylene 28.5 (12.9) Kynar(PVDF) For Cast Iron center section models, add 8.5 lbs. (3.81 kg.)
MAX. DRY SUCTION LIFT:	15 ft. (Rubber fitted)



Dimensional Data



Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29221-610
67078 - Polypropylene Flange Kit 1" NPT (F)



P29221-610

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 24.

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

Best Selling Models | 6661A3-3EB-C, 6661A3-344-C, 6661B3-344-C, 6661A4-444-C

Base Model 6 6 6 1 1" Pump	Air Motor X A Aluminum B Cast Iron	Wetted Parts X 3 Polypropylene 4 Kynar (PVDF)	-	Check Valve Seats X 3 Polypropylene 4 Kynar (PVDF) 8 Stainless Steel (400, hardened)	Ball Check/ Diaphragm X X X 22 Nitrile/Nitrile 44 Teflon/Teflon EB Santoprene/Santoprene
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All hardware is 300 Series Stainless Steel.

DIAPHRAGM

Perfect for aggressive chemicals

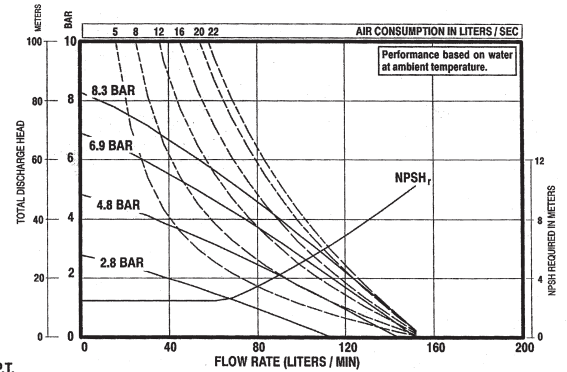
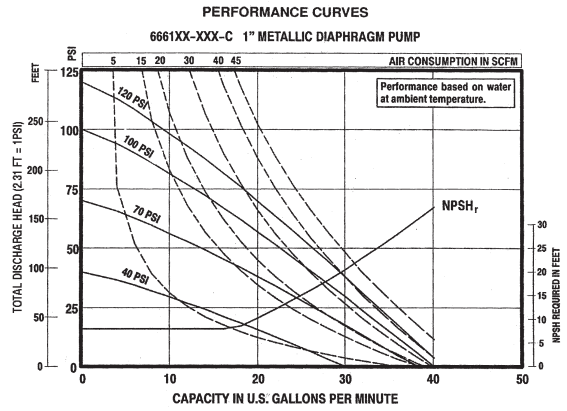
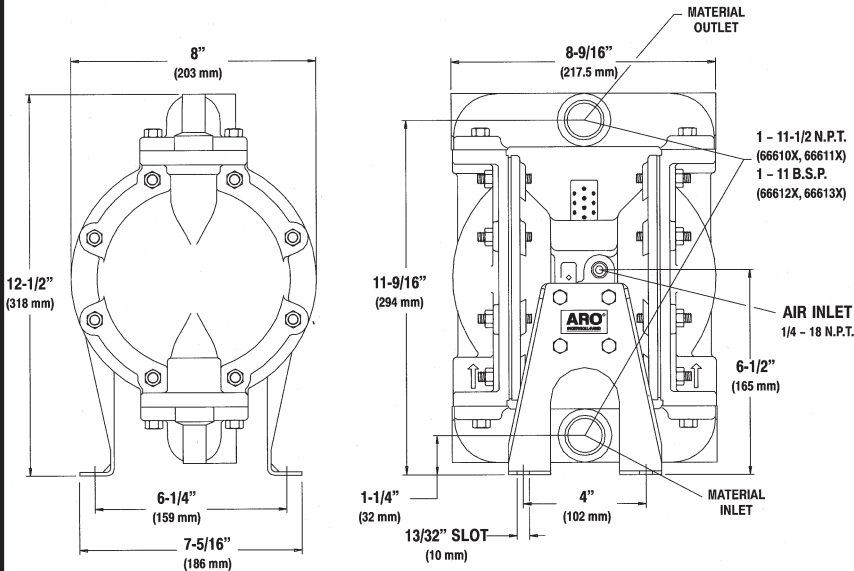


Get in the

Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	35 (132)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.16 (.60)
AIR INLET:	1/4-inch NPT(F)
FLUID INLET:	1-inch NPT(F) or BSP(F)
FLUID OUTLET:	1-inch NPT(F) or BSP(F)
MAX. OPERATING PRESSURE PSI (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/8-inch (3.2)
WEIGHT - LBS. (Kg):	19 (8.6) Aluminum 36 (16.3) Stainless Steel 31 (14.1) Cast Iron For Cast Iron center section models, add 8.5 lbs. (3.81 kg.)
MAX. DRY SUCTION LIFT:	20 ft. (Rubber fitted)

Dimensional Data



Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29221-610

For complete airline connection kit, see page 32, item "B". Pulsation Dampener, see page 24.

For Diaphragm Pump Accessories see pages 32-34.

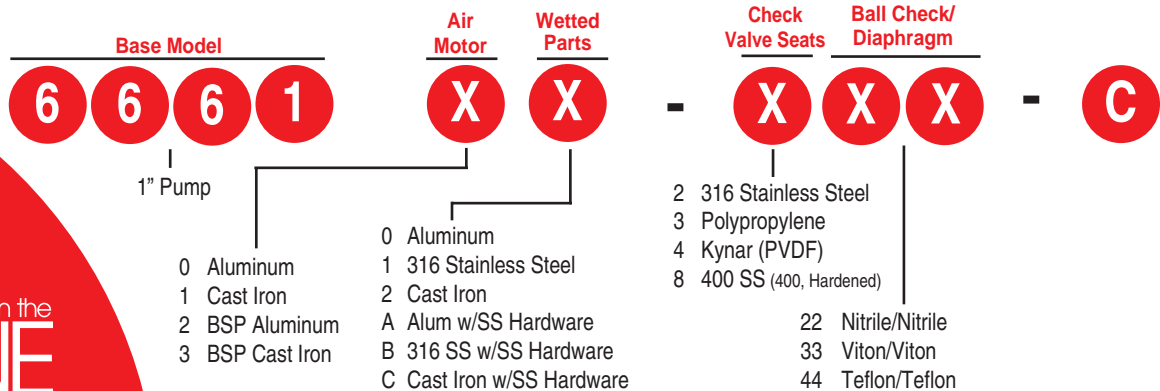


P29221-610

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

Best Selling Models | 666100-322-C, 666101-344-C, 666111-244-C, 666101-3EB-C, 666100-344-C, 666112-8EB-C

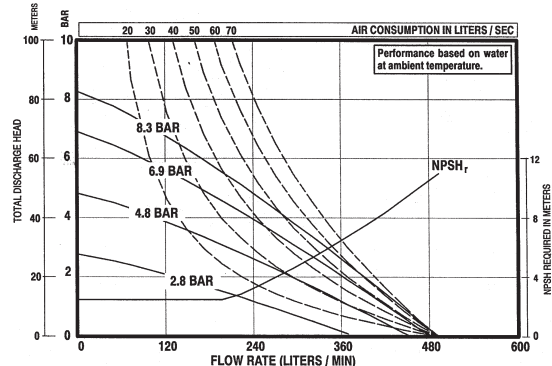
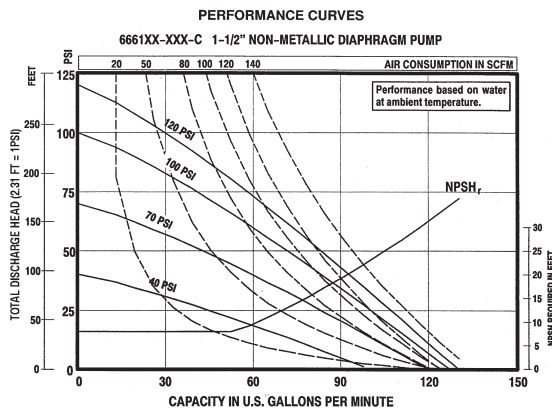


For abrasive applications, ARO's 1" cast iron pump is the model for you!



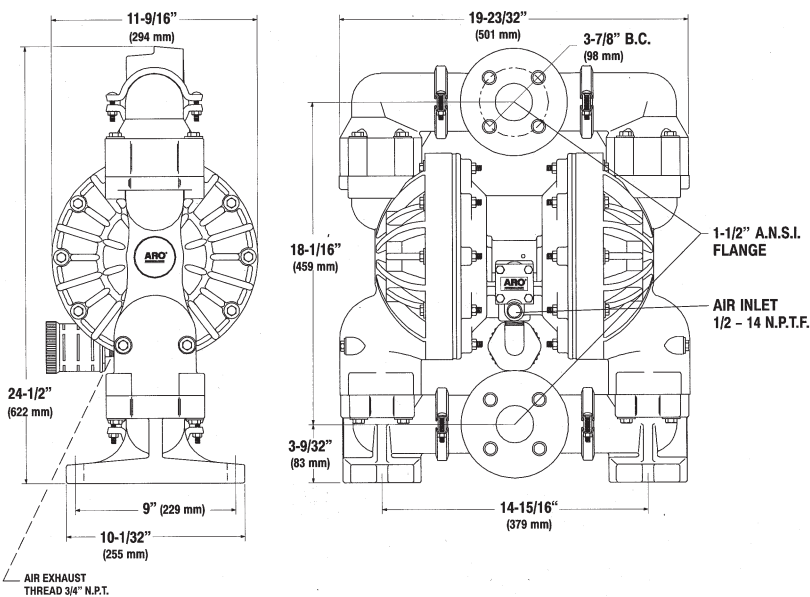
Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	100 (379)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.72 (2.7)
AIR INLET:	1/2-inch NPT (F)
FLUID INLET:	ANSI Class 150, 1-1/2-inch Pipe Flange
FLUID OUTLET:	ANSI Class 150, 1-1/2-inch Pipe Flange
MAX. OPERATING PRESSURE PSI (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	62 (28) Polypropylene 92 (42) Kynar(PVDF) For Cast Iron center section add 23 lbs. (10.4 kg)
MAX. DRY SUCTION LIFT:	14 ft. (Rubber fitted)



DIAPHRAGM

Dimensional Data



Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29241-610
67079 - Polypropylene Flange Kit
1-1/2" NPT (F)

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 25.

For Diaphragm Pump
Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.



P29241-610

Ordering

Best Selling Models | 6661T3-3EB-C, 6661U3-344-C, 6661T3-344-C, 6661U4-444-C

Base Model	Air Motor	Wetted Parts	Check Valve Seats	Ball Check/ Diaphragm	C
6 6 6 1	X	X	-	X X X	-
| 1-1/2" Pump	| T Aluminum U Cast Iron	| 3 Polypropylene 4 Kynar (PVDF)	| 3 Polypropylene 4 Kynar (PVDF) 8 400 SS (400, Hardened)	| 22 Nitrile/Nitrile 44 Teflon/Teflon EB Santoprene/Santoprene	| C

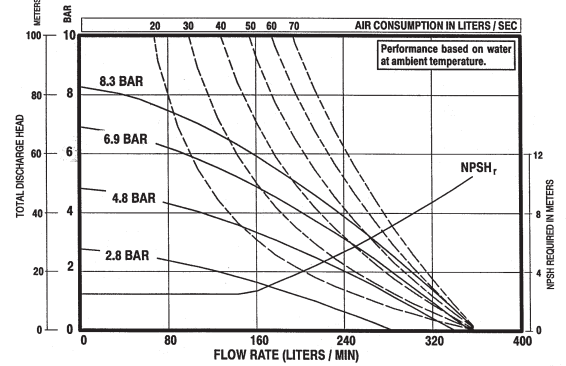
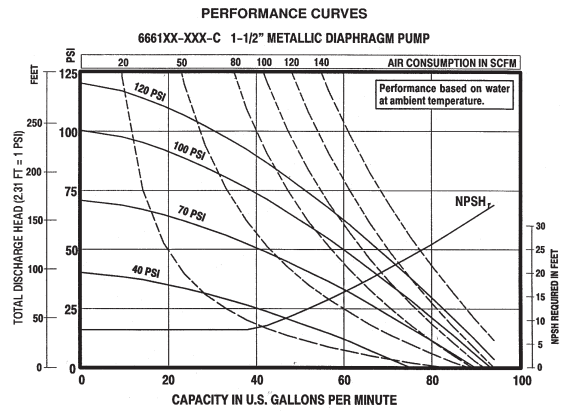
All hardware is 300 Series Stainless Steel.

Perfect for aggressive chemicals

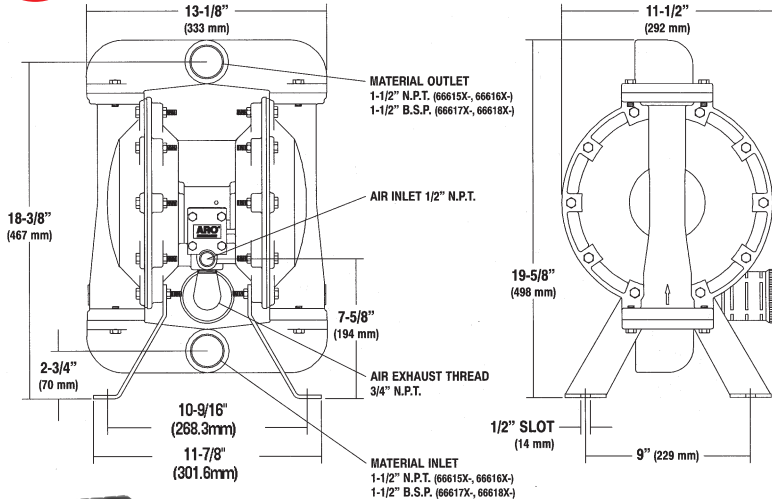


Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	100 (379)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.73 (2.76)
AIR INLET:	1/2-inch NPT(F)
FLUID INLET:	1-1/2-inch NPT(F) or BSP(F)
FLUID OUTLET:	1-1/2-inch NPT(F) or BSP(F)
MAX. OPERATING PRESSURE PSI (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	51 (23.1) Aluminum 84 (38.1) Stainless Steel 79 (35.8) Cast Iron For Cast Iron center section models, add 23 lbs. (10.4 kg.)
MAX. DRY SUCTION LIFT:	19 ft. (Rubber fitted)



Dimensional Data



Screened Inlet Kits Available. See Page 31

Accessories

Recommended Filter/Regulator
(See Page 36)

Filter / Regulator: P29241-610

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 25.

For Diaphragm Pump Accessories see pages 32-34.



For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

Best Selling Models | 666150-322-C, 666150-344-C, 666152-3EB-C, 666151-344-C, 666161-244-C

<p>Base Model</p> <p>6 6 6 1</p> <p>1-1/2" Pump</p>	<p>Air Motor</p> <p>X</p> <p>5 Aluminum 6 Cast Iron 7 BSP Aluminum 8 BSP Cast Iron</p>	<p>Wetted Parts</p> <p>X</p> <p>0 Aluminum 1 316 Stainless Steel 2 Cast Iron A Alum w/SS Hardware B 316 SS w/SS Hardware C Cast Iron w/SS Hardware</p>	<p>Check Valve Seats</p> <p>X</p> <p>2 316 Stainless Steel 3 Polypropylene 4 Kynar (PVDF) 8 400 SS (Hardened)</p>	<p>Ball Check/ Diaphragm</p> <p>X X X</p> <p>22 Nitrile/Nitrile 44 Teflon/Teflon EB Santoprene/Santoprene A4 Stainless/Teflon</p>	<p>C</p>
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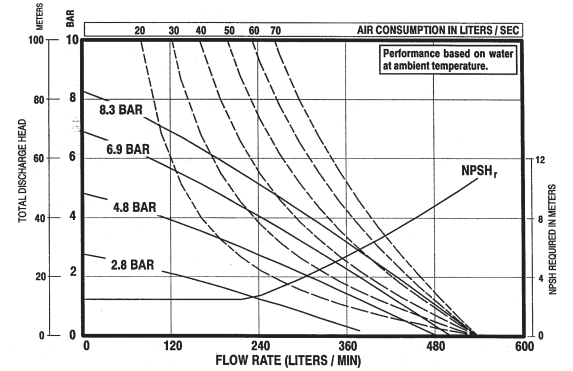
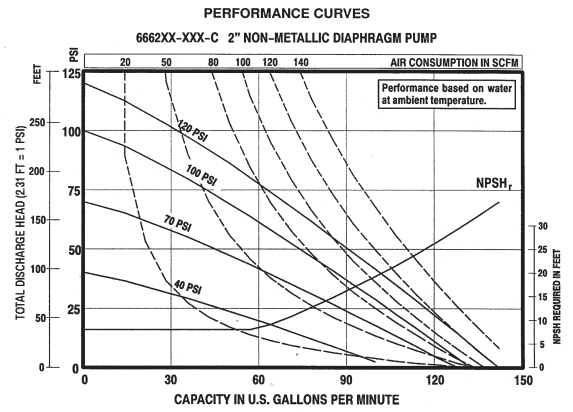
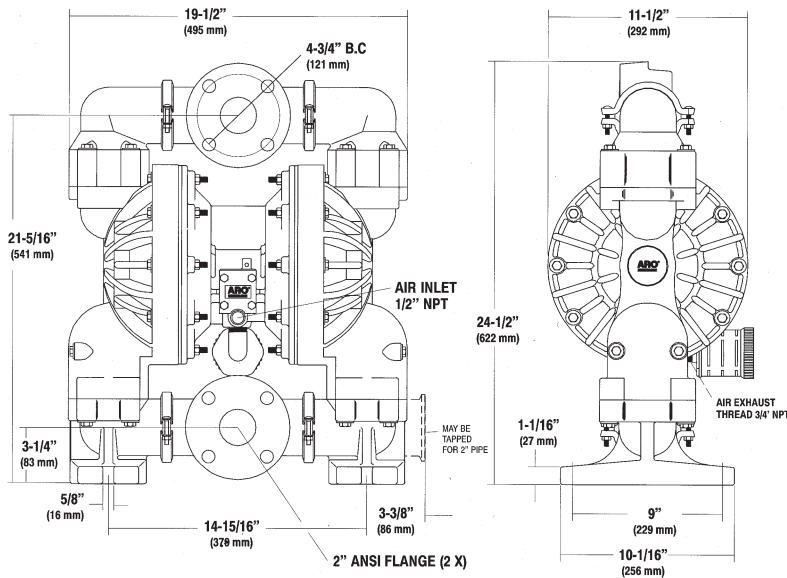
For viscous materials, stainless steel ball & checks available



Performance Specifications

RATIO:	1:1
MAXIMUM G.P.M. (Liters):	145 (548)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.72 (2.7)
AIR INLET:	1/2-inch, NPT (F)
FLUID INLET:	ANSI Class 150, 2-inch Pipe Flange
FLUID OUTLET:	ANSI Class 150, 2-inch Pipe Flange
MAX. OPERATING PRESSURE PSI (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	62 (28) Polypropylene, 92 (42) Kynar(PVDF) For Cast Iron center section models, add 23 lbs. (10.4 kg.)
MAX. DRY SUCTION LIFT:	14 ft. (Rubber fitted)

Dimensional Data



Accessories

Recommended Filter-Regulator
(See Page 36)

Filter / Regulator: P29241-610

67080 - Polypropylene Flange Kit 2\"/>

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 25.

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.



P29241-610

Ordering

Best Selling Models | 6662A3-3EB-C, 6662B3-344-C, 6662A3-344-C, 6662B4-444-C

Base Model	Air Motor	Wetted Parts	Check Valve Seats	Ball Check/Diaphragm	C
6 6 6 2	X	X	X X X	- C	
2" Pump	A Aluminum B Cast Iron	3 Polypropylene 4 Kynar (PVDF)	3 Polypropylene 4 Kynar (PVDF) 8 400 SS (Hardened)	22 Nitrile/Nitrile 44 Teflon/Teflon EB Santoprene/Santoprene	

All hardware is 300 Series Stainless Steel.

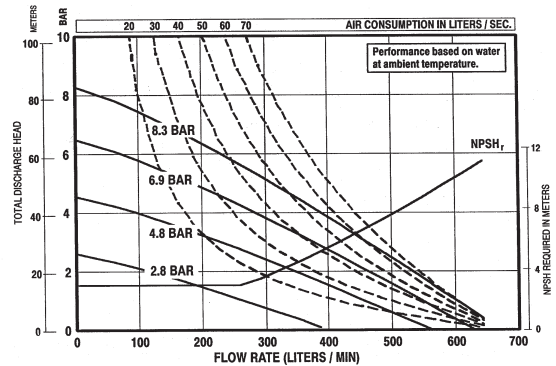
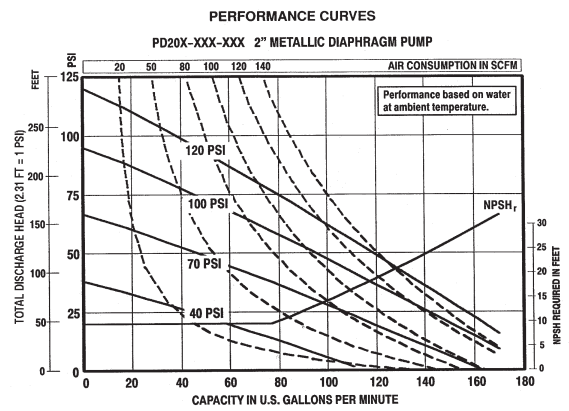
For aggressive high-flow applications



DIAPHRAGM

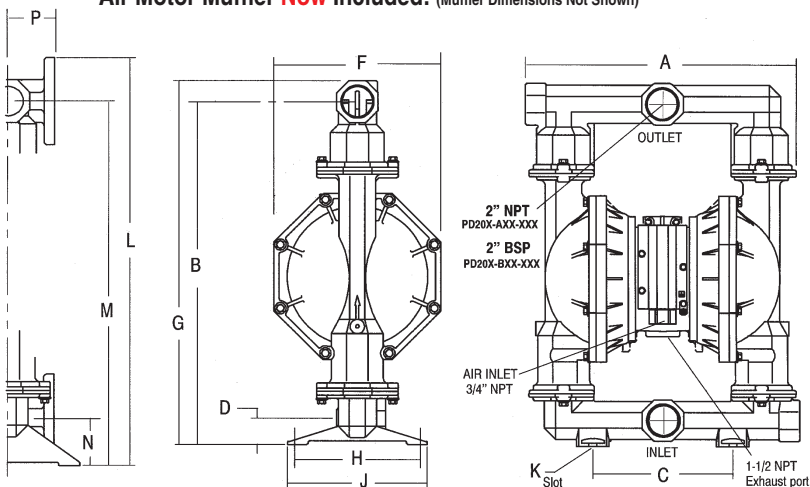
Performance Specifications

RATIO:	1:1
MAX. G.P.M. (Liters):	170 (644)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	1.4 (5.3)
AIR INLET:	3/4-in. NPT (F)
AIR EXHAUST:	1-1/2" NPT (F)
FLUID INLET:	2" Ports (See table)
FLUID OUTLET:	2" Ports (See table)
MAX. OP. PRESSURE PSI (bar):	120 (8.3)
PASS SOLIDS MAX. DIA. IN. (mm):	1/4 (6.4)
WEIGHT LBS. (Kgs.):	64 (29) Aluminum 133 (60) Cast Iron 154 (70) Stainless Steel (Note: add 34 lbs. (15 kg) for Stainless or Cast Iron Motor)
MAX. DRY SUCTION LIFT:	19 ft. (Rubber fitted)



Dimensional Data

Air Motor Muffler **Now** Included! (Muffler Dimensions Not Shown)



DIMENSIONS

A 19-3/4" (502 mm)	F 12" (305 mm)	L 28-5/8" (727 mm)
B 24-3/4" (629 mm)	G 26-1/4" (667 mm)	M 25-5/8" (651 mm)
C 10-1/16" (256 mm)	H 9-1/16" (230 mm)	N 3-3/8" (86 mm)
D 1-7/8" (48 mm)	J 10-1/16" (256 mm)	P 2-1/4" (62.5 mm)
	K 9/16" (14 mm)	

Accessories

Recommended Filter-Regulator (See Page 36)

Filter / Regulator: P29241-610

For complete airline connection kit, see page 32, item "B". Pulsation Dampener, see page 25.



P29241-610

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.



Screened Inlet Kits Available. See Page 31.

Ordering

Best Selling Models | PD20A-AAP-GGG, PD20A-ACP-AAA, PD20A-ASP-KTT, PD20A-AAP-KTT, PD20A-ASP-AAA, PD20C-ASS-KTT

Base Model	Center Section	Port	Wetted End	Hardware	Seat Material	Ball Check/ Diaphragm
P D 2 0	X	X	X	X	X	X
2" Pump	A Aluminum C Cast Iron S 316 St. Steel	A NPT B BSP	A Aluminum C Cast Iron S 316 St. Steel	P Plated Steel S Stainless Steel	AA Santoprene/Santoprene GG Nitrile/Nitrile TT Teflon®/Teflon	A Santoprene G Nitrile H 440 SS Hardened K Kynar (PVDF) S 316 St. Steel

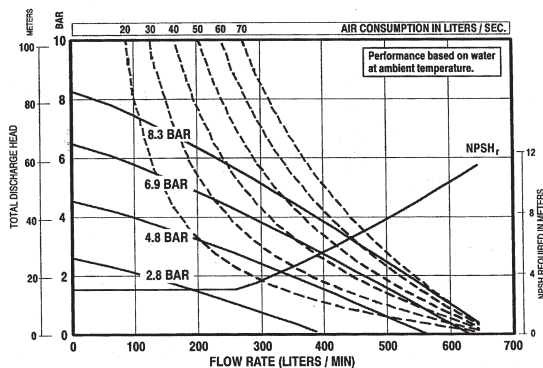
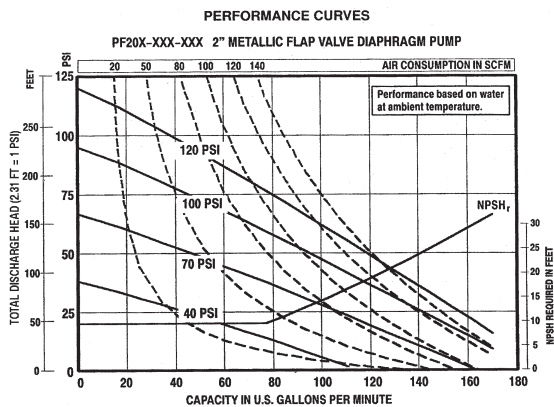
NOTE: Side Port option not available on Stainless Steel Models.

The most advanced process pump on the market



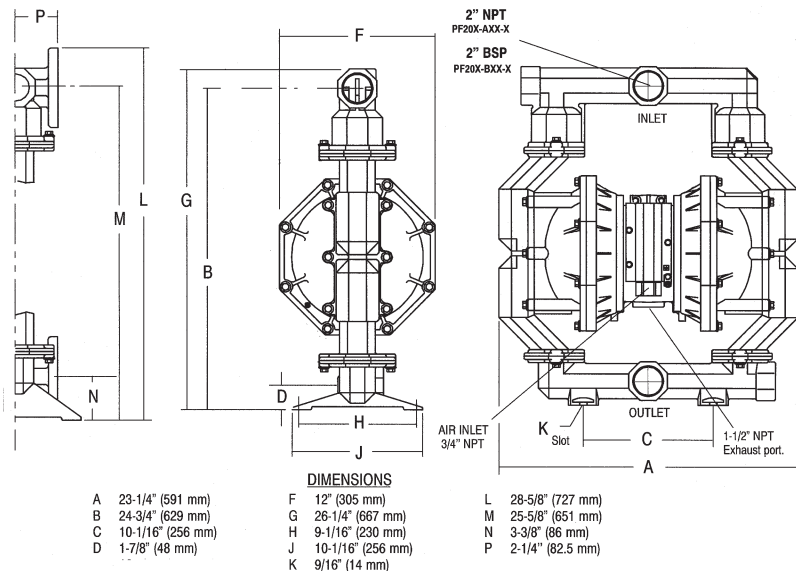
Performance Specifications

RATIO:	1:1
MAX. G.P.M. (Liters):	170 (644)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	1.4 (5.3)
AIR INLET:	3/4-in. NPT (F)
AIR EXHAUST:	1-1/2" NPT (F)
FLUID INLET:	2" Ports (See table)
FLUID OUTLET:	2" Ports (See table)
MAX. OP. PRESSURE PSI (bar):	120 (8.3)
PASS SOLIDS MAX. DIA. IN. (mm):	2" (50mm) Semi Solids
WEIGHT LBS. (Kgs.):	74 (34) Aluminum, 161 (73) Cast Iron 188 (85) Stainless Steel (Note: add 34 lbs.(15 kg) for Stainless or Cast Iron Air Motor)
MAX. DRY SUCTION LIFT:	19 ft. (Rubber fitted)



Dimensional Data

Air Motor Muffler **Now** Included! (Muffler Dimensions Not Shown)



Accessories

Recommended Filter-Regulator
(See Page 36)

Filter / Regulator: P29241-610

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 25.



P29241-610

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

Best Selling Models | PF20A-AAP-SAA, PF20A-ASS-SAA, PF20A-AAP-SUA, PF20C-ASS-SAA, PF20A-ACP-SAA, PF20C-ASS-SVT

Base Model	Center Section	Port	Wetted End	Hardware	Seat Material	Flap/Diaphragm
P F 2 0	X	X	X	X	X	X X X
2" Pump	A Aluminum C Cast Iron S 316 St. Steel	A NPT B BSP	P Plated Steel S Stainless Steel	A Aluminum C Cast Iron S 316 St. Steel	S 316 St. Steel	AA Santoprene/Santoprene GG Nitrile/Nitrile UA Polyurethane/Santoprene VT Viton/Teflon

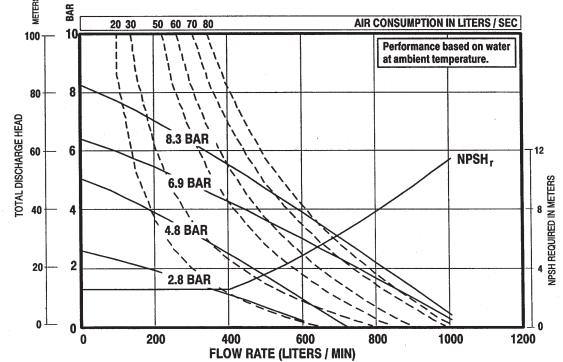
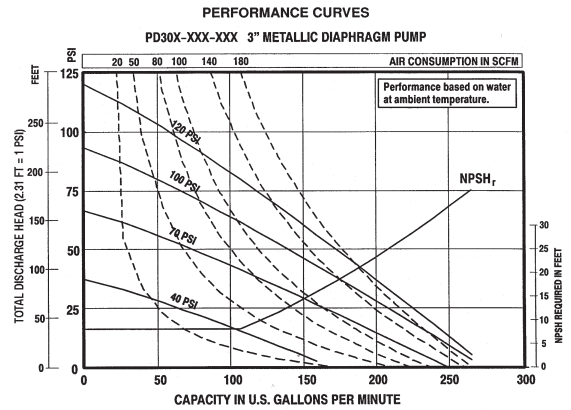
NOTE: Side Port option not available on Stainless Steel Models.

The ideal sludge pump!

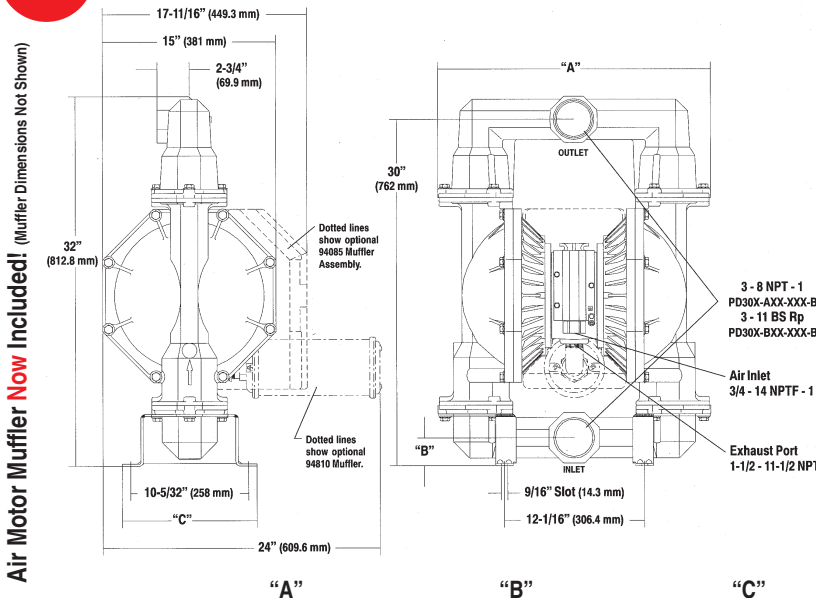


Performance Specifications

RATIO:	1:1
MAX. G.P.M. (Liters):	275 (1,041)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	2.8 (10.6)
AIR INLET:	3/4-in. NPT (F)
AIR EXHAUST:	1-1/2" NPT (F)
FLUID INLET:	3" NPT (F), BSP (F)
FLUID OUTLET:	3" NPT (F), BSP (F)
MAX. OP. PRESSURE PSI (bar):	120 (8.3)
PASS SOLIDS MAX. DIA. IN. (mm):	3/8 (9.5)
WEIGHT LBS. (Kgs.):	113 (51.3) Aluminum, 197 (89.4) Cast Iron 203 (92.1) Hastelloy, 203 (92.1) Stainless Steel (Note: add 40 lbs. (18 kg) for Stainless Air Motor)
MAX. DRY SUCTION LIFT:	19 ft. (Rubber fitted)



Dimensional Data



	"A"	"B"	"C"
PD30X-XAX	23-5/8" (600.1mm)	2-3/8" (60.3mm)	11" (279.4mm)
PD30X-XCX	23-5/8" (600.1mm)	2-7/16" (61.9mm)	11-11/16" (296.9mm)
PD30X-XHX	23-1/8" (587.4mm)	2-3/4" (69.9mm)	11-11/16" (296.9mm)
PD30X-XSX	23-1/8" (587.4mm)	2-3/4" (69.9mm)	11-11/16" (296.9mm)

Air Motor Muffler Now Included! (Muffler Dimensions Not Shown)

Accessories

Recommended Filter-Regulator (See Page 36)

Filter: F25451-110
Regulator: 27354-600

For complete airline connection kit, see page 32, item "B".
Pulsation Dampener, see page 26.



For Diaphragm Pump Accessories see pages 32-34.

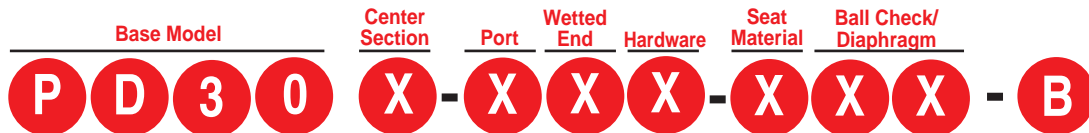
For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.



Screened Inlet Kits Available. See Page 31.

Ordering

Best Selling Models | PD30A-AAP-GGG-B, PD30A-ASS-AAA-B, PD30A-AAP-KTT-B, PD30A-ASP-KTT-B, PD30A-ACS-AAA-B, PD30S-ASS-STT-B



Base Model

Center Section

Port

Wetted End

Hardware

Seat Material

Ball Check/Diaphragm

Uninstallable, ice-free, high-flow delivery



A Aluminum
S 316 St. Steel

A NPT
B BSP

P Plated Steel
S Stainless Steel

AA Santoprene/Santoprene
GG Nitrile/Nitrile
TT Teflon/Teflon

A Aluminum
C Cast Iron
S 316 St. Steel
H Hastelloy

A Santoprene
G Nitrile
H 440 SS (Hard)

K Kynar (PVDF)
L Hastelloy
S 316 St. Steel

Performance Specifications

RATIO:	1:1
MAXIMUM FLOW G.P.M. (liters):	170 GPM (644) PM20S-X 275 GPM(1041) PM30S-X
AIR INLET:	3/4"-NPT(F)
AIR EXHAUST:	1-1/2" NPT (F)
FLUID INLET:	2-1/2" Tri-Clamp PM20S-X 3" Tri-Clamp PM30S-X
FLUID OUTLET:	2-1/2" Tri-Clamp PM20S-X 3" Tri-Clamp PM30S-X
MAX. OPERATING PRESSURE PSI (bar):	120 PSI (8.3 bar)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4" (6.4) 2" Models 3/8" (9.5) 3" Models
WEIGHT - LBS. (Kg):	178 (80.7) PM20S-X 248 (112.5) PM30S-X

Accessories

Recommended Filter-Regulator

(See Page 36)

Filter: F25451-110

Regulator: 27354-600

For complete airline connection kit, see page 32, item "B".



F25451-110 27354-600

For Diaphragm Pump Accessories see pages 32-34.

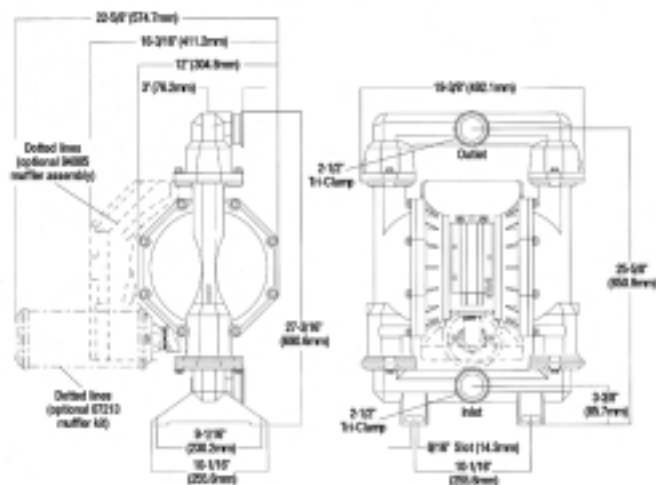
For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Typical Applications

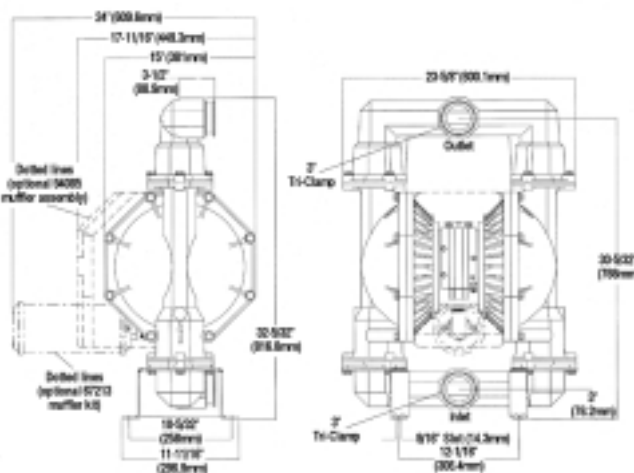
- Food Processing
- Cosmetics
- Pharmaceutical
- Chemical Additives
- Adhesives (Food grade)

Dimensional Data

2-1/2" Tri-Clamp



3" Tri-Clamp



Ordering

Base Model	Center Section	Port	Wet End	Hardware	Seat Material	Disk Check/ Diaphragm	Speciality Code
P M X O	S	C	S	S	X	X X	X O 2
2 2" Pump 3 3" Pump	Stainless Steel	C Tri-Clamp	S Stainless Steel	S Stain. Steel	AA Santoprene/ Santoprene TT Teflon/Teflon		A02 2-inch B02 3-inch
			S Stainless Steel		S 316 Stainless Steel		

NOTE: This pump does not meet 3-A or USDA requirements.

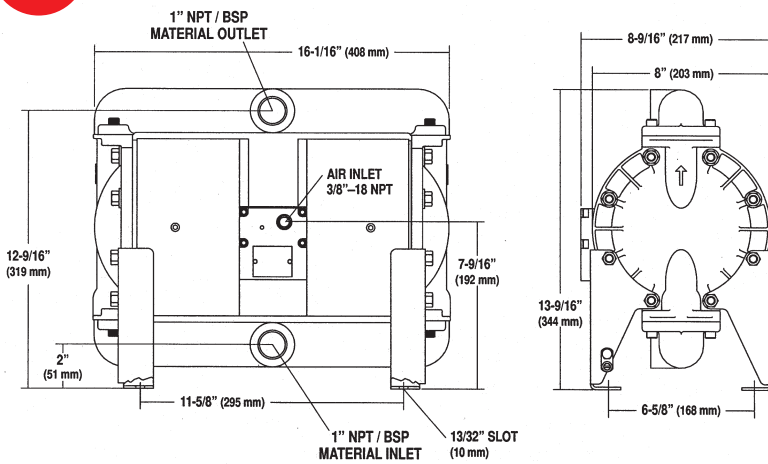
*Electro-polished,
passivated
stainless steel*



Performance Specifications

RATIO:	3:1
MAXIMUM G.P.M. (Liters):	24 (90.7) Free Flow (12 GPM at 125 psi back pressure)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.09 (.341)
AIR INLET:	3/8-inch NPT(F) Short
FLUID INLET:	1 inch NPT(F) or BSP
FLUID OUTLET:	1 inch NPT(F) or BSP
MAX. OPERATING PRESSURE PSI (bar):	300 (20.4)
PASS SOLIDS MAX. DIA. IN. (mm):	1/8-inch (3.2)
WEIGHT - LBS. (Kg):	90 (40.7) Stainless Steel

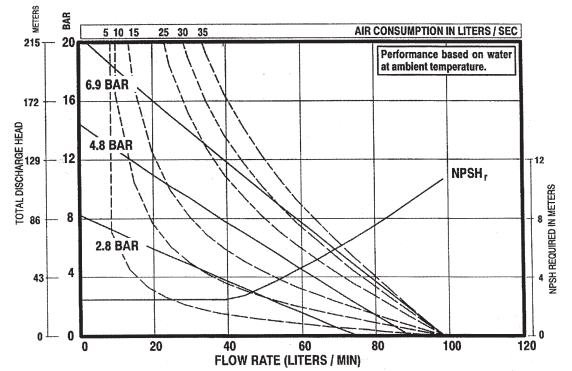
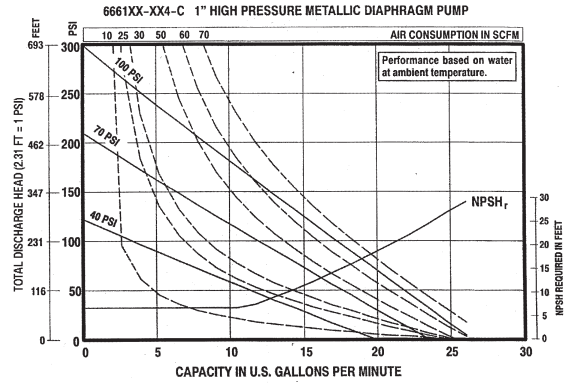
Dimensional Data



Use the ARO High pressure pump in these and other applications:

- Systems with long piping runs and friction losses
- Inks
- Adhesives
- Filled Materials
- Drilling Grout
- Caulking
- Resins

Performance Curves



Accessories

Recommended Filter/Regulator (See Page 36)

Filter / Regulator: P29231-610
67142 - Wall Mount Bracket

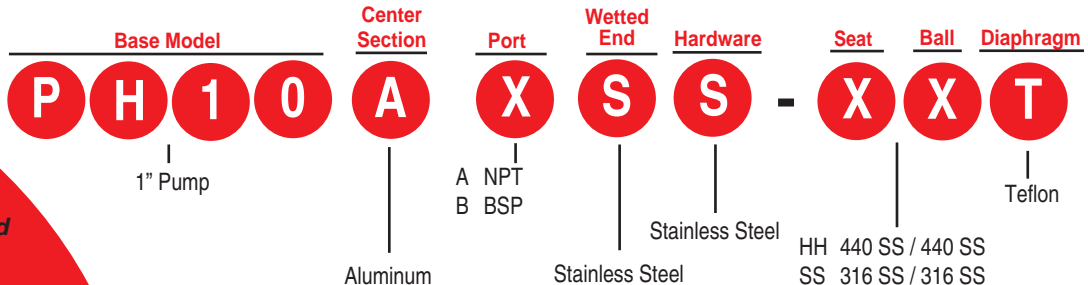


P29231-610

For Diaphragm Pump Accessories see pages 32-34.

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering



All stainless steel is electro-polished passivated.



Performance Specifications

	1 Inch	1-1/2 Inch	2 Inch
RATIO:	1:1	1:1	1:1
MAX. G.P.M. (Liters):	29 (110)	75 (284)	105 (284)
AIR INLET:	1/4" NPT(F)	1/2" NPT(F)	1/2" NPT(F)
PORT SIZE:	1" NPT(F)	1-1/2" NPT(F)	2" NPT(F)
MAX. OP. PRESSURE PSI (bar):	50 (3.40)	50 (3.4)	50 (3.4)
PASS SOLIDS MAX.DIA. IN. (mm):	1/8" (3.2)	1/4" (6.4)	1/4" (6.4)
WEIGHT LBS. (Kgs.):	19 (8.6)	51 (23.1)	54 (24.5)



1-inch

Air Connectors shown are not included.



1-1/2 -inch



2-inch

Dimensional Data

See pg. 14 for 1" Metallic Pump dimensional data. See pg. 16 for 1-1/2" Metallic Pump dimensional data. The dimensions for the 1-1/2" Metallic Pump are the same for the 2" U.L. Fuel Pump.

U.L. Listed Fuel Transfer Pumps

These ARO Diaphragm Pumps have been designed specifically for dispensing petroleum-based fuel. These pumps meet UL-79 specification, code and are compatible with:

- GASOLINE
- DIESEL FUEL
- KEROSENE
- AVIATION FUEL
- FUEL OIL
- UNLEADED FUEL

Used for high-volume transfer, bulk-unloading or fueling applications. To meet UL-79 specification, a 50 PSI pressure relief valve opens and bleeds off excess pressure. The relief valve can be plumbed to return the bleed-off fuel to the storage container.

Accessories

Recommended Filter/Regulator
(See Page 36)

1" Diaphragm Pump
Filter / Regulator: P29221-610

1-1/2" / 2" Diaphragm Pump
Filter / Regulator: P29241-610



P29221-610

For complete airline connection kit, see page 31, item "B".

For recommended key models, refer to the ARO diaphragm pump price book (Form 2240-2). If the specific model you seek is not in the price book, consult the factory for further selection assistance.

Ordering

MODEL	FLUID INLET/OUTLET PORT SIZE	SEAT	BALL	DIAPHRAGM
ALUMINUM CONSTRUCTION				
650709-C	1-inch NPT	Kynar® PVDF	Acetal	Nitrile
Unleaded 650717-C	1-inch NPT	Kynar PVDF	Acetal	Viton®
650710-C	1-1/2-inch NPT	Kynar PVDF	Acetal	Nitrile
Unleaded 650718-C	1-1/2-inch NPT	Kynar PVDF	Acetal	Viton
650711-C	2-inch NPT	Kynar PVDF	Acetal	Nitrile
Unleaded 650719-C	2-inch NPT	Kynar PVDF	Acetal	Viton

Viton Diaphragms are recommended for use with unleaded fuels.

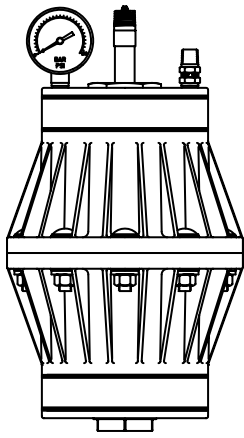
SPECIALTY DIAPHRAGM

Portable fuel supply



Get in the

Automatic Shock Blocker™ Pulsation Dampeners • 1" Ports Models



Specifications

Pulsation Dampener Type
Material / Weight-lbs (kgs)

Non-Metallic / Automatic

Polypropylene 8.4 (3.8)

Conductive Acetal 8.6 (3.9)

Pure Kynar (PVDF) 9.0 (4.1)

SB10X-AXX 1" - NPTF (Female), Standard

SB10X-BXX - 1" BSP (Female)

Air Chuck Style Valve, Standard

Air Tamer is 3/8" NPTF (Male) (Optional)

100 PSIG (6.9 bar)

100 PSIG (6.9 bar)

Polypropylene 35° F - 150° F (±1.6° C - 65.5° C)

Conductive Acetal 10° F - 180° F (-12° C - 82° C)

Kynar 10° F - 200° F (-12° C - 93° C)

85 in³

Material Inlet/Outlets

Air Inlet

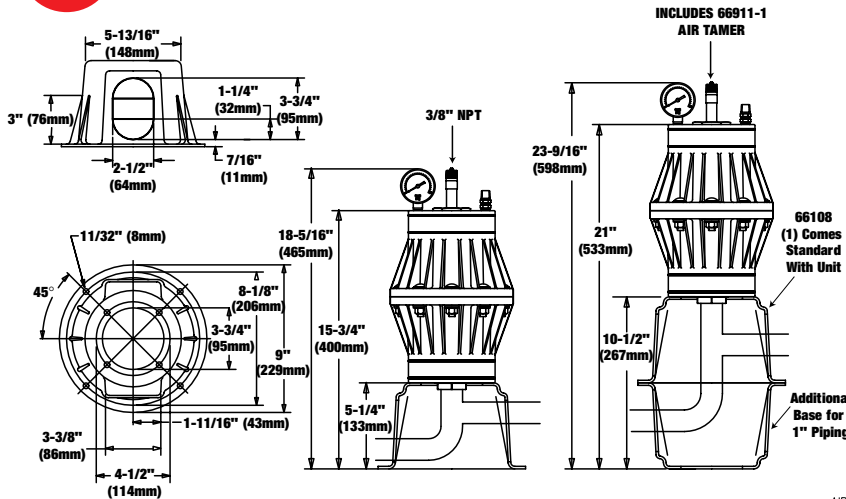
Maximum Air Inlet Pressure

Maximum Material Inlet Pressure

Maximum Temperature Limits

Maximum Fluid Volume

Dimensional Data



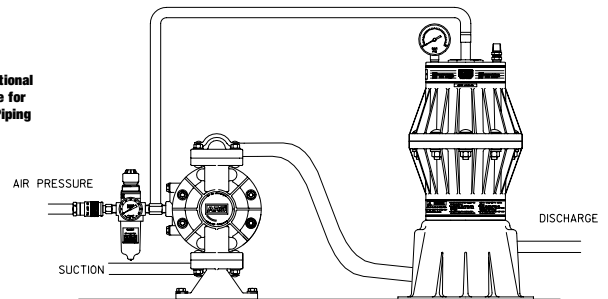
Performance

1/2" Pump: 85% pulsation reduction @ 60PSI
back pressure / 5 GPM

1" Pump: 80% pulsation reduction @ 60PSI
back pressure / 10 GPM

Typical Installation

Used with 1/2" & 1" Ported Diaphragm Pumps



Ordering

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

S B X X X - X X X - X

Blocker Size
10 - 1"

Air Body

P - Polypropylene (Glass Filled)

K - Pure Kynar (PVDF)

D - Conductive Acetal

Diaphragm

A- Santoprene®

G- Nitrile

T- Teflon®

U- Urethane

Hardware

S - Stainless (304)

Thread

A - NPT

B - BSP

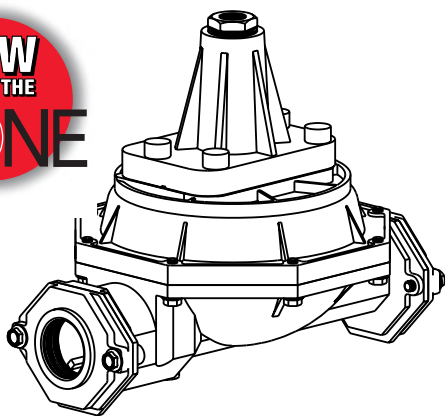
Fluid Construction

P - Polypropylene (Glass Filled)

K - Pure Kynar (PVDF)

D - Conductive Acetal

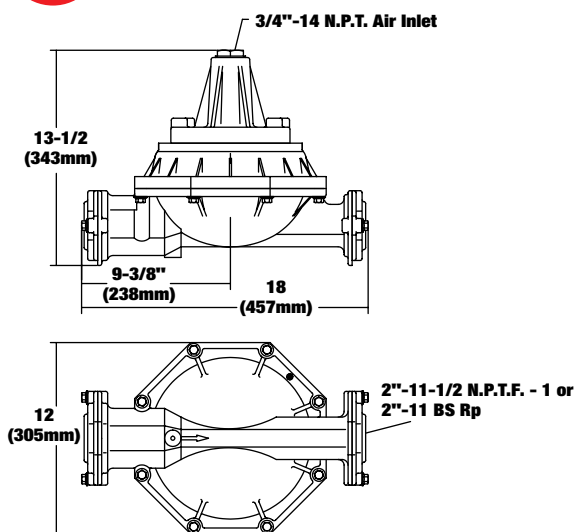
- Automatic air adjustment-standard
- Works with only 100 PSI pump (1/2" - 1")
- Up to 97% pulsation reduction



Specifications

Pulsation Dampener Type	Metallic / Automatic
Material / Weight-lbs (kgs)	Aluminum (fluid cap) 29 (13.2) Cast Iron (fluid cap) 70 (31.8) Stainless St. (fluid cap) 71 (32.2)
Material Inlet/Outlets	SB20X-AXX-X 2" -11-1/2 NPTF -1 SB20X-BXX-X 2" -11 BS Rp
Air Inlet	3/4" - 14 NPT (female)
Maximum Air Inlet Pressure	120 PSIG (8.3 bar)
Maximum Material Inlet Pressure	120 PSIG (8.3 bar)
Maximum Temperature Limits	200° F (93° C)
Maximum Fluid Volume	159 in. ³ (2.61 lit.)

Dimensional Data

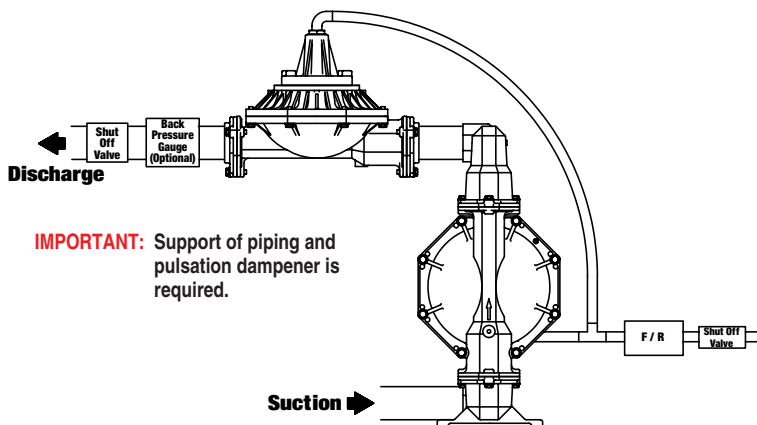


Performance

1-1/2" Pump:	75% pulsation reduction @ 60PSI back pressure / 40 GPM
2" Pump:	60% pulsation reduction @ 60PSI back pressure / 100 GPM

Typical Installation

Used with 1-1/2" & 2" Metal Diaphragm Pumps



Ordering

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

S B X X X - X X X - X

Blocker Size
20 - 2"

Air Body
A - Aluminum
C - Cast Iron
S - Stainless Steel

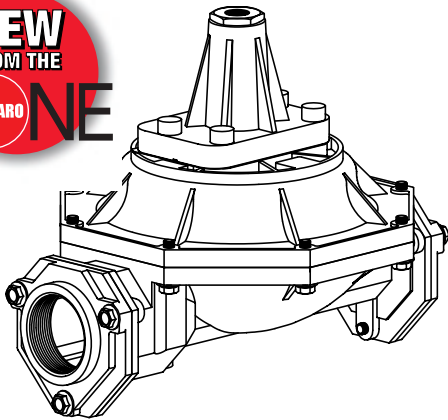
Thread
A - NPT
B - BSP

Diaphragm
A- Santoprene®
G- Nitrile
T- Teflon®/Santoprene®

Hardware
S - Stainless (304)
P - Plated Steel

Fluid Construction
A - Aluminum
C - Cast Iron
S - Stainless Steel

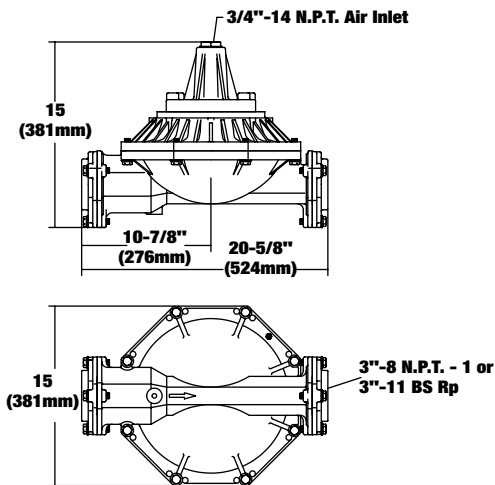
- Automatic air adjustment-standard
- Perfect for process applications
- Broad pump fluid compatibility



Specifications

Pulsation Dampener Type	Metallic / Automatic
Material / Weight-lbs (kgs)	Aluminum (fluid cap) 41 (18.6) Cast Iron (fluid cap) 94 (42.6) Stainless St. (fluid cap) 96 (43.5)
Material Inlet/Outlets	SB30X-AXX-X 3" - 8 NPTF -1 SB30X-BXX-X 3" - 11 BS Rp
Air Inlet	3/4" - 14 NPT (female)
Maximum Air Inlet Pressure	120 PSIG (8.3 bar)
Maximum Material Inlet Pressure	120 PSIG (8.3 bar)
Maximum Temperature Limits	200° F (93° C)
Maximum Fluid Volume	509 in. ³ (8.34 lit.)

Dimensional Data

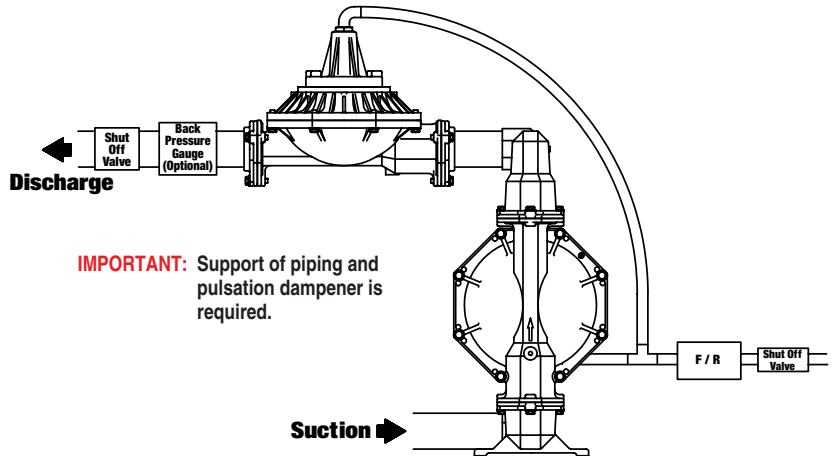


Performance

3" Pump: 55% pulsation reduction @ 60PSI back pressure / 150 GPM

Typical Installation

Can be used with 3" Ports Diaphragm Pumps.



Ordering

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

S B X X X - X X X - X

Blocker Size
30 - 3"

Air Body
A - Aluminum
S - Stainless Steel

Thread
A - NPT
B - BSP

Diaphragm
A- Santoprene®
G- Nitrile
T- Teflon®/Santoprene®

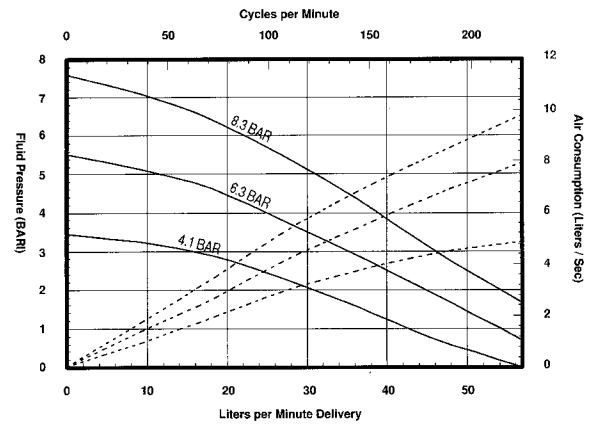
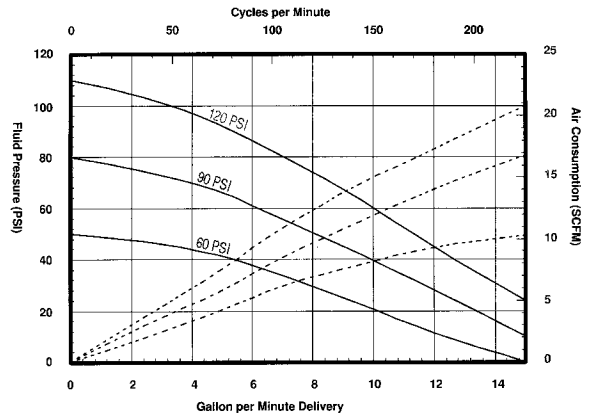
Hardware
S - Stainless (304)
P - Plated Steel

Fluid Construction
A - Aluminum
C - Cast Iron
S - Stainless Steel

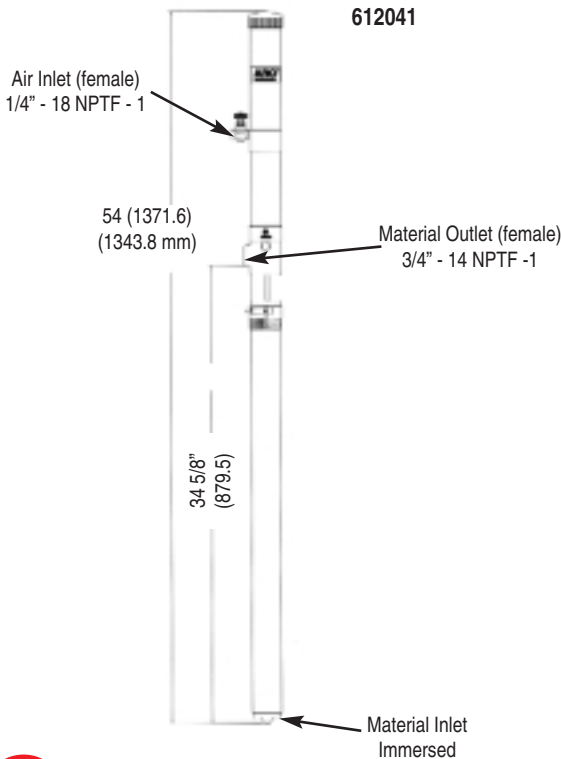
- Automatic air adjustment-standard
- Perfect for process applications
- Broad pump fluid compatibility

Performance Specifications

AIR INLET PRESSURE RANGE:	0-150 PSI (0-10.3 bar)
FLUID PRESSURE RANGE:	0-150 PSI (0-10.3 bar)
MAX. REC'D CYCLES PER MINUTE:	75
DISPLACEMENT In ³ (cm ³) PER CYCLE:	18.8
VOLUME/CYCLES:	10.4 oz. (307.7 ml)
CYCLES PER GALLON (LITER):	12.3
MAXIMUM WORKING FLOW RATE:	9-GPM (34.1-lpm)
MAXIMUM FLOW RATE:	18 gpm (68.1 lpm)
NOISE LEVEL:	77.8 bd(A) @ 60 psi, 40 cycles per minute
RATIO:	1:1
AIR MOTOR DIAMETER:	2" (5.08 cm)
STROKE:	6" (15.24 cm)
AIR INLET:	1/4"-18 NPT 1 (F)
MATERIAL INLET:	Immersed
MATERIAL OUTLET:	3/4"-14 NPTF - 1 (F)
PUMP CONSTRUCTION:	Carbon Steel
LOWER PUMP REPAIR KIT:	637081 (-1 Buna) 637083 (-3 Teflon)



Dimensional Data



Accessories

- AIR F/R/L: C28123-600
- Wall Mount: 61113
- Muffler: 61879
- AIR Line Oil: 62274 (1 Quart)

See Page 35 for Piston Pump accessories.



C28123-600

Ordering

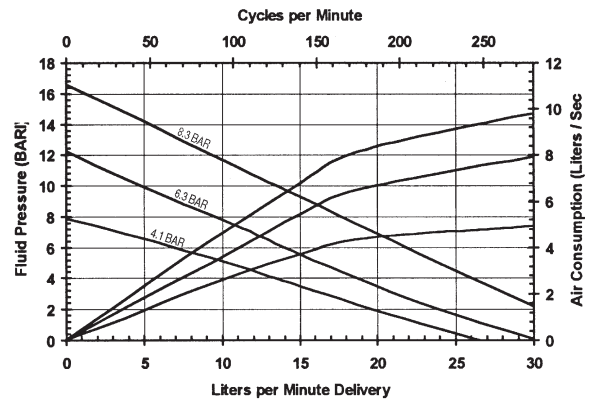
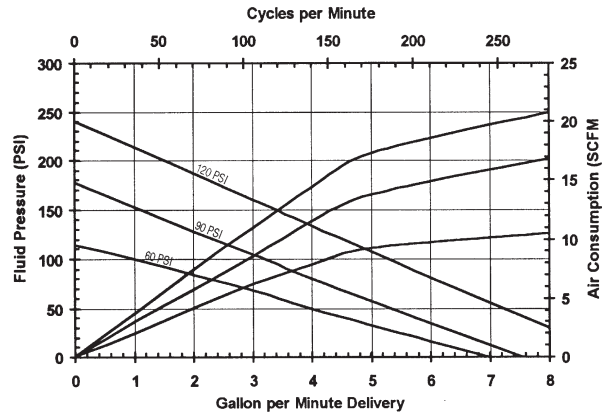
Base Model						Buna Packings
6	1	2	0	4	1	- 1
Base Model						Teflon Packings
6	1	2	0	4	1	- 3

• 5-Year Warranty!

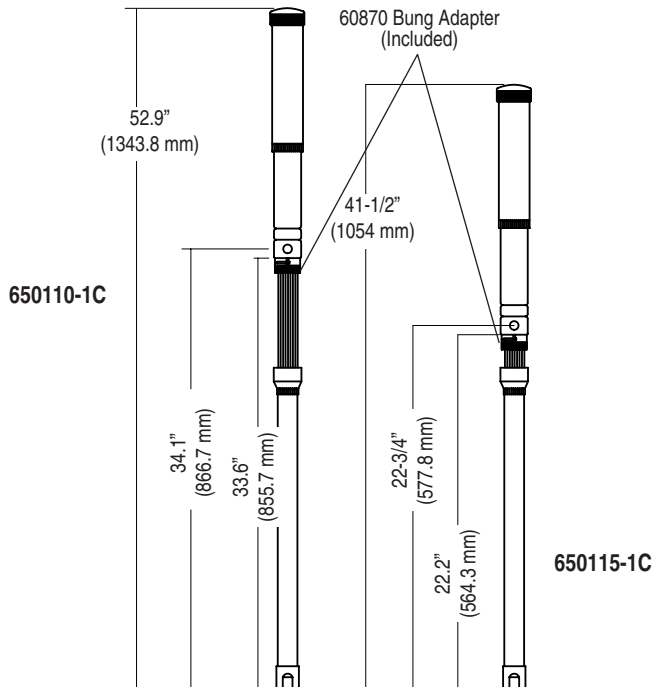


Performance Specifications

AIR INLET PRESSURE RANGE:	30-150 (2-10.2 bar)
FLUID PRESSURE RANGE:	60-300 PSI (4-20.4 bar)
MAX. REC'D CYCLES PER MINUTE:	120
DISPLACEMENT In ³ (cm ³) PER CYCLE:	7.2 (117.9)
CYCLES PER GALLON (LITER):	32 (8.4)
FLOW @ 120 CYCLES PER MINUTE:	4-GPM (15.1-lpm)
NOISE LEVEL @ 60 PSI:	77.8 db(A)
LOWER PUMP MATERIAL:	Carbon Steel
PLUNGER MATERIAL:	Carbon Steel
CYLINDER MATERIAL:	Carbon Steel
AIR MOTOR:	60702
MOTOR REPAIR KIT:	66098
MOTOR DIAMETER:	2" (5.2 cm)
STROKE:	6" (15.2 cm)
AIR INLET:	1/4" NPT (F)
LOWER PUMP REPAIR KIT:	637029 (Teflon) 637028 (UHMW-PE)
MATERIAL INLET:	1" NPT (F)-Stub Model Immersed-Drum Model
MATERIAL OUTLET:	1/2" NPT (F)
WEIGHT LBS. (Kgs.):	12 (5.4)



Dimensional Data



Accessories

- AIR F/R/L: C28123-600
- Wall Mount: 61113
- Muffler: 61879
- AIR Line Oil: 62274 (1 Quart)
- Siphon Hose: 65986 (5 Gal.)
65986-1 (55 Gal.)



See Page 35 for Piston Pump accessories.

C28123-600

Ordering

Stub Mounted Base Model

6 5 0 1 1 5 - 1 C

Teflon Packings

55-Gallon Base Model

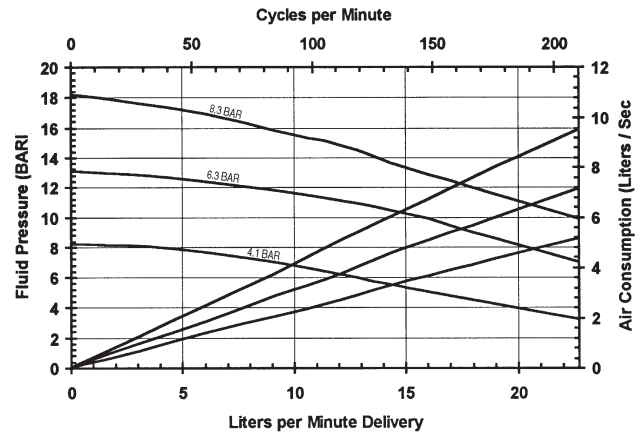
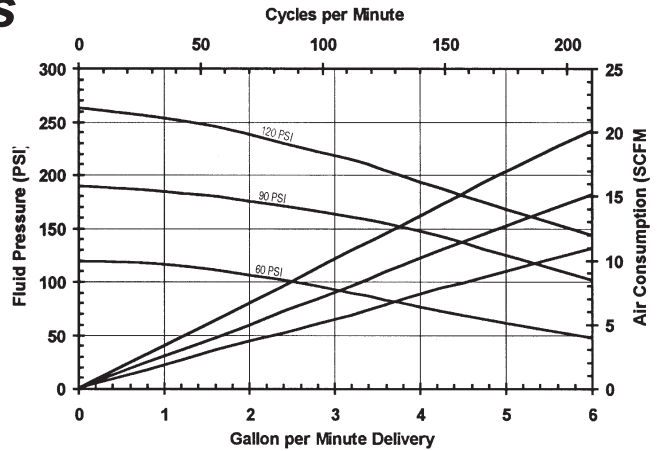
6 5 0 1 1 0 - 1 C

5-Year Warranty!

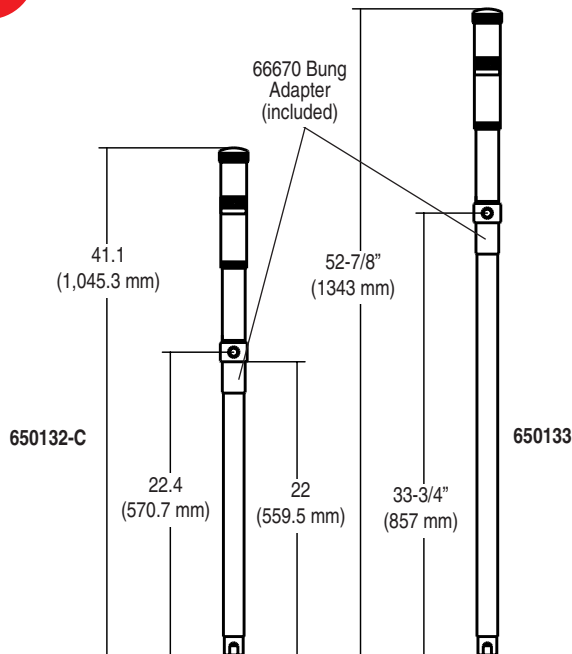


Performance Specifications

AIR INLET PRESSURE RANGE:	30-150 (2-10.2 bar)
FLUID PRESSURE RANGE:	60-300 PSI (4-20.4 bar)
MAX. REC'D CYCLES PER MINUTE:	120
DISPLACEMENT In ³ (cm ³) PER CYCLE:	7.2 (117.9)
CYCLES PER GALLON (LITER):	32 (8.4)
FLOW @ 120 CYCLES PER MINUTE:	4-GPM (15.1-lpm)
NOISE LEVEL @ 60 PSI:	77.8 db(A)
LOWER PUMP MATERIAL:	316 Stainless Steel
PLUNGER MATERIAL:	316 Stainless Steel
CYLINDER MATERIAL:	Stainless Steel
AIR MOTOR:	60702
MOTOR REPAIR KIT:	66098
MOTOR DIAMETER:	2" (5.2 cm)
STROKE:	6" (15.2 cm)
AIR INLET:	1/4" NPT (F)
LOWER PUMP REPAIR KIT:	637044 (Teflon) 637045 (UHMW-PE)
MATERIAL INLET:	1" NPT (F)-Stub Model Immersed-Drum Model
MATERIAL OUTLET:	1/2" NPT (F)
WEIGHT LBS. (Kgs.):	16 (7.2) Stub Model 19 (8.6) Drum Model



Dimensional Data



Accessories

AIR F/R/L:	C28123-600
Wall Mount:	61113
Muffler:	61879
AIR Line Oil:	62274
Siphon Hose:	67140-1 (5 Gal.) 67140-2 (55 Gal.)

See Page 35 for Piston Pump Accessories



C28123-600

Ordering

Stub Mounted Base Model
6 5 0 1 3 2 - C (Teflon Packings)

55-Gallon Base Model
6 5 0 1 3 3

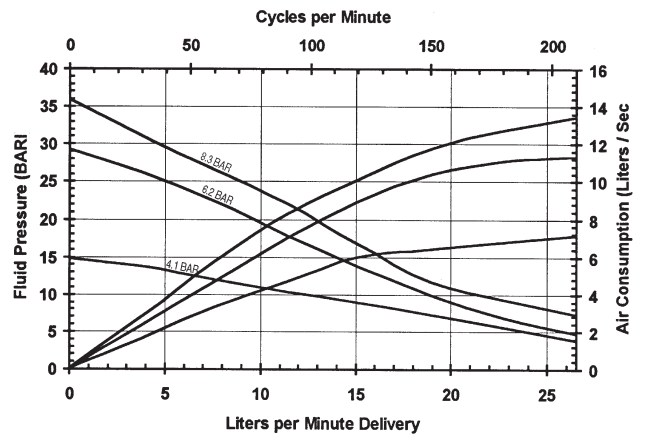
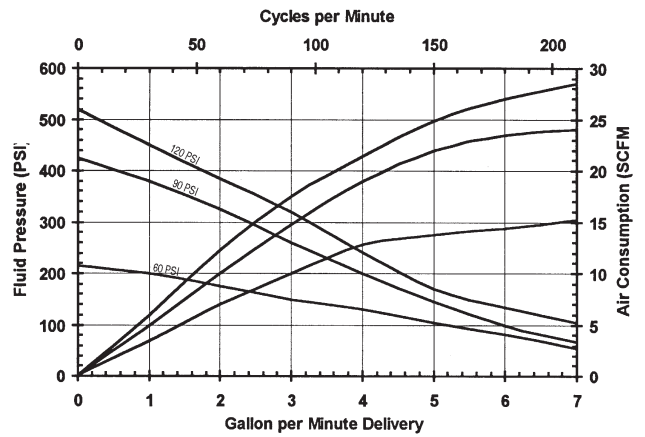
55-Gallon Base Model
6 5 0 1 3 3 - 1 (UHMW-PE Packings)

5-Year Warranty!

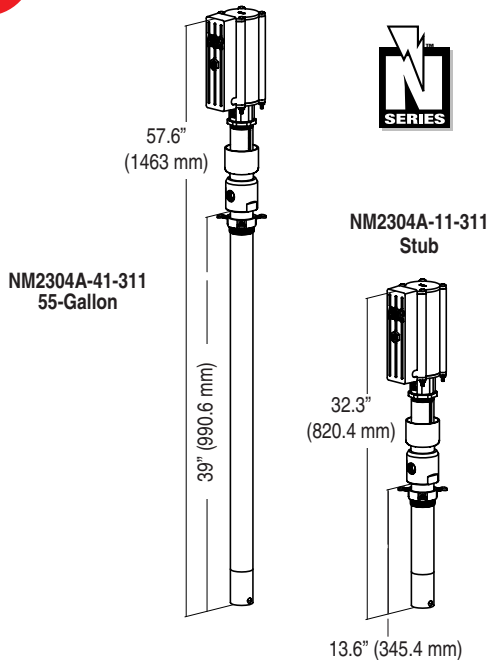


Performance Specifications

AIR INLET PRESSURE RANGE:	150 (10.2 bar)
FLUID PRESSURE RANGE:	120-600 PSI (8.1-40.8 bar)
MAX. REC'D CYCLES PER MINUTE:	120
DISPLACEMENT In³ (cm³) PER CYCLE:	8.2 (134.3)
CYCLES PER GALLON (LITER):	28 (7.4)
FLOW @ 120 CYCLES PER MINUTE:	4.2-GPM (15.8-lpm)
NOISE LEVEL @ 100 PSI:	85 db(A)
LOWER PUMP MATERIAL:	Carbon Steel
PLUNGER MATERIAL:	Carbon Steel
AIR MOTOR:	66913
MOTOR REPAIR KIT:	637316
MOTOR DIAMETER:	3" (7.6 cm)
STROKE:	3" (7.6 cm)
AIR INLET:	1/4" - 18 N.P.T.F.-1(f)
LOWER PUMP REPAIR KIT:	637176 for NM2304A-X1-311
MATERIAL INLET:	1-1/2" NPT(F)
MATERIAL OUTLET:	3/4" NPT (F)
WEIGHT LBS. (Kgs.):	NM2304A-11-311 = 32 (14.5) NM2304A-41-311 = 46 (20.9)
2" BUNG ADAPTER:	Included



Dimensional Data



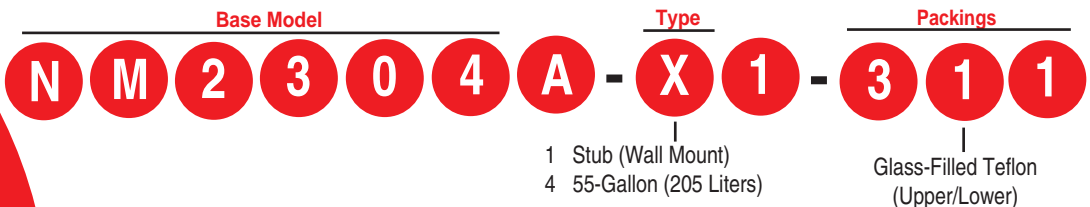
Accessories

- AIR F/R:** P29122-600
 - Wall Mount:** 61113
 - Wet Sol:** 66333-B (1 Quart)
- See Page 35 for Piston Pump accessories



P29122-600

Ordering

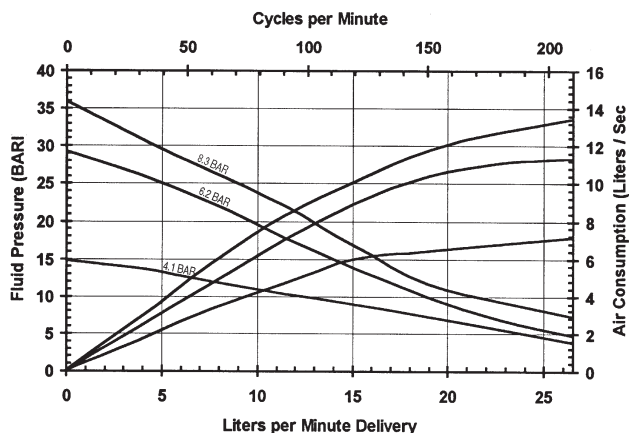
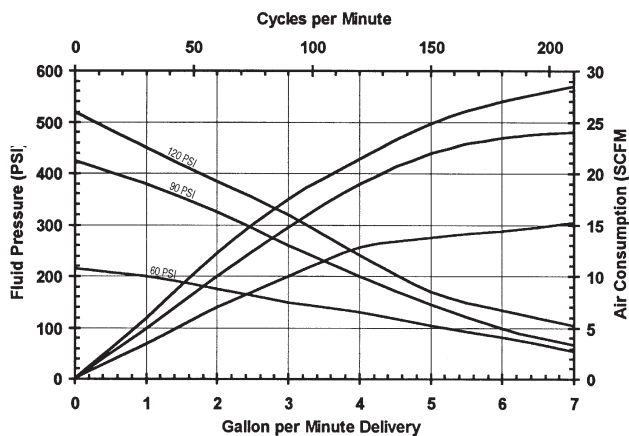


5-Year Warranty!

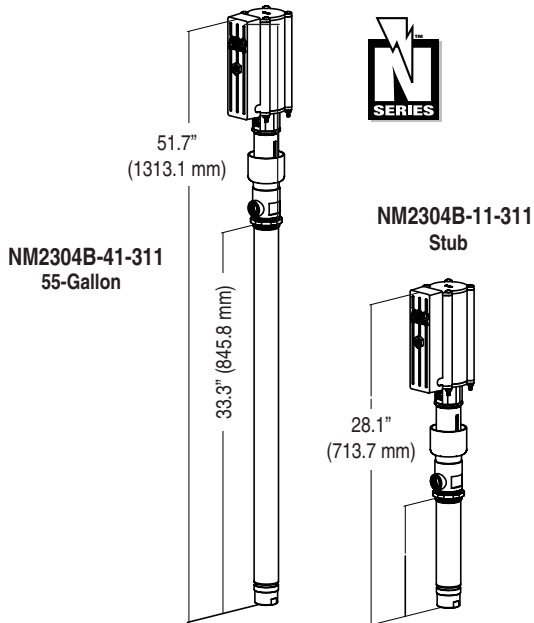


Performance Specifications

AIR INLET PRESSURE RANGE:	150 (10.2 bar)
FLUID PRESSURE RANGE:	120-600 PSI (8.1-40.8 bar)
MAX. REC'D CYCLES PER MINUTE:	120
DISPLACEMENT In ³ (cm ³) PER CYCLE:	8.2 (134.3)
CYCLES PER GALLON (LITER):	28 (7.4)
FLOW @ 120 CYCLES PER MINUTE:	4.2-GPM (15.8-lpm)
NOISE LEVEL @ 100 PSI:	85 db(A)
LOWER PUMP MATERIAL:	316 Stainless Steel
PLUNGER MATERIAL:	316 Stainless Steel
CYLINDER MATERIAL:	Stainless Steel
AIR MOTOR:	66913
MOTOR REPAIR KIT:	637316
MOTOR DIAMETER:	3" (7.6 cm)
STROKE:	3" (7.6 cm)
AIR INLET:	1/4" - 18 NPT(F)
LOWER PUMP SERIES:	65108 (NM2304B-11-311) 65106 (NM2304B-41-311)
LOWER PUMP REPAIR KIT:	637010 for NM2304B-X1-311
MATERIAL INLET:	1-1/4" NPT(F)
MATERIAL OUTLET:	3/4" NPT (F)
WEIGHT LBS. (Kgs.):	NM2304B-11 = 32 (14.5) NM2304B-41 = 46 (20.9)
2" BUNG ADAPTER:	Included



Dimensional Data



Accessories

- AIR F/R: P29122-600
- Wall Mount: 61113
- Wet Sol: 66333-B
- Siphon Hose: 67140-1 (5-Gallon)
67140-2 (55-Gallon)

See Page 35 for Piston Pump accessories



P29122-600

Ordering

Base Model
Type
Packings

N
M
2
3
0
4
B
-
X
1
-
X
1
X

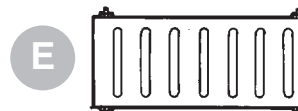
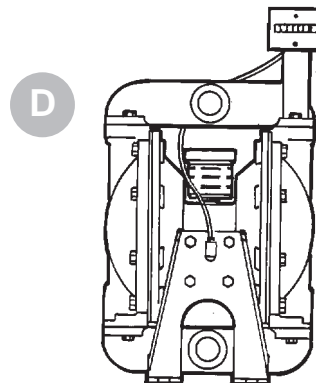
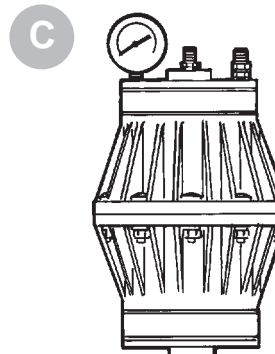
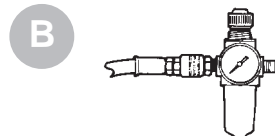
1 Stub (Wall Mount)
 4 55-Gallon (205 Liters)

311- Glass Filled Teflon
 C1B- UHMW-PE/Ultra Coat Ceramic*
 31B- Teflon/Ultra Coat Ceramic*

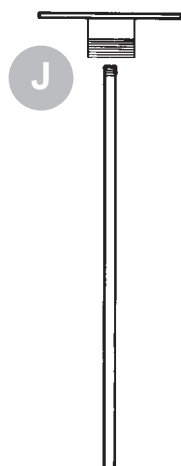
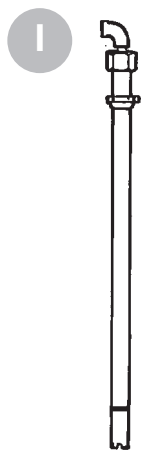
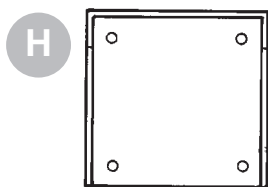
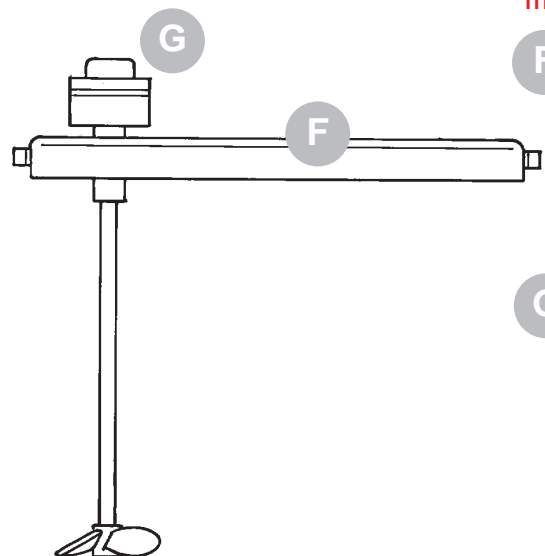
*Ultra-Coat option available on stub-type pumps only

Typical Pump System

ITEM	DESCRIPTION	USED WITH	ORDER MODEL
A	ARO-STOP® VALVE - Pump overrun control shuts off air to pump when material container is empty or line is broken. Quick set and reset feature included.	1/2" & 1" Pumps	635040
		1-1/2" & 2" Pumps	23644-400
		3" Pumps	635043
B	Air Line Connection Kit - Kit includes Piggyback Filter/Regulator with gauge, pipe nipple, and 5-foot section of air hose.	1/4", 1/2"	66073-1
		(12 SCFM Max Flow)	
		1/2", 1"	66073-2
		1-1/2" (Metallic),	
		1-1/2", 2" (Non-Met)	66084-1
2" Met. (Ball & Flap)	66312		
3"	66109		
C	Shock Blocker™ Pulsation Dampener - Patented dampener design provides automatic pulsation dampening.	1/4" - 1" Ports (100 psi max.)	SB10X-XXX See page 24
		1-1/2" - 2" Ports	SB20X-XXX See page 25
		3" Ports	SB30X-XXX See page 26
D	Cycle Counter Kit - Easy to install cycle counter records up to 999,999 cycles. Kit comes complete with all necessary hardware for instant pump installation. Excellent for fluid inventory, preventive maintenance, and fluid metering.	1/2", 1", 1-1/2"	66975 (See Pages 40-41 for new ARO®Tron Pump Controls.)
		2" and 3" Pumps	
E	Screened Inlet Adapter Kits - Carbon steel, E-Coated screen prevents unwanted solids from entering pump. Kit includes hardware for easy, quick attachment to pump.	1-1/2" Ports	67174-15
		Aluminum Pump	
		2" Ports	67174-20
		Aluminum Pump	
3" Ports	67174-30		
Aluminum Pump			



Pumping Accessories



ITEM	DESCRIPTION	USED WITH	ORDER MODEL
F	Drum Covers - Available in either Carbon (CS) or Stainless Steel (SS), durable drum covers will accommodate both diaphragm pump and agitator, where needed.	1/4" Pump 5-Gal. Cont.	67055-B (SS)
		1/2" Pump 5-Gal. Cont. 5-Gal. Cont.	66815-1 (CS) 66971 (SS)
G	Material Agitators - Agitators available for both 5- and 55-gallon containers. Air-operated agitator motors generate between 500-1,000 RPM (5 gal. model), and 300-3,000 RPM (55 gal. model). Agitator shaft and propellers are constructed of corrosion-resistant 316 Stainless Steel.	5-Gallon Cont. 55-Gallon Cont.	651100 651103
H	Wall Mount Brackets - Sturdy wall mount brackets provide a convenient means of mounting pumps for centralized transfer operations. Mounts are constructed of heavy-gauge, coated steel and include mounting hardware.	1/4" Pump 1/2" Pump	67054-B 76763 (doesn't include mounting hardware)
		1" Pump (Metallic Only) 1-1/2" Pump (Metallic Only) 1", 3;1 Pump	66100 62133 67142
I	Siphon Tubes - For use when pumping from a 55-gallon container, siphon tubes are available in plastic (PVC, PP, Teflon), carbon steel (CS), or 316 stainless steel (SS). 1-inch siphon tubes come with foot valve for positive priming. Both 1/2-inch and 1-inch models include bung adapters.	1/4" Pump	67059-1 (Teflon) 67059-4 (PP)
		1/2" (Non-Met.) Pump (55 Gal. Cont.)	61409(PVC) 90° NPT(F) 61412(PVC), straight NPT(M)
		1" Pump (55 Gal. Cont.)	65109 (CS) NPT(F) 66568 (SS) NPT(F) 66779(PVC) NPT(F)
		1" Pump For Bulk (275 Gal.) Tank use	66779-2(PVC) NPT(F) 49"L 66779-3(PVC) NPT(F) 61"L
J	Drum Pump Adapter Kit - Easy to install adapter kit permits drum mounting of pump in minutes. Kit includes 304 stainless steel mounting plate and siphon tube. Mounting hardware included.	1/4" Pump 1/2" (Non-Metallic and Metallic)	65031 65938

Pumping Accessories

ITEM DESCRIPTION

USED WITH

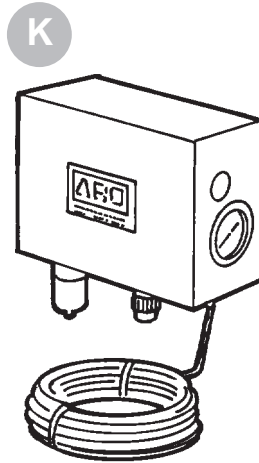
ORDER MODEL

K

All Pneumatic Liquid Level Sensors - This device senses the backpressure (59916-1 high level) or lack of backpressure (59916-2 low level) on the end of tubing that is located in tank or sump. The tubing is strategically placed at a desired level or levels. When an input occurs the pneumatic output signal from this device is used actuate an air valve. See page 38 for valve recommendations.

Any Style Pump

59916-1
59916-2



Any Pump

93368-1

Pressure Relief Valve - Relief valve is preset to 125 psi (± 10 psi). To be used in systems where thermal expansion or excess backpressure can develop in the fluid lines. Valve should be installed in a piping tee located near the outlet of the pump. Tubing or hose will be required to return bleed-off to fluid container. Valve is 1/4-18(M) inlet/outlet threaded.

Grounding Strap - 25-foot grounding strap is used to ground pumps. Strap is 14-gage, heavy-duty sheathed wire and includes wire end attachments. Must be ordered separately.

Any Pump

66885-1

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

SERVICE KITS			AIR KITS	
Pump Port Size	Air Valve Kit	Fluid Section Kit (Diaphragm Material)	Recommended Air Line Filter/Regulator Units	Air Line Kit
1/4"	637276	637313-PT (Teflon) 637313-PA (Santoprene)	P29122-600	66073-1
1/2"	637141	637140-XX*	P29122-600 P29221-610	66073-1 66073-2
1" Non-Metallic	637118-C	637161-XX*-C	P29221-610	66073-2
1" Metallic	637118-C	637119-XX*-C	P29221-610	66073-2
1" Metallic 3:1	637178	637179	P29231-610	N/A
1-1/2" Non-Metallic	637118-C	637165-XX*	P29241-610	66084-1
1-1/2" Metallic	637118-C	637124-XX*	P29241-610	66084-1
2" Non-Metallic	637118-C	637165-XX*	P29241-610	66084-1
2" Metallic	637302	637309-XX*	P29241-610	66312
2" Flap	637302	637310-XX*	P29241-610	66312
3" Metallic	637302	637303-XX*	F25451-110 (Filter) 27354-600 (Regulator)	66109

*NOTE: To receive the correct ball and diaphragm materials - replace the **XX** with the last 2 digits of your pump model number.

Looking for Air Solutions?
www.iracg.com



Accessories



C28123-600



P29122-600



635040



61113



61879



66334-B

Model Number	Description	Pumps Used With	Port Size NPT	Reg. Pressure Range PSI (bar)	Max. Flow
AIR FILTER / REGULATOR / LUBRICATOR					
MINIATURE F / R / L					
C28123-600	Filter/Regulator-Lubricator Drop/fog-type lubrication, 20 micron filter, polycarbonate bowls. 0-150 lb. gauge	2" & "N", air motor pumps	1/4 (F)	5-125 (.3-8.5)	13 SCFM (6 dm ³ /s)
P29122-600	Filter/Regulator "Piggyback" unit features, 20 micron filter, polycarbonate bowls. 0-150 lb. gauge	2" & "N", air motors	1/4 (F)	5-125 (.3-8.5)	12 SCFM (6 dm ³ /s)

OVER-RUN CONTROL

635040	ARO Stop Valve	Over-run control valve for all Piston Pumps. Valve automatically shuts pump off if material supply is interrupted.
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AIR LINE LUBRICANT

62274	Gear Oil - One Quart Bottle A high quality "EP" extreme pressure gear oil, non-detergent, rust or oxidation inhibited, with a viscosity of 700-1000 S.U.S. at 100°F.	Used in air line lubricator to air motor.
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WALL MOUNTS

61113	Wall Mount Bracket Has 2" NPT(F) opening to accept bung type pumps. Bracket slips over rim of open head drum or can be wall mounted.	Used with 2" and "N" Series" air motor stub pumps fitted with bung dapters or 55-gallon bung type pumps.
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Model Number	Description	Pump Used With	Air Inlet NPT	Size Inches X Inches PSI (bar)
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AIR MOTOR MUFFLER

61879	Air Motor Muffler Reduces air exhaust noise level to acceptable OSHA standards.	2" air motor, 2:1 ratio pumps	3/8 (M)	1-1/4 x 3-1/2 (32 x 89)
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WET SOL "PLUS"

66333-B	Wet Sol - One Quart Container Designed to prolong packing life by keeping the piston rod and packings wetted. Also reduces the possibility of material hardening on the piston rod.	Used with all pumps with wet cups.
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66334-B	Wet Sol - One Gallon Container
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SIPHON HOSES

67140-1	5 Gallon,	Stainless Steel tube and fittings. 5 ft. Hose, 3/4 in. (NPT), with nylon inner tube
67140-2	55 Gallon,	Stainless Steel tube and fittings. 5 ft. Hose, 3/4 in. (NPT), with nylon inner tube

Air System Components



Model Number	Description	Pumps Used With	NPT Inlet	Max. Inlet PSI	Max. CFM	Micron Element	Size L x W
F25121-200	Filter	1/4" (Dia.) 2" & N-Series (Piston)	1/4	150	38	20	4.2 x 2.0
F25221-110	Filter	1/2", 1" Models	1/4	175	54	40	7.0 x 2.6
F25241-110	Filter	1-1/2", 2" Models Non-Metallic	1/2	250	122	40	7.0 x 2.6
F25451-110	Filter	2" Metallic, 3" Models	3/4	250	345	40	11.7 x 4.75



Model Number	Description	Pumps Used With	NPT Inlet	Gauge Ports	Max. Inlet PSI	Pressure Range	Max. CFM	Size L x W
127122-600	Regulator w/gauge	1/4"(Dia.), 2" & N-Series (Piston)	1/4	1/8	200	0-125	38	3.125 x 1.625
R27221-600	Regulator w/gauge	1/2", 1" Models	1/4	1/4	200	0-125	54	4.75 x 2.6
R27241-600	Regulator w/gauge	1-1/2", 2" Models Non-Metallic	1/2	1/4	200	0-125	122	4.75 x 2.6
27354-600	Regulator w/gauge	2" Metallic, 3" Models	3/4	1/4	250	0-125	345	8.6 x 3.5



Model Number	Description	NPT Inlet	Max. Inlet PSI	Max. CFM	Size L x W
L26221-110	Lubricator	1/4	175	75	7.7 x 2.6
L26241-110	Lubricator	1/2	175	110	7.7 x 2.6
L26241-110	Lubricator	3/4	250	190	11.7 x 4.7



Model Number	Description	Pumps Used With	NPT Inlet	Gauge Ports	Max. Inlet PSI	Pressure Range	Max. CFM	Micron Element	Size L x W
P29122-600	Filter / Reg. w/gauge	1/4"(Dia.), 2" & N-Series (Piston)	1/4	1/8	150	0-125	12	20	6.0 x 2.0
P29221-610	Filter / Reg. w/gauge	1/2", 1" Models	1/4	1/4	175	0-125	93	40	9.5 x 2.6
P29231-610	Filter / Reg. w/gauge	3:1 (Dia.)	3/8	1/4	175	0-125	135	40	9.5 x 2.6
P29241-610	Filter / Reg. w/gauge	1-1/2" Models	1/2	1/4	175	0-125	140	40	9.5 x 2.6



Model Number	Description	Used With	Model Number	Description	Used With	Model Number	Description	Used With
29660-1	20 Micron Element	F125121-200 P29122-600	100067	0-160 lb. Gauge	R27221-600 R27241-600 27354-600 27364-600 P29221-610 P29241-610	104078	Automatic Drain	125121-000 P29122-600
29077	Mounting Bracket	27354-600 27364-600				104265	Nut/Bracket Kit	127122-600 P29122-600
29850	0-150 lb. Gauge	127122-600				104119	40 Micron Element	F25451-110 F25461-110
100095-160	0-150 lb. Gauge	P29122-600	104068	Automatic Drain	F25221-110 F25241-110 P29221-610 P29241-610 F25451-110 F25461-110	104172	Wall Mounting Kit	R27221-600 R27241-600 P29221-610 P29241-610
100031-1	40 Micron Element	F25221-110 F25241-110 P29221-010 P29241-010						



Features

1/8" and 1/4" Port Sizes

ARO® Module/Air 1000 Series “Piggyback” units are compact to save space, giving more design flexibility. These units have one common inlet/outlet for both the filter and regulator. This saves on space, set-up time and piping costs.

- Glass reinforced, composite bodies with threaded brass inserts are light weight, corrosion resistant and have no paint to chip. Combination units can be pipe nipples or clamped together in a modular configuration.
- Non-rising self locking adjustment knob cannot be vibrated loose.
- Increase/decrease arrows on the knob allows easy adjustment.
- Regulator offers in-line repairability. Diaphragm can be replaced without removing unit from line.
- Bayonet bowl attachment with line-up arrow heads provides easy filter element removal. Arrow heads assure user of locked position.
- Standard automatic drains available.
- Bowl has external thread, 1/8" NPT for piping away moisture.
- Polycarbonate bowl with guard or composite corrosion resistant bowl available.
- Air inlet arrow is molded into housing for easy air line hookup.



P29122-600

Performance Specifications

Ordering

See previous page.

Materials of Construction

Body:	Glass Reinforced Bodies
Bowl:	Polycarbonate w/Bowl Guard
Bowl Guard:	Composite w/Sight Windows
Composite Bowl:	Nylon
Seals:	Buna-N
Drain:	Push Type
Filter Element:	Porous Polypropylene
Diaphragm:	Buna-N
Spring Housing:	Glass Filled Nylon

Operating Conditions

Temperature Range:	0° to 125° F (-18° to 52° C)
Max. Inlet Pressure:	Poly Bowl – 150 PSIG (10.4 bar) Composite Bowl – 150 PSIG (10.4 bar)
Flow:	Air flow is at 90 PSIG (6.2 bar) inlet and 5 PSIG (0.4 bar) pressure drop 1/8" = 13 scfm (6 dm ³ /s) 1/4" = 13 scfm (6 dm ³ /s)

2-Way Solenoid/Pilot Acting Valves Pump Type/Size



- Normally Closed
- Brass Body
- Stainless Steel Steel
- Spring Return
- Connector Option Include CSN-30 or CHW-30

Model Number	Port Size	Cv	Voltage	DIAPHRAGM PUMPS					PISTON			
				1/4"	1/2"	1"	1-1/2"	2" Plastic	2" Met.	3"	2"	3"
TB03EB-024-D	3/8"	4.5	24 DC	.	.	.					.	.
TB03EB-120-A	3/8"	4.5	120 AC	.	.	.					.	.
TB04EB-024-D	1/2"	4.5	24 DC				.	.				
TB04EB-120-A	1/2"	4.5	120 AC				.	.				
TB06HB-024-D	3/4"	12.0	24 DC						.	.		
TB06HB-120-A	3/4"	12.0	120 AC						.	.		

Note: See Page 39 for cable connectors.

2-Way Direct Acting Solenoid



- Normally Closed
- Brass Body
- Stainless Steel Stem
- Spring Return
- Connector Options include CSN-30 or CHW-30, exception 1/4" valve which uses CSN or CHW.

Model Number	Port Size	Cv	Voltage	DIAPHRAGM PUMPS					PISTON PUMPS			
				1/4"	1/2"	1"	1-1/2"	2" Plastic	2" Met.	3"	2"	3"
TB022B-024-D	1/4"	.18	24 DC	.	.							
TB022B-120-A	1/4"	.18	120 AC	.	.							
TB035B-024-D	3/8"	4.0	24 DC		.	.	.	.	.		.	.
TB035B-120-A	3/8"	4.0	120 AC		.	.	.	.	.		.	.
TB045B-024-D	1/2"	4.0	24 DC				.	.	.		.	.
TB045B-120-A	1/2"	4.0	120 AC				.	.	.		.	.
TB066B-024-B	3/4"	8.6	24 DC							.	.	.
TB066B-120-A	3/4"	8.6	120 AC							.	.	.

Note: See Page 39 for cable connectors.

3-Way Solenoid Actuated Valves



- Normally Closed
- Aluminum Body
- Spring Return
- Connector Options include CSN-30 or CHW-30 for CAT66-P, or CSN or CHW for all others

CAT66P

H253SS



MQ3729

Model Number	Port Size	Cv	Voltage	DIAPHRAGM PUMPS					PISTON			
				1/4"	1/2"	1"	1-1/2"	2" Plastic	2" Met.	3"	2"	3"
CAT66P-024-D	1/4"	.2	24 DC	.								
CAT66P-120-A	1/4"	.2	120 AC	.								
MQ3728-024-D	1/4"	1.5	24 DC		.	.					.	.
MQ3728-120-A	1/4"	1.5	120 AC		.	.					.	.
H253SS-024-D	3/8"	2.2	24 DC			.						
H253SS-120-A	3/8"	2.2	120 AC			.						
H254SS-024-D	1/2"	2.4	24 DC				.	.				
H254SS-120-A	1/2"	2.4	120 AC				.	.				
MQ3729-024-D	3/4"	7.5	24 DC						.	.		
MQ3729-120-A	3/4"	7.5	120 AC						.	.		

Note: See Page 39 for cable connectors

Air Control Needle Valves



104104-N02

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel Insert & Stem

Model Number	Port Size	Cv	DIAPHRAGM PUMPS					PISTON			
			1/4"	1/2"	1"	1-1/2"	2" Plastic	2" Met.	3"	2"	3"
104104-NS2	1/4"		.	.	.					.	.
104104-N02	1/4"		.	.	.						
104104-N04	1/2"	4.5				.	.				
104104-N06	3/4"	4.5						.	.		

Lock-Out Valves/Hasp



104174



100085

- Meets OSHA lock-out / tag-out regulations
- Installs upstream of air filter / regulator unit

Model Number	Port Size	DIAPHRAGM PUMPS					PISTON			
		1/4"	1/2"	1"	1-1/2"	2" Plastic	2" Met.	3"	2"	3"
104253-2*	1/4"	.							.	.
104174-2	1/4"	.	.	.						
104174-4	1/2"				.	.				
100085 (Hasp)	1/2"	.	.	.	.	.			.	.

* Safety lockout for Module/Air 10000

Accessories



CSN-30



CHW-30

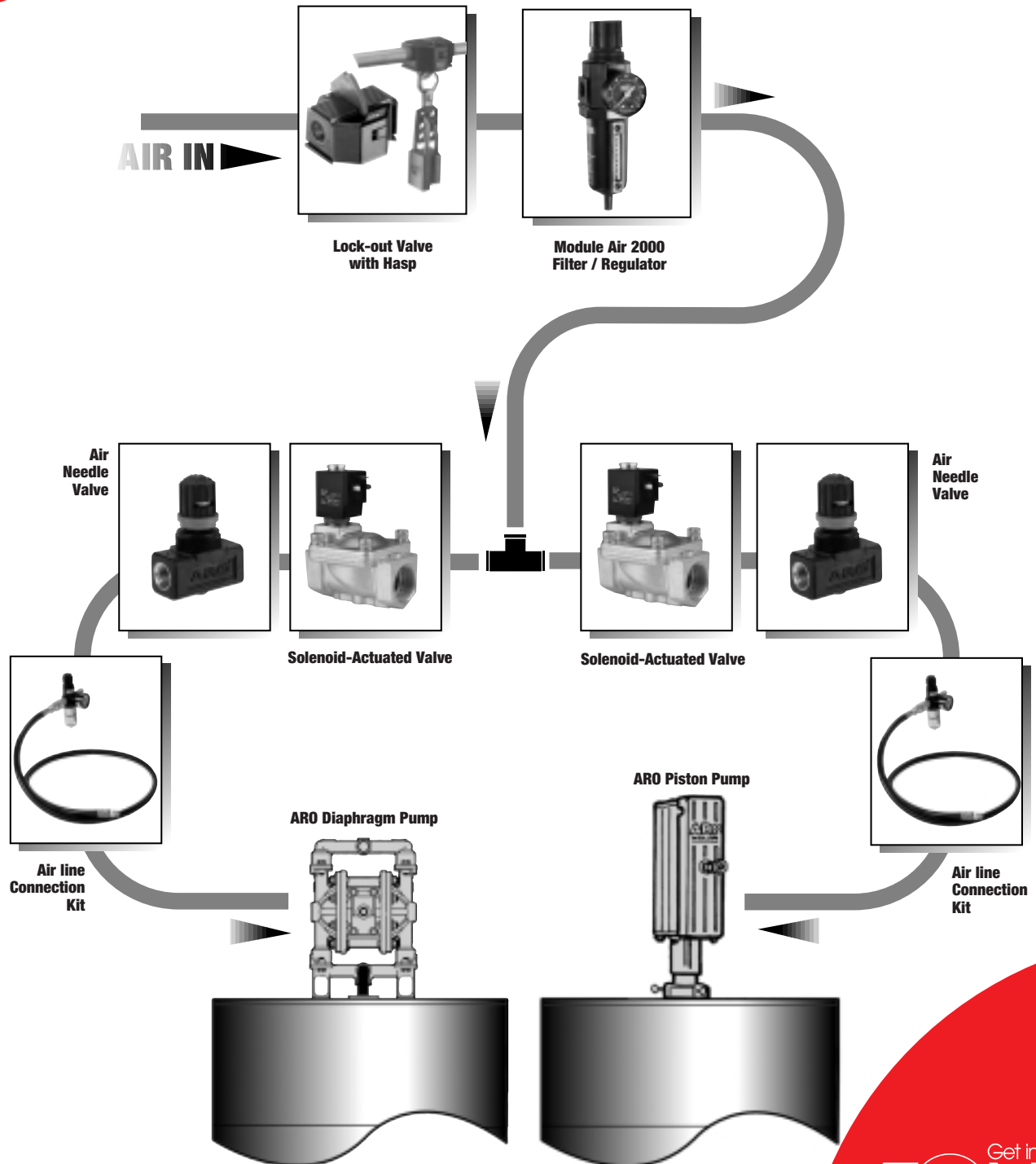
Connectors

Model	Description
CSN	Strain relief connector for 3-way valves
CSN-30	Strain relief connector for 2-way valves and CAT66P-XXX-X Valves
CHW	Molded cable connector for 3-way valves, 36" molded leads
CHW-30	Molded cable connector for 2-way valves and CAT66P-XXX-X, 36" molded leads

Coils

Model	Description
116218-39	22 mm, 24 VDC Coil
116218-33	22 mm, 120 VAC Coil
119378-39	30 mm, 24 VDC Coil
119378-33	30 mm, 120 VAC Coil

Typical Installation





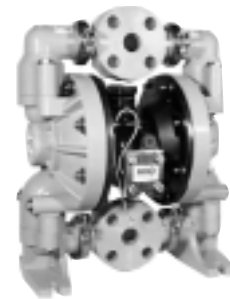
Cycle Sensor Kits

ARO's new Cycle Sensor Kit provide continuous, real-time monitoring of your Diaphragm Pump's cycle rate. What's the advantage? By knowing your pump's actual operational cycle rate, not only can you adjust to achieve a more precise material flow, but you can also begin to track and measure your pump's performance and parts wear cycle. With this data now in hand, you'll be better prepared for your pump's service and replacement needs - as opposed to unanticipated pump failure and the frantic downtime emergencies that send you or your maintenance people scrambling.

- **Simple Installation** - The ARO Cycle Sensor Switch Kit install in minutes to provide years of reliable pump cycle intelligence.
- **Simple Operation** - Once connected to your PLC, an ARO Mini-batch Controller (see reverse for more information), or simple LED read-out meter, the closed-contact magnetic sensor switch provides failsafe accuracy and dependability.
- **Avoids Diaphragm Failure Mess and Downtime** -
By providing critical pump cycle data, you can begin to take charge of your pump's service and replacement schedule instead of pump failure and its attendant mess taking charge of you.



67168



67169

Ordering

Pump Cycle Sensor Kits

Kit Model	Diaphragm Pump Model
67168	1/2" Ports / Non-Metallic
67169	1", 1 1/2", 2" Ports / Non-Metallic & 1", 1 1/2" / Metallic
67170	2", 3" Ports / Metallic



67170

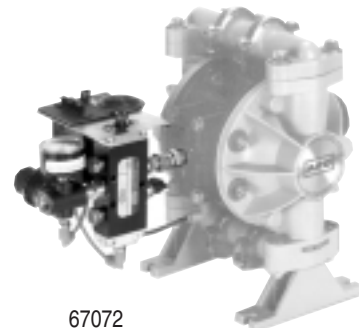
Pneumatic Batch Counter

ARO[®] Pneumatic Batch Counter Kits control the volume of fluid dispensed by controlling the number of pump cycles. Since all ARO Diaphragm Pumps are positive displacement pumps, with a known displacement, the number of pump cycles, times the pump's displacement, equals the total volume dispensed. These kits are totally pneumatic and are therefore explosive proof.

Ordering

Pneumatic Batch Counter

Kit Model	Diaphragm Pump Model
67072	Manual start batch counter kit for 1/2" and 1" ports pumps



67072



Cycle Actuation Kits

ARO's new ARO®TRON Cycle Actuation Kits allow the cycle rate of an ARO Diaphragm Pump to be remote-controlled with an electrical signal from PLC's, pH or Pressure Sensors, or even simple Line Switches.

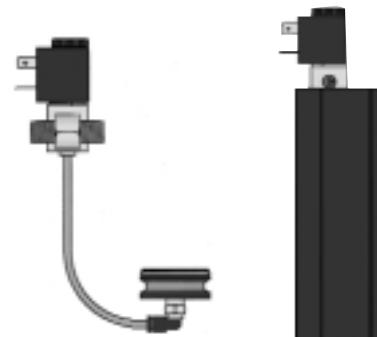
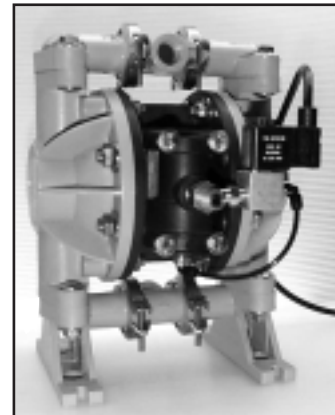
Ordering

KIT MODEL	DESCRIPTION
67165-1	24 VDC Kit adapts to 1/2" pumps (metallic/ non-metallic)
67165-2	120 VAC Kit adapts to 1/2" pumps (metallic/non-metallic)
67165-3	No Coil* Kit adapts to 1/2" pumps (metallic/non-metallic) For 1/4" (ported) pump cycle actuation, use any of the above three 67165-X (24 VDC, 120 VAC, No Coil) kits with any of the following specially outfitted 1/4" pumps: 650771-1-B (PD02P-APS-PTT), 650771-2-B (PD02P-APS-PTA), 650771-3-B (PD02P-ADS-DTT)
67166-1	24 VDC Kit adapts to 1", 1-1/2" metallic and 1", 1-1/2" and 2" non-metallic pumps (except 3:1 AODs)
67166-2	120 VAC Kit adapts to 1", 1-1/2" metallic and 1", 1-1/2" and 2" non-metallic pumps (except 3:1 AODs)
67166-3	No Coil* Kit adapts to 1", 1-1/2" metallic and 1", 1-1/2" and 2" non-metallic pumps (except 3:1 AODs)
67167-1**	24 VDC Kit adapts to 2" and 3" metallic pumps
67167-2**	120 VAC Kit adapts to 2" and 3" metallic pumps
67167-3**	No Coil* Kit adapts to 2" and 3" metallic pumps

*NOTE: Extra coils (assorted voltage ratings) are available for non-24 VDC or 120 VAC applications. Contact ARO Customer Service for information.

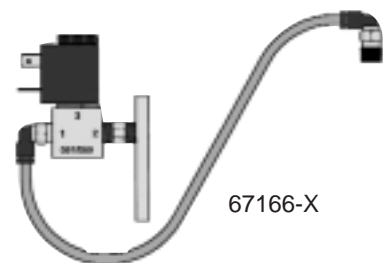
**NOTE: Valve Block available in aluminum only.

Important Note: To achieve optimum performance, be sure to provide a balanced ("time-on" equals "time-off") input signal from your electronic device. For Important Pump Displacement Information, see chart on previous page.



67165-X

67167-X



67166-X

Excellent for dosing / batching applications

Get in the **ZONE**



Performance Technical Data

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/ MIN	SOUND PRESSURE (L_{Aeq})
Diaphragm Pumps			
1/4	70	60	59.8 db(A)
1/2	70	60	71.1 db(A)
1	70	60	64.5 db(A)
1-1/2	70	60	77.7 db(A)
2	70	60	*85.0 db(A)
3	70	50	*83.0 db(A)
Piston Pumps			
1:1	60	40	78 db(A)
2:1	60	40	76 db(A)
4:1	100	N/A	85 db(A)

Viscosity Conversion Chart

Centi Poise	Poise	Saybolt Universal (SSU)	Saybolt Furoil	Ford No. 3	Ford No. 4	Zahn No. 1	Zahn No. 2	Zahn 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					

Performance Technical Data

ARO Diaphragm Pumps

	Temp Limit F (C)	Scale 1 - 5 (5 is best)		Flex Life*
		Chemical	Abrasion	
Acetal	180 (91)	3	3	-
Aluminum	-	1	3	-
Buna N (Nitrile)	180 (82)	2	2	3
Cast Iron	-	3	4	-
EDPM	280 (138)	3	2	3
Geolast (Nitrile Based)	180 (82)	2	2	3
Hytrel	150 (66)	2	4	4
Kynar (PVDF)	200 (107)	5	2	-
Neoprene	200 (93)	2	2	3
Polypropylene	150 (79)	4	2	-
Polyurethane	150 (66)	1	4	4
Santoprene	225 (107)	4	4	5
Stainless Steel (300 Series)	-	4	4	-
Stainless Steel (400 Series)	-	3	5	-
Teflon	220 (104)	5	2	4
Viton	350 (104)	4	2	1

* Applies to diaphragms only.

*** Note: These are guidelines only. Consult the manufacturer of pumped fluid for exact compatibility and temperature requirements.

Five Year Pump Warranty

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

PUMP FIVE-YEAR WARRANTY

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

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

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

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

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

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

Application Specification Form

Completing this sheet will provide our Sales Engineers with the information they need to quote the correct product to fulfill your specific requirement. Please fax to 419-633-1748.

Company _____
Address _____
City _____ State/Province _____ Zip/Postal Code _____
Phone _____ Fax _____
E-mail _____
Contact _____

Fluid(s) Transferred _____
Flow Rate _____ T.D.H. ft. _____ Temp. _____ Viscosity _____
Specific Gravity _____

Additional information _____

Additional Specifications _____

Convenient Conversion Factors

Watts X 0.00134 = H.P.

Kw X 1.34 = H.P.

$\frac{\text{Feet of Head (Water)}}{2.31} = \text{PSI}$

KPa X .145 = PSI

Liters X .264 = Gallons

Meters X 3.28084 = Feet

mm X 0.03937 = Inches

Kgs X 2.2046223 = Pounds (avdp.)

$^{\circ}\text{F} = 1.8^{\circ}\text{C} + 32$

1 GPM = 0.003785 m³/min.

Gallons of Water X 8.3453 = Pounds of Water

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