

Proven Source. Proven Solutions.

Models and Accessories Selection Guide

 **Ingersoll Rand**

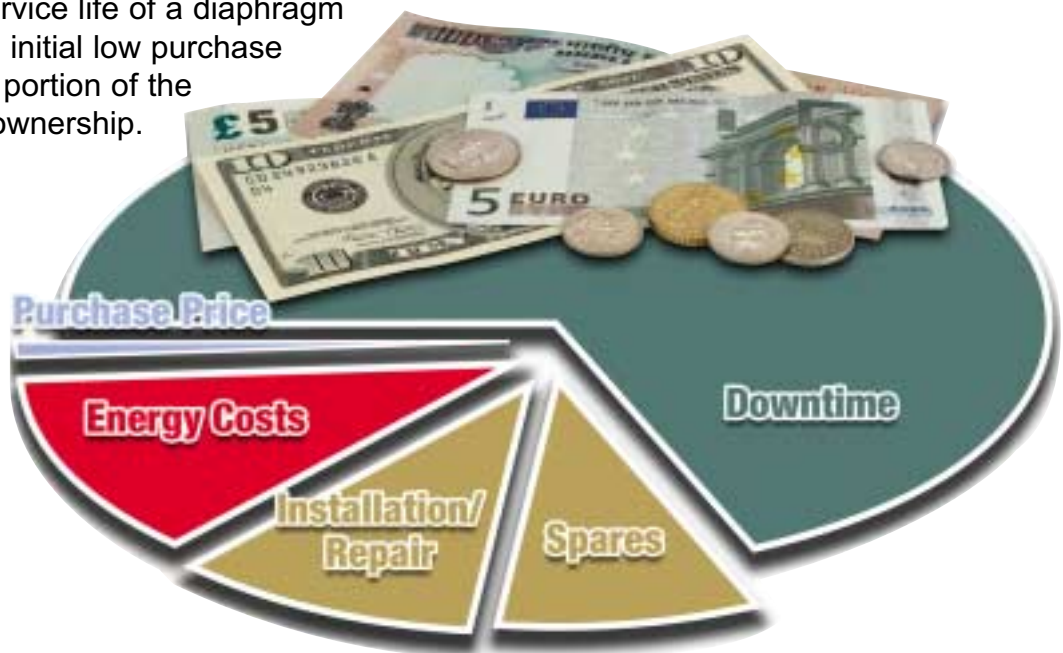
**ARO® Expert Series Pumps
for the Process Industries**



Total Cost of Ownership: A 5-Year Snapshot

Competitive Total Cost of Ownership Chart:

Over the five-year service life of a diaphragm pump, a competitor's initial low purchase price is a misleading portion of the pump's *total* cost of ownership.



EXP Pumps Reduce the Total Cost of Ownership

The cost chart for EXP pumps is considerably smaller for some very important reasons:

Energy Efficient:

- IR/ARO EXP Pumps are up to 40% more efficient than competitive pump models.

Downtime Reduction:

- The Mean Time between Failure for EXP is up to four-times longer than competitive pumps.

Installation/Repairs and Spare Parts:

- EXP diaphragms provide up to four-times the life of competitive diaphragms.
- EXP spares include cost-effective service kits, not the expensive, full-motor replacements of some competitors.

EXP Total Value Proposition:

- EXP provides the *BEST* Total Cost of Ownership of any diaphragm pump on the market today.

What does this mean to my bottom line?

EXP pumps are up to 40% more efficient than competitive models! The IR/ARO Pump Cost Efficiency Software calculator is a tool that compares the cost of operating an Expert Series Pump with its nearest competitor. To check out our calculator, go to: www.arozone.com/exp.



- Hydraulic Institute / ANSI (10.6) air operated pump guidelines used to substantiate claims.
 - Air consumption and the number of cycles are automatically computed.
 - Provides a head-to-head comparison at the working parameters of your application.
 - Illustrates how much you could save per year, per pump.
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- Contact your local IR/ARO Specialty Pump representative for further consultation.
 - Estimate potential savings in dollars.
 - Identify areas where EXP pumps can save money through improved air efficiency.
 - Provide a return-on-investment estimate.

IR/ARO can conduct an on-site validation of the cost savings that result from using EXP series pumps.

- ARO will bring an EXP Air Consumption Audit Tank to conduct the test. We'll even supply a free trial EXP Pump!
- The audit group will provide you hard data covering the return on investment for using EXP Pumps.
- A head-to-head efficiency comparison between EXP and the competitive pump you have in service.
- We will provide recommendations for process improvement and ideas for increasing production.
- Discuss maintenance and leasing opportunities.
- Minimize spare parts requirements.
- Standardize pump models.



IR/ARO EXP Audit Tank

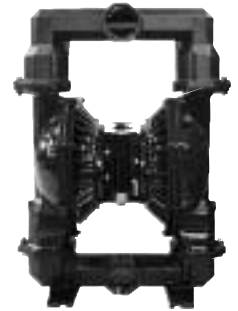
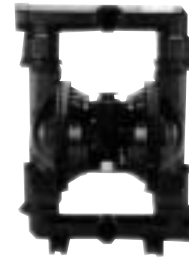
When completed, official Efficiency Test Audit and System Recommendations will be submitted following review.

Interested in an IR/ARO audit of your pumping operation? Want to schedule an IR/ARO Air Consumption Tank Audit? Register for an on-site audit by logging onto www.arozone.com/exp/audit.

EXP Model Overview: Non-Metallic Models



Models:	1/2"	1" EXP	1 1/2" EXP	2" EXP
Maximum Flow GPM (LPM)	13 (49)	53 (200)	123 (465)	184 (696)
Maximum Discharge Pressure PSI (BAR)	100 (6.8)	120 (8.3)	120 (8.3)	120 (8.3)
Fluid Ports Inlet/Outlet (BSP)	1/2" - 14NPTF (Side or Center)	1" ANSI/DIN Flange (Side or Center) 1 - 11-1/2" NPT Rp 1-11BSP (Center Discharge)	1 1/2" ANSI/DIN Flange (Side or Center)	2" ANSI/DIN Flange (Side Discharge)
Materials of Construction	Polypropylene PVDF	Polypropylene PVDF	Polypropylene PVDF	Polypropylene PVDF
Pump Weight lbs. (Kg.)	7.2 (3.3) Poly 9.5 (4.3) PVDF	19.35 (8.78) Poly Threaded 19.59 (8.89) Poly Center Port 19.87 (9.01) Poly Side Port 25.83 (11.72) PVDF Threaded 26.72 (12.12) PVDF Center Port 27.15 (12.32) PVDF Side Port	42.60 (19.32) Poly Side Port 63.94 (29.0) PVDF Side Port 42.30 (19.19) Poly Center Port 55.94 (25.37) PVDF Center Port	85.3 (38.7) Poly 110.9 (50.3) PVDF
Maximum Solids inches (mm)	3/32" (2.4)	1/8" (3.2)	1/4" (6.4)	1/4" (6.4)
Maximum Dry Suction Lift ft. (m)	10 (3.0)	19 (5.7)	14 (4.2)	14 (4.2)
Recommended Filter/Regulator Air Line Kit	P29122-600 66073-1	P29221-610 66073-2	P29241-610 66084-1	P29241-610 66473
For Model Details, See Page:	7	7	6	6



Models:	1/2"	1" EXP	1 1/2" EXP	2"	3"
Maximum Flow GPM (LPM)	13 (49)	52 (197)	123 (465)	170 (644)	275 (1,041)
Maximum Discharge Pressure PSI (BAR)	100 (6.9)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)
Fluid Ports Inlet/Outlet (BSP)	1/2" -14NPTF (Side or Center)	1-11-1/2" NPT Rp 1-11 BSP (Side or Center)	1 1/2-11-1/2 NPTF 1 1/2-11 BSP (Side or Center) 1 1/2 ANSI/DIN (SS only/Center)	2" NPTF Rp 2-11 BSP (Side or Center) 2" ANSI Flange with 2" pipe tap (SS only/Center)	3" NPTF Rp 3-11 BSP (Center)
Materials of Construction	Aluminum Stainless Steel	Aluminum Cast Iron Stainless Steel	Aluminum Cast Iron Stainless Steel Hastelloy®	Aluminum Cast Iron Stainless Steel Hastelloy®	Aluminum Cast Iron Stainless Steel Hastelloy®
Pump Weight lbs. (Kg.)	8.4 (3.8) Alum. 14.6 (6.6) SS	18.3 (8.3) Alum. 35.2 (16.0) CI 38.2 (17.3) SS add 6.1 (2.7) for Alum. air motor, add 12.9 (5.84) for SS air motor	33.9 (15.4) Alum. 73.2 (33.2) CI 61.2 (27.8) SS 86.9 (39.4) Hastelloy® add 1.6 (0.73) for Alum. air motor, add 17.6 (8.0) for SS air motor	64 (29) Alum. 133 (60) CI 122 (55.3) SS Threaded 114 (51.7) SS Flange 122 (55.3) Hastelloy® add 34 (15) for CI or SS air motor	113 (51.3) Alu. 197 (89.4) CI 203 (92.1) SS 203 (92.1) Hastelloy® add 40 (18.1) for SS air motor
Maximum Solids inches (mm)	3/32" (2.4)	1/8" (3.32)	1/4" (6.4)	1/4" (6.4)	3/8" (9.5)
Maximum Dry Suction Lift ft. (m)	10 (3.0) (PTFE Fitted)	19 (5.7) (Elastomeric Fitted)	14 (4.2) (Elastomeric Fitted)	19 (5.7) (Elastomeric Fitted)	19 (5.7) (Elastomeric Fitted)
Recommended Filter/Regulator Air Line Kit	P29122-600 66073-1	P29221-610 66073-2	P29241-610 66084-1	F25451 Filter P29241-610 66312	27354-600 Reg 66109
For Model Details, See Page:	10	9	9	8	8

2" and 1½" Non-Metallic Models

2" Non-Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	184 (696)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	1.4 (5.3)
AIR INLET(female):	3/4" NPTF
FLUID INLET:	2" ANSI / DIN Flange (Side)
FLUID OUTLET:	2" ANSI / DIN Flange (Side)
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	85.3 (38.7) Polypropylene 110.9 (50.3) PVDF
MAXIMUM DRY SUCTION LIFT FEET (m):	14 ft. (4.2) Elastomer fitted



Ordering Menu

PX20

Model Series:

- PD20** Standard Pump
- PE20** Electronic Interface Accessible Pump

Center Section:

- P** Polypropylene
- F** 2" ANSI/DIN Flange (Side)

Wetted Parts:

- K** PVDF
- P** Polypropylene
- S** Stainless Steel

Seat Material:

- K** PVDF
- P** Polypropylene

Ball Material:

- A** Santoprene®
- G** Nitrile
- T** PTFE
- V** Viton®

Diaphragm Material:

- A** Santoprene®
- G** Nitrile
- T** PTFE with Backer
- V** Viton®

1½" Non-Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	123 (465)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.58 (2.2)
AIR INLET(female):	1/2 - 14 NPTF
FLUID INLET:	1-1/2" ANSI / DIN Flange (Side or Center)
FLUID OUTLET:	1-1/2" ANSI / DIN Flange (Side or Center)
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	42.6 (19.3) Polypropylene, Side Ported 63.9 (29) PVDF, Side Ported 42.3 (19.1) Polypropylene, Center Ported 55.9 (25.3) PVDF, Center Ported
MAXIMUM DRY SUCTION LIFT FEET (m):	14 ft. (4.2) Elastomer fitted



Ordering Menu

PX15

Model Series:

- PD15** Standard Pump
- PE15** Electronic Interface Accessible Pump

Center Section:

- P** Polypropylene
- F** 1½" ANSI/DIN Flange (Side)
- Y** 1½" ANSI/DIN Flange (Center)

Wetted Parts:

- K** PVDF
- P** Polypropylene
- S** Stainless Steel

Seat Material:

- H** 440 Stainless Steel (Hard)
- K** PVDF
- P** Polypropylene
- S** Stainless Steel

Ball Material:

- A** Santoprene®
- C** Hytrel®
- G** Nitrile
- S** 316 SS
- T** PTFE
- V** Viton®

Diaphragm Material:

- A** Santoprene®
- C** Hytrel®
- G** Nitrile
- T** PTFE
- V** Viton®

1" Non-Metallic EXP Models:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	53 (200)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.232 (.88)
AIR INLET(female):	1/4 - 18 NPTF
FLUID INLET:	1-11-1/2 NPTF, Rp 1-11 BSP, 1" ANSI / DIN Flange (Side or Center)
FLUID OUTLET:	1-11-1/2 NPTF, Rp 1-11 BSP, 1" ANSI / DIN Flange (Side or Center)
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/8-inch (3.2)
WEIGHT - LBS. (Kg):	19.35 (8.78) Polypropylene, Threaded Ports 19.59 (8.89) Polypropylene, Center Ported 19.87 (9.01) Polypropylene, Side Ported 25.83 (11.72) PVDF, Threaded Ports 26.72 (12.12) PVDF, Center Ported 27.15 (12.32) PVDF, Side Ports
MAXIMUM DRY SUCTION LIF FEET (m):	19 ft. (5.7) Elastomer fitted



Ordering Menu:

PX10

Model Series:

- PD10** Standard Pump
- PE10** Electronic Interface Accessible Pump

Center Section:

- P** Polypropylene
- Connection:**
 - A** NPTF thread
 - B** BSP thread
 - F** ANSI / DIN Flange (side)
 - Y** ANSI / DIN Flange (center)

Wetted Parts:

- K** PVDF
- P** Polypropylene
- Hardware:**
 - S** Stainless Steel

Seat Material:

- H** 440 Stainless Steel (Hard)
- K** PVDF
- P** Polypropylene
- S** 316 Stainless Steel

Ball Material:

- A** Santoprene®
- C** Hytrel®
- G** Nitrile
- T** PTFE
- V** Viton®

Diaphragm Material:

- A** Santoprene®
- C** Hytrel®
- G** Nitrile
- M** Medical grade Santoprene®
- T** PTFE
- V** Viton®

1/2" Non-Metallic Models:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	13 (49)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.040 (.15)
AIR INLET(female):	1/4 - 18 NPTF
FLUID INLET:	1/2 - 14 NPTF (Side or Center)
FLUID OUTLET:	1/2 - 14 NPTF (Side or Center)
MAX. OPERATING PRESSURE P.S.I. (bar):	100 (6.9)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/32-inch (2.4)
WEIGHT - LBS. (Kg):	7.2 (3.3) Polypropylene 8.8 (4.0) Groundable Acetal 9.5 (4.3) PVDF
MAXIMUM DRY SUCTION LIFT FEET (m):	10 ft. (3.0) PTFE fitted



Ordering Menu:

6660

Model Series:

- 6660** Standard Pump

Center Section:

- 5** Polypropylene

Wetted Parts:

- J** Polypropylene (single-piece manifold)
- K** PVDF (single-piece manifold)
- 3** Polypropylene (three-piece manifold)
- 7** PVDF (three-piece manifold)

Seat Material:

- 2** Stainless Steel
- 3** Polypropylene
- 4** PVDF
- 6** Acetal
- 0** Duck Bill

Ball Material:

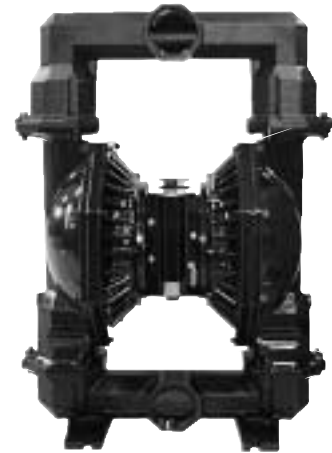
- 2** Nitrile
- 3** Viton®
- 4** PTFE
- A** Stainless Steel
- D** Nitrile
- E** Santoprene®

Diaphragm Material:

- 2** Nitrile
- 3** Viton®
- 4** PTFE
- 8** Polyurethane
- B** Santoprene®

3" Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	275 (1,041)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	2.8 (10.6)
AIR INLET(female):	3/4 - 14 N.P.T.F
FLUID INLET:	3 - 8 N.P.T., Rp 3-11 BSP
FLUID OUTLET:	3 - 8 N.P.T., Rp 3-11 BSP
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/8-inch (9.5)
WEIGHT - LBS. (Kg):	
113 (51.3) PD30X-XAX-XXX-B	197 (89.4) PD30X-XCX-XXX-B
203 (92.1) PD30X-XSX-XXX-B	203 (92.1) PD30X-XHX-XXX-B
add 40-lbs (18.1-kg) for Stainless Steel Air Motor	
235 (106.6) PD30R-XCX-XXX-B	241 (109.3) PD30R-XSX-XXX-B
MAXIMUM DRY SUCTION LIFT FEET (m):	19 ft. (5.7) Elastomer fitted



PD30

Model Series:
PD30 Standard Pump

Center Section:
A Aluminum
R Polypropylene w/SS air caps
S Stainless Steel
Connection:
A NPTF thread
B BSP thread

Wetted Parts:
A Aluminum*
C Cast Iron
H Hastelloy-C
S Stainless Steel
* not available on PD30R-X models
Hardware:
P Plated Steel
S Stainless Steel

Seat Material:
A Santoprene®
C Hytrel®
E Carbon Steel
F Aluminum
G Nitrile
H Hard 440 Stainless Steel
K PVDF
L Hastelloy
S 316 Stainless

Ball Material:
A Santoprene®
C Hytrel®
G Nitrile
S 316 Stainless Steel
T PTFE
V Viton®

Diaphragm Material:
A Santoprene®
C Hytrel®
G Nitrile
T PTFE
V Viton®

2" Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	170 (644)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	1.4 (5.3)
AIR INLET(female):	3/4 - 14 N.P.T.F
FLUID INLET:	2 - 11-1/2 N.P.T., Rp 2-11 BSP, 2" A.N.S.I./DIN Flange
FLUID OUTLET:	2 - 11-1/2 N.P.T., Rp 2-11 BSP, 2" A.N.S.I./DIN Flange
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	
64 (29) PD20X-XAX-XXX	122 (53.3) PD20X-ASX-XXX, -BSX-
133 (60) PD20X-XCX-XXX	114 (51.7) PD20X-FSX-XXX
122 (53.3) PD20X-XHX-XXX	add 34-lbs (15-kg) for ss or ci air motor section
165 (74.8) PD20R-XCX-XXX	154 (69.9) PD20R-ASX-XXX, -BSX-
146 (66.2) PD20R-FSX-XXX	
MAXIMUM DRY SUCTION LIFT FEET (m):	19 ft. (5.7) Elastomer fitted



PD20

Model Series:
PD20 Standard Pump

Center Section:
A Aluminum
C Cast Iron
S Stainless Steel
R Polypropylene w/SS air caps
Y Polypropylene w/CI air caps
Connection:
A NPTF thread
B BSP thread
F 2" ANSI / DIN Flange (center)

Wetted Parts:
A Aluminum*
C Cast Iron
H Hastelloy-C
S Stainless Steel
* not available on PD20R-X or PD20Y-X models
Hardware:
P Plated Steel
S Stainless Steel

Seat Material:
A Santoprene®
C Hytrel®
E Carbon Steel
F Aluminum
G Nitrile
H Hard 440 Stainless Steel
K PVDF
L Hastelloy
S 316 Stainless

Ball Material:
A Santoprene®
C Hytrel®
G Nitrile
S 316 Stainless Steel
T PTFE
V Viton®

Diaphragm Material:
A Santoprene®
C Hytrel®
G Nitrile
T PTFE
V Viton®

1½" Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	123 (465)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.588 (2.23)
AIR INLET(female):	1/2 - 14 NPTF-1
FLUID INLET:	1½" - 11-1/2 NPTF, 1½ - 11 BSP, 1½" ANSI/DIN Flange
FLUID OUTLET:	1½" - 11-1/2 NPTF, 1½ - 11 BSP, 1½" ANSI/DIN Flange
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/4-inch (6.4)
WEIGHT - LBS. (Kg):	
33.9 (15.4) PX15R-XAX-XXX	61.2 (27.8) PX15R-XSX-XXX
73.2 (33.2) PX15R-XCX-XXX	86.9 (39.4) PX15R-XHX-XXX
add 1.6-lbs (0.73-kg) for aluminum air motor	
add 17.6-lbs (8.0-kg) for stainless steel air motor	
MAXIMUM DRY SUCTION LIFT FEET (m):	14 ft. (4.2) Elastomer fitted



PX15

Model Series:

PD15	Standard Pump
PE15	Electronic Interface Accessible Pump

Center Section:

A	Aluminum
R	Polypropylene
S	Stainless Steel

Connection:

A	NPTF thread
B	BSP thread
Y	1½" ANSI / DIN Flange (center)

Wetted Parts:

A	Aluminum
C	Cast Iron
H	Hastelloy-C
S	Stainless Steel

Hardware:

P	Plated Steel
S	Stainless Steel

Seat Material:

A	Santoprene®
C	Hytrel®
E	Carbon Steel
F	Aluminum
G	Nitrile
H	Hard 440
L	Stainless Steel
S	Hastelloy
S	316 Stainless

Ball Material:

A	Santoprene®
C	Hytrel®
G	Nitrile
S	316 Stainless Steel
T	PTFE
V	Viton®

Diaphragm Material:

A	Santoprene®
C	Hytrel®
G	Nitrile
M	Medical grade Santoprene®
T	PTFE
V	Viton®

1" Metallic EXP Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	52 (197)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	0.232 (0.88)
AIR INLET(female):	1/4 - 18 NPTF
FLUID INLET:	1 - 11-1/2 NPTF, Rp 1-11 BSP
FLUID OUTLET:	1 - 11-1/2 NPTF, Rp 1-11 BSP
MAX. OPERATING PRESSURE P.S.I. (bar):	120 (8.3)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	1/8-inch (3.3)
WEIGHT - LBS. (Kg):	
18.3 (8.3) PX10R-XAX-XXX	38.2 (17.3) PX10R-XSX-XXX
35.2 (16.0) PX10R-XCX-XXX	add 6.1-lbs (2.75-kg) for Aluminum Air Motor
	add 12.9-lbs (5.84-kg) for Stainless Steel Air Motor
MAXIMUM DRY SUCTION LIFT FEET (m):	19 ft (5.7) Elastomer fitted



PX10

Model Series:

PD10	Standard Pump
PE10	Electronic Interface Accessible Pump

Center Section:

A	Aluminum
R	Polypropylene
S	Stainless Steel

Connection:

A	NPTF thread
B	BSP thread

Wetted Parts:

A	Aluminum
C	Cast Iron
S	Stainless Steel

Hardware:

P	Plated Steel
S	Stainless Steel

Seat Material:

A	Santoprene®
C	Hytrel®
E	Carbon Steel
F	Aluminum
G	Nitrile
H	Hard 440
L	Stainless Steel
S	Hastelloy
S	316 Stainless

Ball Material:

A	Santoprene®
C	Hytrel®
G	Nitrile
S	316 Stainless Steel
T	PTFE
V	Viton®

Diaphragm Material:

A	Santoprene®
C	Hytrel®
G	Nitrile
M	Medical grade Santoprene®
T	PTFE
V	Viton®

1/2" Metallic Performance Specifications:

RATIO:	1:1
MAXIMUM G.P.M. (L.P.M.):	13 (49)
DISPLACEMENT GALLONS (Liters) PER CYCLE:	.040 (.15)
AIR INLET(female):	1/4 - 18 P.T.F SAE Short
FLUID INLET:	1/2" - 14NPTF
FLUID OUTLET:	1/2" - 14NPTF
MAX. OPERATING PRESSURE P.S.I. (bar):	100 (6.9)
SUSPENDED SOLIDS MAX. DIA. IN. (mm):	3/32-inch (2.4)
WEIGHT - LBS. (Kg):	8.3 (3.8) Aluminum 14.6 (6.6) Stainless Steel
MAXIMUM DRY SUCTION LIFT FEET (m):	10 ft. (3.0) PTFE fitted



PX05

Model Series:

PD05 Standard Pump

X

Center Section:

P Polypropylene

Connection:

A NPTF thread

X

Wetted Parts:

A Aluminum
S Stainless Steel

Hardware:

S Stainless Steel

X

X

Seat Material:

F Aluminum
P Polypropylene
S 316 Stainless Steel

X

Ball Material:

A Santoprene®
G Nitrile
S Stainless Steel
T PTFE
V Viton®

X

Diaphragm Material:

A Santoprene®
G Nitrile
T PTFE
V Viton®

Santoprene® is a registered trademark of Monsanto Company, licensed to Advance Elastomer Systems, L.P. Hytre® and Teflon® are registered trademarks of the Dupont Company.

Accessories:

Air Line Connection Kit†

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

<u>Kit Number:</u>	<u>Pump Model:</u>
66073-2	PD10P-X, PD10X-X, PE10P-X, PE10X-X
66084-1	PD15P-X, PD15X-X, PE15P-X, PE15X-X
66312	PD20P-X, PD20X-X, PE20P-X
66109	PD30X-X



66312 Air Line Connection Kit

Cycle Actuation Kits†

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

<u>Kits*:</u>	<u>Kit Options:</u>	<u>Pump Model:</u>
67355-X	-1 (24-VDC)	PE10X-X, PE15X-X
	-2 (120-VDC)	
	-3 (No Coil)	
67357-X	-1 (24-VDC)	PE20P-X
	-2 (120-VDC)	
	-3 (No Coil)	



Cycle Actuation Kit on PE10P-X Pump

Cycle Counter Kit†

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

<u>Kit*:</u>	<u>Pump Model:</u>
67350	PE10P-X, PE10X-X, PE15P-X, PE15X-X
	PE20P-X
67350-1	PD20X-X, PD30X-X-B



67350 Cycle Counter on PE10P-X Pump

Mini Batch Counter Kit†

Converts a diaphragm pump into a simple batching system. Can be powered by 110VAC or 10-15VDC. Special "Lock-Out" programming prevents tampering.

<u>Model*:</u>	<u>Description:</u>
67161-2	Front Panel with Pushbuttons

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

Actuation Valves Kit†

Solenoid actuated 3-way air valve used for on-off pump operation. An economical and reliable path to simple pump interface and actuation. Available in 24V-DC and 120V-AC configurations

<u>Valve:</u>	<u>Voltage:</u>	<u>Pump Model:</u>
MQ3728-024-D	24 DC	PD10P-X, PD10X-X
MQ3728-120-A	120 AC	PD10P-X, PD10X-X
H254SS-024-D	24 DC	PD15P-X, PD15X-X, PD20P-X
H254SS-120-A	120 AC	PD15P-X, PD15X-X, PD20P-X
MQ3729-024-D	24 DC	PD20X-X, PD30X-X
MQ3729-120-A	120 AC	PD20X-X, PD20X-X



67161-2 Mini Batch Counter on PE10P-X Pump with optional TB022B-X-X Valve at air inlet.

† Please note pumps are not included with these kits.

Accessories:



67341-E10N Flange Connection Kit



67323 Continuous Duty Muffler



Close-up of 67237 on PD15S-X Pump



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

Flange Connection Kits

Use with 1", 1½" and 2" non-metallic EXP pumps with the flange manifold option. Flange kits meet DIN / ANSI specifications. Flange constructed of glass-filled polypropylene. Bolts, washers and nuts stainless steel.

<u>Kit Number:</u>	<u>Pump Models:</u>
67341-E10N	PD10P-FXS-X
67341C10N	PD10P-YXS-X
67341-E15N	PD15P-FXS-X
67341-C15N	PD15P-YXS-X
67341-E20N	PD20P-FXS-X

Continuous-Duty Muffler

Helps reduce possibility of pump freeze-over caused by moisture in air supply. Recommended for continuous-duty and high-flow applications. Muffler features large expansion chamber, permitting cold exhaust air to exit pump. For 2" and 3" pump models. Replaces standard canister style muffler.

<u>Muffler:</u>	<u>Pump Model:</u>
67323	PD20P-X
67263	PD20X-X, PD30X-X

Diaphragm Failure Detection

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

How ARO Diaphragm Failure Detection (DFD) Works

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

<u>Kit:</u>	<u>Description:</u>
67237	Intrinsically Safe DFD Kit

Ordering Note:

Be sure to select the PE (Electronic Interface Equipped) model pump for easy add-on of the Diaphragm Failure Detection Kit.

Externally Controlled Pumps

For the ultimate control of your pumping process, choose the "A0S" version of the 1" or 1½" EXP Pumps. Air Valves are removed from the pumps, which are then controlled with solenoid or pilot actuated four-way valves. Cycle-rate and speed can be matched to specific application requirements. To order, add "A0S" to the end of the pump's model number. *Example: PE15P-FPS-PTT-A0S*

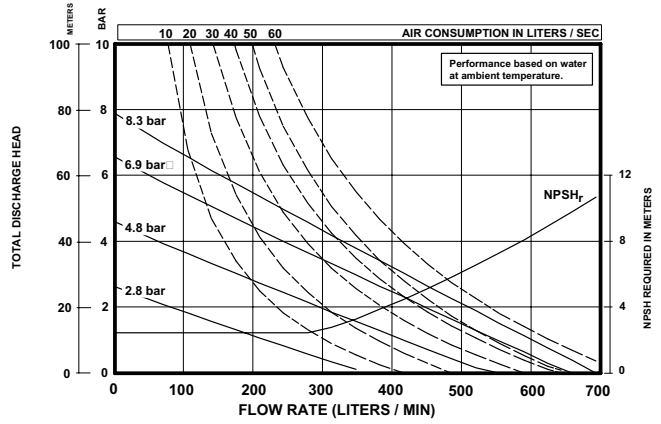
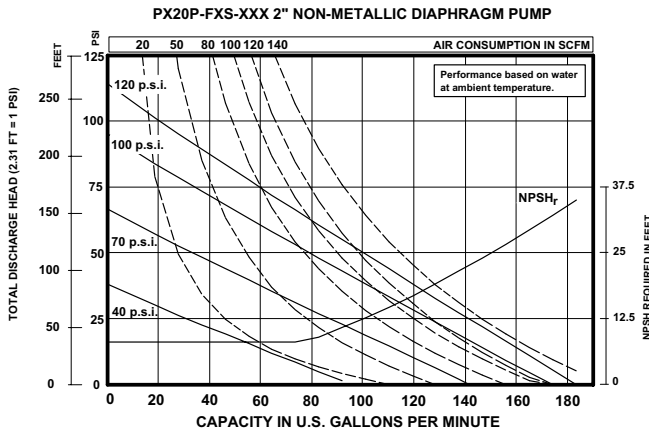
<u>Pump:</u>	<u>Model Number:</u>
1" EXP	PE10P-X-A0S, PE10X-X-A0S
1½" EXP	PE15P-X-A0S, PE15X-X-A0S

Field Conversion Kits:

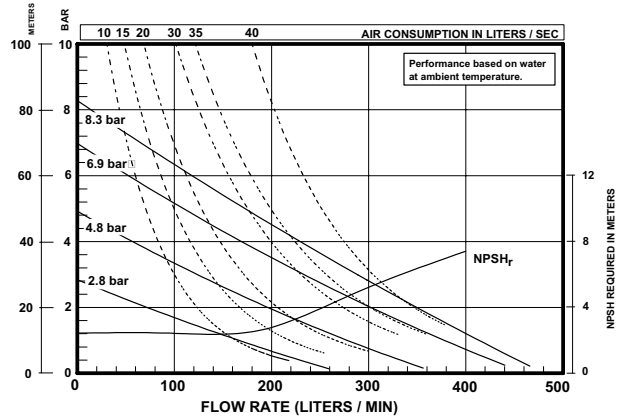
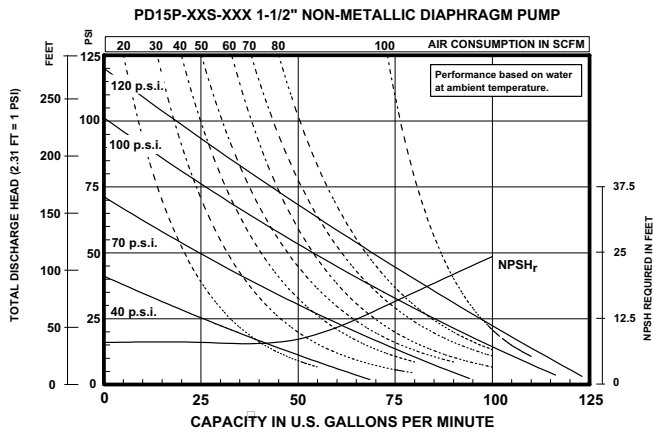
Convert existing 1" and 1½" EXP Pumps to externally controlled models. Kits contain materials needed to complete conversion.

<u>Kit:</u>	<u>Pump Model:</u>
63760	PE10P-X-A0S, PE10X-X-A0S
63761	PE15P-X-A0S, PE15X-X-A0S

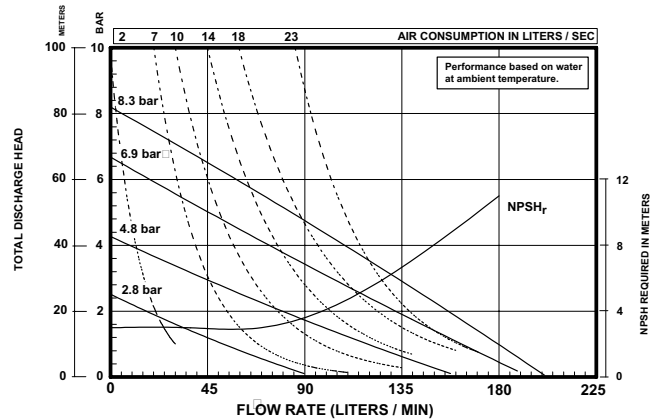
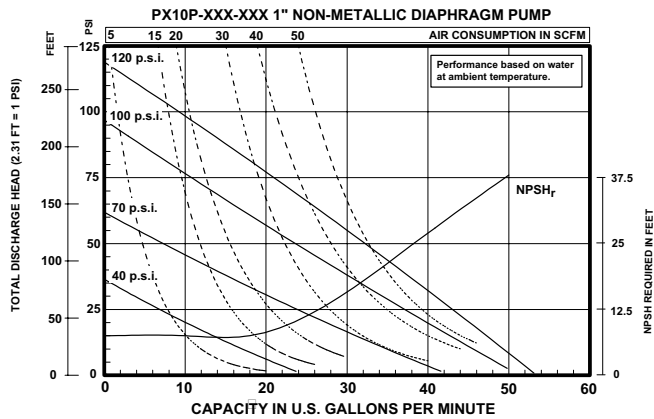
2" Non-Metallic Pumps



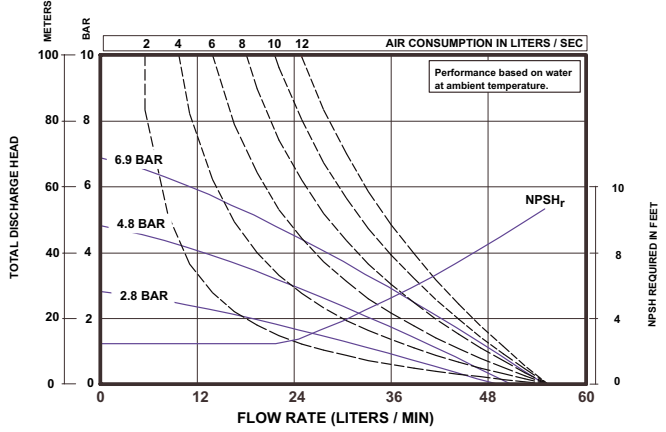
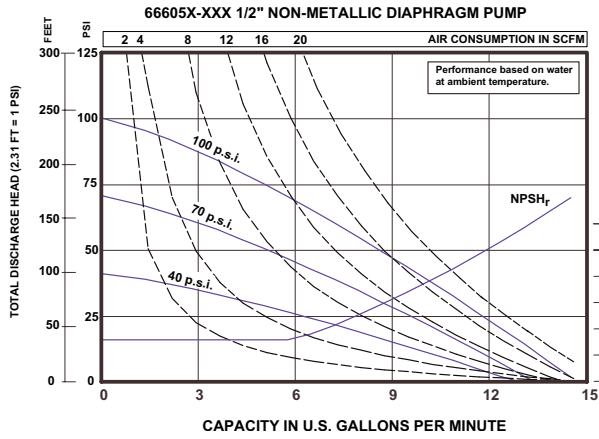
1½" Non-Metallic Pumps



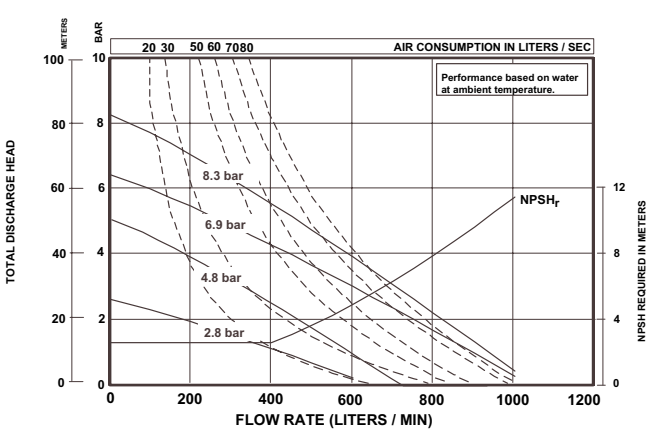
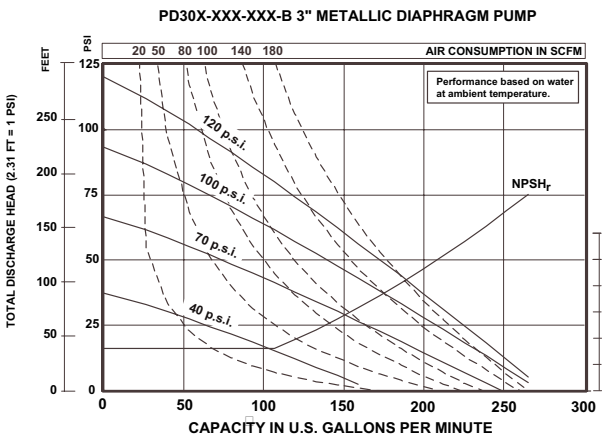
1" Non-Metallic Pumps



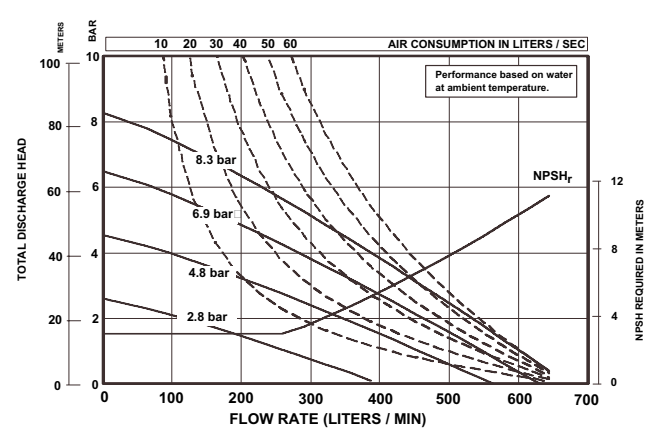
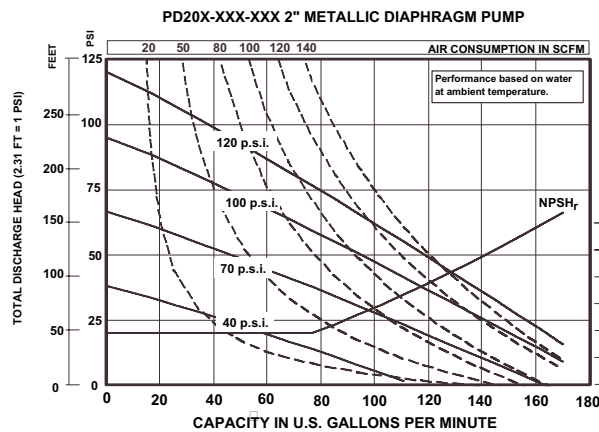
1/2" Non-Metallic Pumps



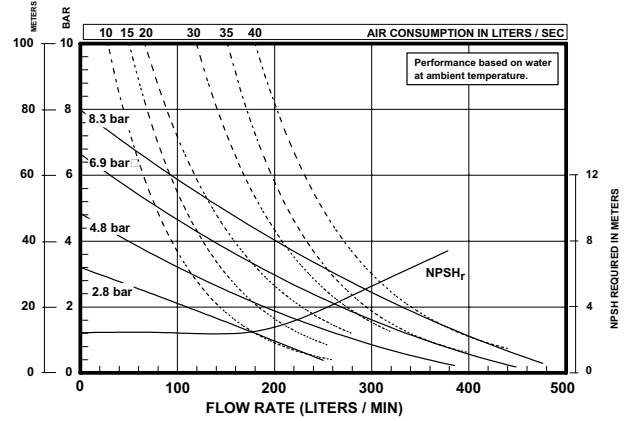
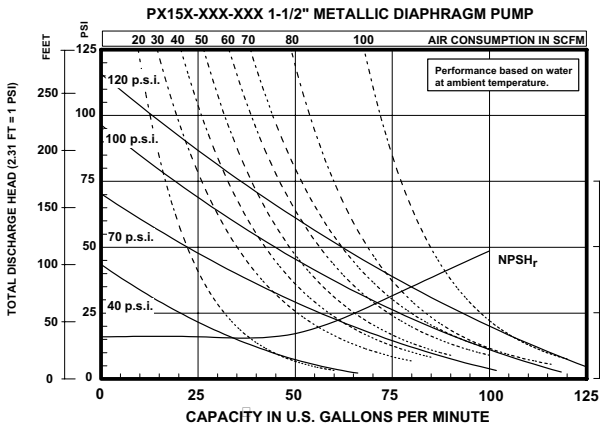
3" Metallic Pumps



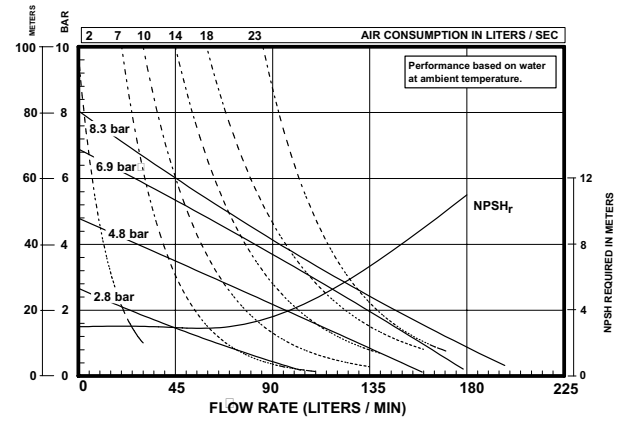
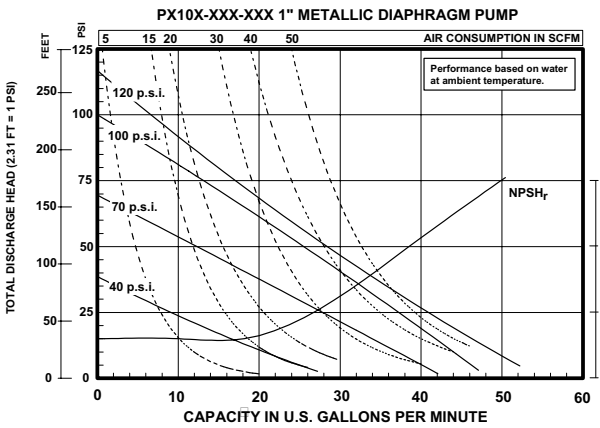
2" Metallic Pumps



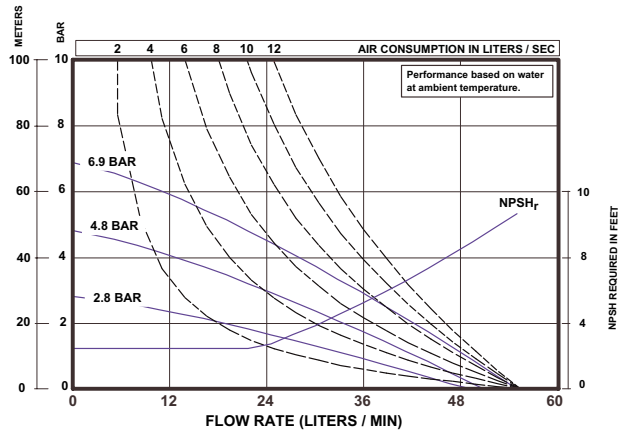
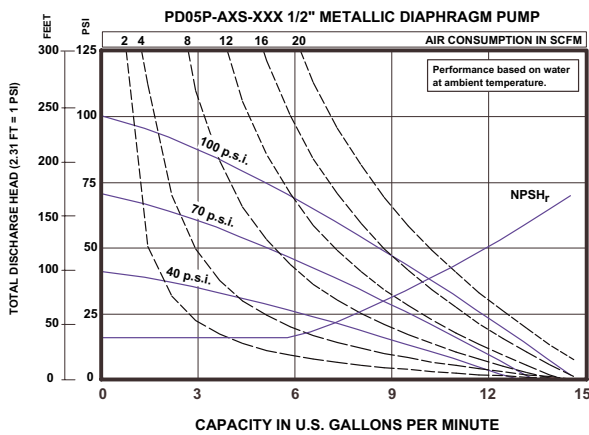
1½” Metallic Pumps



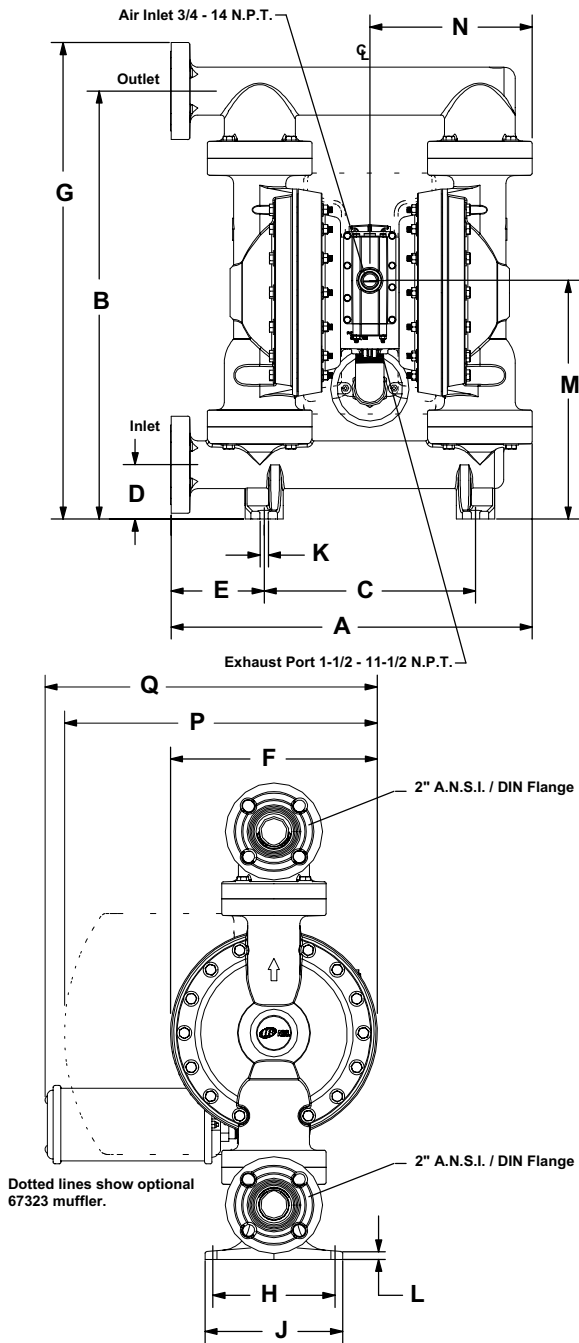
1” Metallic Pumps



1/2” Metallic Pumps



2" Non-Metallic EXP

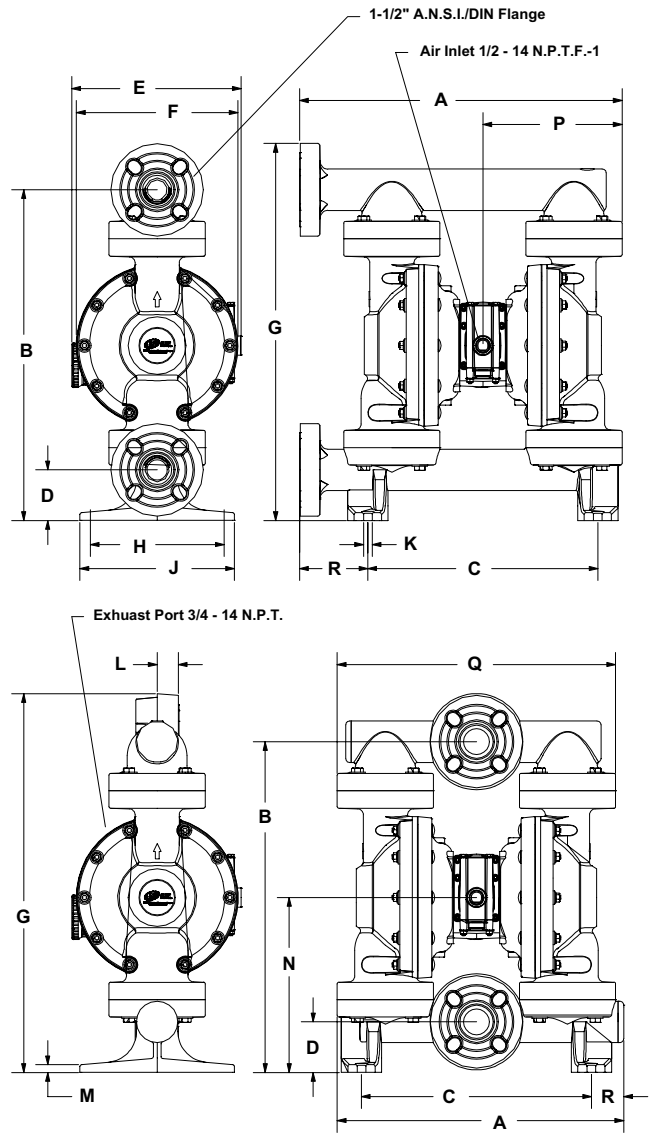


Dotted lines show optional 67323 muffler.

DIMENSIONS

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

1-1/2" Non-Metallic EXP



DIMENSIONS

- | | | |
|--------------------------|------------------------|-----------------------|
| A - see below | G - see below | N - 11-3/8" (288.4mm) |
| B - 21-15/32" (545.3mm) | H - 8-11/16" (220.7mm) | P - 9-1/32" (229.5mm) |
| C - 14-15/16" (379.44mm) | J - 10-1/32" (254.8mm) | Q - see below |
| D - 3-9/32" (88.3mm) | K - 9/16" (14.3mm) | R - see below |
| E - 11" (279.5mm) | L - see below | |
| F - 10-1/2" (266.3mm) | M - 17/32" (13.0mm) | |

PX15P-FXS-XXX
(End Flange)

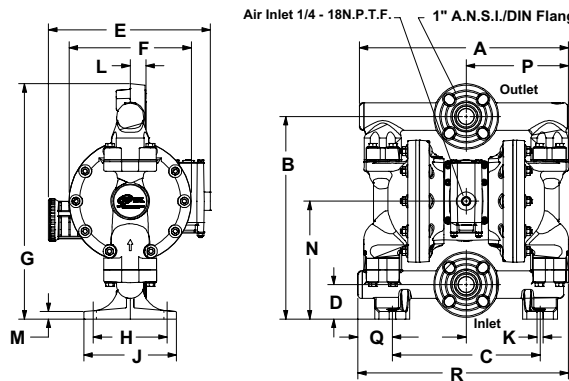
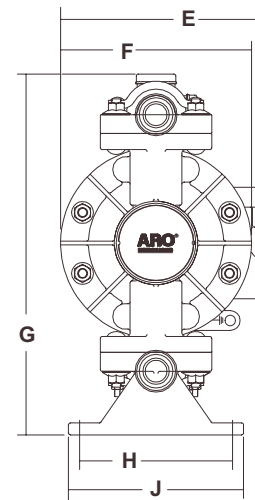
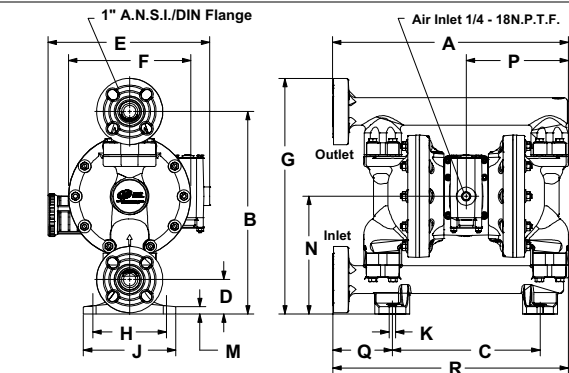
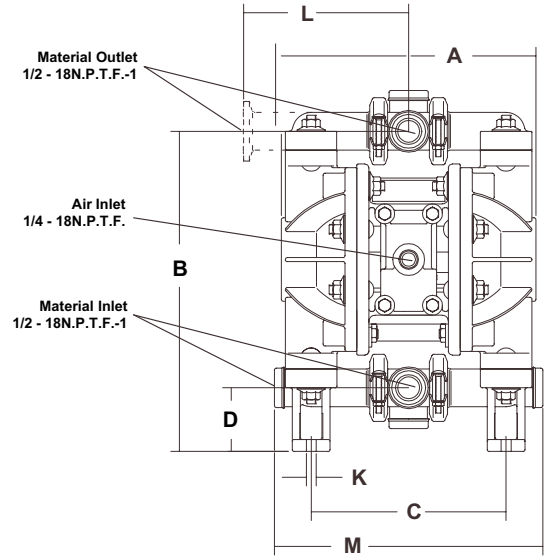
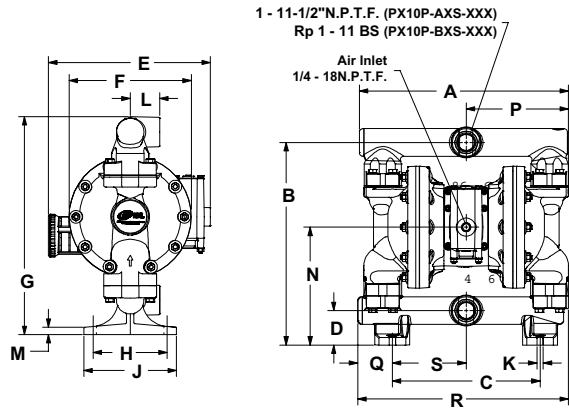
- | |
|-------------------------|
| A - 20-15/16" (531.6mm) |
| G - 24-15/32" (621.5mm) |
| L - ---- |
| Q - ---- |
| R - 4-7/16" (112.4mm) |

PX15P-YXS-XXX
(Center Flange)

- | |
|---------------------|
| 18-19/32" (472.3mm) |
| 24-19/32" (624.5mm) |
| 1-3/8" (34.9mm) |
| 18-3/32" (459.0mm) |
| 2-3/32" (53.1mm) |

1" Non-Metallic EXP

1/2" Non-Metallic



DIMENSIONS

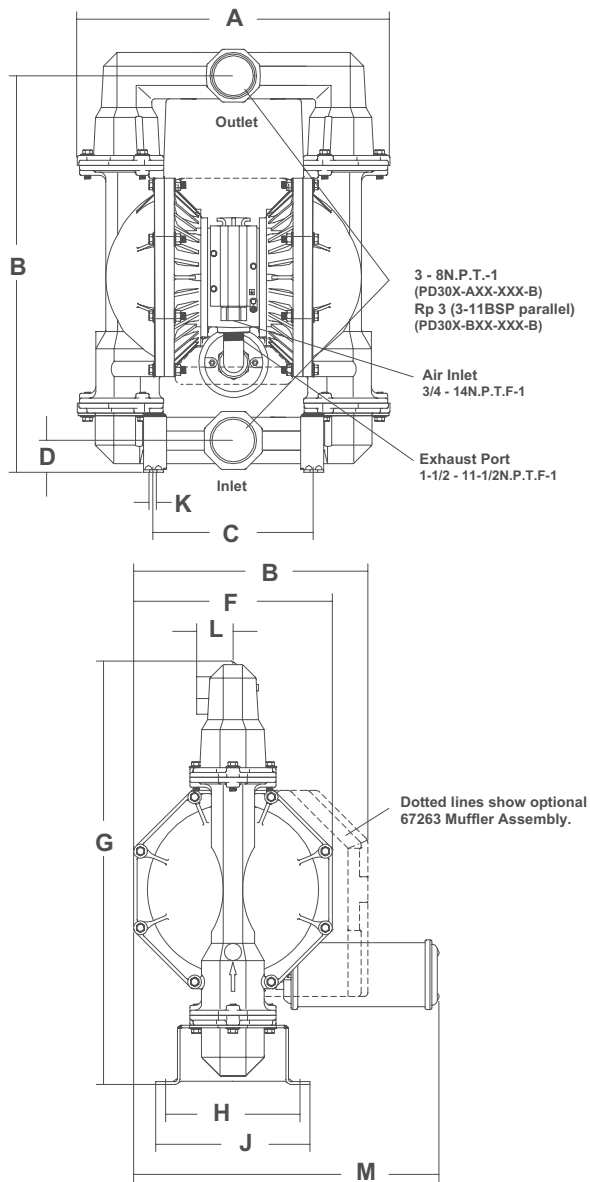
DIMENSIONS

- | | | |
|-------------------------|-----------------------|------------------------|
| A - see below | G - see below | N - 8-1/32" (203.4mm) |
| B - 13-25/32" (349.8mm) | H - 5-1/32" (127.6mm) | P - 6-31/32" (176.6mm) |
| C - 10-1/16" (255.3mm) | J - 6-9/32" (159.6mm) | Q - see below |
| D - 2-11/32" (59.4mm) | K - 7/16" (11.1mm) | R - see below |
| E - 11-1/32" (279.5mm) | L - see below | S - 5-1/32" (127.6mm) |
| F - 8-5/16" (211.1mm) | M - 1/2" (12.7mm) | |

- | | | |
|------------------------|-------------------------|------------------------|
| A - 8-5/32" (207.0mm) | E - 6-7/16" (164.0mm) | J - 5-1/2" (140.0mm) |
| B - 10-1/16" (256.0mm) | F - 6" (152.0mm) | K - 5/16" (8.0mm) |
| C - 6-5/32" (156.0mm) | G - 11-11/32" (288.0mm) | L - 5-3/16" (132.0mm) |
| D - 2-1/32" (51.0mm) | H - 4-13/16" (122.0mm) | M - 8-15/32" (215.0mm) |

PX10P- <u>F</u> XS, - <u>B</u> XS (Threaded)	PX10P- <u>F</u> XS- <u>X</u> XX (End Flange)	PX10P- <u>Y</u> XS- <u>X</u> XX (Center Flange)
A - 14-7/32" (361.2mm)	16-1/32" (407.3mm)	14-7/32" (361.2mm)
G - 14-27/32" (376.5mm)	16-1/32" (407.3mm)	16" (406.3mm)
L - 2" (50.8mm)	----	1-1/32" (25.6mm)
Q - 2-3/8" (59.7mm)	4-1/16" (103.0mm)	2-3/8" (59.7mm)
R - 14-11/32" (364.0mm)	16-1/32" (407.3mm)	14-11/32" (364.0mm)

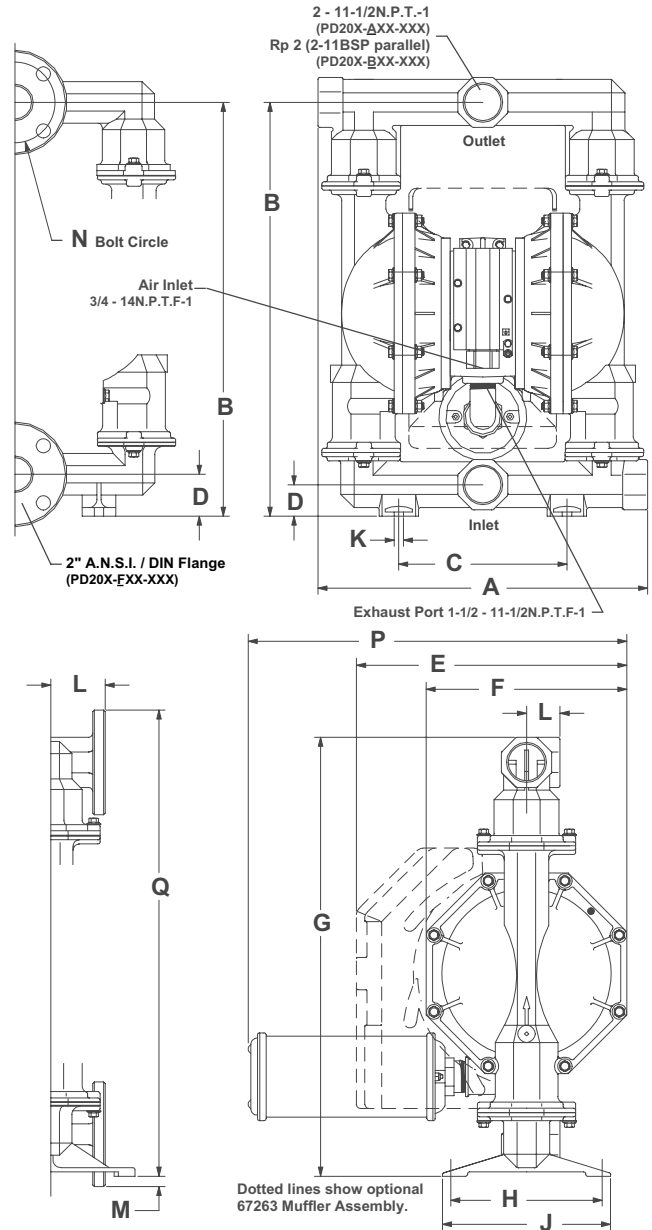
3" Metallic EXP



DIMENSIONS

A - see below	E - 17-11/16" (449.2mm)	J - see below
B - 30" (761.7mm)	F - 15" (381mm)	K - 9/16" (14.3mm)
C - 12-1/16" (306.5mm)	G - 32" (812.5mm)	L - 2-3/4" (69.9mm)
D - see below	H - 10-5/32" (258mm)	M - 23-3/32" (586.3mm)
	"A"	"D"
PD30X-XAX	23-5/8" (598.7mm)	2-3/8" (60.3mm)
PD30X-XCX	23-5/8" (598.7mm)	2-7/16" (61.1mm)
PD30X-XHX	23-1/8" (587.3mm)	2-3/4" (69.9mm)
PD30X-XSX	23-1/8" (587.3mm)	2-3/4" (69.9mm)

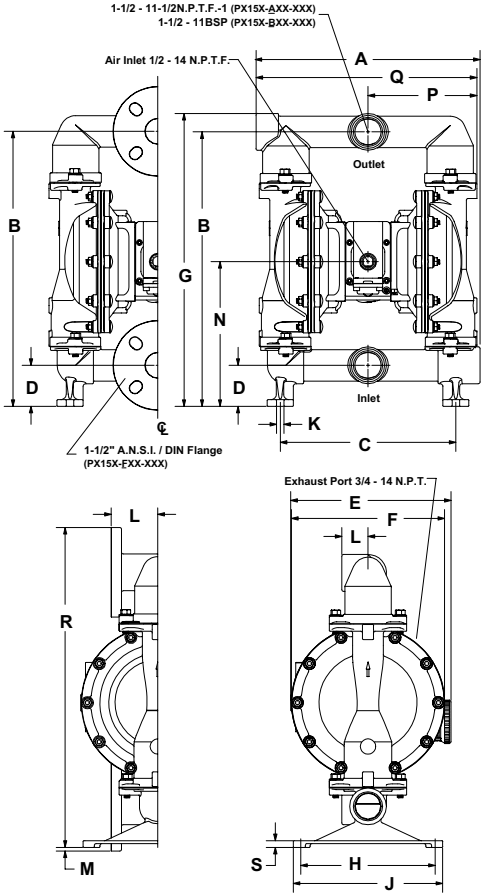
2" Metallic EXP



DIMENSIONS

A - see below	F - 12" (304.8mm)	L - see below
B - 24-3/4" (628.7mm)	G - 26-1/4" (666.8mm)	M - 5/8" (15.9mm)
C - 10-1/16" (255.6mm)	H - 9-1/16" (230.2mm)	N - 4-53/64" (122.8mm)
D - see below	J - 10-1/16" (255.6mm)	P - 21-5/8" (548.0mm)
E - 16-3/16" (411.2mm)	K - 9/16" (14.3mm)	Q - 27-7/8" (708.0mm)
	"A"	"D"
PD20X-XAX	19-3/4" (501.4mm)	1-7/8" (47.6mm)
PD20X-XCX	19-3/4" (501.4mm)	1-7/8" (47.6mm)
PD20X-XHX	19-1/4" (488.7mm)	2-1/2" (63.5mm)
PD20X-ASX, -BSX	19-1/4" (488.7mm)	2-1/2" (63.5mm)
PD20X-FSX	19-1/4" (488.7mm)	3-1/4" (82.6mm)

1-1/2" Metallic EXP



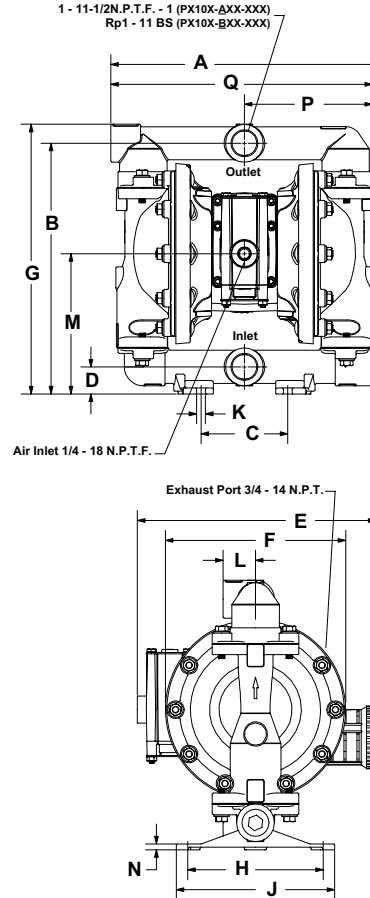
DIMENSIONS

A - see below	G - 19-5/8" (498.1mm)	N - 9-11/16" (246.0mm)
B - see below	H - 9" (228.6mm)	P - see below
C - 11-3/4" (298.5mm)	J - 10" (254.0mm)	Q - see below
D - 2-3/4" (69.9mm)	K - 1/2" (12.7mm)	R - 21-7/16" (543.9mm)
E - 10-15/16" (277.3mm)	L - see below	S - see below
F - 10-1/4" (260.4mm)	M - 1/4" (6.4mm)	

"A"	"B"	"L"
PX15X-XAX 14-7/8" (377.8mm)	18-3/8" (466.7mm)	1-3/4" (44.5mm)
PX15X-XCX 14-5/8" (371.5mm)	18-3/8" (466.7mm)	1-3/4" (44.5mm)
PX15X-XHX 14-9/16" (370.0mm)	18-3/8" (466.7mm)	3-1/8" (79.4mm)
PX15X-ASX, -BSX 14-25/32" (375.5mm)	18-3/8" (466.7mm)	1-3/4" (44.5mm)
PX15X-FSX 14-9/16" (370.0mm)	18-7/16" (467.7mm)	3-1/8" (79.4mm)

"p"	"Q"	"S"
PX15X-XAX 7-7/32" (183.4mm)	14-23/32" (373.9mm)	1/2" (12.7mm)
PX15X-XCX 7-3/16" (182.6mm)	14-1/2" (368.3mm)	1/4" (6.4mm)
PX15X-XHX 7-3/16" (182.6mm)	14-1/2" (368.3mm)	1/4" (6.4mm)
PX15X-ASX, -BSX 7-9/32" (185.0mm)	14-13/16" (375.5mm)	15/32" (11.4mm)
PX15X-FSX 7-9/32" (185.0mm)	14-9/16" (370.0mm)	15/32" (11.4mm)

1" Metallic EXP



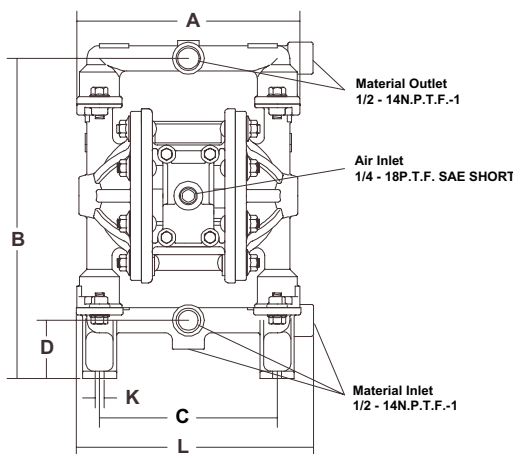
DIMENSIONS

A - 12-11/32" (313.2mm)	F - see below	L - 1-1/2" (38.1mm)
B - 11-9/16" (293.7mm)	G - 12-17/16" (315.9mm)	M - 6-15/32" (164.3mm)
C - 4" (101.6mm)	H - 6-1/4" (158.8mm)	N - see below
D - 1-1/4" (31.8mm)	J - 7-5/16" (185.7mm)	P - 5-27/32" (148.2mm)
E - see below	K - 13/32" (10.3mm)	Q - 12" (304.8mm)

"E"	"F"
PX10A-XXX-XXX 10-15/16" (277.1mm)	8-1/8" (206.4mm)
PX10R-XXX-XXX 11-1/32" (279.5mm)	8-5/16" (211.1mm)
PX10S-XXX-XXX 10-3/4" (272.4mm)	8-3/16" (207.9mm)

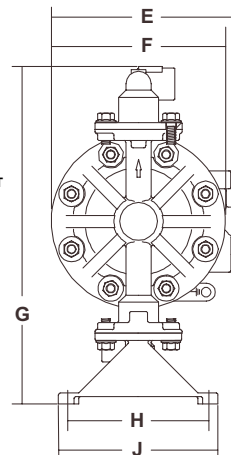
"N"
PX10X-ΔX-XXX 1/4" (6.4mm)
PX10X-XCX-XXX 9/32" (7.1mm)
PX10X-XSX-XXX 9/32" (7.1mm)

1/2" Metallic EXP



DIMENSIONS

A - 7-11/16" (195.0mm)	G - 11-5/8" (295.0mm)
B - 11-1/16" (280.0mm)	H - 4-17/8" (124.0mm)
C - 6-1/8" (156.0mm)	J - 5-1/2" (140.0mm)
D - 2" (51.0mm)	K - 5/16" (8.0mm)
E - 6-7/16" (164.0mm)	L - 8-1/4" (209.0mm)
F - 6" (152.0mm)	



Where's Your EXP Opportunity?

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

Chemical Processing

Formulation Of:

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

Surface Preparation

Supply and Transfer of:

- e-Coat
- Etching
- Plating

Pharmaceutical

Supply and Transfer of:

- FDA Materials



Get the Whole EXP Story!

Find out more about how the EXP Diaphragm Pump can "Solutionize" the high cost-of-total-pump-ownership through superior air valve design and a host of other EXP-only features. Go to www.arozone.com/exp for details.



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