

COMPACT AND PRO SERIES DIAPHRAGM PUMPS

FOR GENERAL INDUSTRIAL AND OEM INSTALLATION APPLICATIONS



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Air operated Diaphragm Pumps

DP Series air operated diaphragm pumps are ideal for general industrial and OEM installation applications. They can easily pump from clean, light viscosity fluids to corrosive, abrasive medium viscosity fluids and can transfer large particles without damage. Due to their pneumatic motor, they may be used in potentially explosive areas.

DP Series pumps offer the ability to vary the flow outlet and discharge pressure as slow as 0.26 gallons (1 liter) per minute up to 275 gallons (1040 liter) per minute for our larger sizes and adjust fluid pressure up to 125 p.s.i. (8.6 bar), by using just an air filter / regulator and a needle valve.

Why DP diaphragm pumps?

- ✓ Sealess Design
- ✓ Low Material Shear
- ✓ Ease of Maintenance
- ✓ Can Run Dry Without Damage
- ✓ Portable
- ✓ Self Priming
- ✓ Easy-to-Install

Find your opportunity



Smart Motor Design

COMPACT SERIES PUMPS 1/4" - 3/4"

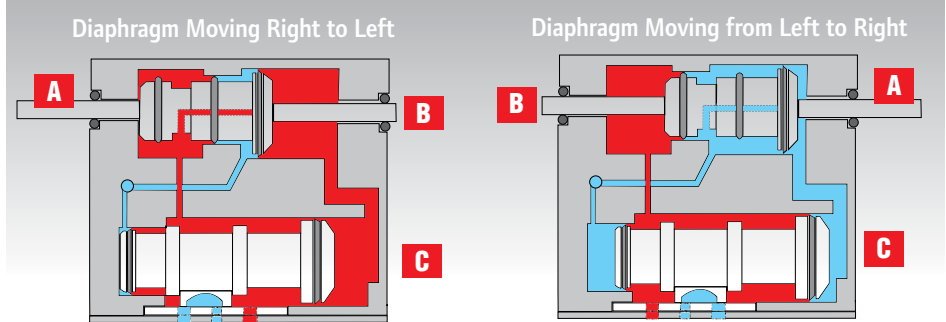
All DP Compact Series diaphragm pumps feature an unbalanced valve design, which eliminates valve centering and pump stall-out-even under low air inlet pressures.

"D" Valve

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

"SimulShift™" Valve

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



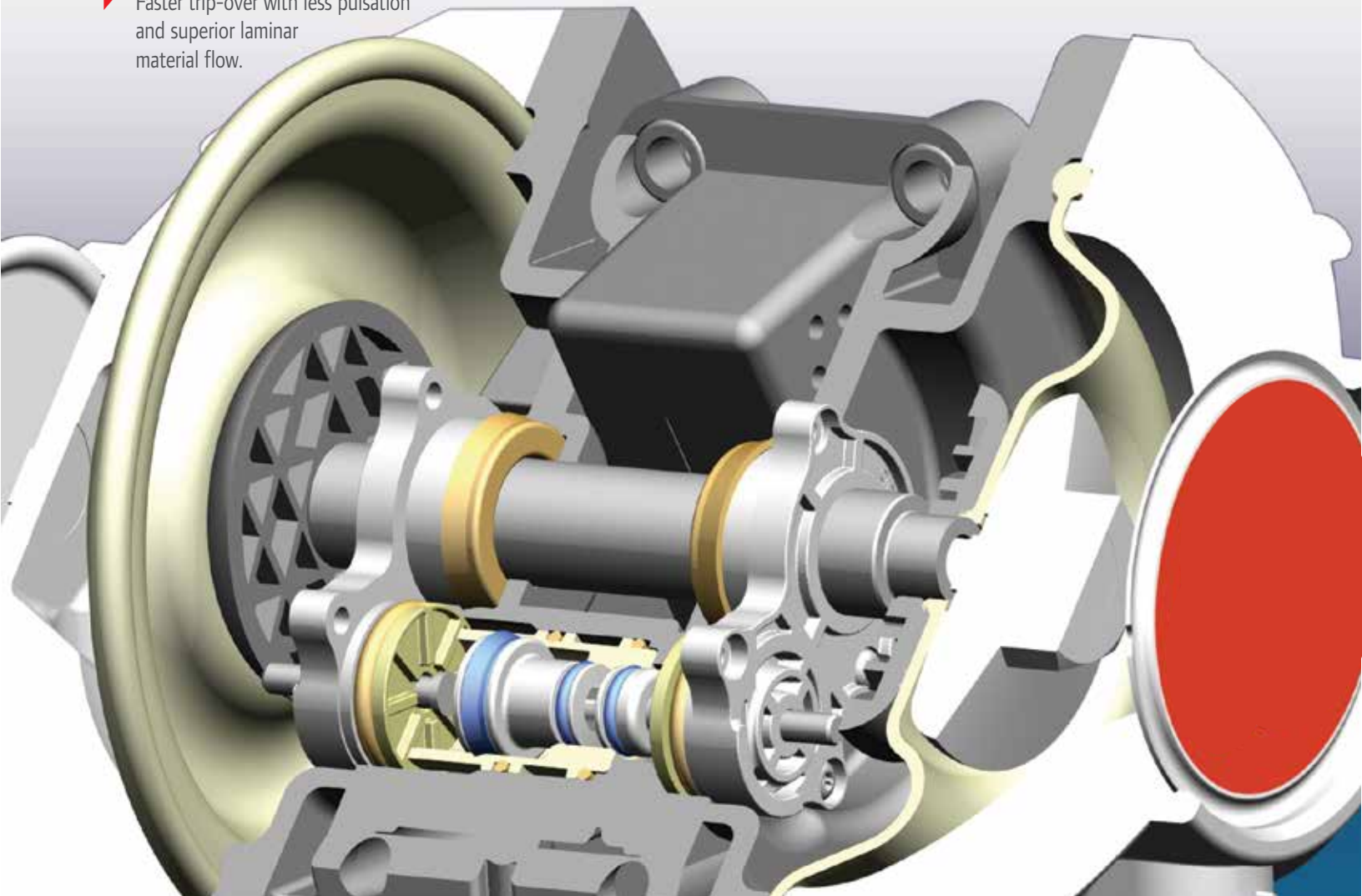
1.) The diaphragm pushes the right Actuator Pin (B) mechanically moving the SimulShift Valve (A) to the left.

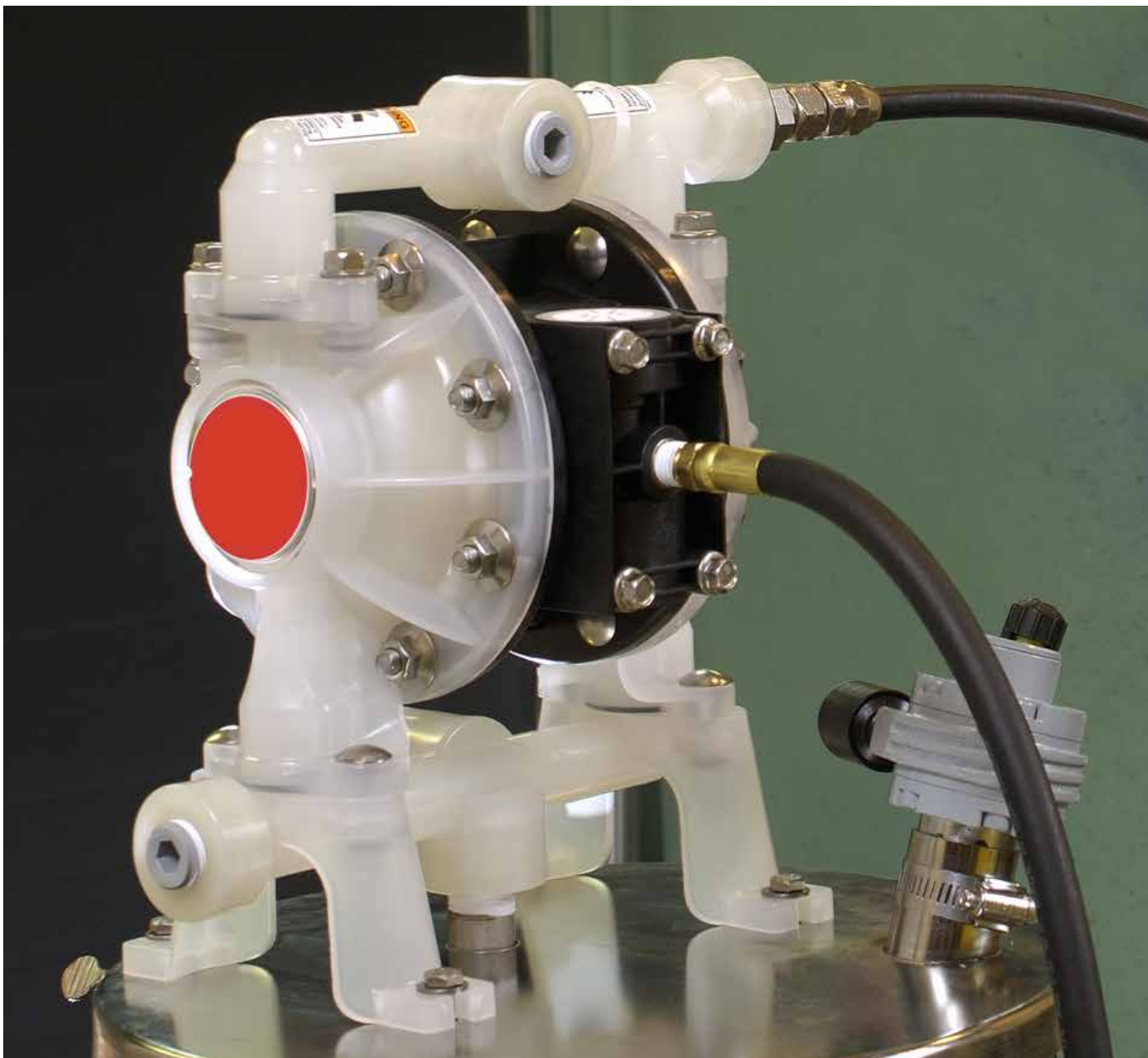
2.) Compressed air flows to the large side of the SimulShift Valve, pneumatically moving the valve to the position shown.

3.) Compressed air also flows to the large end of the Major Air Valve (C), pneumatically shifting it to the left.

At end of stroke:

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





Non-Metallic Models

The DP non-metallic offering consists of polypropylene, acetal and PVDF. All DP pumps are available with convoluted diaphragms offering long lasting life and reduced maintenance.

Non-Metallic Model Overview



Model	1/4"	3/8"	1/2"	1/2" Classic	3/4"	1"	1-1/2"	2"
Maximum Flow GPM (LPM)	5.3 (20)	10.6 (40.1)	14.4 (54.5)	13 (49.2)	14.8 (56)	47 (178)	100 (378.5)	145 (548.8)
Maximum Discharge Pressure PSI (BAR)	125 (8.6)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	120 (8.3)	120 (8.3)	120 (8.3)
Fluid Ports Inlet/Outlet (BSP Available)	1/4" NPTF/BSPT and 3/4"-14 NPTF/BSPT	3/8 - 18 NPTF - 1 Rp 3/8 (3/8 - 19 BSP)	1/2 - 14 NPTF - 1 Rp 1/2 (1/2 - 14 BSP)	1/2-14 N.P.T.F.-1	3/4 - 14 NPTF-1 Rp 3/4(3/4-14 BSP, parallel)	1" ANSI/DIN Flange 1" (F) Threaded	1-1/2" ANSI Flange	2" ANSI Flange
Materials of Construction	Polypropylene Groundable Acetal PVDF	Polypropylene Groundable Acetal PVDF	Polypropylene Groundable Acetal PVDF	Polypropylene Groundable Acetal PVDF	Polypropylene	Polypropylene	Polypropylene	Polypropylene
Pump Weight lbs. (kg.)	Poly 2.86 (1.3) PVDF 3.88 (1.76)	4.2 (1.9) 4.5 (2.0)	6.3 (2.9) 6.8 (3.1)	7.2 (3.3) 9.5 (4.3)	5.61 (2.54)	20.3 (9.2) Poly 28.8 (13.1) Poly w/ Cast Iron Center	62 (28.1) Poly 85 (38.5) Poly w/ Cast Iron Center	62 (28.1) Poly 85 (38.5) Poly w/ Cast Iron Center
Maximum Solids Inches (mm)	1/16 (1.6)	1/16 (1.6)	3/32 (2.4)	3/32 (2.4)	3/32 (2.4)	1/8 (3.2)	1/4 (6.4)	1/4 (6.4)

Position	1	2		3	4	5		6
Example:	DP	10	-	X	X	X	-	X

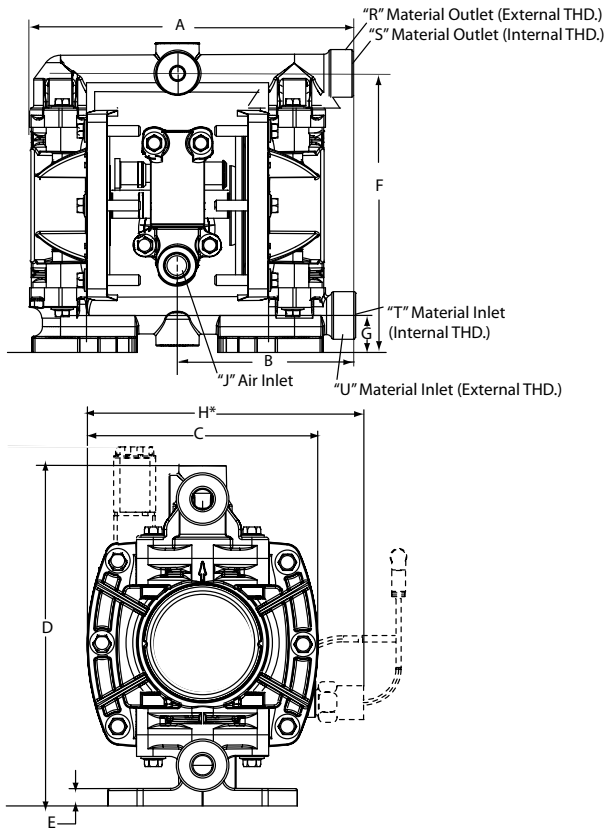
Position 1 Pump Serie	Position 2 Pump Size	Position 3 Fluid Caps and Manifold Material	Position 4 Seat Section	Position 5 Ball Material	Positon 6 Diadhragm Material
DP - DP Series Diaphragm Pump	1/4" 05 3/8" 10 1/2" 15 3/4" 20 1" 25 1-1/2" 40 2" 50 3" 80	3 - Polypropylene 6 - Groundable Acetal 7 - Pure PVDF J - Polypropylene* H - Groundable Acetal* K - Pure PVDF* *Single piece manifold	0 - Duckbill 2 - Stainless Steel 3 - Polypropylene 4 - PVDF 6 - Acetal	1 - Neoprene 2 - Nitrile 3 - Viton® 4 - PTFE 8 - Polyurethane A - Stainless Steel C - Neoprene**D - Nitrile** E - Santoprene® **Flex-check Models	1 - Neoprene 2 - Nitrile 3 - Viton® 4 - PTFE/Santoprene 8 - Polyurethane 9 - Hytrel B - Santoprene® L - Long-Life PTFE

1/4" Non-Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	5.3 (20)
Displacement per cycle gal (l):	.019 (.072)
Air Inlet (Female):	1/4 - 18 PTF SAE Short
Fluid Inlet/Outlet Hybrid:	Internal Thread 1/4"NPTF/BSPT External Thread 3/4" - 14 NPTF/BSPT
Max. operating pressure psi (bar):	125 (8.6)
Suspended solids max. dia in (mm):	.0625 (1.66)
Weight lbs (kg):	2.86 (1.3) Polypropylene 3.88 (1.76) PVDF 3.52 (1.60) Acetal
Maximum dry suction lift ft (m) :	15 (4.6)
Sound Level:	70 PSI 60 Cycles/Min 62.3 db(A)
Muffler:	Integral, Included



1/4" Non-Metallic Dimensions and Flow Charts

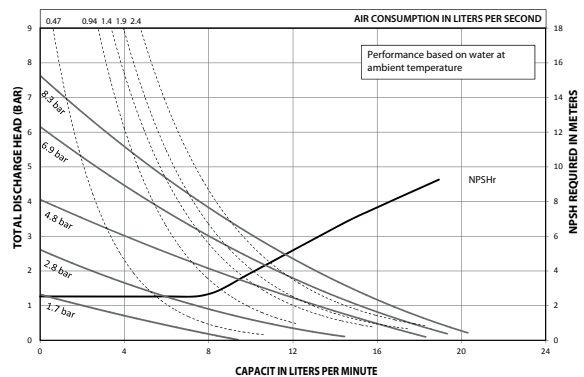
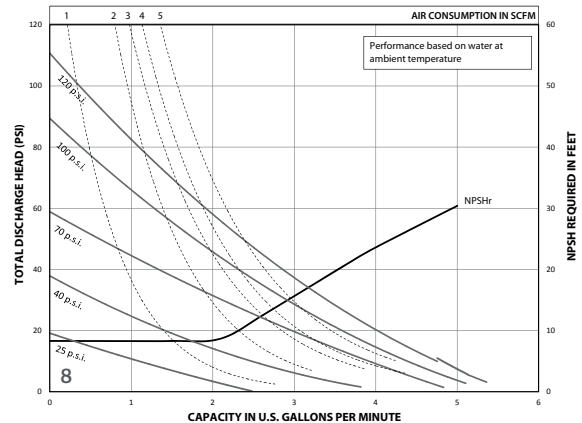


DIMENSIONS

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

A - 7.2" (182 mm) B - 3.9" (100.0 mm)
C - 4.6" (117.0 mm) D - 6.8" (173.0 mm)
E - 0.3" (8.8 mm) F - 6.1" (156 mm)
G - 0.8" (20.7 mm) H - 5.6" (142.2 mm)
J - 1/4 - 18 PTF SAE Short

PERFORMANCE CURVES

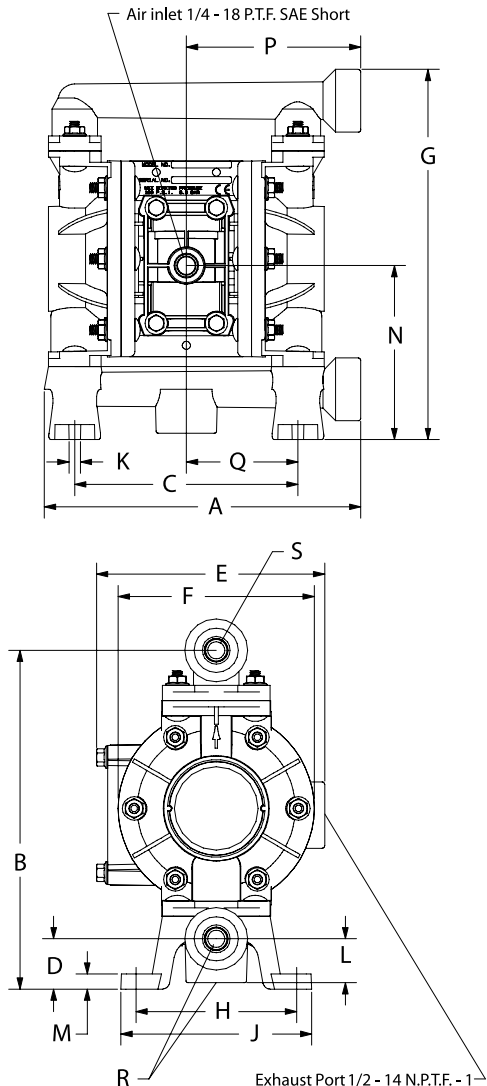


3/8" Non-Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	10.6 (40.1) 8.7 (32.9) Flex check
Displacement per cycle gal (l):	.022 (0.083) .018 (0.068) Flex check
Air Inlet: (Female)	1/4 - 18 PTF SAE Short
Fluid Inlet/Outlet:	3/8 - 18 PTF - 1 Rp 3/8 (3/8 - 19 BSP, parallel)
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	.0625 (1.6) Flex check (Fibers)
Weight lbs (kg):	K - PVDF(single port) 4.5 (2.0) L - PVDF(multiple port) 4.6 (2.1) P - Polypropylene (single port) 3.4 (1.6) R - Polypropylene (multiple port) 3.5 (1.6)
Maximum dry suction lift ft (m):	9.25 (2.8)
Sound Level:	70 PSI 60 Cycles/Min 72.7 db(A)
Muffler:	Integral, Included

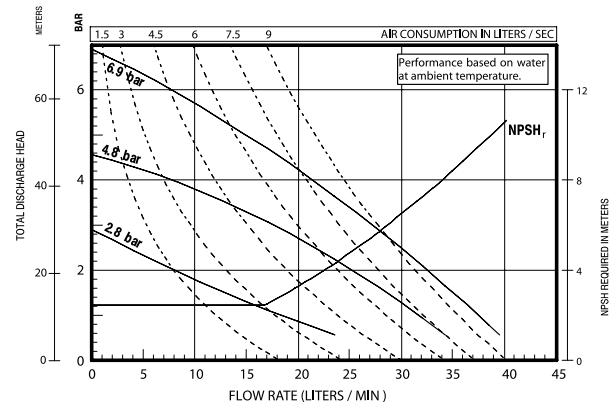
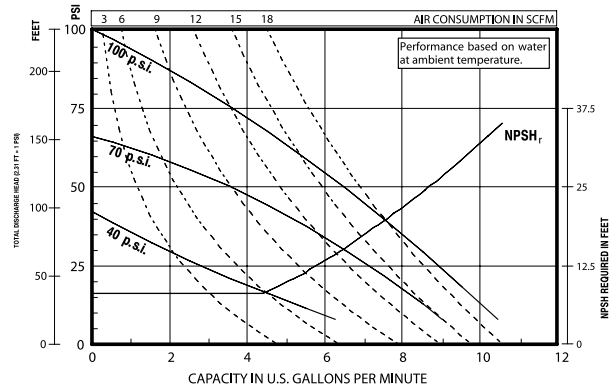


3/8" Non-Metallic Dimensions and Flow Charts



PERFORMANCE CURVES

3/8" NON-METALLIC DIAPHRAGM PUMP



DIMENSIONS

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

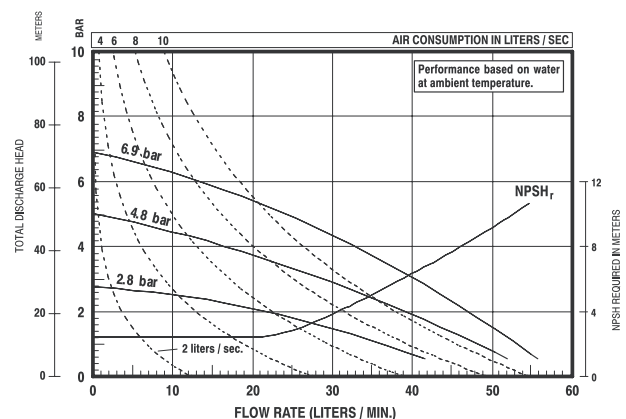
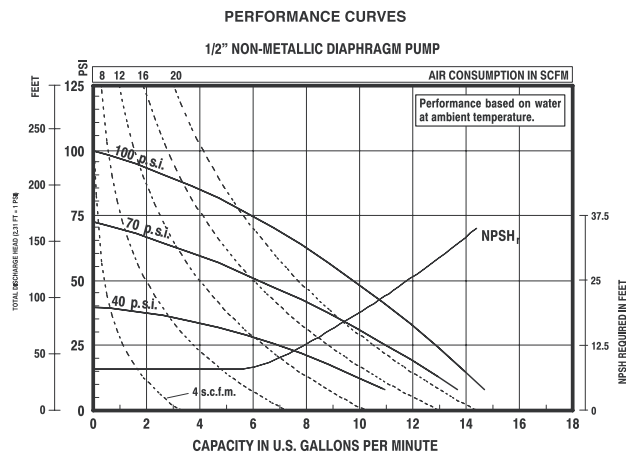
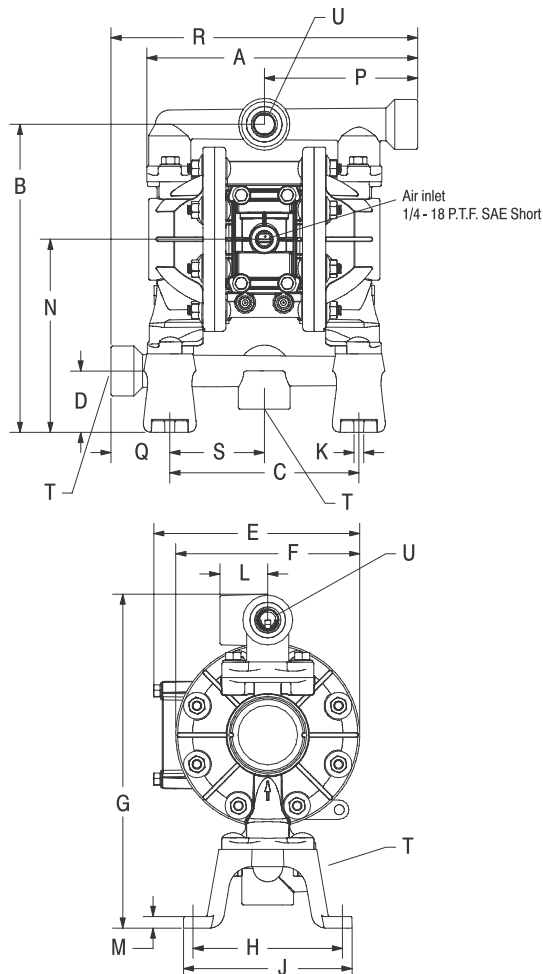
Model	"R" Material Inlet	"S" Material Outlet
3/8" N.P.T.	3/8 - 18 N.P.T.F. - 1	3/8 - 18 N.P.T.F. - 1
3/8" BSP	Rp 3/8 (3/8 - 19 BSP)	Rp 3/8 (3/8 - 19 BSP)

1/2" Non-Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	14.4 (54.5)
Displacement per cycle gal (l):	.039 (.15)
Air Inlet: (Female)	1/4 - 18 PTF SAE Short
Fluid Inlet/Outlet:	1/2 - 14 NPTF - 1 Rp 1/2 (1/2 -14 BSP, parallel)
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	.09375 (2.4)
Weight lbs (kg):	K - PVDF(single port) 6.8 (3.1) L - PVDF(multiple port) 7.2 (3.3) P - Polypropylene 5.2 (2.4) (single port) R - Polypropylene 5.4 (2.5) (multiple port)
Maximum dry suction lift ft (m):	15.0 (4.5)
Sound Level:	70 PSI 60 Cycles/Min 75.0 db(A)
Muffler:	Integral, Included



1/2" Non-Metallic Dimensions and Flow Charts



DIMENSIONS

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

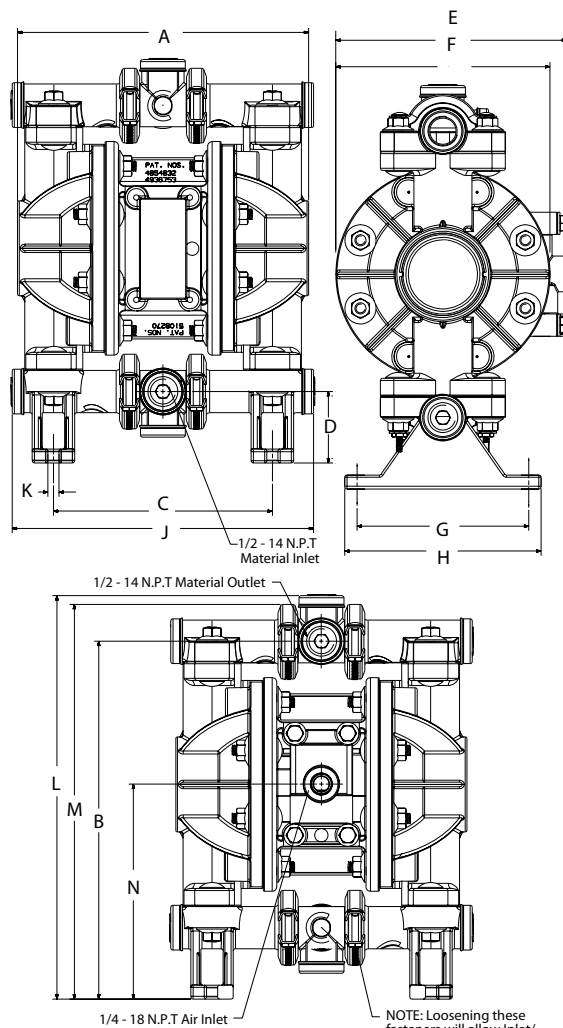
Model	"T" Material Inlet	"U" Material Outlet
1/2 - 14 N.P.T.F. - 1	1/2 - 14 N.P.T.F. - 1	1/2 - 14 N.P.T.F. - 1
Rp1/2 (1/2-14 BSP, parallel)	Rp 1/2 (1/2 - 14 BSP)	Rp 1/2 (1/2 - 14 BSP)

1/2" Classic Style Non-Metallic Models

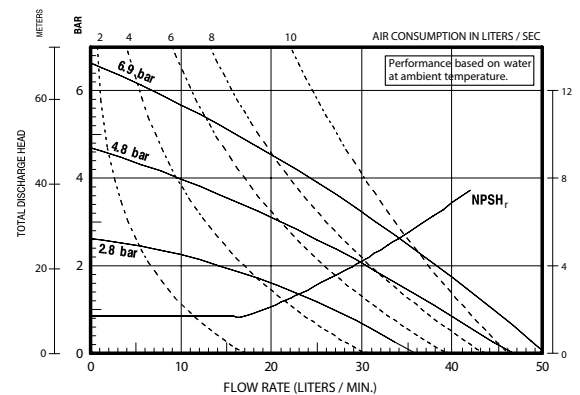
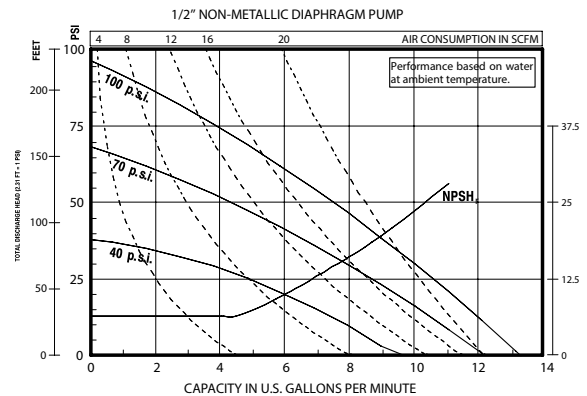
Ratio:	1:1
Maximum Flow gpm (lpm):	ball 13 (49.2) duckbill 10 (37.9)
Displacement per cycle gal (l):	ball .04 (.15) duckbill .032 (0.12)
Air Inlet: (Female)	1/4 - 18 NPTF - 1
Fluid Inlet/Outlet:	1/2 - 14 NPTF - 1
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	ball .09375 (2.4) duckbill fibers
Weight lbs (kg):	Polypropylene 7.2 (3.3) Groundable Acetal 8.8 (4.0) Kynar PVDF 9.5 (4.3)
Sound Level:	70 PSI 60 Cycles/Min 71.1 db(A)
Muffler:	Integral, Included



1/2" Non-Metallic Dimensions and Flow Charts



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



DIMENSIONS

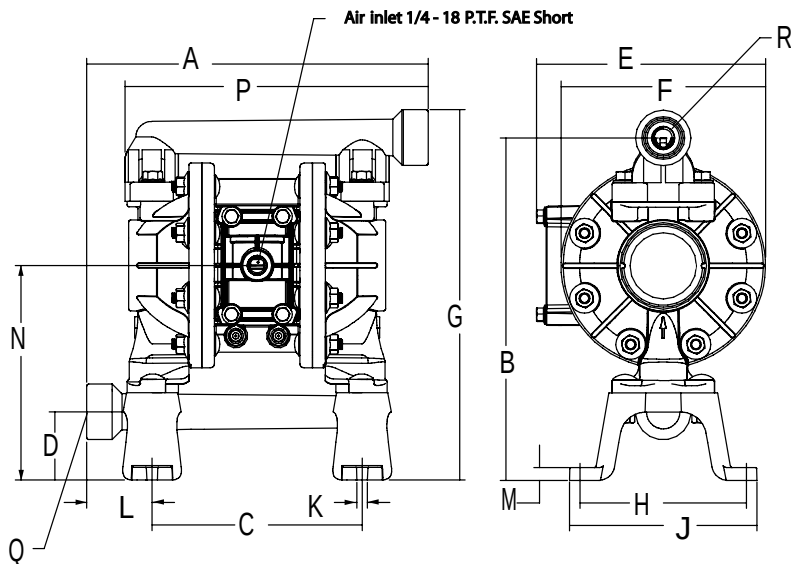
A - 8.155" (207.1 mm)	E - 6.467" (164 mm)	J - 8.44 5" (215 mm)
B - 10.051" (255 mm)	F - 6.000" (152 mm)	K - 0.31 2" (8 mm)
C - 6.135" (155.8 mm)	G - 4.812" (122.2 mm)	L - 11.331" (288 mm)
D - 2.005" (51 mm)	H - 5.500" (140 mm)	M - 11.08 4" (282 mm)
		N - 6.040" (153 mm)

3/4" Non-Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	14.8 (56)
Displacement per cycle gal (l):	.032 (.12)
Air Inlet: (Female)	1/4 - 18 PTF SAE Short
Fluid Inlet/Outlet:	3/4 - 14 NPTF - 1 Rp 3/4 (3/4 -14 BSP, parallel)
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	.09375 (2.4)
Weight lbs (kg):	5.61 (2.54)
Maximum dry suction lift ft (m):	15.0 (4.5)
Sound Level:	70 PSI 60 Cycles/Min 75.0 db(A)



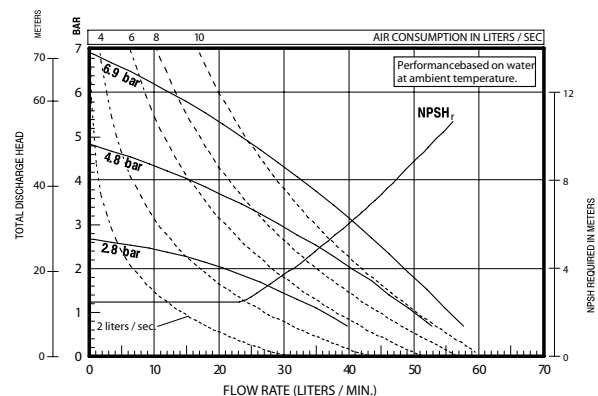
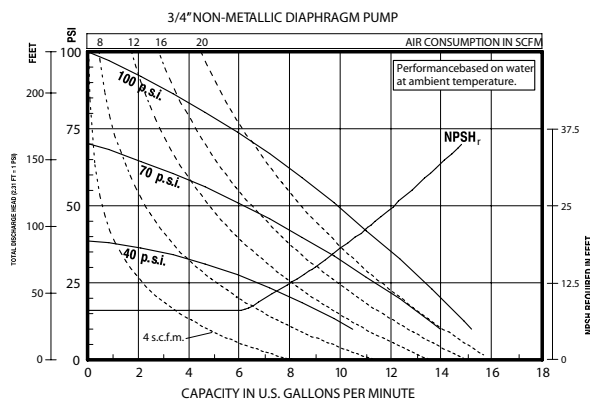
3/4" Non-Metallic Dimensions and Flow Charts



DIMENSIONS

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

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

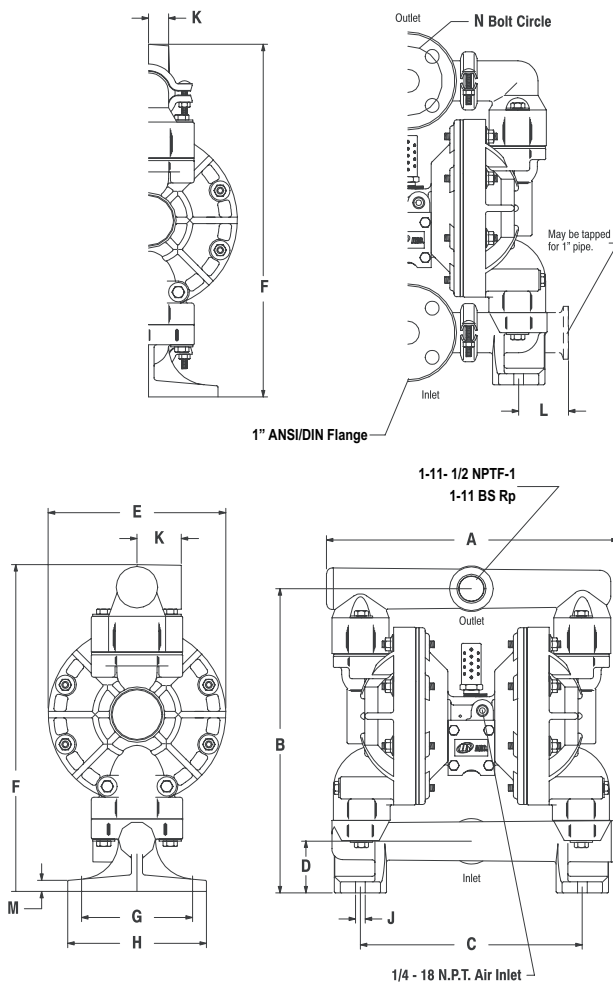


1" Non-Metallic Models

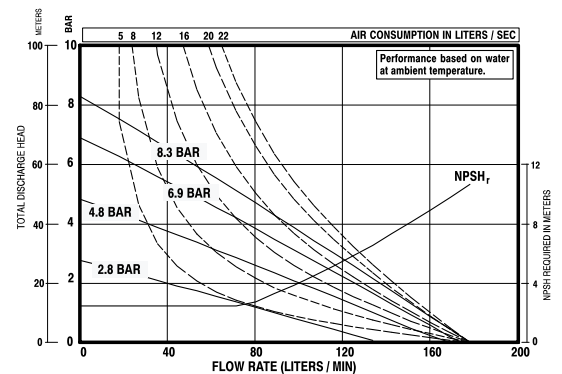
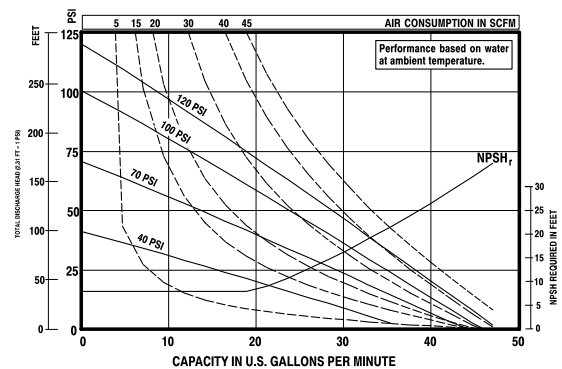
Ratio:	1:1
Maximum Flow gpm (lpm):	47 (177.9)
Displacement per cycle gal (l):	.17 (0.64)
Air Inlet: (Female)	1/4 - 18 NPT
Fluid Inlet/Outlet:	1 - 1-1/2 NPTF - 1 Rp 1 (1 - 11 BSP, parallel) 1" ANSI/DIN Hybrid Center Flange
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.125 (3.2)
Weight lbs (kg):	Aluminum 20.3 (9.2) Cast Iron 28.8 (13.1)
Maximum dry suction lift ft (m):	15 (4.6)
Sound Level:	70 PSI 60 Cycles/Min 64.5 db(A)



1" Non-Metallic Dimensions and Flow Charts



PERFORMANCE CURVES



DIMENSIONS

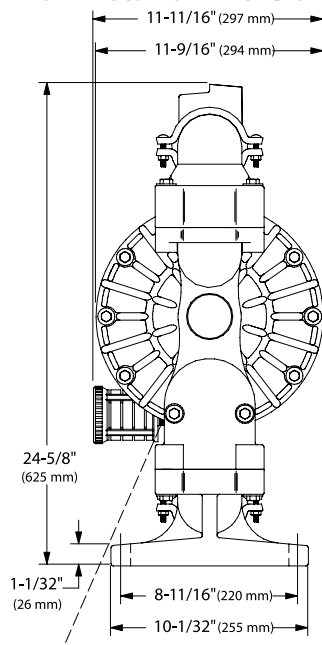
A	12-21/32" (321 mm)	13-5/32" (334 mm)	A	13-5/32" (334 mm)
B	13-25/32" (349 mm)	13-25/32" (350 mm)	B	13-25/32" (350 mm)
C	10-1/16" (255 mm)	10-1/16" (255 mm)	C	10-1/16" (255 mm)
D	2-3/8" (60 mm)	2-11/32" (59 mm)	D	2-11/32" (59 mm)
E	8-1/16" (204 mm)	8-1/16" (204 mm)	E	8-1/16" (204 mm)
F	16" (406 mm)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

1-1/2" Non-Metallic Models

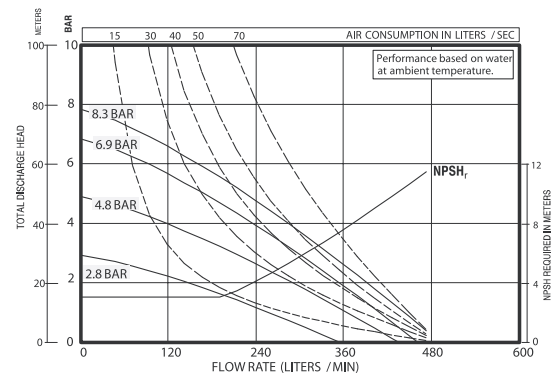
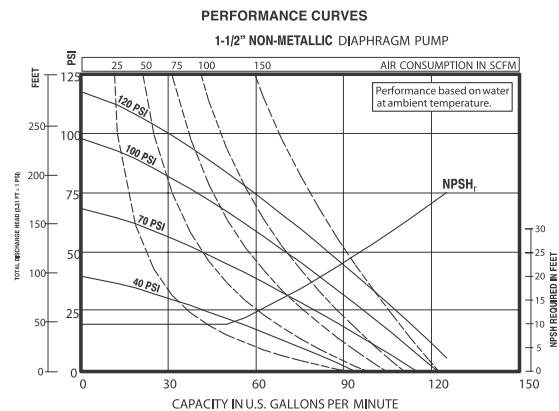
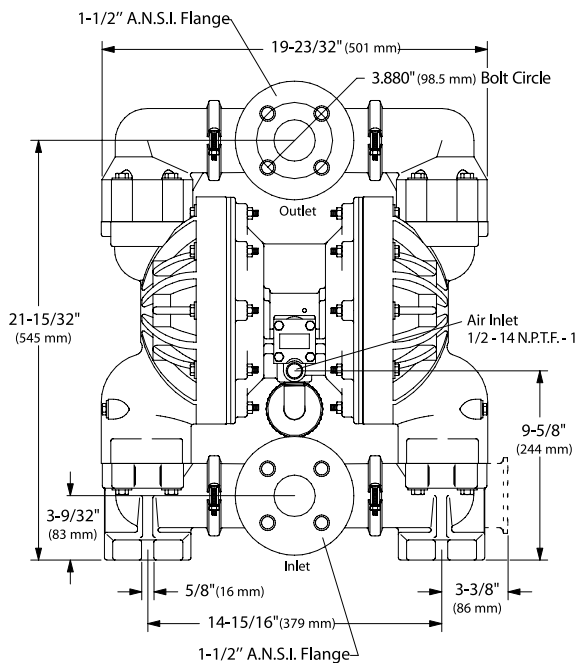
Ratio:	1:1
Maximum Flow gpm (lpm):	100 (378.5)
Displacement per cycle gal (l):	.67 (2.54)
Air Inlet (Female):	1/2 - 14 NPTF - 1
Fluid Inlet/Outlet:	1-1/2" ANSI Center Flange
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.25 (6.4)
Weight lbs (kg):	Aluminum 62 (28.1) Note: Add 23 (10.4) for cast iron air motor section
Maximum dry suction lift ft (m):	14 (4.27)
Sound Level:	70 PSI 60 Cycles/Min 77.7 db(A)



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



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

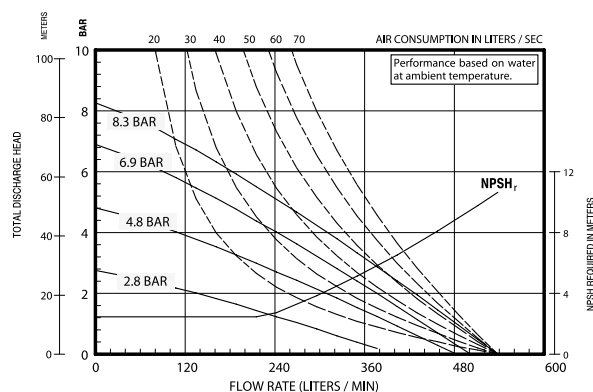
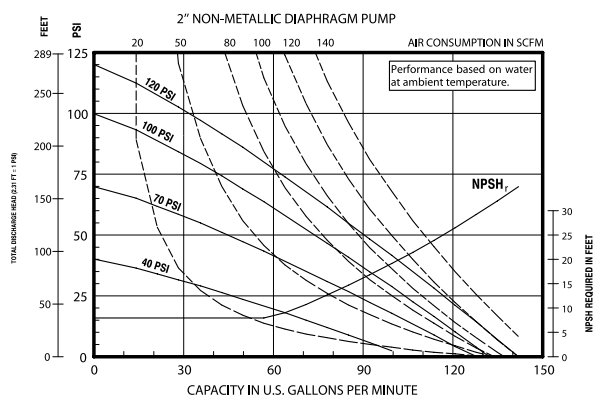
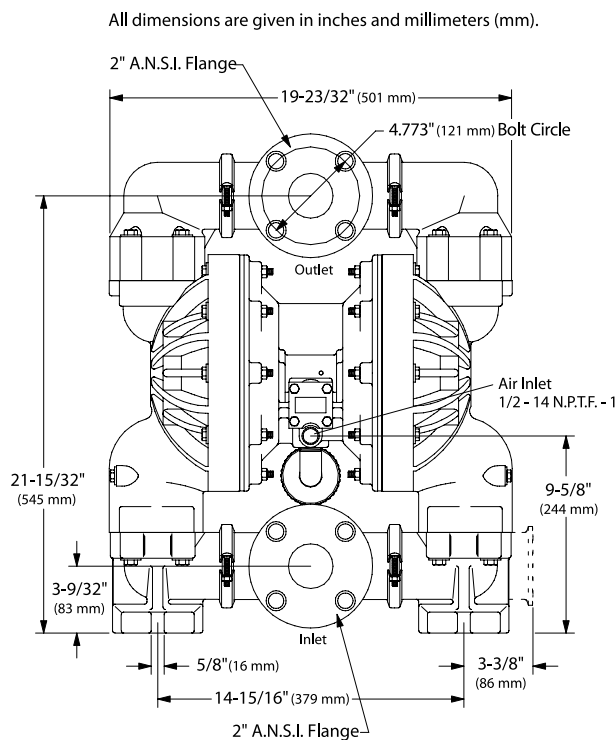
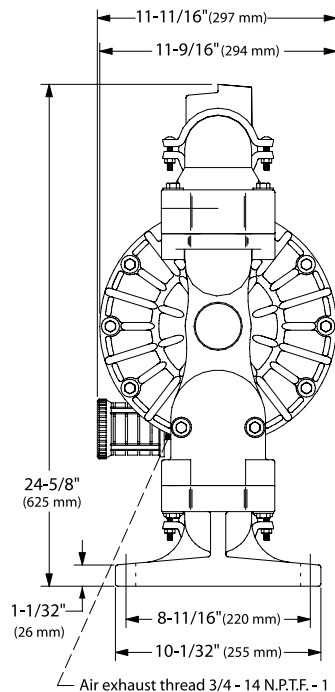


2" Non-Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	145 (548.8)
Displacement per cycle gal (l):	.72 (2.7)
Air Inlet (Female):	1/2 - 14 NPTF - 1
Fluid Inlet/Outlet:	2" ANSI Center Flange
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.25 (6.4)
Weight lbs (kg):	Aluminum 62 (28.1) Note: Add 23 (10.4) for cast iron air motor section
Maximum dry suction lift ft (m):	14 (4.27)
Sound Level:	70 PSI 60 Cycles/Min 77.7 db(A)



2" Non-Metallic Dimensions and Flow Charts





Metallic Models

The DP range of diaphragm pumps offers many materials of construction compatible for the chemical industry: Our metallic offering consists of aluminium, cast iron, stainless steel and hastelloy.

Metallic Model Overview

							
MODEL	1/2"	3/4"	3/4"	1"	1-1/2"	2"	3"
Maximum Flow GPM (LPM)	12 (45.4)	13.6 (51.5)	33 (125)	35 (133)	90 (340.7)	172 (651)	237 (897)
Maximum Discharge Pressure PSI (BAR)	100 (6.9)	100 (6.9)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)	120 (8.3)
Fluid Ports Inlet/Outlet (BSP Available)	1/2 - 14 NPTF - 1 Rp (1/2 - 14 BSP)	3/4 - 14 NPTF - 2 Rp 3/4(3/4-14BSP, parallel)	3/4 - 14 NPTF 1 (3/4 - 14 BSP)	1 - 11-1/2 NPTF - 1 Rp 1 (1-11 BSP parallel)	1-1/2 11-1/2 NPTF - 1 Rp 1-1/2 (1-11 BSP parallel)	1-1/2 11-1/2 NPTF - 1 Rp /2 (2-11 BSP parallel)	3 - 8 NPTF - 1 Rp 3 (3 - 11 BSP parallel)
Materials of	Aluminum Stainless Steel	Aluminum	Aluminum	Aluminum Stainless Steel	Aluminum Stainless Steel	Aluminum Stainless Steel	Aluminum Stainless Steel
Maximum Solids Inches (mm)	3/32 (2.4)	3/32 (2.4)	1/8 (3.2)	1/8 (3.2)	1/4 (6.4)	1/4 (6.4)	3/8 (9.5)

Position	1	2		3	4	5		6
Example:	DP	20	-	X	X	X	-	X

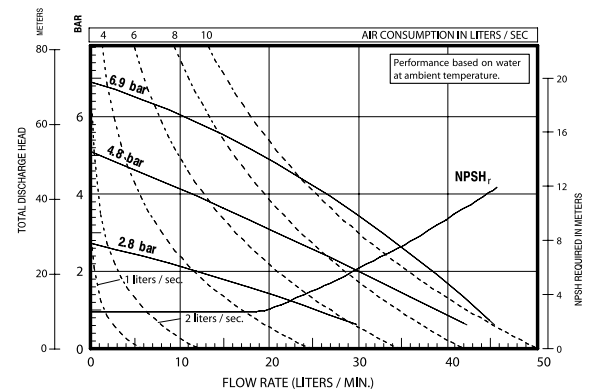
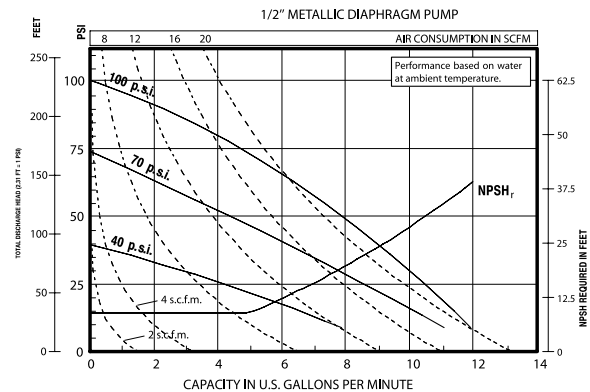
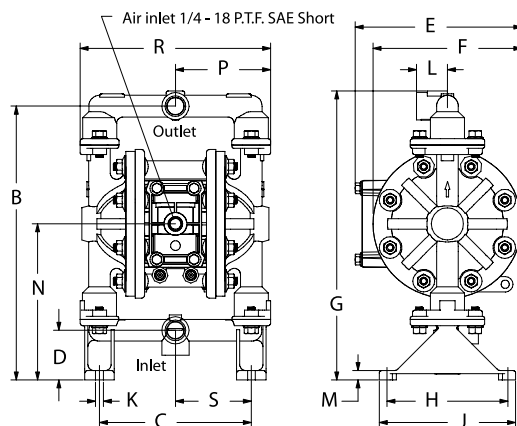
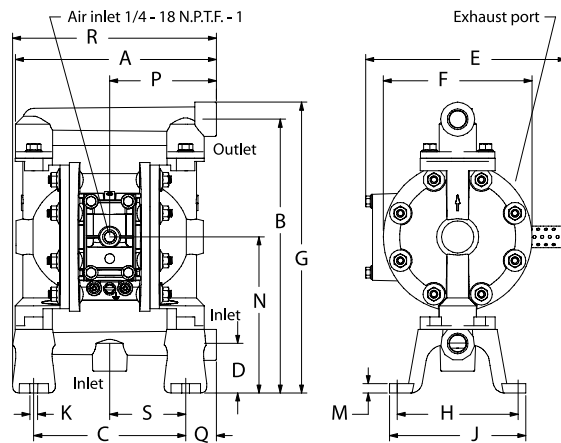
Position 1 Pump Serie	Position 2 Pump Size		Position 3 Fluid Caps and Manifold Material	Position 4 Seat Material	Position 5 Ball Material	Positon 6 Diaphragm Material
DP - DP Series Diaphragm Pump	1/2"	15	0 - Aluminum	1 - Aluminum	1 - Neoprene	1 - Neoprene
	3/4"	20	(steel hardware)	2 - 316 Stainless Steel	2 - Nitrile	2 - Nitrile
	1"	25	1 - Stainless Steel	3 - Polypropylene	3 - Viton®	3 - Viton®
	1-1/2"	40	(steel hardware)	4 - PVDF	4 - PTFE	4 - PTFE / Santoprene
	2"	50	2 - Cast Iron	5 - Carbon Steel	6 - Acetal	9 - Hytrel®
	3"	80	(steel hardware)	8 - Hard 400 Stainless Steel	8 - Polyurethane	B - Santoprene®
			A - Aluminum (stainless hardware)		A - Stainless Steel	
			B - Stainless Steel (stainless hardware)		C - Hytrel®	
			C - Cast Iron (stainless hardware)		E - Santoprene®	

1/2" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	12.0 (45.4)
Displacement per cycle gal (l):	.039 (.15)
Air Inlet (Female):	1/4 - 18 PTF SAE Short 1/4 - 18 NPTF - 1
Fluid Inlet/Outlet:	1/2 - 14 NPTF - 1 Rp 1/2 (1/2 - 14 BSP, parallel)
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	.09375 (2.4)
Weight lbs (kg):	Aluminum 1/2 - 14 NPTF - 1 10.4 (4.7) Polypropylene 1/2 - 14 NPTF - 1 16.6 (7.5) Aluminum Rp 1/2 (1/2 - 14 BSP, parallel) 8.0 (3.7) Polypropylene 1/2 (1/2 - 14 BSP, parallel) 14.3 (6.5)
Maximum dry suction lift ft (m):	15 (4.5)
Sound Level:	70 PSI 60 Cycles/Min 75 db(A)
Muffler:	Aluminum- 93110; Polypropylene- Integral



1/2" Metallic Dimensions and Flow Charts



DIMENSIONS

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

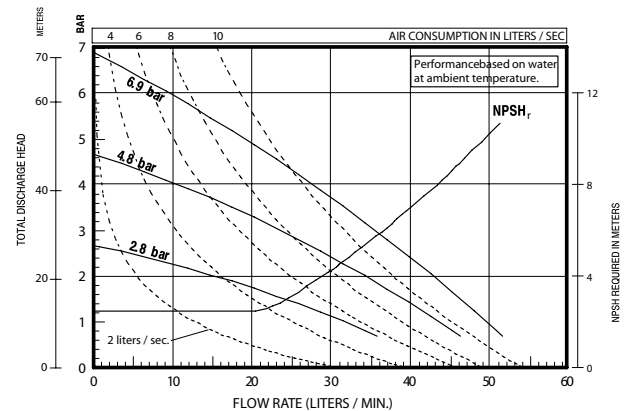
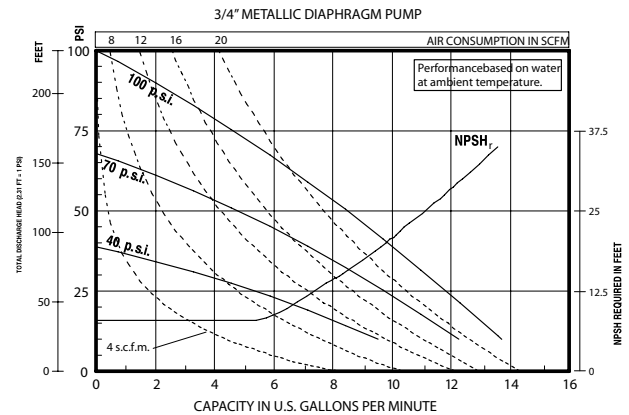
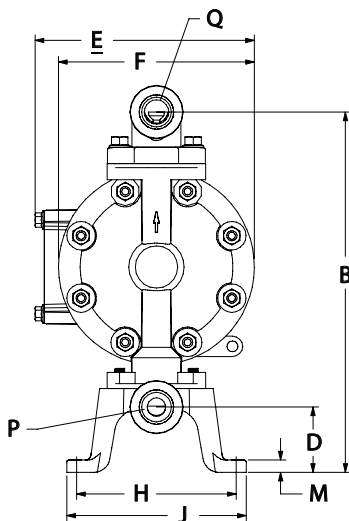
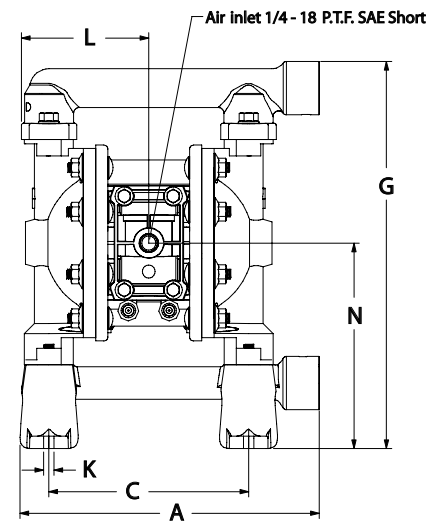
Dimension	PD05A-XXS-XXX-B	PD05R-XXS-XXX-B
"E"	8-3/32" (205.5 mm)	6-23/32" (170.6 mm)
"G"	11-3/4" (297.9 mm)	11-21/32" (296.0 mm)
"P"	4-5/16" (109.3 mm)	3-27/32" (97.4 mm)
"R"	8-7/32" (208.5 mm)	7-11/16" (194.9 mm)

3/4" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	13.6 (51.5)
Displacement per cycle gal (l):	.030 (.11)
Air Inlet (Female):	1/4 - 18 PTF SAE Short
Fluid Inlet/Outlet:	3/4 - 14 NPTF-2
	Rp 3/4 (3/4 -14 BSP, parallel)
Max. operating pressure psi (bar):	100 (6.9)
Suspended solids max. dia in (mm):	.09375 (2.4)
Weight lbs (kg):	Polypropylene 8.74 (3.96)
	Aluminum 11.0 (4.99)
Maximum dry suction lift ft (m):	15 (4.5)
Sound Level:	70 PSI 60 Cycles/Min 75 db(A)



3/4" Metallic Dimensions and Flow Charts



DIMENSIONS

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

Model	"P" Material Inlet	"Q" Material Outlet
Aluminum	3/4- 14 N.P.T.F. - 2	3/4- 14 N.P.T.F. - 2
Polypropylene	Rp 3/4(3/4- 14 BSP)	Rp 3/4(3/4- 14 BSP)

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

1" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	35 (133)
Displacement per cycle gal (l):	.16 (.60)
Air Inlet (Female):	1/4 - 18 NPTF - 1
Fluid Inlet/Outlet:	1 - 1 1/2 NPTF - 1 Rp 1 (1-11 BSP parallel)
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.125 (3.2)
Weight lbs (kg):	Aluminum 9(8.6) Stainless steel 29(13.1) Cast iron 31(14.1) Note: Add 8 (3.63) for cast iron air motor section
Maximum dry suction lift ft (m):	20 (6.1)
Sound Level:	70 PSI 60 Cycles/Min 64.5 db(A)



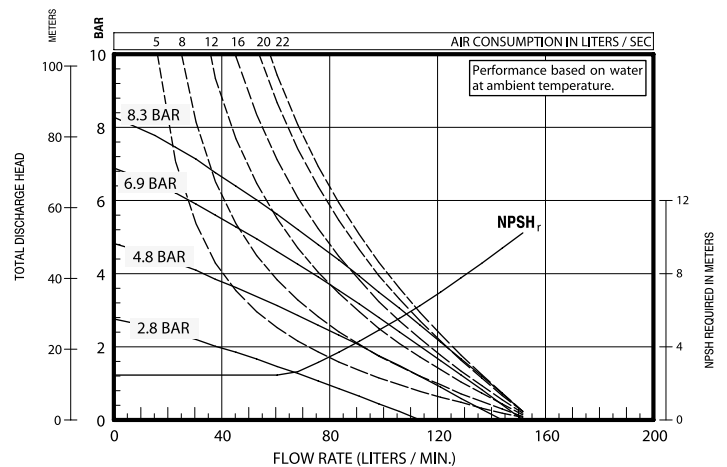
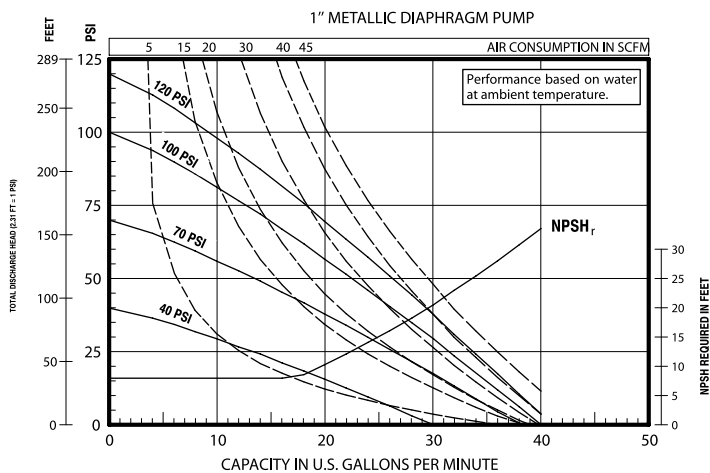
Aluminum / Cast Iron
Pump



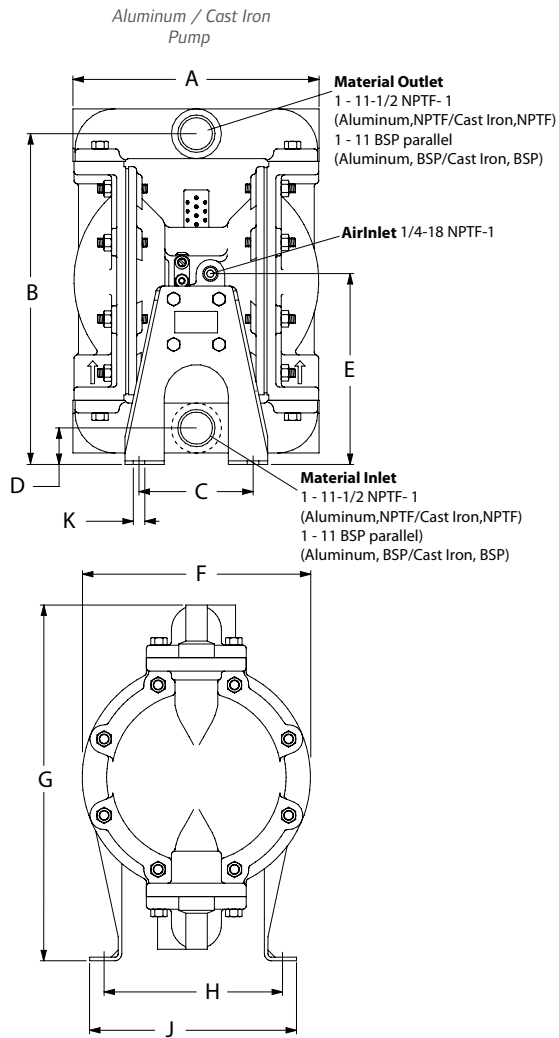
Stainless Steel Pump

1" Metallic Flow Charts

PERFORMANCE CURVES



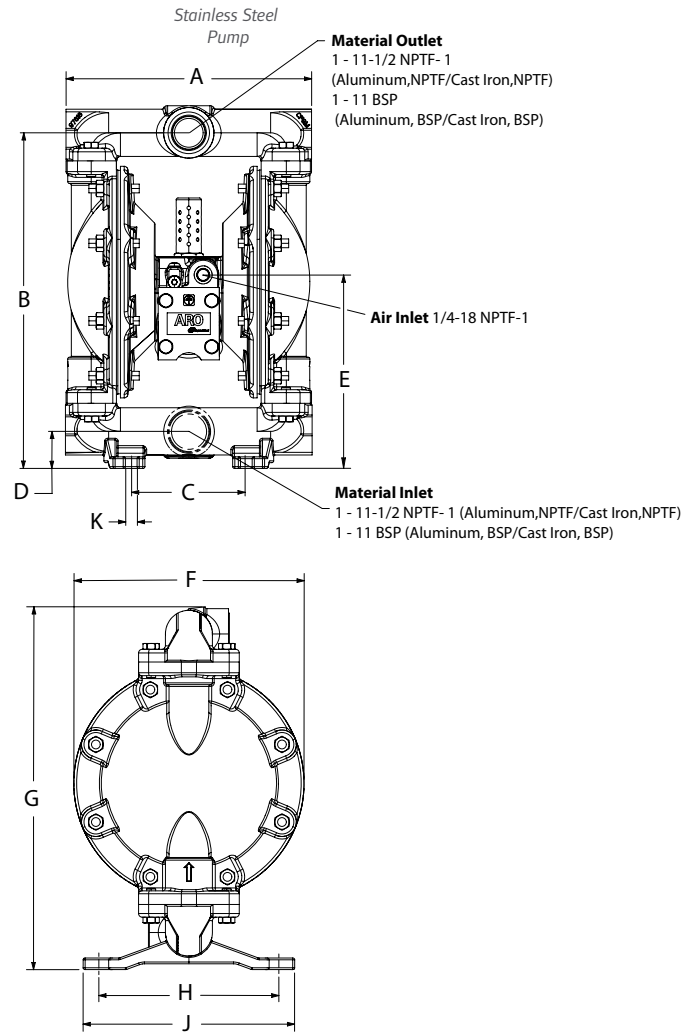
1" Metallic Dimensions Charts



DIMENSIONS

A - 8-9/16" (217.5 mm)	E - 6-1/2" (165 mm)	H - 6-1/4" (159 mm)
B - 11-9/16" (294 mm)	F - 8" (203 mm)	J - 7-5/16" (186 mm)
C - 4" (102 mm)	G - 12-1/2" (318 mm)	K - 13/32" (10 mm)
D - 1-1/4" (32 mm)		

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



DIMENSIONS

A - 8-9/16" (217.5 mm)	E - 6-1/2" (165 mm)	H - 6-1/8" (155 mm)
B - 11-9/16" (294 mm)	F - 8" (203 mm)	J - 7-5/16" (186 mm)
C - 4" (102 mm)	G - 12-7/16" (315 mm)	K - 13/32" (10 mm)
D - 1-1/4" (32 mm)		

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

1-1/2" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	90 (340.7)
Displacement per cycle gal (l):	.64 (2.42)
Air Inlet (Female):	1/2 - 14 NPTF - 1
Fluid Inlet/Outlet:	1-1/2 11-1/2 NPTF - 1
	Rp 1-1/2 (1-1/2 - 11 BSP parallel)
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.25 (6.4)
Weight lbs (kg):	Aluminum 51.5(23.4)
	Stainless steel 77.5 (35.2)
	Cast iron 79.5(36.1)
	Note: Add 23 (10.4) for cast iron air motor section
Maximum dry suction lift ft (m):	19 (5.8)
Sound Level:	70 PSI 60 Cycles/Min 80.5 db(A)



Aluminum / Cast Iron Pump

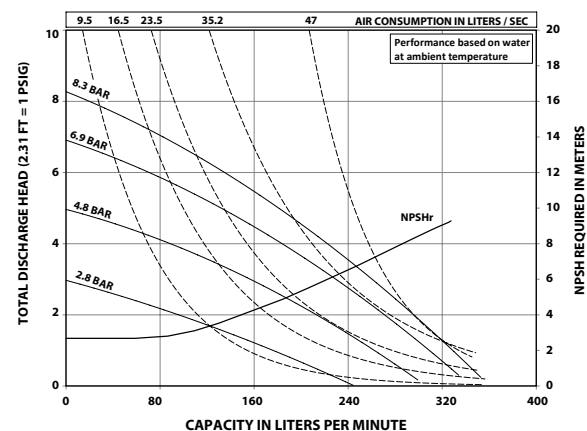
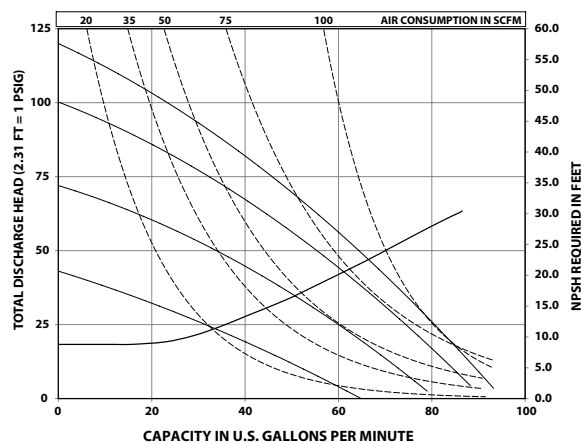


Stainless Steel Pump

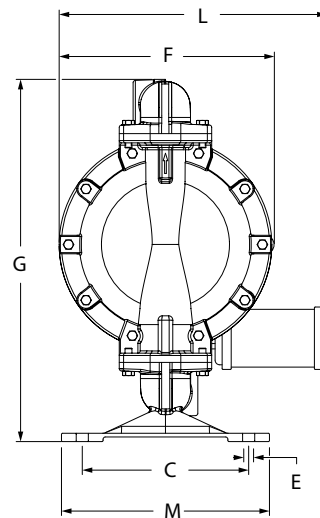
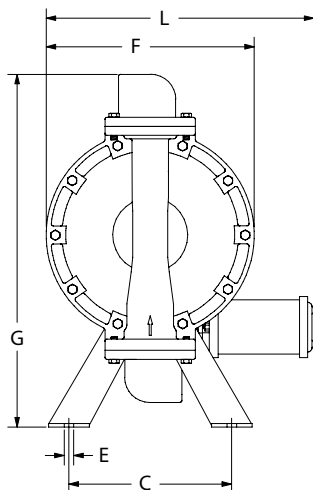
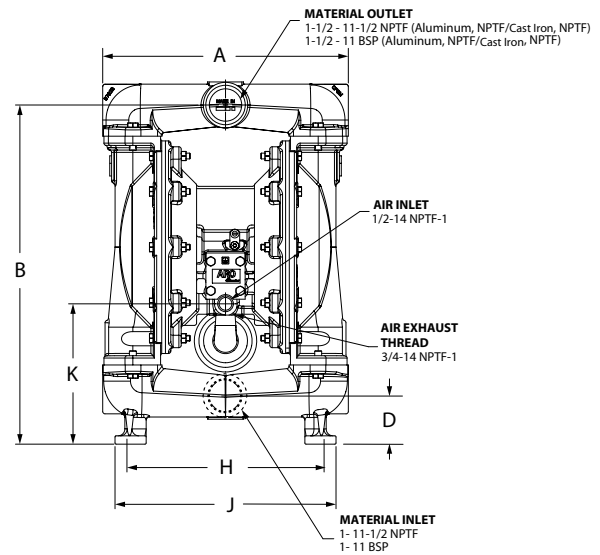
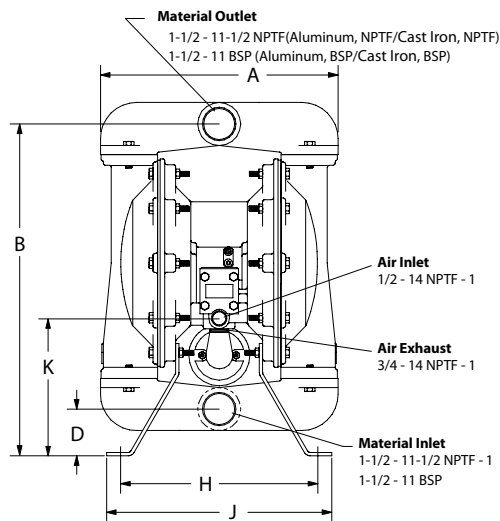
1-1/2" Metallic Flow Charts

PERFORMANCE CURVES

1-1/2" METALLIC DIAPHRAGM PUMP



1-1/2" Metallic Dimensions Charts



DIMENSIONS

A - 13-1/8" (333 mm)	E - 1/2" (14 mm)	J - 12" (305 mm)
B - 18-3/8" (467 mm)	F - 11-1/2" (292 mm)	K - 7-5/8" (194 mm)
C - 9" (229 mm)	G - 19-5/8" (498 mm)	L - 14-13/16" (376 mm)
D - 2-3/4" (70 mm)	H - 10-3/4" (273 mm)	

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

DIMENSIONS

A - 13-5/16" (337 mm)	E - 17/32" (13.5 mm)	J - 12" (305 mm)
B - 18-3/8" (467 mm)	F - 11-1/2" (292 mm)	K - 7-5/8" (194 mm)
C - 9" (229 mm)	G - 19-5/8" (498 mm)	L - 14-1/2" (368 mm)
D - 2-3/4" (70 mm)	H - 10-3/4" (273 mm)	M - 11-1/4" (286 mm)

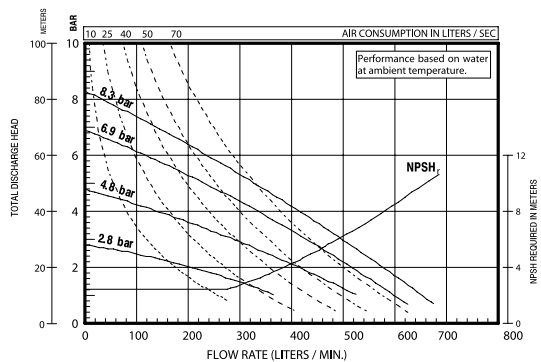
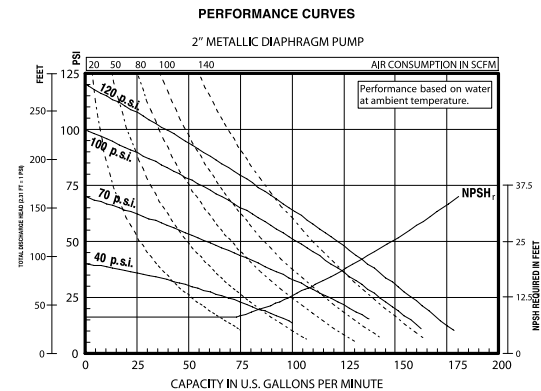
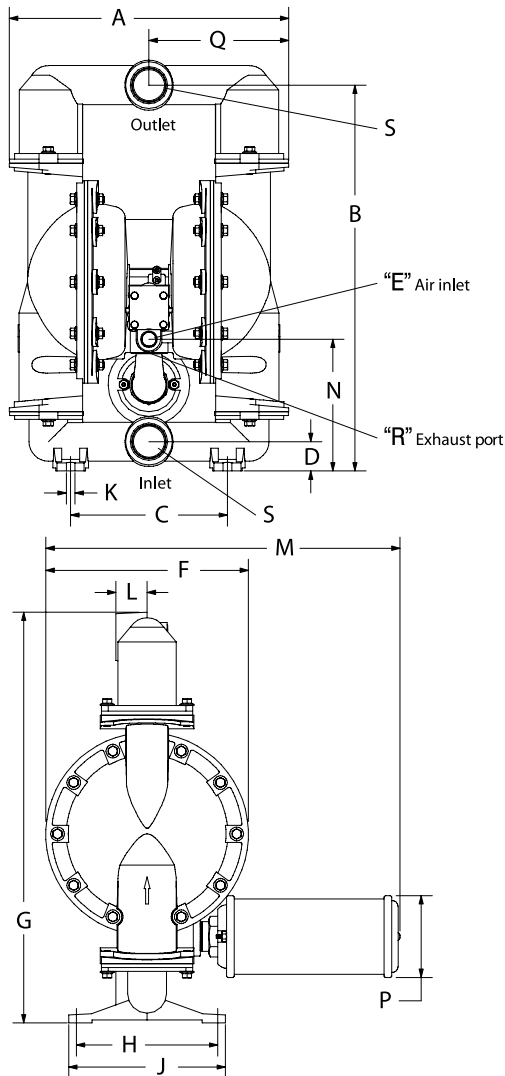
NOTE: Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

2" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	172 (651)
Displacement per cycle gal (l):	1.4 (5.3)
Air Inlet (Female):	3/4 - 14 NPTF - 2
Fluid Inlet/Outlet:	2 - 11-1/2 NPTF - 1 Rp 2 (2 - 11 BSP, parallel)
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.25 (6.4)
Weight lbs (kg):	Aluminum(steelhardware) 65.2 (29.6) Stainless steel(steel hardware) 129.9 (58.9) Cast Iron (steel hardware) 124.3 (58.9)
Maximum dry suction lift ft (m):	27.2 (8.3)
Sound Level:	70 PSI 60 Cycles/Min 85.3 db(A)



2" Metallic Dimensions and Flow Charts



DIMENSIONS

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

"S" Inlet / Outlet

Aluminum, NPTF	2 - 11-1/2 N.P.T.F. - 1
Aluminum, BSP	Rp 2 (2 - 11 BSP parallel)

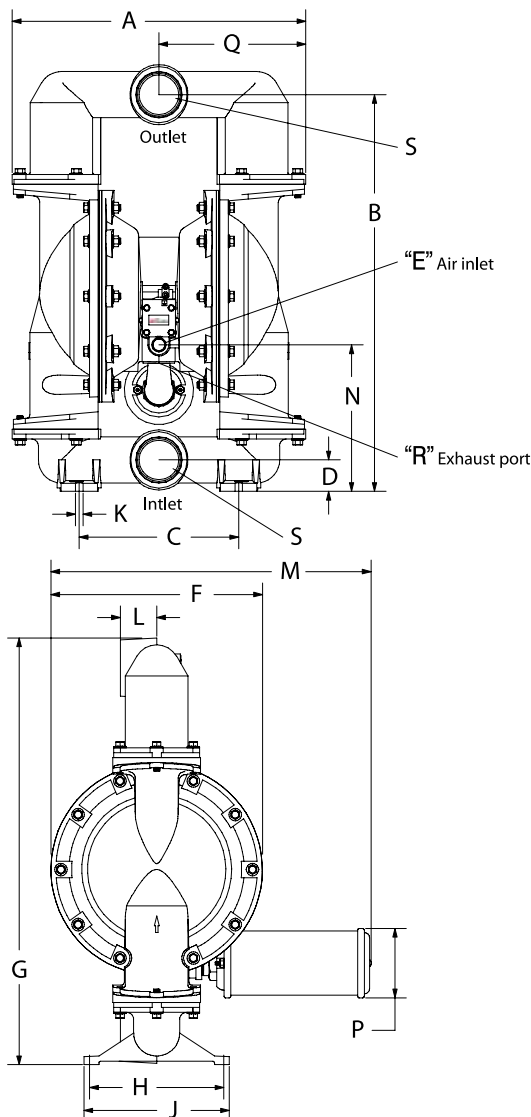
NOTE: Dimensions are shown in inches and (mm), supplied for reference only and are typically rounded up to the nearest 1/16 inch.

3" Metallic Models

Ratio:	1:1
Maximum Flow gpm (lpm):	237 (897)
Displacement per cycle gal (l):	2.65 (10.03)
Air Inlet (Female):	3/4 - 14 NPTF - 2
Fluid Inlet/Outlet:	3 - 8 NPTF - 1 Rp 3 (3 - 11 BSP parallel)
Max. operating pressure psi (bar):	120 (8.3)
Suspended solids max. dia in (mm):	.375 (9.5)
Weight lbs (kg):	Aluminum (steel hardware) 109.8 (49.8) Stainless steel (steel hardware) 222.2 (100.8) Cast Iron (steel hardware) 213.1 (96.7)
Maximum dry suction lift ft (m):	17.6 (5.4)
Sound Level:	70 PSI 60 Cycles/Min 86.3 db(A)

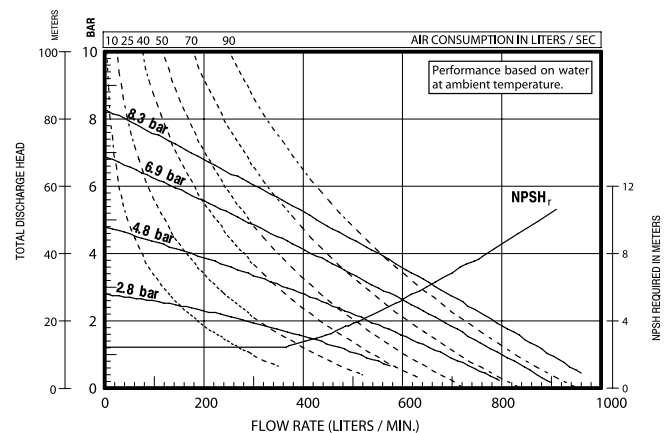
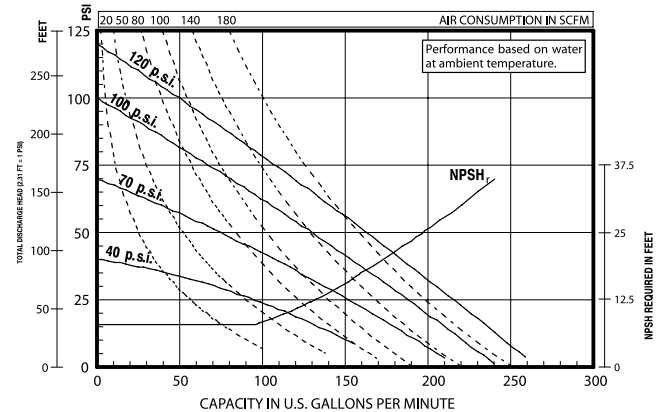


3" Metallic Dimensions and Flow Charts



PERFORMANCE CURVES

3" METALLIC DIAPHRAGM PUMP



DIMENSIONS

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

"S" Inlet / Outlet

Aluminum, NPTF 3 - 8 N.P.T.F. - 1
Aluminum, BSP Rp 3 (3 - 11 BSP parallel)

Accessories

Siphon Tubes

For use when pumping from a 55 GAL (200 L) container; siphon tubes are available in PVC, or carbon steel. 1" siphon tubes come with foot valve for positive priming. All models include bung adapter.

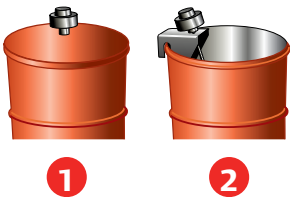
Model no.	Description	For use with pumps
65109	Steel — NPT(F)	1" (Metallic)
66779	PVC — NPT(F)	1" (Non-Metallic)



Material Agitators

Agitators available for both 5 GAL (20 L) and 55 GAL (200 L) containers. Air operated agitator motors generate between 500-1000 RPM 5 GAL (20 L), and 500-3000 RPM (for 55 GAL, 200 L). Agitator shaft and propellers are constructed of corrosion resistant 316 stainless steel.

Model no.	For drum	Mounting	Power	Motor speed	Propeller dia.	Axle length
651100	5 GAL (20 L)	1	0.33 hp	500 - 1000 rpm	4" (102 mm)	12"(305 mm)
651103	55 GAL (200 L)	2	0.75 hp	500 - 3000 rpm	5" (127 mm)	32.6"(830 mm)
651104-1	55 GAL (200 L)	1	0.95 hp	500 - 3000 rpm	5" (127 mm)	32.6"(830 mm)
651104-3	5 GAL (20 L)	1	0.75 hp	500 - 3000 rpm	5" (127 mm)	10.5"(267 mm)



Drum Covers

Durable stainless steel and carbon steel drum covers, accommodate the use of both diaphragm pump and agitator where you need.

Model no.	For drum	Material	For use with agitator:
66971	5 GAL (20 L)	Stainless steel	651100
66197	55 GAL (200 L)	Carbon steel	651104-1
94422	55 GAL (200 L)	Carbon steel	—



Pneumatic Liquid Level Sensor*

Used to control pump.
59916-1 to sense when fluid exceeds a desired level
59916-2 to sense when fluid falls below a desired level
* 3 or 4- way valve required



Liquid Level Sensor

Air Control Actuation Valves

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

MQ3728-120-A for 1/2" and 1" pumps,
H254SS-120-A for 1-1/2" pumps,
MQ3729-120-A for 2" and 3" pumps

24 VDC MQ3728-024-D for 1/2" and 1" pumps
H254SS-024-D for 1-1/2" pumps
MQ3729-024-D for 2" and 3" pumps



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

Accessories

Pulsation Dampeners

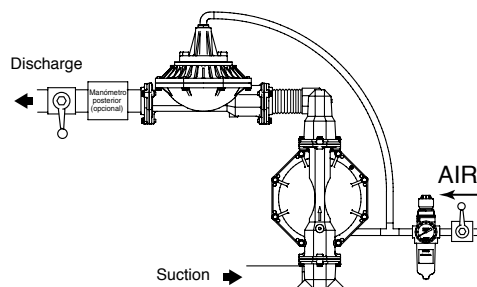
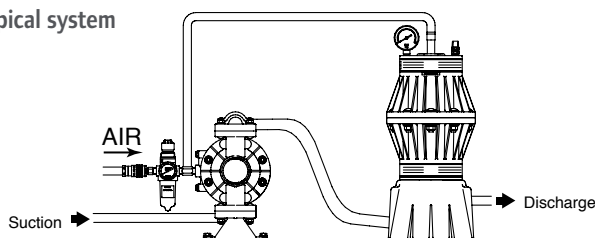
Diaphragm pumps of any type have at least two points in their cycle where they provide no pressure or flow to a process. The unwanted result of this pressure fluctuation can often be material foaming, material pulsation, hydraulic shock or material splashing. While traditional pulsation dampeners can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



Automatic Shock Blockers®

- Automatic Air Adjustment - compensates for fluctuations in fluid pressure without operator intervention.
- Significant Pulsation Reduction - Shock Blockers deliver an average 60% - 80% pulsation reduction in high back pressure applications.
- Built for high-flow/aggressive fluid applications - the 2" models can handle up to 2.6 L maximum fluid volume, and 3" models up to 8.3 L maximum fluid volume.
- Broad Material Range for Compatibility - choose from PVDF, polypropylene, groundable acetal, aluminum, cast iron or stainless steel body materials for optimum pump-to-pulsation dampener compatibility
- Broad Diaphragm/Bladder Fluid Compatibility - choose from Santoprene, Nitrile, PTFE, Hytrel, Viton or Urethane for optimum fluid-to-diaphragm compatibility.
- Perfect for Process Applications - pulsation reduction in long piping runs help prevent costly fluid pipe and downstream valve damage.
- Bolted construction - for leak-free vessel integrity and a safer work-site.
- Ultra-Rugged Construction for Long service Life - both inside and out, the Shock Blockers are built tough to deliver worry-free, near pulse-free fluid handling.

Typical system



Ordering

Position	1	2		3	4	5		6
Example:	SBX0	X	-	X	X	S	-	X

Position 1 Model & Size	Position 2 Air Section	Position 3 Fluid Connection	Position 4 Fluid Section	Position 5 Hardware	Position 6 Dia. Material
SB10 - 1"	P - Polypropylene K - PVDF (Kynar) D - Conductive Acetal	A - NPTF B - BSP	P - Polypropylene K - PVDF (Kynar) D - Conductive Acetal	S - Stainless Steel 304	A - Santoprene® C - Hytrel® T - PTFE U - Polyurethane
SB20 - 2" SB30 - 3"	A - Aluminum C - Cast Iron P - Polypropylene/Aluminum* R - Polypropylene/ Stainless Steel* S - Stainless Steel	A - NPTF B - BSP F - 2" ANSI/DIN Flange Inlet and Outlet* K - 2" ANSI/DIN Flange Inlet/ NPTF Outlet* L - 2" ANSI/DIN Flange Inlet/ BSPP Outlet*	A - Aluminum C - Cast Iron P - Polypropylene* S - Stainless Steel	P - Carbon Steel S - Stainless Steel	A - Santoprene® G - Nitrile T - PTFE / Santoprene® V - Viton®

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* Only available with 2" Polypropylene fluid sections.

Pump Airborne Noise Emissions

Pump Airborne Noise Emissions

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

Pump Port Size (Inches)	Air Operating Pressure (PSI)	Cycles/Minute	Sound Pressure (L_{Aeq})
Diaphragm Pumps			
1/2	70	60	75.0 db(A)
1	70	60	79.7 db(A) 80.6 db(A)
1-1/2	70	60	81.0 db(A) 82.8 db(A)
2	70	60	*85.0 db(A)
3	70	50	*83.0 db(A)

Material Service Guideline

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

	Max. Operating Temp Limit F (C)	Scale 1 - 5 (5 is best)		
		Chemical Resistance	Abrasion Resistance	Flex Life*
Acetal	180 (82)	3	3	-
Aluminum	-	1	3	-
Cast Iron	-	3	4	-
Geolast (Nitrile Based)	180 (82)	2	2	3
Hastelloy C	-	5	-	-
Hytre	150 (66)	2	4	4
Neoprene	200 (93)	2	2	3
Nitrile	180 (82)	2	2	3
Polypropylene	175 (80)	4	2	-
Polyurethane	150 (66)	1	4	4
PTFE	225 (107)	5	2	4**
PVDF	200 (93)	5	2	-
Santoprene	225 (107)	4	4	5
Stain Steel (300 Series)	-	4	4	-
Stain Steel (400 Series)	-	3	5	-
Viton	350 (177)	4	2	1

* Applies to diaphragms only.

** Increased flex life with use of santoprene diaphragm backer.

NOTE: Temperatures are reference for materials only. Refer to operator's manual for maximum pump operating temperature.

Viscosity Conversion Chart

Centi Poise	Poise	Saybolt Universal (SSU)	Saybolt Furot	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					

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Shaanxi Hono Electronic Technology Co., Ltd, is a professional fluid machinery and equipment integration, installation, sales in one enterprise. The company's main products are: pneumatic diaphragm pumps; hose pumps; air bladder pumps and so on. The company in line with the integrity of service, technology leadership, quality assurance, reputation first principle, and the majority of customers to establish a long-term friendly relations of cooperation. The products sold by the company are widely used in automobile manufacturing, electronic semiconductor, photovoltaic, environmental protection, water treatment, petroleum, chemical industry, power plant, pharmaceutical, paper making, cement, food, laboratory and other fields. For more information, visit www.sxhono.com.cn.