

P1500/PV1500

Advanced™ Series **METAL** Pumps

EOM

Engineering
Operation &
Maintenance



Advance your process

PRO-FLO®
PROGRESSIVE PUMP TECHNOLOGY

PRO-FLO V™
PROGRESSIVE PUMP TECHNOLOGY

WILDEN®

A **DOVER** COMPANY





















WIL-11170-E-08
REPLACES WIL-11170-E-07

TABLE OF CONTENTS

SECTION 1	CAUTIONS—READ FIRST!	1
SECTION 2	WILDEN PUMP DESIGNATION SYSTEM	2
SECTION 3	HOW IT WORKS—PUMP & AIR DISTRIBUTION SYSTEM	3
SECTION 4	DIMENSIONAL DRAWINGS	4
SECTION 5	PERFORMANCE	
	A. P1500 Aluminum	
	Rubber-Fitted	7
	TPE-Fitted	7
	PTFE-Fitted	8
	Ultra-Flex™-Fitted	8
	P1500 Stainless Steel	
	Rubber-Fitted	9
	TPE-Fitted	9
	PTFE-Fitted	10
	Ultra-Flex™-Fitted	10
	PV1500 Aluminum	
	Rubber-Fitted	11
	TPE-Fitted	11
	PTFE-Fitted	12
	Ultra-Flex™-Fitted	12
	PV1500 Stainless Steel	
	Rubber-Fitted	13
	TPE-Fitted	13
	PTFE-Fitted	14
	Ultra-Flex™-Fitted	14
	B. Suction Lift Curves	15
SECTION 6	SUGGESTED INSTALLATION, OPERATION & TROUBLESHOOTING	18
SECTION 7	ASSEMBLY / DISASSEMBLY	21
SECTION 8	EXPLODED VIEW & PARTS LISTING	
	P1500 Aluminum	
	Rubber/TPE/PTFE/Ultra-Flex™-Fitted	28
	P1500 Stainless Steel	
	Rubber/TPE/PTFE/Ultra-Flex™-Fitted	30
	PV1500 Aluminum	
	Rubber/TPE/PTFE/Ultra-Flex™-Fitted	32
	PV1500 Stainless Steel	
	Rubber/TPE/PTFE/Ultra-Flex™-Fitted	34
SECTION 9	ELASTOMER OPTIONS	36

CAUTIONS—READ FIRST!

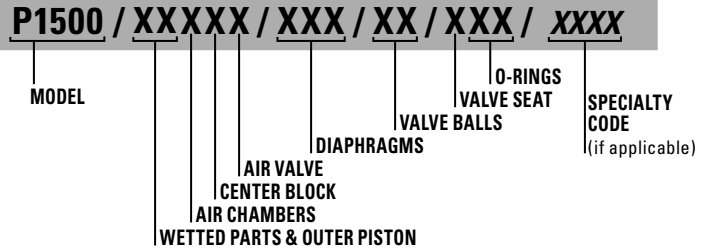
-  **CAUTION:** Do not apply compressed air to the exhaust port — pump will not function.
-  **CAUTION:** Do not over-lubricate air supply — excess lubrication will reduce pump performance. Pump is pre-lubed.
-  **TEMPERATURE LIMITS:**
- | | | |
|------------------------------------|--------------------|----------------|
| Neoprene | –17.7°C to 93.3°C | 0°F to 200°F |
| Buna-N | –12.2°C to 82.2°C | 10°F to 180°F |
| EPDM | –51.1°C to 137.8°C | –60°F to 280°F |
| Viton® | –40°C to 176.7°C | –40°F to 350°F |
| Wil-Flex™ | –40°C to 107.2°C | –40°F to 225°F |
| Saniflex™ | –28.9°C to 104.4°C | –20°F to 220°F |
| Polyurethane | –12.2°C to 65.6°C | 10°F to 150°F |
| Tetra-Flex™ PTFE w/Neoprene Backed | 4.4°C to 107.2°C | 40°F to 225°F |
| Tetra-Flex™ PTFE w/EPDM Backed | –10°C to 137°C | 14°F to 280°F |
| PTFE | 4.4°C to 104.4°C | 40°F to 220°F |
-  **CAUTION:** When choosing pump materials, be sure to check the temperature limits for all wetted components. Example: Viton® has a maximum limit of 176.7°C (350°F) but polypropylene has a maximum limit of only 79°C (175°F).
-  **CAUTION:** Maximum temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult Chemical Resistance Guide (E4) for chemical compatibility and temperature limits.
-  **WARNING:** Prevention of static sparking — If static sparking occurs, fire or explosion could result. Pump, valves, and containers must be grounded to a proper grounding point when handling flammable fluids and whenever discharge of static electricity is a hazard.
-  **CAUTION:** Do not exceed 8.6 bar (125 psig) air supply pressure.
-  **CAUTION:** The process fluid and cleaning fluids must be chemically compatible with all wetted pump components (see E4).
-  **CAUTION:** Do not exceed 82°C (180°F) air inlet temperature for Pro-Flo V™ models.
-  **CAUTION:** Pumps should be thoroughly flushed before installing into process lines. FDA and USDA approved pumps should be cleaned and/or sanitized before being used.
-  **CAUTION:** Always wear safety glasses when operating pump. If diaphragm rupture occurs, material being pumped may be forced out air exhaust.
-  **CAUTION:** Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from pump. Disconnect all intake, discharge and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container.
-  **CAUTION:** Blow out air line for 10 to 20 seconds before attaching to pump to make sure all pipeline debris is clear. Use an in-line air filter. A 5µ (micron) air filter is recommended.
-  **NOTE:** When installing PTFE diaphragms, it is important to tighten outer pistons simultaneously (turning in opposite directions) to ensure tight fit. (See torque specifications in Section 7.)
-  **NOTE:** Cast Iron PTFE-fitted pumps come standard from the factory with expanded PTFE gaskets installed in the diaphragm bead of the liquid chamber. PTFE gaskets cannot be re-used. Consult PS-TG for installation instructions during reassembly.
-  **NOTE:** Before starting disassembly, mark a line from each liquid chamber to its corresponding air chamber. This line will assist in proper alignment during reassembly.
-  **CAUTION:** Pro-Flo® pumps cannot be used in submersible applications. Pro-Flo V™ is available in both submersible and non-submersible options. Do not use non-submersible Pro-Flo V™ models in submersible applications. Turbo-Flo® pumps can be used in submersible applications.
-  **CAUTION:** Tighten all hardware prior to installation.

WILDEN PUMP DESIGNATION SYSTEM

P1500/PV1500 METAL

**76 mm (3") Pump
Maximum Flow Rate:
999 lpm (264 gpm)**

LEGEND



MATERIAL CODES

MODEL

P1500 = PRO-FLO®
PV1500 = PRO-FLO V™

WETTED PARTS

AA = ALUMINUM / ALUMINUM
AS = ALUMINUM /
STAINLESS STEEL
HH = ALLOY C / ALLOY C
SS = STAINLESS STEEL /
STAINLESS STEEL

AIR CHAMBERS & OUTER PISTON

A = ALUMINUM
C = PTFE COATED
S = STAINLESS STEEL

CENTER BLOCK

A = ALUMINUM
C = PTFE COATED

AIR VALVE

A = ALUMINUM (PV1500 only)
C = PTFE COATED
(PV1500 only)
P = POLYPROPYLENE
(P1500 only)

DIAPHRAGMS

BNS = BUNA-N (Red Dot)
 BNU = BUNA-N, ULTRA-FLEX™
 EPS = EPDM (Blue Dot)
 EPU = EPDM, ULTRA-FLEX™
 FSS = SANIFLEX™
 [Hytre® (Cream)]
 NES = NEOPRENE (Green Dot)
 NEU = NEOPRENE, ULTRA-FLEX™
 PUS = POLYURETHANE (Clear)
 TEU = PTFE W/EPDM
 BACK-UP (White)
 TNU = PTFE W/NEOPRENE
 BACK-UP (White)
 TSU = PTFE W/SANIFLEX™ BACK-
 UP (White)
 VTS = VITON® (White Dot)
 VTU = VITON®, ULTRA-FLEX™
 WFS = WIL-FLEX™ [Santoprene®
 (Orange Dot)]
 XBS = CONDUCTIVE BUNA-N (Two
 Red Dots)

ULTRA-FLEX™ DIAPHRAGMS

UB = BUNA-N (Red Dot)
UE = EPDM (Blue Dot)
UN = NEOPRENE (Green Dot)
UV = VITON® (Silver or White Dot)

VALVE BALL

BN = BUNA-N (Red Dot)
FG = SANIFLEX™
[Hytrel® (Cream)]
EP = EPDM (Blue Dot)
NE = NEOPRENE (Green Dot)
PU = POLYURETHANE (Clear)
TF = PTFE (White)
VT = VITON® (Silver or White Dot)
WF= WIL-FLEX™ [Santoprene
(Orange Dot)]

VALVE SEAT

BN = **DIAPHRAGMS**
 FG = **SANIFLEX™**
 [Hytrel® (Cream)]
 H = **ALLOY C**
 EP = **EPDM (Blue Dot)**
 NE = **EPDM (Blue Dot)**
 PU = **POLYURETHANE (Clear)**
 S = **STAINLESS STEEL**
 VT = **VITON® (White Dot)**
 WF= **WIL-FLEX™ [Santoprene**
 (Orange Dot)]

VALVE SEAT O-RING

FS = FLUORO-SEAL™
TF = PTFE
TV = PTFE ENCAP. VITON®

SPECIALTY CODES

0003 Spark free
0010 SS outer piston, spark free
0100 Wil-Gard™ 110V
0102 Wil-Gard™ sensor wires ONLY
0103 Wil-Gard™ 220V
0104 Wil-Gard II™ 110V, spark free
0105 Wil-Gard II™ 220V, spark free
0480 Pump Cycle Monitor (sensor & wires)
0483 Pump Cycle Monitor (module, sensor & wires)

0485 Pump Cycle Monitor (module, sensor & wires),
DIN flange
0513 SS outer pistons
0677 Inlet & discharge, NPT
0678 Inlet & discharge, BSPT

NOTE: MOST ELASTOMERIC MATERIALS USE COLORED DOTS FOR IDENTIFICATION.

NOTE: Not all models are available with all material options.

Viton® is a registered trademark of DuPont Dow Elastomers.

HOW IT WORKS—PUMP

The Wilden diaphragm pump is an air-operated, positive displacement, self-priming pump. These drawings show flow pattern through the pump upon its initial stroke. It is assumed the pump has no fluid in it prior to its initial stroke.

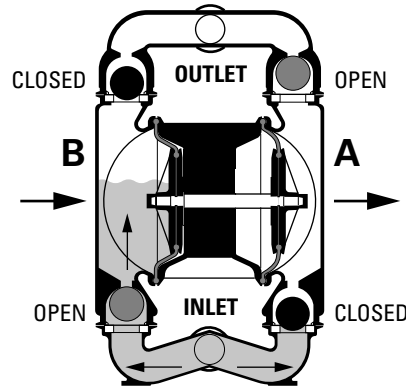


FIGURE 1 The air valve directs pressurized air to the back side of diaphragm A. The compressed air is applied directly to the liquid column separated by elastomeric diaphragms. The diaphragm acts as a separation membrane between the compressed air and liquid, balancing the load and removing mechanical stress from the diaphragm. The compressed air moves the diaphragm away from the center of the pump. The opposite diaphragm is pulled in by the shaft connected to the pressurized diaphragm. Diaphragm B is on its suction stroke; air behind the diaphragm has been forced out to atmosphere through the exhaust port of the pump. The movement of diaphragm B toward the center of the pump creates a vacuum within chamber B. Atmospheric pressure forces fluid into the inlet manifold forcing the inlet valve ball off its seat. Liquid is free to move past the inlet valve ball and fill the liquid chamber (see shaded area).

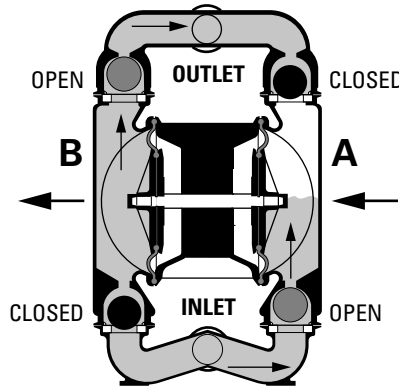


FIGURE 2 When the pressurized diaphragm, diaphragm A, reaches the limit of its discharge stroke, the air valve redirects pressurized air to the back side of diaphragm B. The pressurized air forces diaphragm B away from the center while pulling diaphragm A to the center. Diaphragm B is now on its discharge stroke. Diaphragm B forces the inlet valve ball onto its seat due to the hydraulic forces developed in the liquid chamber and manifold of the pump. These same hydraulic forces lift the discharge valve ball off its seat, forcing fluid to flow through the pump discharge. The movement of diaphragm A toward the center of the pump creates a vacuum within liquid chamber A. Atmospheric pressure forces fluid into the inlet manifold of the pump. The inlet valve ball is forced off its seat allowing the fluid being pumped to fill the liquid chamber.

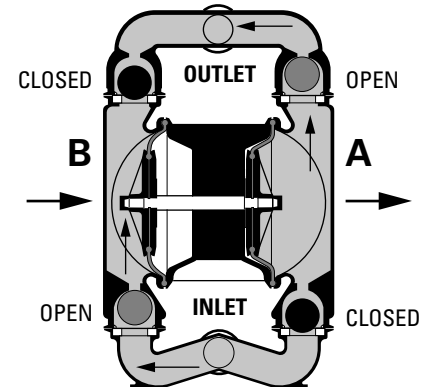
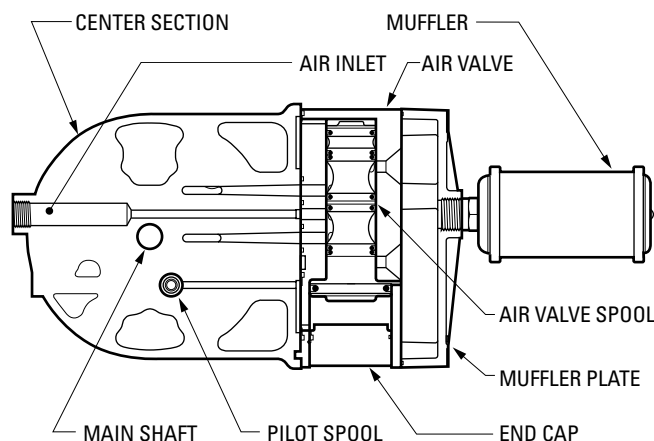


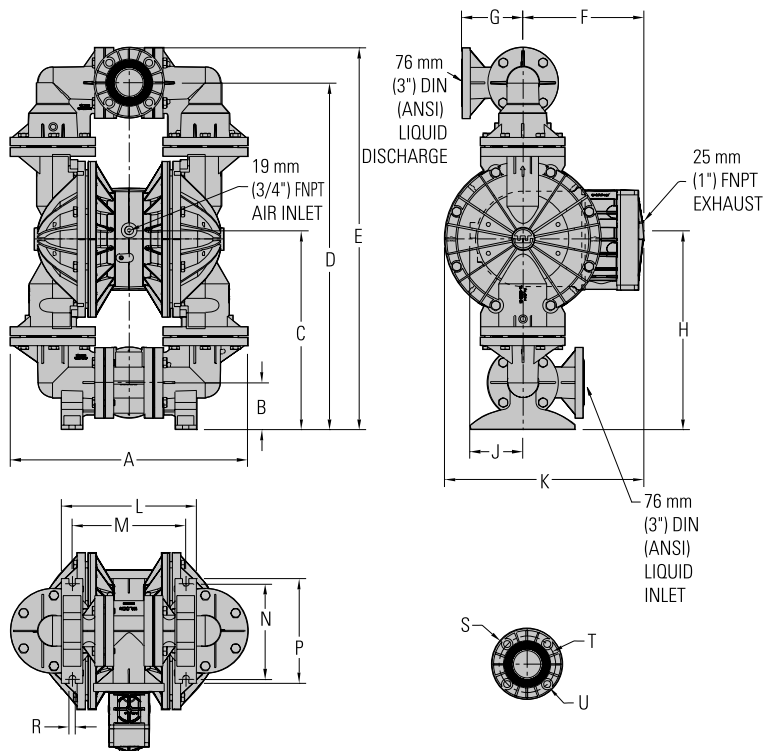
FIGURE 3 At completion of the stroke, the air valve again redirects air to the back side of diaphragm A, which starts diaphragm B on its exhaust stroke. As the pump reaches its original starting point, each diaphragm has gone through one exhaust and one discharge stroke. This constitutes one complete pumping cycle. The pump may take several cycles to completely prime depending on the conditions of the application.

HOW IT WORKS—AIR DISTRIBUTION SYSTEM



The Pro-Flo® patented air distribution system incorporates two moving parts: the air valve spool and the pilot spool. The heart of the system is the air valve spool and air valve. This valve design incorporates an unbalanced spool. The smaller end of the spool is pressurized continuously, while the large end is alternately pressurized then exhausted to move the spool. The spool directs pressurized air to one air chamber while exhausting the other. The air causes the main shaft/diaphragm assembly to shift to one side — discharging liquid on that side and pulling liquid in on the other side. When the shaft reaches the end of its stroke, the inner piston actuates the pilot spool, which pressurizes and exhausts the large end of the air valve spool. The repositioning of the air valve spool routes the air to the other air chamber.

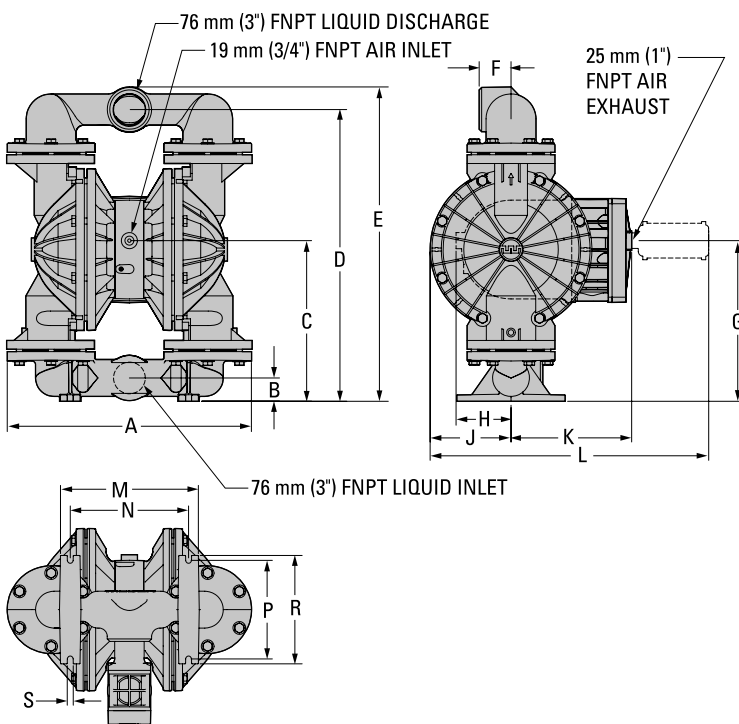
P1500 Aluminum



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	615	24.2
B	127	5.0
C	533	21.0
D	934	36.8
E	1031	40.6
F	165	6.5
G	536	21.1
H	48	1.9
J	211	8.3
K	422	16.6
L	597	23.5
M	363	14.3
N	307	12.1
P	259	10.2
R	282	11.1
S	18	0.7
DIN FLANGE		
T	200 DIA.	7.9 DIA.
U	160 DIA.	6.3 DIA.
V	18 DIA.	0.7 DIA.
ANSI FLANGE		
T	191 DIA.	7.5 DIA.
U	152 DIA.	6.0 DIA.
V	19 DIA.	0.8 DIA.

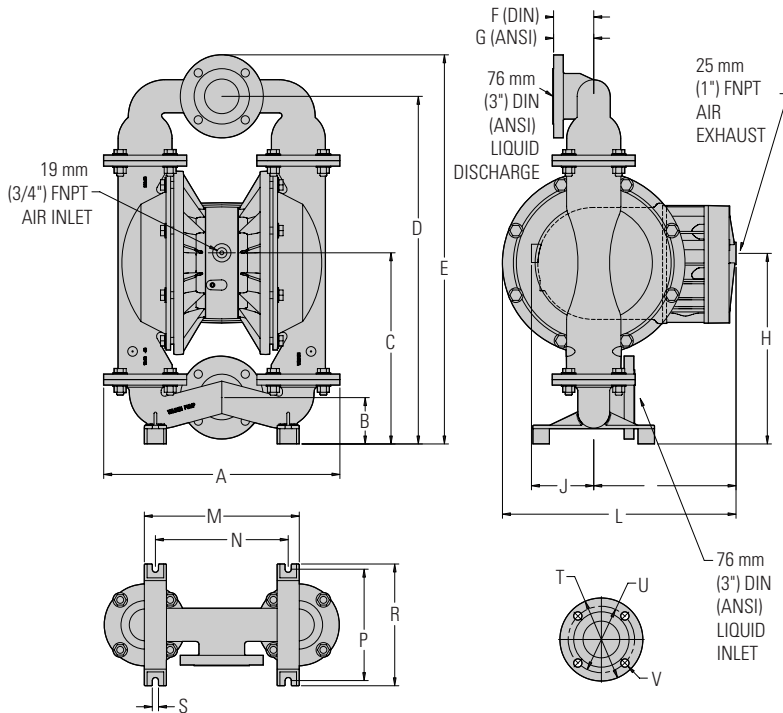
PV1500 Aluminum Drop In Type



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	635	25.0
B	61	2.4
C	419	16.5
D	759	29.9
E	818	32.2
F	84	3.3
G	419	16.5
H	142	5.6
J	211	8.3
K	315	12.4
L	724	28.5
M	358	14.1
N	307	12.1
P	257	10.1
R	282	11.1
S	15	0.6

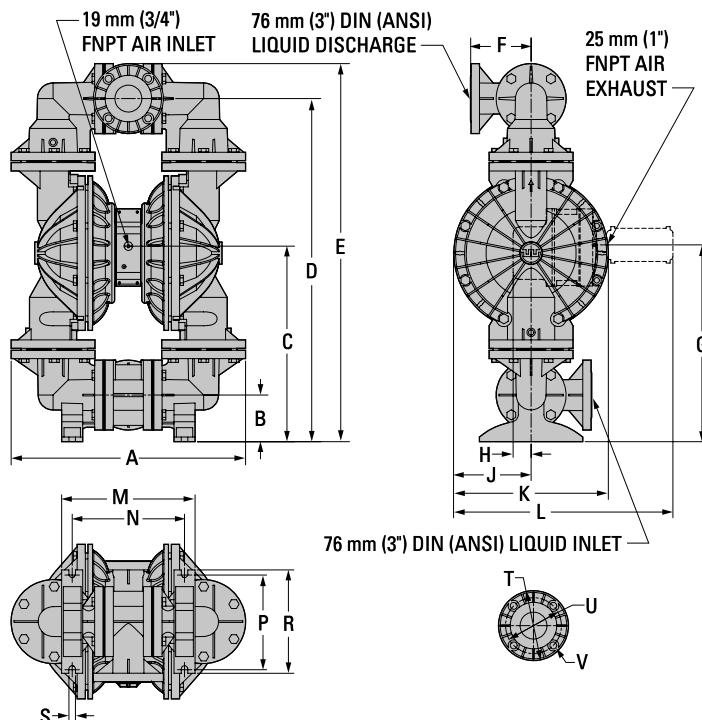
P1500 Stainless Steel/Alloy C



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	541	21.3
B	107	4.2
C	434	17.1
D	798	31.4
E	894	35.2
F	89	3.5
G	91	3.6
H	437	17.2
J	48	1.9
K	211	8.3
L	178	7.0
M	597	23.5
N	356	14
P	305	12.0
R	257	10.1
S	279	11
T	15	0.6
DIN FLANGE		
U	200 DIA.	7.9 DIA.
V	160 DIA.	6.3 DIA.
W	18 DIA.	0.7 DIA.
ANSI FLANGE		
U	191 DIA.	7.5 DIA.
V	152 DIA.	6.0 DIA.
W	19 DIA.	0.8 DIA.

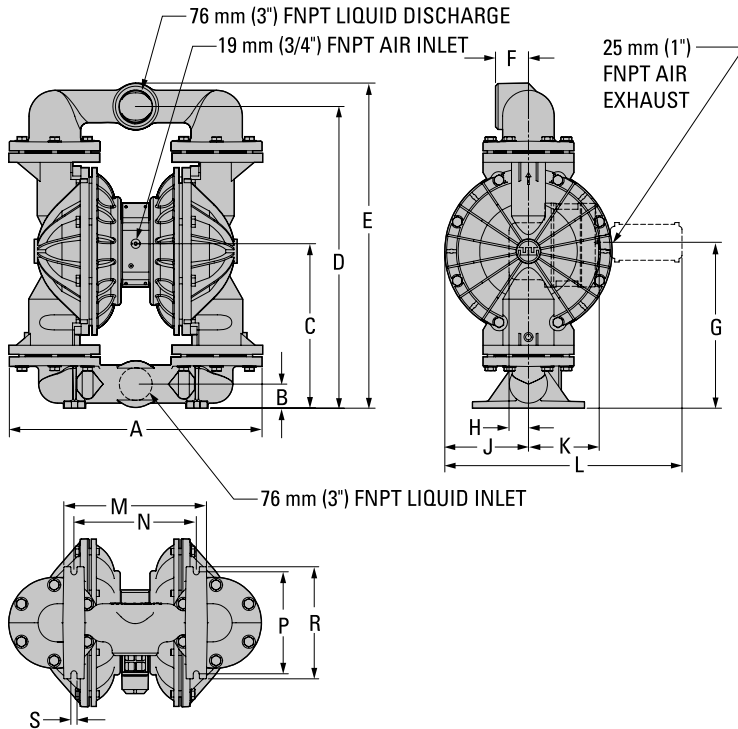
PV1500 Aluminum



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	615	24.2
B	127	5.0
C	533	21.0
D	934	36.8
E	1031	40.6
F	165	6.5
G	536	21.1
H	48	1.9
J	211	8.3
K	422	16.6
L	597	23.5
M	363	14.3
N	307	12.1
P	259	10.2
R	282	11.1
S	18	0.7
DIN FLANGE		
T	200 DIA.	7.9 DIA.
U	160 DIA.	6.3 DIA.
V	18 DIA.	0.7 DIA.
ANSI FLANGE		
T	191 DIA.	7.5 DIA.
U	152 DIA.	6.0 DIA.
V	19 DIA.	0.8 DIA.

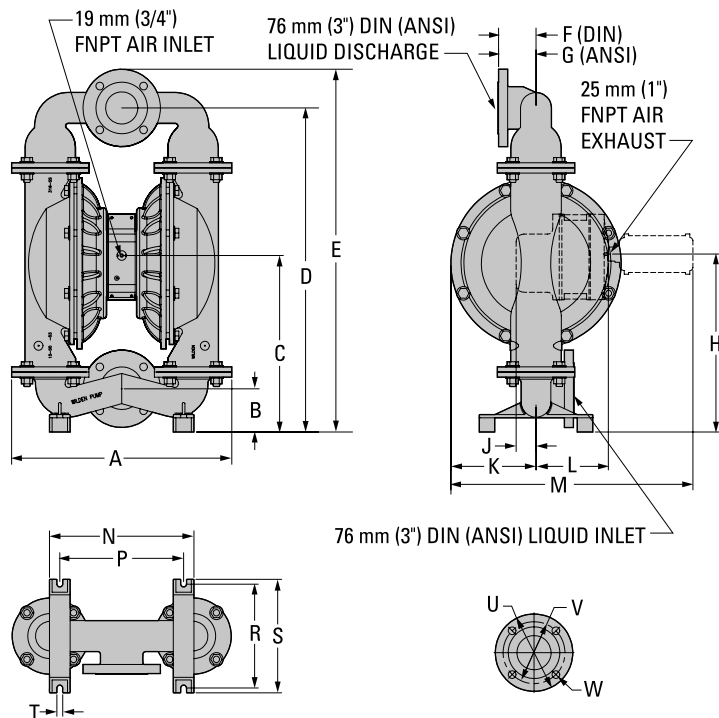
PV1500 Aluminum Drop In Type



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	635	25.0
B	61	2.4
C	414	16.3
D	759	29.9
E	818	32.2
F	84	3.3
G	417	16.4
H	48	1.9
J	211	8.3
K	178	7.0
L	597	23.5
M	358	14.1
N	307	12.1
P	257	10.1
R	282	11.1
S	15	0.6

PV1500 Stainless Steel/Alloy C



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	541	21.3
B	107	4.2
C	434	17.1
D	798	31.4
E	894	35.2
F	89	3.5
G	91	3.6
H	437	17.2
J	48	1.9
K	211	8.3
L	178	7.0
M	597	23.5
N	356	14
P	305	12.0
R	257	10.1
S	279	11
T	15	0.6
DIN FLANGE		
U	200 DIA.	7.9 DIA.
V	160 DIA.	6.3 DIA.
W	18 DIA.	0.7 DIA.
ANSI FLANGE		
U	191 DIA.	7.5 DIA.
V	152 DIA.	6.0 DIA.
W	19 DIA.	0.8 DIA.

PERFORMANCE

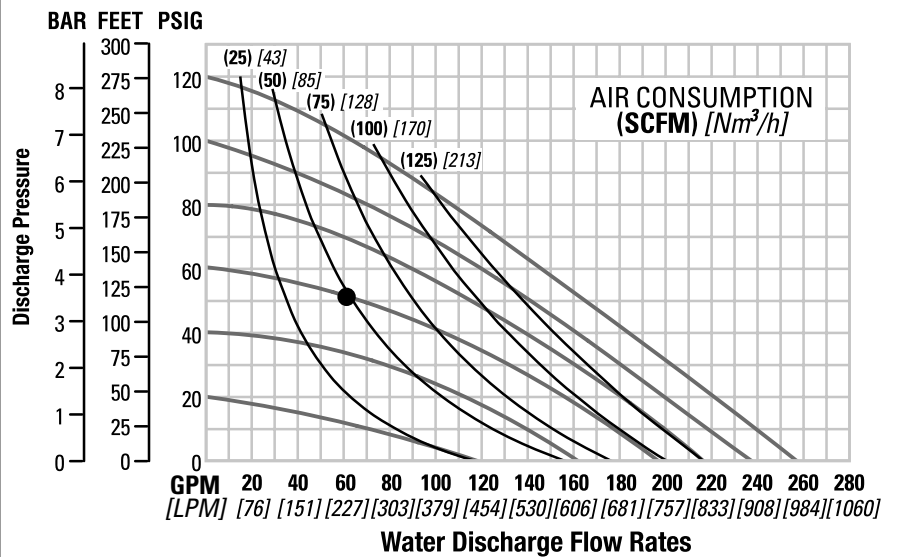
P1500 ALUMINUM RUBBER-FITTED

Height.....	1031 mm (40.6")
Width.....	615 mm (24.2")
Depth.....	538 mm (21.2")
Est. Ship Weight...Aluminum	83 kg (182 lbs)
Air Inlet.....	19 mm (3/4")
Inlet.....	76 mm (3")
Outlet.....	76 mm (3")
Suction Lift.....	6.7 m Dry (22')
	9.1 m Wet (30')
Displacement/Stroke.....	5.41 l (1.43 gal.) ¹
Max. Flow Rate.....	973 lpm (257 gpm)
Max. Size Solids.....	12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.6 bar (52 psig) requires 4.1 bar (60 psig) and 82 Nm³/h (48 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

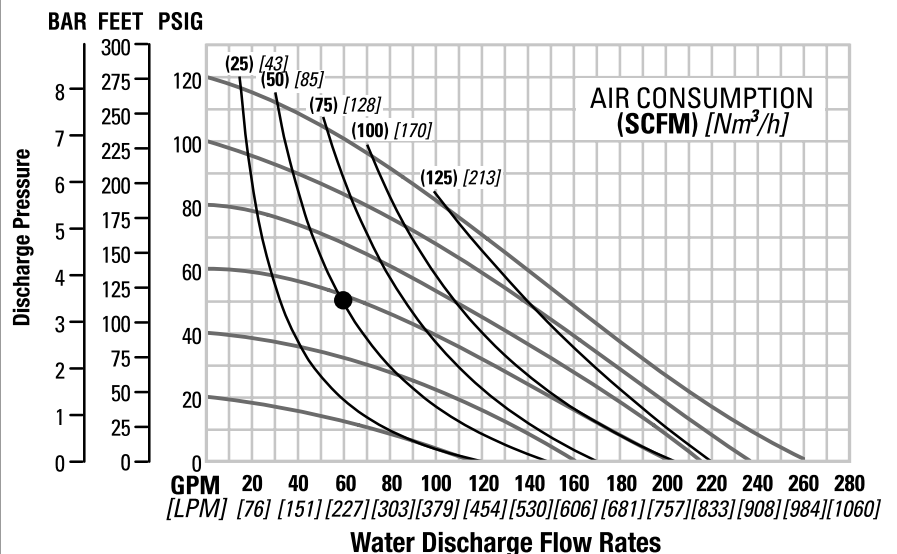
P1500 ALUMINUM TPE-FITTED

Height.....	1031 mm (40.6")
Width.....	615 mm (24.2")
Depth.....	538 mm (21.2")
Est. Ship Weight...Aluminum	83 kg (182 lbs)
Air Inlet.....	19 mm (3/4")
Inlet.....	76 mm (3")
Outlet.....	76 mm (3")
Suction Lift	5.5 m Dry (18')
	8.5 m Wet (28')
Displacement/Stroke.....	5.41 l (1.43 gal.) ¹
Max. Flow Rate.....	984 lpm (260 gpm)
Max. Size Solids.....	12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.4 bar (50 psig) requires 3.9 bar (58 psig) and 85 Nm³/h (50 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

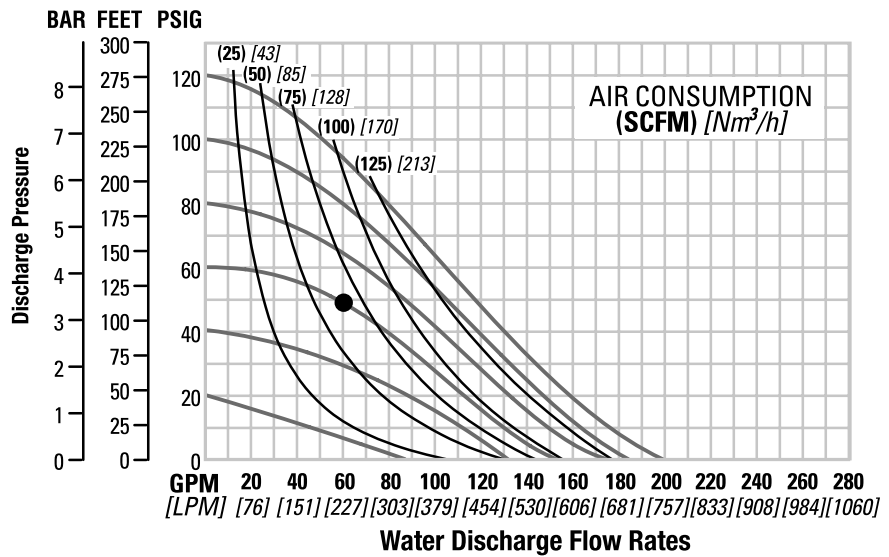
P1500 ALUMINUM PTFE-FITTED

Height.....1031 mm (40.6")
Width.....615 mm (24.2")
Depth.....538 mm (21.2")
Est. Ship Weight...Aluminum 83 kg (182 lbs)
Air Inlet.....19 mm (3/4")
Inlet.....76 mm (3")
Outlet.....76 mm (3")
Suction Lift5.2 m Dry (17')
8.5 m Wet (28')
Displacement/Stroke.....5.41 l (1.43 gal.)¹
Max. Flow Rate.....753 lpm (199 gpm)
Max. Size Solids.....12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.3 bar (48 psig) requires 4.1 bar (60 psig) and 109 Nm³/h (64 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

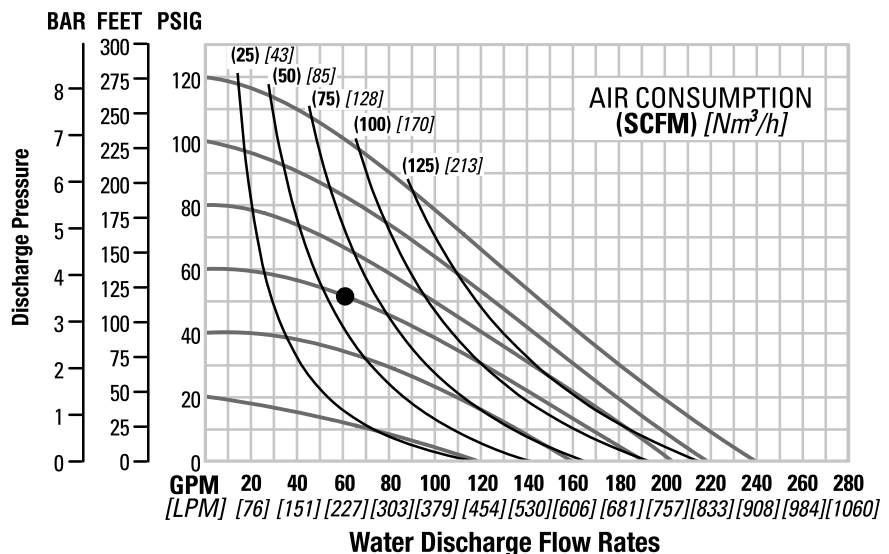
P1500 ALUMINUM ULTRA-FLEX™-FITTED

Height.....1031 mm (40.6")
Width.....615 mm (24.2")
Depth.....538 mm (21.2")
Est. Ship Weight...Aluminum 83 kg (182 lbs)
Air Inlet.....19 mm (3/4")
Inlet.....76 mm (3")
Outlet.....76 mm (3")
Suction Lift6.1 m Dry (20')
8.5 m Wet (28')
Displacement/Stroke.....5.41 l (1.43 gal.)¹
Max. Flow Rate.....905 lpm (239 gpm)
Max. Size Solids.....12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.5 bar (51 psig) requires 4.1 bar (60 psig) and 102 Nm³/h (60 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

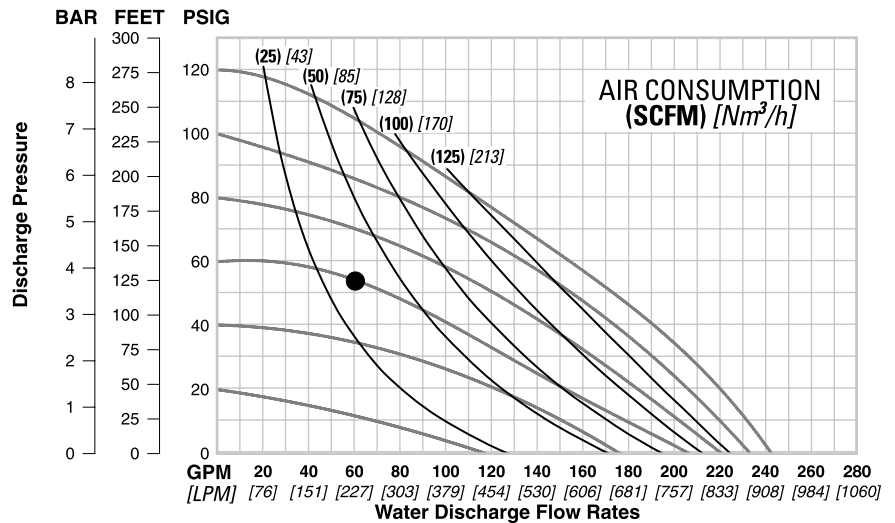
P1500 STAINLESS STEEL RUBBER-FITTED

Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 536 mm (21.1")
Est. Ship Weight.....
316 Stainless Steel 125 kg (275 lbs)
Alloy C 130 kg (287 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift 6.7 m Dry (22')
9.5 m Wet (31')
Displacement/Stroke..... 5.60 l (1.48 gal.)¹
Max. Flow Rate..... 920 lpm (243 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.7 bar (54 psig) requires 4.1 bar (60 psig) and 61 Nm³/h (36 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

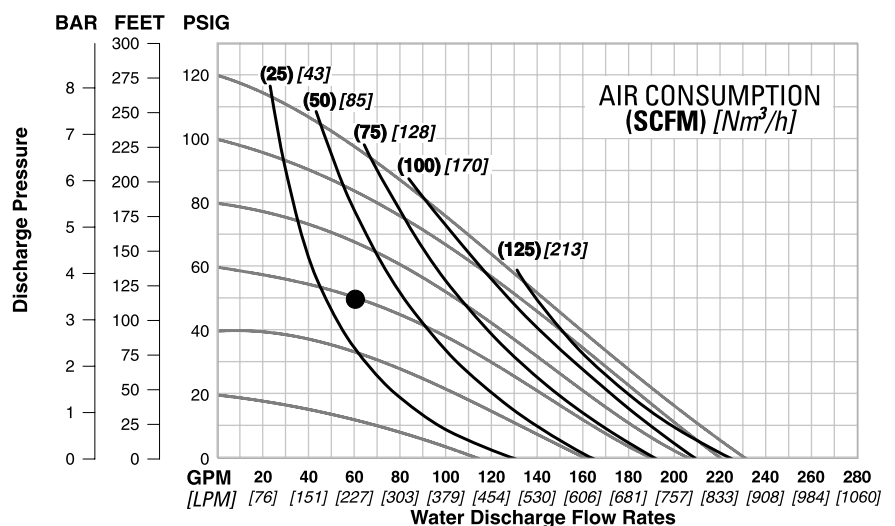
P1500 STAINLESS STEEL TPE-FITTED

Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 536 mm (21.1")
Est. Ship Weight.....
316 Stainless Steel 125 kg (275 lbs)
Alloy C 130 kg (287 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift 7.01 m Dry (23')
9.1 m Wet (30')
Displacement/Stroke..... 5.64 l (1.49 gal.)¹
Max. Flow Rate..... 878 lpm (232 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.4 bar (50 psig) requires 4.1 bar (60 psig) and 58 Nm³/h (34 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

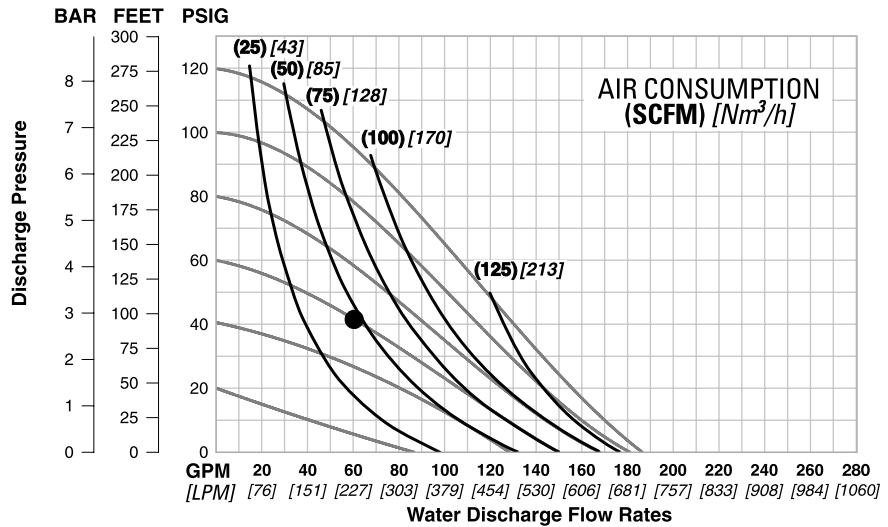
P1500 STAINLESS STEEL PTFE-FITTED

Height..... 894 mm (35.2")
Width..... 541 mm (21.3")
Depth..... 536 mm (21.1")
Est. Ship Weight.....
316 Stainless Steel 125 kg (275 lbs)
Alloy C 130 kg (287 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift 4.9 m Dry (16')
9.1 m Wet (30')
Displacement/Stroke..... 3.59 l (0.95 gal.)¹
Max. Flow Rate..... 708 lpm (187 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 2.9 bar (42 psig) requires 4.1 bar (60 psig) and 80 Nm³/h (47 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

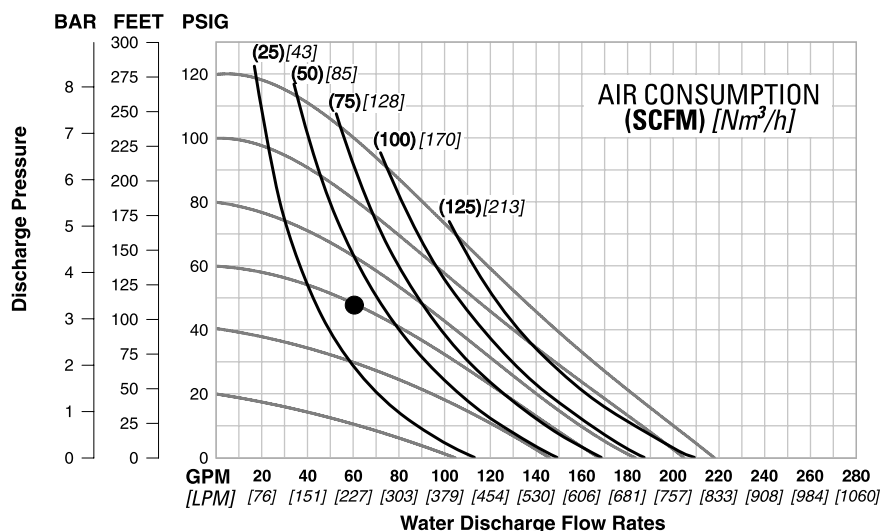
P1500 STAINLESS STEEL ULTRA-FLEX™-FITTED

Height..... 894 mm (35.2")
Width..... 541 mm (21.3")
Depth..... 536 mm (21.1")
Est. Ship Weight.....
316 Stainless Steel 125 kg (275 lbs)
Alloy C 130 kg (287 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift 7.9 m Dry (26')
9.5 m Wet (31')
Displacement/Stroke..... 4.61 l (1.22 gal.)¹
Max. Flow Rate..... 825 lpm (218 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 227 lpm (60 gpm) against a discharge pressure head of 3.3 bar (48 psig) requires 4.1 bar (60 psig) and 68 Nm³/h (40 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

PV1500 ALUMINUM RUBBER-FITTED

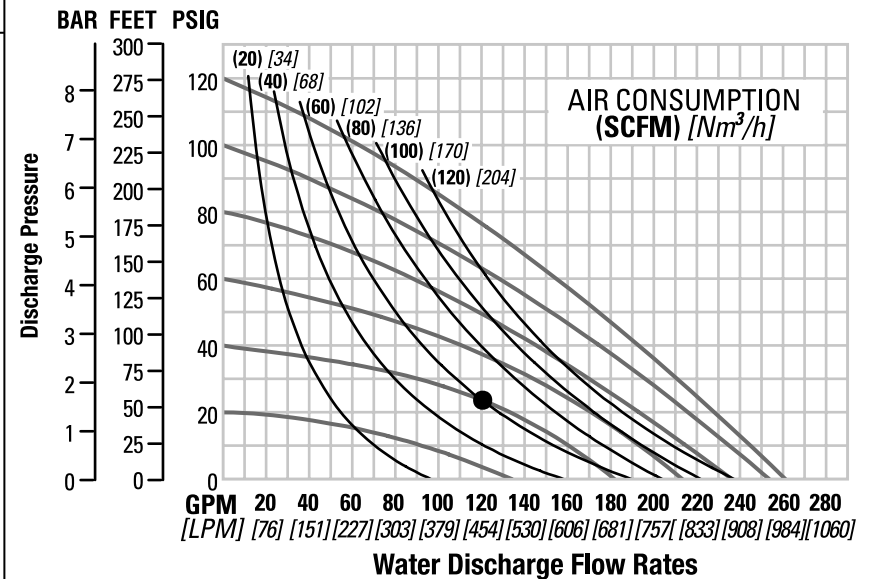
Height 1031 mm (40.6")
Width 615 mm (24.2")
Depth 422 mm (16.6")
Est. Ship Weight... Aluminum 78 kg (171 lbs)
Air Inlet 19 mm (3/4")
Inlet 76 mm (3")
Outlet 76 mm (3")
Suction Lift 6.6 m Dry (21.6')
9.5 m Wet (31.2')
Displacement/Stroke 5.68 l (1.50 gal.)¹
Max. Flow Rate 984 lpm (260 gpm)
Max. Size Solids 12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 454 lpm (120 gpm) against a discharge pressure head of 1.7 bar (24 psig) requires 2.8 bar (40 psig) and 102 Nm³/h (60 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.

PROFLO V™



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

PV1500 ALUMINUM TPE-FITTED

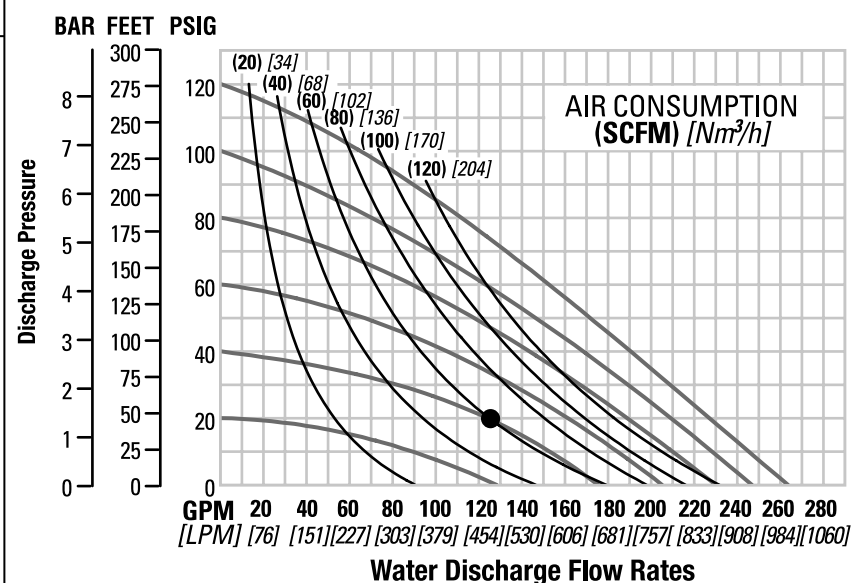
Height 1031 mm (40.6")
Width 615 mm (24.2")
Depth 422 mm (16.6")
Est. Ship Weight... Aluminum 78 kg (171 lbs)
Air Inlet 19 mm (3/4")
Inlet 76 mm (3")
Outlet 76 mm (3")
Suction Lift 7.6 m Dry (25.0')
9.5 m Wet (31.2')
Displacement/Stroke 5.79 l (1.53 gal.)¹
Max. Flow Rate 999 lpm (264 gpm)
Max. Size Solids 12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 473 lpm (125 gpm) against a discharge pressure head of 1.4 bar (20 psig) requires 2.8 bar (40 psig) and 102 Nm³/h (60 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.

PROFLO V™



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

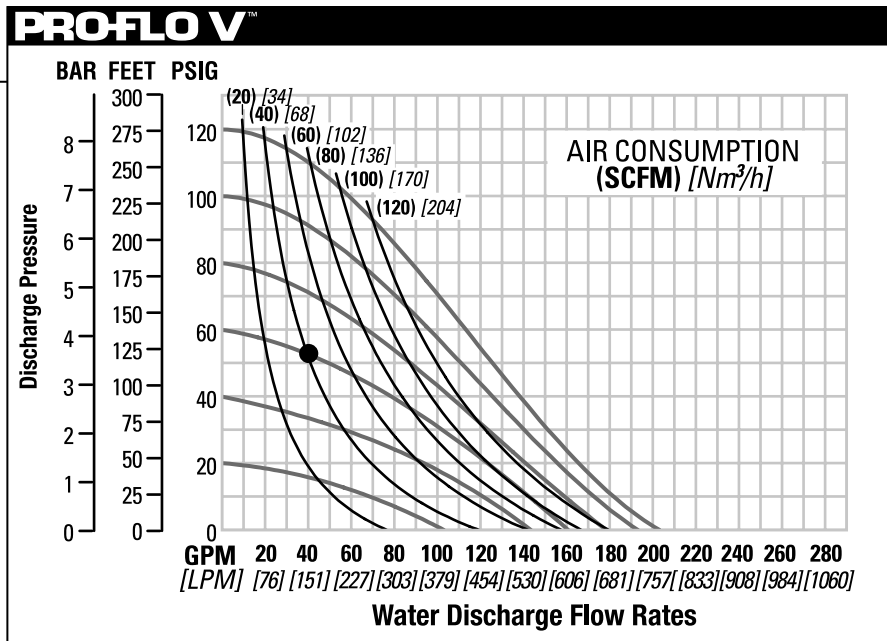
PV1500 ALUMINUM PTFE-FITTED

Height 1031 mm (40.6")
Width 615 mm (24.2")
Depth 422 mm (16.6")
Est. Ship Weight... Aluminum 78 kg (171 lbs)
Air Inlet 19 mm (3/4")
Inlet 76 mm (3")
Outlet 76 mm (3")
Suction Lift 5.0 m Dry (16.5')
9.5 m Wet (31.2')
Displacement/Stroke 3.56 l (0.94 gal.)¹
Max. Flow Rate 772 lpm (204 gpm)
Max. Size Solids 12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 151 lpm (40 gpm) against a discharge pressure head of 3.7 bar (53 psig) requires 4.1 bar (60 psig) and 68 Nm³/h (40 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

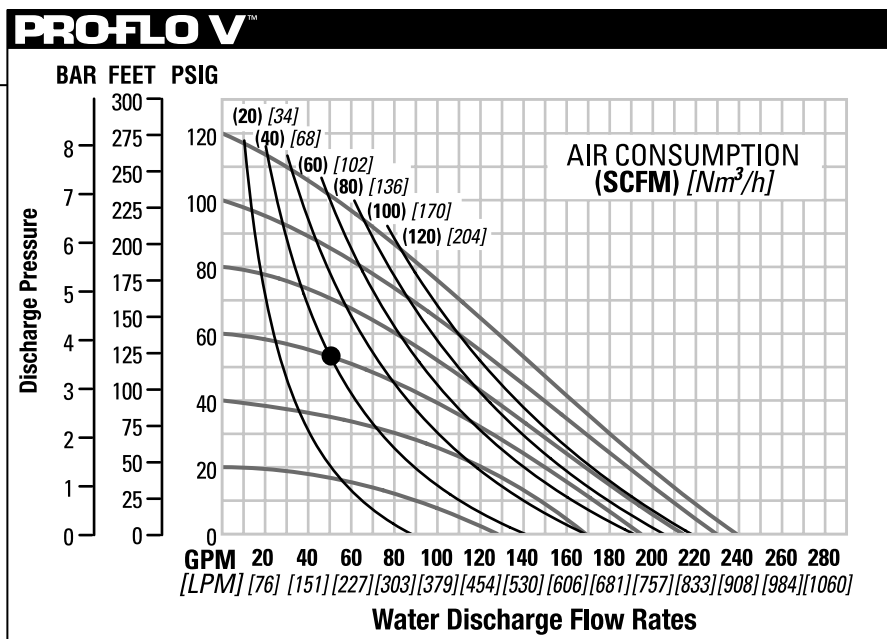
PV1500 ALUMINUM ULTRA-FLEX™-FITTED

Height 1031 mm (40.6")
Width 615 mm (24.2")
Depth 422 mm (16.6")
Est. Ship Weight... Aluminum 78 kg (171 lbs)
Air Inlet 19 mm (3/4")
Inlet 76 mm (3")
Outlet 76 mm (3")
Suction Lift 6.1 m Dry (19.9')
9.5 m Wet (31.2')
Displacement/Stroke 4.88 l (1.29 gal.)¹
Max. Flow Rate 905 lpm (239 gpm)
Max. Size Solids 12.7 mm (1/2")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 189 lpm (50 gpm) against a discharge pressure head of 3.7 bar (53 psig) requires 4.1 bar (60 psig) and 68 Nm³/h (40 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

**PV1500 STAINLESS STEEL
RUBBER-FITTED**

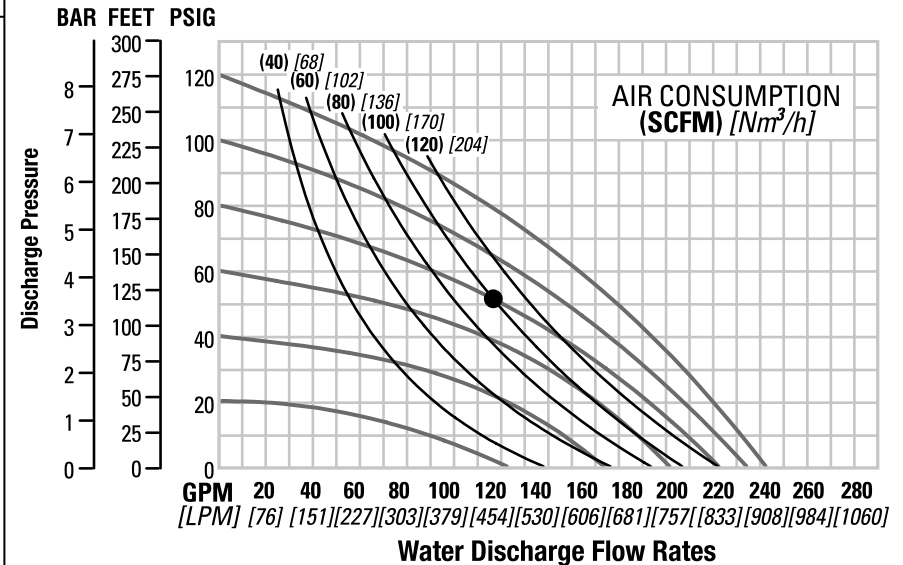
Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 419 mm (16.5")
Est. Ship Weight.....
316 Stainless Steel 120 kg (264 lbs)
Alloy C 125 kg (276 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift6.6 m Dry (21.6')
9.5 m Wet (31.2')
Displacement/Stroke.....5.53 l (1.46 gal.)¹
Max. Flow Rate..... 908 lpm (240 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 454 lpm (120 gpm) against a discharge pressure head of 3.6 bar (52 psig) requires 5.5 bar (80 psig) and 170 Nm³/h (100 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.

PROFLO V™



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

**PV1500 STAINLESS STEEL
TPE-FITTED**

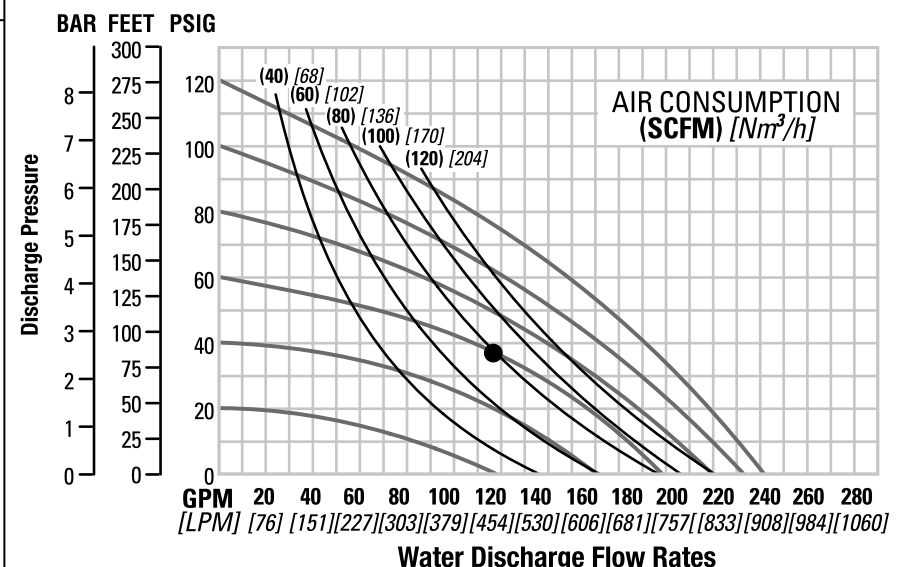
Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 419 mm (16.5")
Est. Ship Weight.....
316 Stainless Steel 120 kg (264 lbs)
Alloy C 125 kg (276 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift7.6 m Dry (25.0')
9.5 m Wet (31.2')
Displacement/Stroke.....5.72 l (1.51 gal.)¹
Max. Flow Rate..... 905 lpm (239 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 454 lpm (120 gpm) against a discharge pressure head of 2.6 bar (38 psig) requires 4.1 bar (60 psig) and 136 Nm³/h (80 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.

PROFLO V™



Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

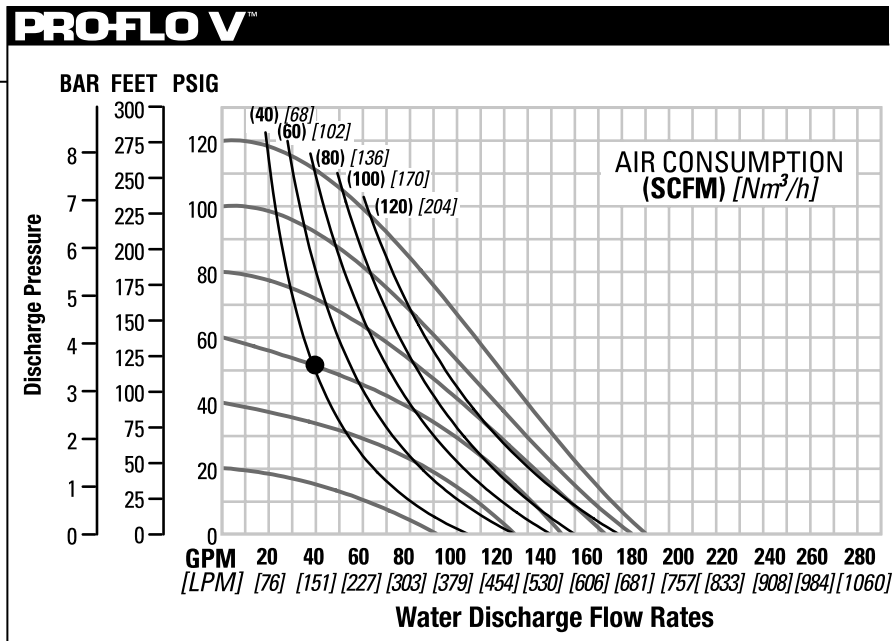
PV1500 STAINLESS STEEL PTFE-FITTED

Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 419 mm (16.5")
Est. Ship Weight.....
316 Stainless Steel 120 kg (264 lbs)
Alloy C 125 kg (276 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift5.0 m Dry (16.5')
9.5 m Wet (31.2')
Displacement/Stroke..... 3.48 l (0.92 gal.)¹
Max. Flow Rate.....704 lpm (186 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 151 lpm (40 gpm) against a discharge pressure head of 3.5 bar (51 psig) requires 4.1 bar (60 psig) and 68 Nm³/h (40 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



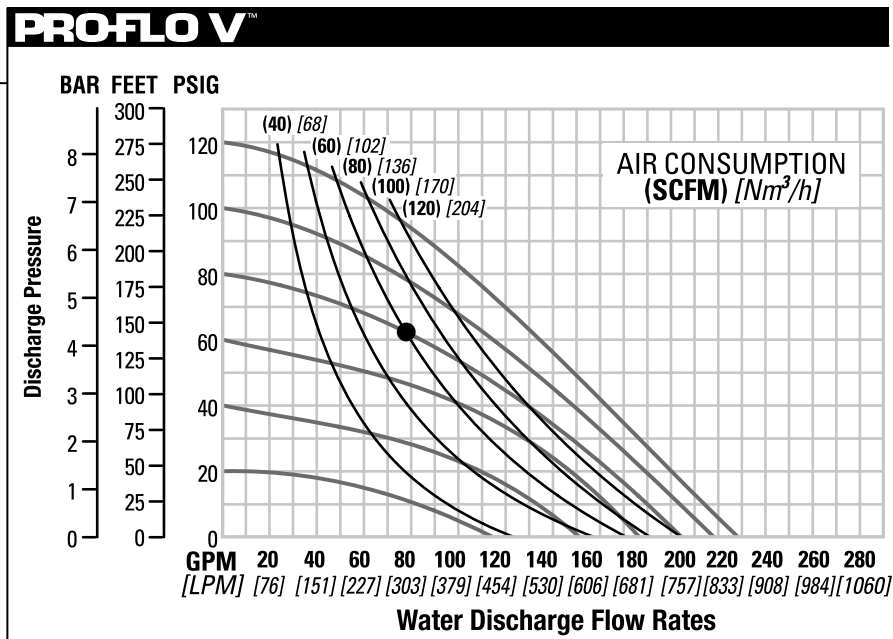
PV1500 STAINLESS STEEL ULTRA-FLEX™-FITTED

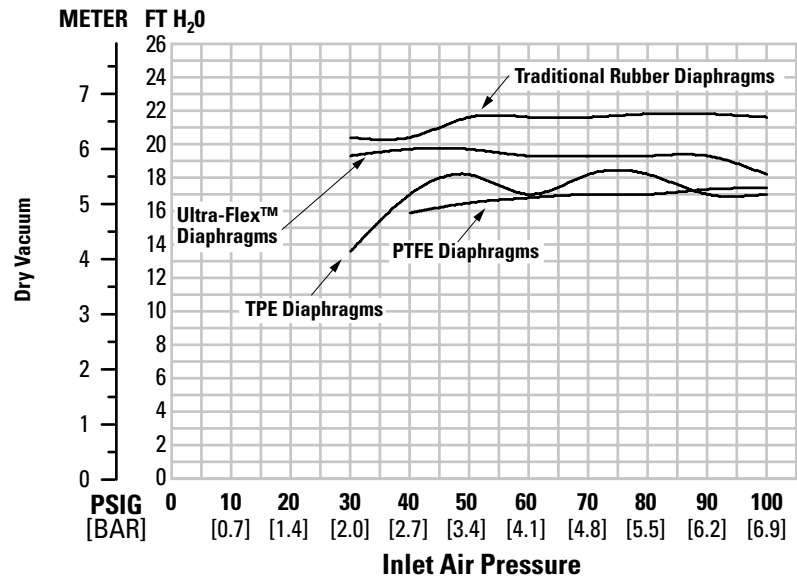
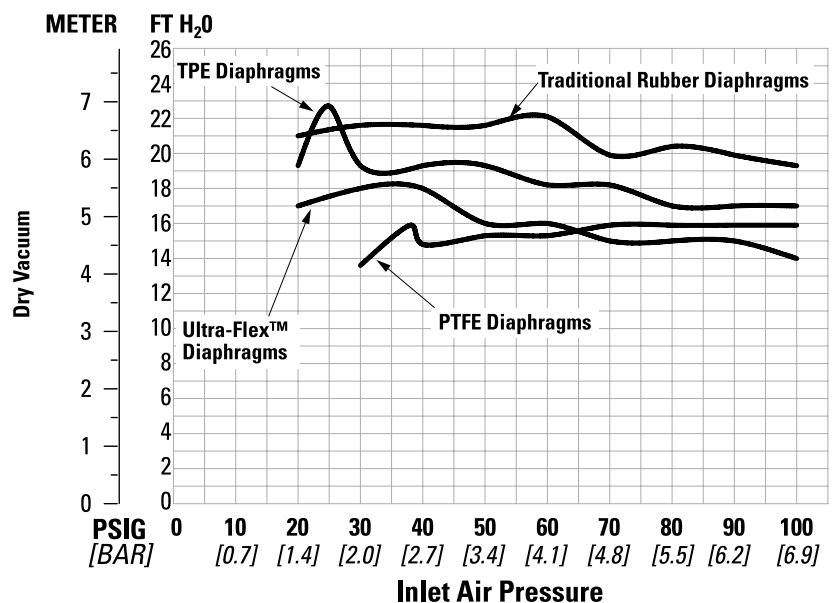
Height 894 mm (35.2")
Width 541 mm (21.3")
Depth 419 mm (16.5")
Est. Ship Weight.....
316 Stainless Steel 120 kg (264 lbs)
Alloy C 125 kg (276 lbs)
Air Inlet..... 19 mm (3/4")
Inlet..... 76 mm (3")
Outlet..... 76 mm (3")
Suction Lift6.1 m Dry (19.9')
9.5 m Wet (31.2')
Displacement/Stroke..... 4.69 l (1.24 gal.)¹
Max. Flow Rate..... 856 lpm (226 gpm)
Max. Size Solids..... 9.5 mm (3/8")

¹Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.1 bar (30 psig) head pressure.

Example: To pump 303 lpm (80 gpm) against a discharge pressure head of 4.3 bar (62 psig) requires 5.5 bar (80 psig) and 136 Nm³/h (80 scfm) air consumption.

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



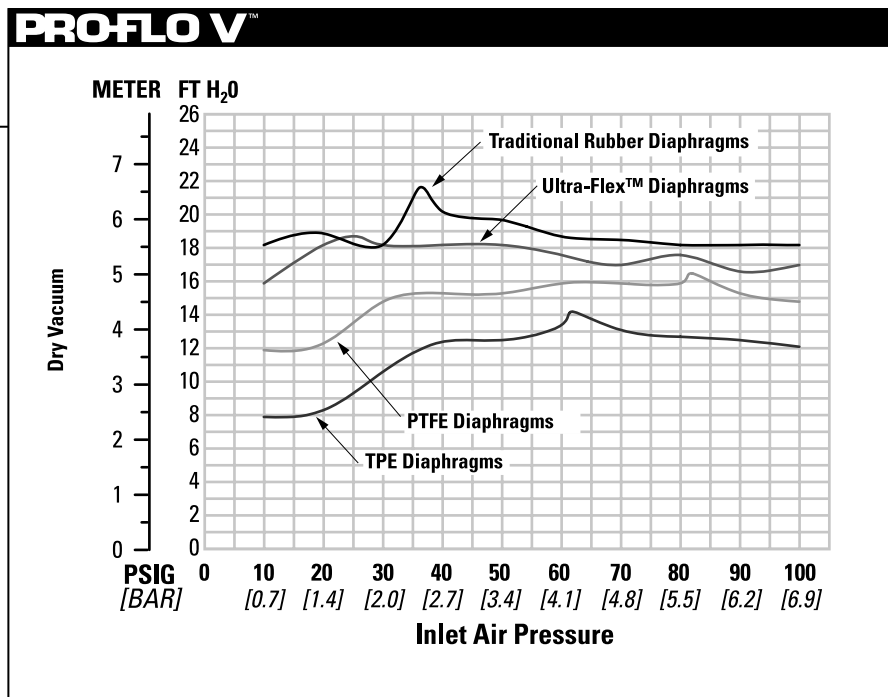
**P1500 ALUMINUM
SUCTION LIFT
CAPABILITY**

**P1500 STAINLESS STEEL
& ALLOY C SUCTION
LIFT CAPABILITY**


Suction lift curves are calibrated for pumps operating at 305 m (1,000') above sea level. This chart is meant to be a guide only. There are many variables which can affect your pump's operating characteristics. The

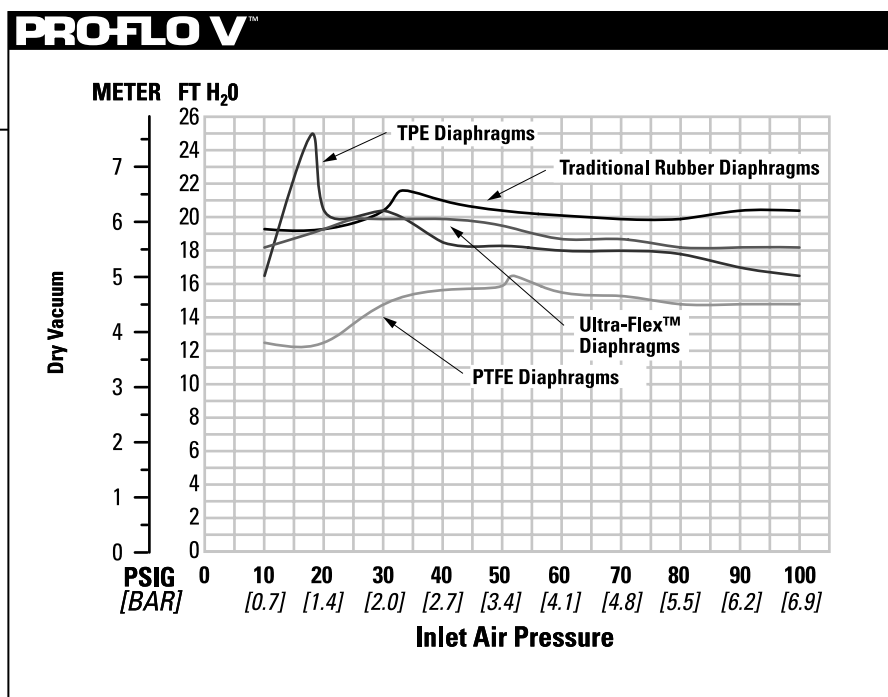
number of intake and discharge elbows, viscosity of pumping fluid, elevation (atmospheric pressure) and pipe friction loss all affect the amount of suction lift your pump will attain.

SUCTION LIFT CURVES

PV1500 ALUMINUM SUCTION LIFT CAPABILITY



PV1500 STAINLESS STEEL & ALLOY C SUCTION LIFT CAPABILITY



Suction lift curves are calibrated for pumps operating at 305 m (1,000') above sea level. This chart is meant to be a guide only. There are many variables which can affect your pump's operating characteristics. The

number of intake and discharge elbows, viscosity of pumping fluid, elevation (atmospheric pressure) and pipe friction loss all affect the amount of suction lift your pump will attain.

NOTES

SUGGESTED INSTALLATION

Wilden pumps are designed to meet the performance requirements of even the most demanding pumping applications. They have been designed and manufactured to the highest standards and are available in a variety of liquid path materials to meet your chemical resistance needs. Refer to the performance section of this manual for an in-depth analysis of the performance characteristics of your pump. Wilden offers the widest variety of elastomer options in the industry to satisfy temperature, chemical compatibility, abrasion resistance and flex concerns.

The suction pipe size should be at least the equivalent or larger than the diameter size of the suction inlet on your Wilden pump. The suction hose must be non-collapsible, reinforced type as these pumps are capable of pulling a high vacuum. Discharge piping should also be the equivalent or larger than the diameter of the pump discharge which will help reduce friction losses. It is critical that all fittings and connections are airtight or a reduction or loss of pump suction capability will result.

INSTALLATION: Months of careful planning, study, and selection efforts can result in unsatisfactory pump performance if installation details are left to chance.

Premature failure and long term dissatisfaction can be avoided if reasonable care is exercised throughout the installation process.

LOCATION: Noise, safety, and other logistical factors usually dictate where equipment will be situated on the production floor. Multiple installations with conflicting requirements can result in congestion of utility areas, leaving few choices for additional pumps.

Within the framework of these and other existing conditions, every pump should be located in such a way that six key factors are balanced against each other to maximum advantage.

ACCESS: First of all, the location should be accessible. If it's easy to reach the pump, maintenance personnel will have an easier time carrying out routine inspections and adjustments. Should major repairs become necessary, ease of access can play a key role in speeding the repair process and reducing total downtime.

AIR SUPPLY: Every pump location should have an air line large enough to supply the volume of air necessary to achieve the desired pumping rate. Use air pressure up to a maximum of 8.6 bar (125 psig) depending on pumping requirements.

For best results, the pumps should use a 5µ (micron) air filter, needle valve and regulator. The use of an air filter before the pump will ensure that the majority of any pipeline contaminants will be eliminated.

SOLENOID OPERATION: When operation is controlled by a solenoid valve in the air line, three-way valves should be used. This valve allows trapped air between the valve and the pump to bleed off which improves pump performance. Pumping volume can be estimated by counting the number of strokes per minute and then multiplying the figure by the displacement per stroke.

MUFFLER: Sound levels are reduced below OSHA

specifications using the standard Wilden muffler. Other mufflers can be used to further reduce sound levels, but they usually reduce pump performance.

ELEVATION: Selecting a site that is well within the pump's dynamic lift capability will assure that loss-of-prime issues will be eliminated. In addition, pump efficiency can be adversely affected if proper attention is not given to site location.

PIPING: Final determination of the pump site should not be made until the piping challenges of each possible location have been evaluated. The impact of current and future installations should be considered ahead of time to make sure that inadvertent restrictions are not created for any remaining sites.

The best choice possible will be a site involving the shortest and straightest hook-up of suction and discharge piping. Unnecessary elbows, bends, and fittings should be avoided. Pipe sizes should be selected to keep friction losses within practical limits. All piping should be supported independently of the pump. In addition, the piping should be aligned to avoid placing stress on the pump fittings.

Flexible hose can be installed to aid in absorbing the forces created by the natural reciprocating action of the pump. If the pump is to be bolted down to a solid location, a mounting pad placed between the pump and the foundation will assist in minimizing pump vibration. Flexible connections between the pump and rigid piping will also assist in minimizing pump vibration. If quick-closing valves are installed at any point in the discharge system, or if pulsation within a system becomes a problem, a surge suppressor (SD Equalizer®) should be installed to protect the pump, piping and gauges from surges and water hammer.

If the pump is to be used in a self-priming application, make sure that all connections are airtight and that the suction lift is within the model's ability. Note: Materials of construction and elastomer material have an effect on suction lift parameters. Please refer to the performance section for specifics.

When pumps are installed in applications involving flooded suction or suction head pressures, a gate valve should be installed in the suction line to permit closing of the line for pump service.

Pumps in service with a positive suction head are most efficient when inlet pressure is limited to 0.5–0.7 bar (7–10 psig). Premature diaphragm failure may occur if positive suction is 0.7 bar (10 psig) and higher.

SUBMERSIBLE APPLICATIONS: Pro-Flo V™ pumps can be used for submersible applications, when using the Pro-Flo V™ submersible option. Turbo-Flo™ pumps can also be used for submersible applications.

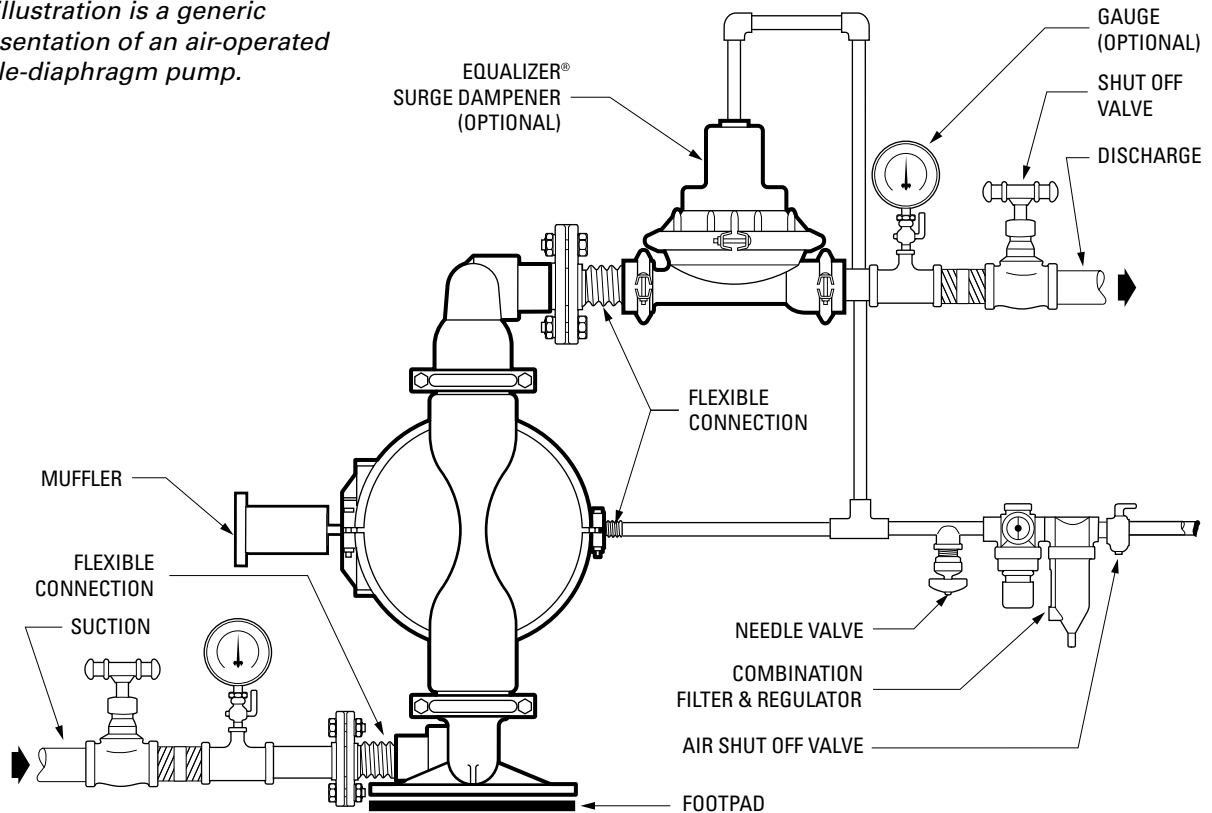
NOTE: Pro-Flo® and Accu-Flo™ pumps are not submersible.

ALL WILDEN PUMPS ARE CAPABLE OF PASSING SOLIDS. A STRAINER SHOULD BE USED ON THE PUMP INTAKE TO ENSURE THAT THE PUMP'S RATED SOLIDS CAPACITY IS NOT EXCEEDED.

CAUTION: DO NOT EXCEED 8.6 BAR (125 PSIG) AIR SUPPLY PRESSURE.

SUGGESTED INSTALLATION

This illustration is a generic representation of an air-operated double-diaphragm pump.



NOTE: In the event of a power failure, the shut off valve should be closed, if the restarting of the pump is not desirable once power is regained.

AIR OPERATED PUMPS: To stop the pump from operating in an emergency situation, simply close the

shut off valve (user supplied) installed in the air supply line. A properly functioning valve will stop the air supply to the pump, therefore stopping output. This shut off valve should be located far enough away from the pumping equipment such that it can be reached safely in an emergency situation.

SUGGESTED OPERATION & MAINTENANCE

OPERATION: The P1500 and PV1500 are pre-lubricated, and do not require in-line lubrication. Additional lubrication will not damage the pump, however if the pump is heavily lubricated by an external source, the pump's internal lubrication may be washed away. If the pump is then moved to a non-lubricated location, it may need to be disassembled and re-lubricated as described in the ASSEMBLY/DISASSEMBLY INSTRUCTIONS.

Pump discharge rate can be controlled by limiting the volume and/or pressure of the air supply to the pump. An air regulator is used to regulate air pressure. A needle valve is used to regulate volume. Pump discharge rate can also be controlled by throttling the pump discharge by partially closing a valve in the discharge line of the pump. This action increases friction loss which reduces flow rate. (See Section 5.) This is useful when the need exists to control the pump from a remote location. When the pump discharge pressure equals or exceeds the air supply pressure, the pump will stop; no bypass or pressure relief valve is needed, and pump damage will not occur. The pump has reached a "deadhead" situation and can be restarted by reducing the fluid

discharge pressure or increasing the air inlet pressure. The Wilden P1500 and PV1500 pumps run solely on compressed air and do not generate heat, therefore your process fluid temperature will not be affected.

MAINTENANCE AND INSPECTIONS: Since each application is unique, maintenance schedules may be different for every pump. Frequency of use, line pressure, viscosity and abrasiveness of process fluid all affect the parts life of a Wilden pump. Periodic inspections have been found to offer the best means for preventing unscheduled pump downtime. Personnel familiar with the pump's construction and service should be informed of any abnormalities that are detected during operation.

RECORDS: When service is required, a record should be made of all necessary repairs and replacements. Over a period of time, such records can become a valuable tool for predicting and preventing future maintenance problems and unscheduled downtime. In addition, accurate records make it possible to identify pumps that are poorly suited to their applications.

TROUBLESHOOTING

Pump will not run or runs slowly.

1. Ensure that the air inlet pressure is at least 0.4 bar (5 psig) above startup pressure and that the differential pressure (the difference between air inlet and liquid discharge pressures) is not less than 0.7 bar (10 psig).
2. Check air inlet filter for debris (see recommended installation).
3. Check for extreme air leakage (blow by) which would indicate worn seals/bores in the air valve, pilot spool, main shaft.
4. Disassemble pump and check for obstructions in the air passageways or objects which would obstruct the movement of internal parts.
5. Check for sticking ball check valves. If material being pumped is not compatible with pump elastomers, swelling may occur. Replace ball check valves and seals with proper elastomers. Also, as the check valve balls wear out, they become smaller and can become stuck in the seats. In this case, replace balls and seats.
6. Check for broken inner piston which will cause the air valve spool to be unable to shift.
7. Remove plug from pilot spool exhaust.

Pump runs but little or no product flows.

1. Check for pump cavitation; slow pump speed down to allow thick material to flow into liquid chambers.

2. Verify that vacuum required to lift liquid is not greater than the vapor pressure of the material being pumped (cavitation).
3. Check for sticking ball check valves. If material being pumped is not compatible with pump elastomers, swelling may occur. Replace ball check valves and seats with proper elastomers. Also, as the check valve balls wear out, they become smaller and can become stuck in the seats. In this case, replace balls and seats.

Pump air valve freezes.

1. Check for excessive moisture in compressed air. Either install a dryer or hot air generator for compressed air. Alternatively, a coalescing filter may be used to remove the water from the compressed air in some applications.

Air bubbles in pump discharge.

1. Check for ruptured diaphragm.
2. Check tightness of outer pistons (refer to Section 7.)
3. Check tightness of fasteners and integrity of o-rings and seals, especially at intake manifold.
4. Ensure pipe connections are airtight.

Product comes out air exhaust.

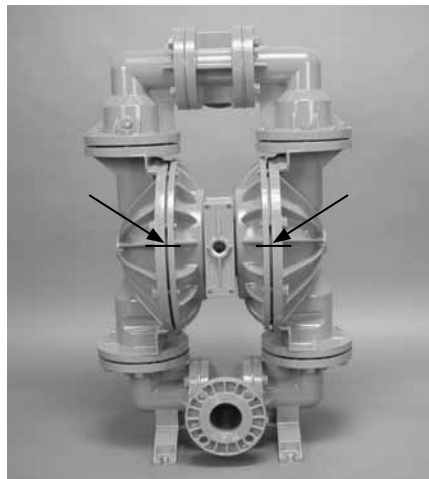
1. Check for diaphragm rupture.
2. Check tightness of outer pistons to shaft.

PUMP DISASSEMBLY**Tools Required:**

- 15/16" Wrench
- Adjustable Wrench
- Vise equipped w/ soft jaws (such as plywood, plastic or other suitable material)

CAUTION: Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from the pump. Disconnect all intake, discharge, and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container. Be aware of any hazardous effects of contact with your process fluid.

NOTE: The model photographed for these instructions incorporates rubber diaphragms, balls, and seats. Models with PTFE diaphragms, balls and seats are the same except where noted.

**Step 1**

Please note alignment marks on liquid chamber. Use to properly align center section to liquid chamber.

**Step 2**

Using a 15/16" wrench, loosen the discharge manifold from the liquid chambers.

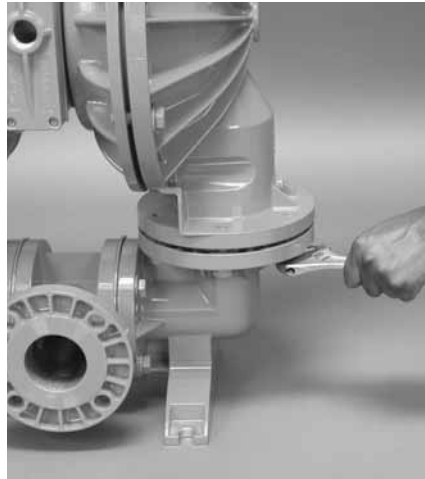
**Step 3**

Remove the discharge manifold to expose the valve balls and valve seats. Inspect ball cage area of manifold for excessive wear or damage.



Step 4

After removing discharge valve balls and valve seats, from the discharge manifold and liquid chamber, inspect for nicks, gouges, chemical attack or abrasive wear. Note: Replace worn parts with genuine Wilden parts for reliable performance.



Step 5

Using a 15/16" wrench, loosen the inlet manifold from the liquid chambers.



Step 6

Remove the inlet valve balls and valve seats from the inlet manifold and inspect for nicks, gouges, chemical attack or abrasive wear.



Step 7

Using a 15/16" wrench, loosen the liquid chamber from the center section.



Step 8

The liquid chamber should be removed to expose the diaphragm and outer piston.



Step 9

Using one adjustable wrench, loosen the diaphragm assembly from the center section assembly.



Step 10A

Note: Due to varying torque values, one of the following two situations will occur. 1) The outer piston, diaphragm and inner piston remain attached to the shaft and the entire assembly can be removed from the center section.



Step 10B

2) The outer piston, diaphragm and inner piston separate from the shaft which remains connected to the opposite side liquid chamber. Inspect diaphragm assembly and shaft for signs of wear or chemical attack. Replace all worn parts with genuine Wilden parts for reliable performance.

**Finding
A Spares
Nightmare?**

**PRODUCTS:
AODDP**
(Air Operated Double
Diaphragm Pumps)

- Warren-Rupp®
- ARO®
- Other

PUMP PARTS
(Low Cost)

- Diaphragms
- Valve balls
- Valve seats

**KNOWLEDGE
& SERVICE**

- Competitive pricing
- Delivery
- Service
- Inventory

**Sleep
easier
with**

SPECTROM
AFTERMARKET PUMP PARTS

Spectrom is not your typical after market part supplier. We do not simply sell pump parts; we provide value added procurement solutions.

Our unique network enables us to purchase effectively, resulting in low cost solutions. We also know that low purchase price is not enough - quality, integrity and inventory are also important. Spectrom is structured to provide Pre and Post sales support, giving our customers value added application and pump knowledge.

Contact us to have a procurement solution developed for you. We don't just fit you into a generic system, we develop specific solutions that achieve results.

Spectrom will ship your order from our facility within 3 working days!

WARNING: These parts may exhibit better life than OEM parts.

SPECTROM
AFTERMARKET PUMP PARTS

1-909-512-1261 www.spectromparts.com

AIR VALVE / CENTER SECTION DISASSEMBLY

Tools Required:

- 3/16" Hex Head Wrench
- 1/4" Hex Head Wrench
- Snap Ring Pliers
- O-Ring Pick

CAUTION: Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from the pump. Disconnect all intake, discharge, and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container. Be aware of hazardous effects of contact with your process fluid.

The Wilden P1500 and PV1500 metal pumps utilize a revolutionary Pro-Flo® air distribution system. Proprietary composite seals reduce the coefficient of friction and allow the P1500 and PV1500 to run lube-free. Constructed of polypropylene or aluminum, the Pro-Flo® air distribution system is designed to perform in on/off, non-freezing, non-stalling, tough duty applications.



Step 1

Using a 3/16" Hex head wrench, loosen air valve bolts.



Step 2

Remove muffer plate and air valve bolts from air valve assembly exposing muffer gasket for inspection. Replace if necessary.



Step 3

Lift away air valve assembly and remove air valve gasket for inspection. Replace if necessary.

AIR VALVE / CENTER SECTION DISASSEMBLY



Step 4

Remove air valve end cap to expose air valve spool by simply lifting up on end cap once air valve bolts are removed. Note: Pro-Flo V™ air valve incorporates an end cap at both ends of the air valve.



Step 5

Remove the air valve spool from the air valve body by threading one air valve bolt into the end of the air valve spool and gently sliding the spool out of the air valve body. Inspect seals for signs of wear and replace entire assembly if necessary. Use caution when handling air valve spool to prevent damaging seals. Note: Seals should not be removed from assembly. Seals are not sold separately.



Step 6

Remove pilot sleeve retaining snap ring on both sides of center section with snap ring pliers.



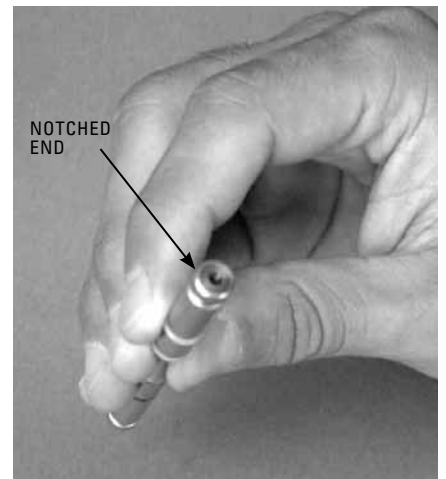
Step 7

Remove pilot spool sleeve from center section.



Step 8

Using an o-ring pick, gently remove the o-ring from the opposite side of the "notched end" on one side of the pilot spool. Gently remove the pilot spool from pilot spool sleeve and inspect for nick, gouges and wear. Replace pilot sleeve or outer sleeve o-rings if necessary. During re-assembly, never insert the pilot spool into the sleeve with the "notched end" first, this end incorporates the urethane o-ring and will be damaged as it slides over the ports cut in the sleeve. Note: Seals should not be removed from pilot spool. Seals are not sold separately.



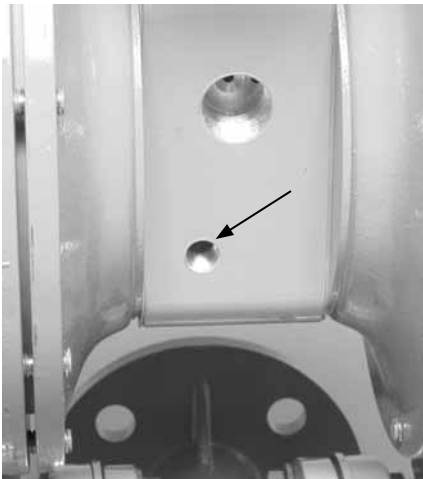
AIR VALVE / CENTER SECTION DISASSEMBLY



Step 9

Check center section shaft seals for signs of wear. If necessary, remove the shaft seals with o-ring pick and replace.

SUBMERSIBLE PRO-FLO V™

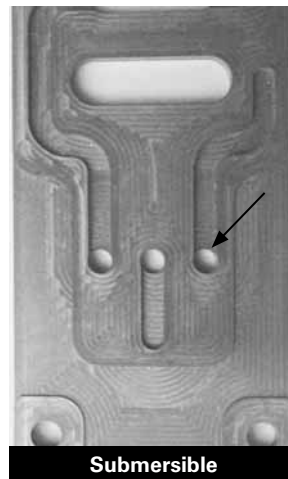


Step 1

Install a 6 mm (1/4") NPT pipe plug (00-7010-08) into the pilot spool bleed port located at the front of the center block.



Non-Submersible



Submersible

Step 2

Next, install an optional submersible air valve gasket (04-2621-52). The submersible air valve gasket can be purchased as a spare part or included with the purchase of a new Pro-Flo V™ pump.

REASSEMBLY HINTS & TIPS

ASSEMBLY:

Upon performing applicable maintenance to the air distribution system, the pump can now be reassembled. Please refer to the disassembly instructions for photos and parts placement. To reassemble the pump, follow the disassembly instructions in reverse order. The air distribution system needs to be assembled first, then the diaphragms and finally the wetted path. Please find the applicable torque specifications on this page. The following tips will assist in the assembly process.

- Lubricate air valve bore, center section shaft and pilot spool bore with NLGI grade 2 white EP bearing grease or equivalent.
- Clean the inside of the center section shaft bore to ensure no damage is done to new shaft seals.
- A small amount NLGI grade 2 white EP bearing grease can be applied to the muffler and air valve gaskets to locate gaskets during assembly.
- Make sure that the exhaust port on the muffler plate is centered between the two exhaust ports on the center section.
- Stainless bolts should be lubed to reduce the possibility of seizing during tightening.
- Use a mallet to tamp lightly on the large clamp bands to seat the diaphragm before tightening.

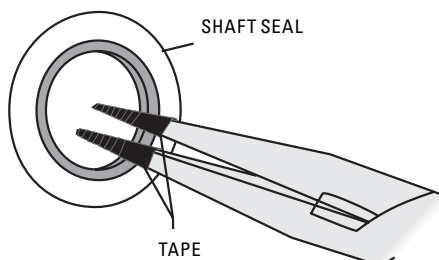
PRO-FLO® MAXIMUM TORQUE SPECIFICATIONS

Description of Part	Torque
Air Valve	8.5 N•m (75 in-lbs)
Air Chamber/Center Block	47.5 N•m (35 ft-lbs)
Inner Piston Ring	19.0 N•m (14 ft-lbs)
Outer Pistons, Rubber & PTFE	135.6 N•m (100 ft-lbs)
Outer Pistons, Ultra-Flex™	135.6 N•m (100 ft-lbs)

PRO-FLO V™ MAXIMUM TORQUE SPECIFICATIONS

Description of Part	Torque
Air Valve	13.6 N•m (120 in-lbs)
Air Chamber/Center Block	27.1 N•m (20 ft-lbs)
Inner Piston Ring	19.0 N•m (14 ft-lbs)
Outer Pistons, Rubber & PTFE	135.6 N•m (100 ft-lbs)
Outer Pistons, Ultra-Flex™	135.6 N•m (100 ft-lbs)

Figure A



SHAFT SEAL INSTALLATION:

PRE-INSTALLATION

- Once all of the old seals have been removed, the inside of the bushing should be cleaned to ensure no debris is left that may cause premature damage to the new seals.

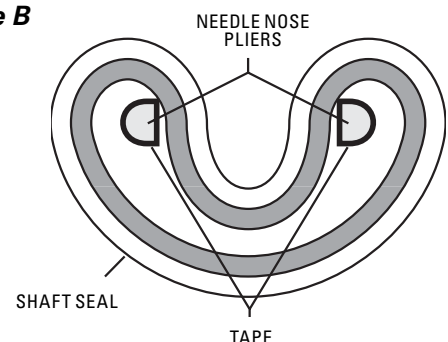
INSTALLATION

The following tools can be used to aid in the installation of the new seals:

Needle Nose Pliers
Phillips Screwdriver
Electrical Tape

- Wrap electrical tape around each leg of the needle nose pliers (heat shrink tubing may also be used). This is done to prevent damaging the inside surface of the new seal.
- With a new seal in hand, place the two legs of the needle nose pliers inside the seal ring. (See Figure A.)
- Open the pliers as wide as the seal diameter will allow, then with two fingers pull down on the top portion of the seal to form kidney bean shape. (See Figure B.)
- Lightly clamp the pliers together to hold the seal into the kidney shape. Be sure to pull the seal into as tight of a kidney shape as possible, this will allow the seal to travel down the bushing bore easier.
- With the seal clamped in the pliers, insert the seal into the bushing bore and position the bottom of the seal into the correct groove. Once the bottom of the seal is seated in the groove, release the clamp pressure on the pliers. This will allow the seal to partially snap back to its original shape.
- After the pliers are removed, you will notice a slight bump in the seal shape. Before the seal can be properly resized, the bump in the seal should be removed as much as possible. This can be done with either the Phillips screwdriver or your finger. With either the side of the screwdriver or your finger, apply light pressure to the peak of the bump. This pressure will cause the bump to be almost completely eliminated.
- Lubricate the edge of the shaft with NLGI grade 2 white EP bearing grease.
- Slowly insert the center shaft with a rotating motion. This will complete the resizing of the seal.
- Perform these steps for the remaining seal.

Figure B

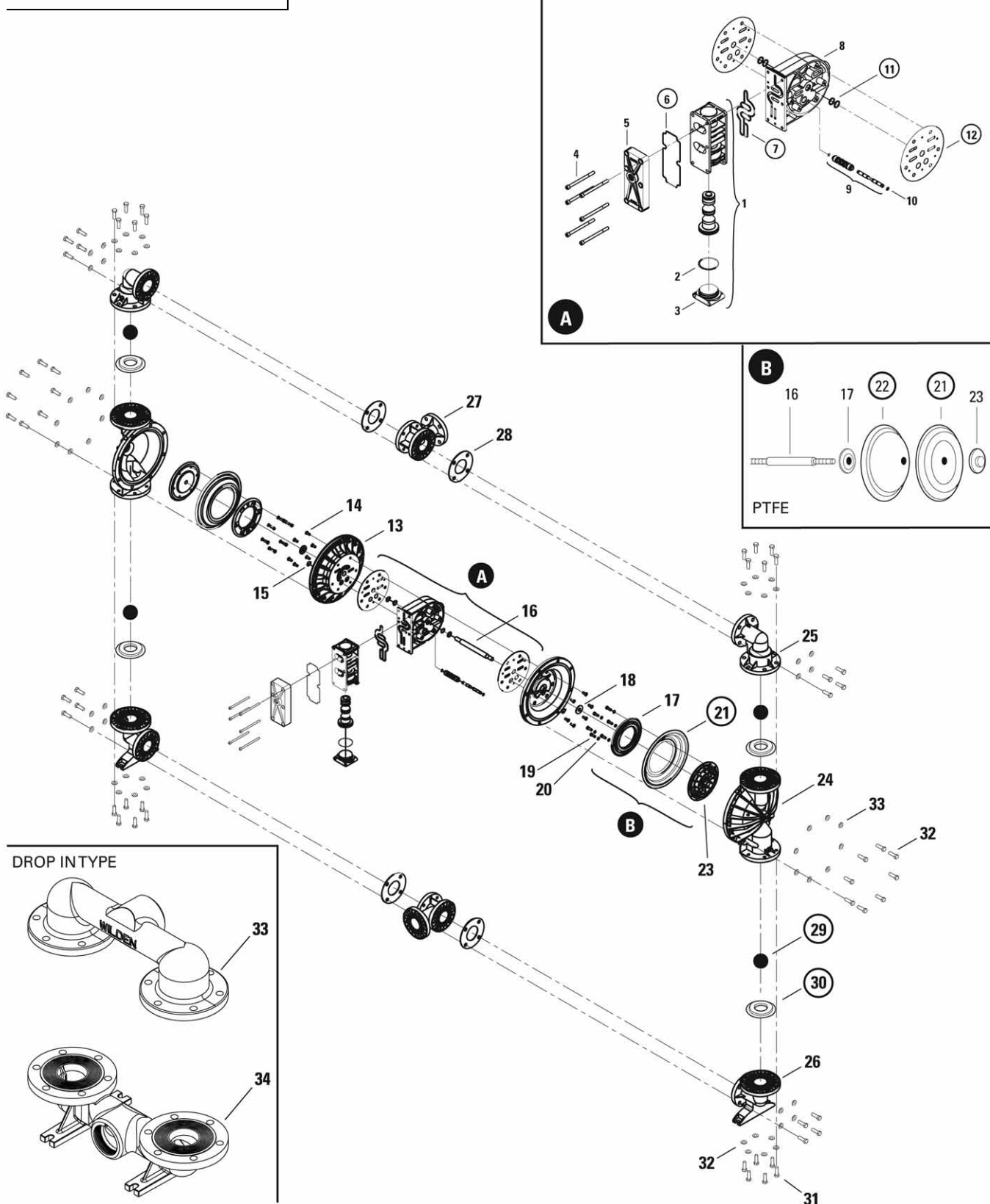


EXPLODED VIEW & PARTS LISTING

P1500 ALUMINUM

PTFE/Rubber/TPE/Ultra-Flex™-Fitted

EXPLODED VIEW



ALL CIRCLED PART IDENTIFIERS ARE INCLUDED IN REPAIR KITS (see section 9).

EXPLODED VIEW & PARTS LISTING

P1500 ALUMINUM | PTFE/Rubber/TPE/Ultra-Flex™-Fitted | PARTS LISTING

No.	Description	Qty.	Rubber/TPE-Fitted	PTFE-Fitted
			P1500/AAAAP P/N	P1500/ASAAP P/N
1	Pro-Flo® Air Valve Assembly¹	1	15-2010-20	15-2010-20
2	O-Ring (-235), End Cap	1	71-1280-52	71-1280-52
3	End Cap, Pro-Flo®	1	15-2332-20	15-2332-20
4	Screw, HHC, Air Valve (7/16" - 14 X 5-7/8")	6	15-6001-03	15-6001-03
5	Muffler Plate, Pro-Flo®	1	15-3181-20	15-3181-20
6	Gasket, Muffler Plate, Pro-Flo®	1	15-3505-52	15-3505-52
7	Gasket, Air Valve, Pro-Flo®	1	15-2615-52	15-2615-52
8	Center Block Assembly ² , Pro-Flo®	1	15-3110-01	15-3110-01
9	Removable Pilot Sleeve Assembly	1	15-3880-99	15-3880-99
10	Pilot Spool Retaining Ring	2	15-2650-49	15-2650-49
11	Center Block Shaft Seal	4	15-3210-55-225	15-3210-55-225
12	Gasket, Center Block, Pro-Flo®	2	15-3525-52	15-3525-52
13	P15 Aluminum Bolted Air Chamber, Pro-Flo®	2	15-3681-01	15-3681-01
14	Screw, HSFHS (3/8" - 16 x 1")	12	71-6250-08	71-6250-08
15	Retaining Ring	2	15-2651-03	15-2651-03
16	Shaft	1	15-3805-09	15-3805-09
17	Inner Piston	2	15-3700-01	15-3752-03
	Inner Piston, Ultra-Flex™	2	15-3760-08	N/A
18	Washer, Inner Piston Back-up	2	15-6850-08	N/A
19	Inner Piston Screw (3/8"-16 x 1-1/8")	12	15-6130-08	N/A
20	Inner Piston Washer (.390 x .625 x .063)	12	15-6740-08-50	N/A
21	Diaphragm, Primary	2	*	15-1010-55-42
22	Diaphragm, Back-up	2	N/R	15-1060-51
23	Outer Piston	2	15-4550-01	15-4600-03
	Outer Piston, Ultra-Flex™	2	15-4560-01	N/A
24	Liquid Chamber, Bolted	2	15-4980-01	15-4980-01
25	Discharge Elbow, Bolted	2	15-5250-01	15-5250-01
26	Inlet Elbow, Bolted	2	15-5210-01	15-5210-01
27	T-Section, Bolted (ANSI)	2	15-5180-01	15-5180-01
	T-Section, Bolted (DIN)	2	15-5185-01	15-5185-01
28	T-Section Gasket	4	*	15-1325-55
29	Valve Ball	4	*	15-1080-55
30	Seat Valve	4	*	15-1125-03
	Seat Valve O-ring (not shown)	4	N/R	15-1205-55
	Gasket, Manifold (not shown)	4	N/R	15-1405-55
31	Screw, HHC (5/8"-11 x 2")	56	15-6180-08	15-6180-08
32	Washer (5/8")	56	15-6732-08	15-6732-08
	Muffler 1" (not shown)	1	15-3510-99	15-3510-99R
33	Discharge Manifold, NPT, Retrofit	1	15-5035-01	15-5035-01
	Discharge Manifold, BSPT, Retrofit	1	15-5036-01	15-5036-01
34	Inlet Manifold, NPT, Retrofit	1	15-5095-01	15-5095-01
	Inlet Manifold, NPT, Retrofit	1	15-5096-01	15-5096-01

All boldface items are primary wear parts.

*Please review the elastomer chart.

¹Air Valve Assembly includes items 2 and 3.

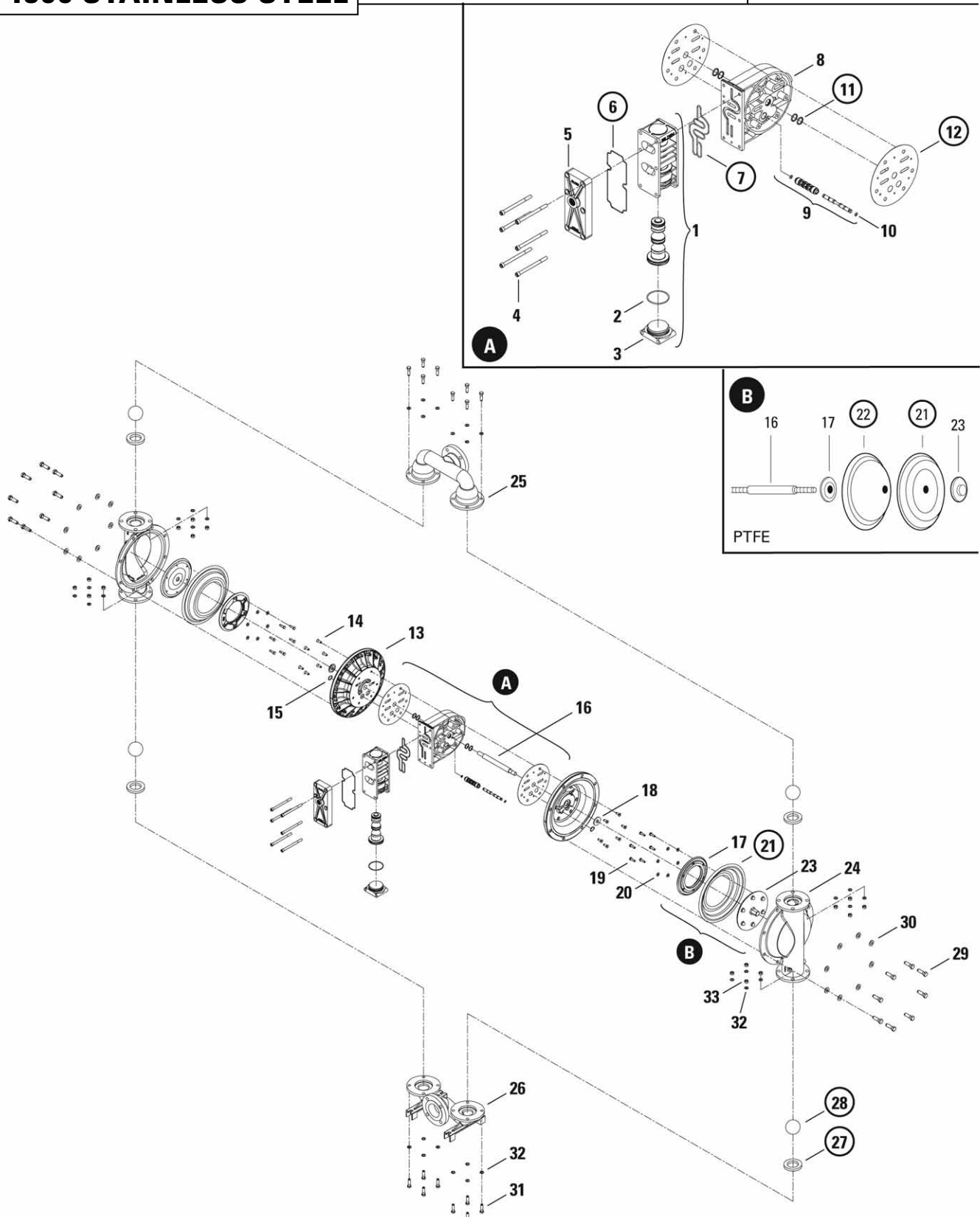
²Center Block Assembly includes item 11.

EXPLODED VIEW & PARTS LISTING

P1500 STAINLESS STEEL

PTFE/Rubber/TPE/Ultra-Flex™-Fitted

EXPLODED VIEW



ALL CIRCLED PART IDENTIFIERS ARE INCLUDED IN REPAIR KITS (see section 9).

EXPLODED VIEW & PARTS LISTING

P1500 STAINLESS STEEL | PTFE/Rubber/TPE/Ultra-Flex™-Fitted | PARTS LISTING

No.	Part Description	Qty. per Pump	Rubber/TPE-Fitted		PTFE-Fitted	
			P1500/SSAAP P/N	P1500/HHAAP P/N	P1500/SSAAP P/N	P1500/HHAAP P/N
1	Air Valve Assembly¹	1	15-2010-20	15-2010-20	15-2010-20	15-2010-20
2	O-Ring (-235), End Cap	1	71-1280-52	71-1280-52	71-1280-52	71-1280-52
3	End Cap	1	15-2332-20	15-2332-20	15-2332-20	15-2332-20
4	Screw, HHC, Air Valve (7/16" -14 x 5-7/8")	6	15-6001-03	15-6001-03	15-6001-03	15-6001-03
5	Muffler Plate	1	15-3180-20	15-3180-20	15-3180-20	15-3180-20
6	Gasket, Muffler Plate	1	15-3505-52	15-3505-52	15-3505-52	15-3505-52
7	Gasket, Air Valve	1	15-2615-52	15-2615-52	15-2615-52	15-2615-52
8	Center Block Assembly ²	1	15-3110-01	15-3110-01	15-3110-01	15-3110-01
9	Pilot Sleeve Assembly	1	15-3880-99	15-3880-99	15-3880-99	15-3880-99
10	Pilot Spool Retaining O-Ring	2	15-2650-49	15-2650-49	15-2650-49	15-2650-49
11	Center Block Shaft Seal	4	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225
12	Gasket, Center Block	2	15-3525-52	15-3525-52	15-3525-52	15-3525-52
13	Air Chamber	2	15-3681-01	15-3681-01	15-3681-01	15-3681-01
14	Screw, HSFHS (3/8" -16 x 1")	12	71-6250-08	71-6250-08	71-6250-08	71-6250-08
15	Retaining Ring	2	15-2651-03	15-2651-03	15-2651-03	15-2651-03
16	Shaft	1	15-3805-09	15-3805-09	15-3805-09	15-3805-09
17	Inner Piston	2	15-3700-01	15-3700-01	15-3752-03	15-3752-03
	Inner Piston, Ultra-Flex™	2	15-3760-08	15-3760-08	N/A	N/A
18	Washer, Inner Piston backup	2	15-6850-08	15-6850-08	N/A	N/A
19	Screw, HHC (3/8" -16 x 1-1/8")	12	15-6130-08	15-6130-08	N/A	N/A
20	Washer (3/8")	12	15-6740-08-50	15-6740-08-50	N/A	N/A
21	Diaphragm	2	*	*	15-1010-55-42	15-1010-55-42
22	Diaphragm, Back-Up	2	N/R	N/R	15-1060-51	15-1060-51
23	Outer Piston	2	15-4550-03	15-4550-04	15-4600-03	15-4600-04
	Outer Piston, Ultra-Flex™	2	15-4560-03	15-4560-04	N/A	N/A
24	Liquid Chamber	2	15-5005-03	15-5005-04	15-5005-03	15-5005-04
25	Discharge Manifold, ANSI	1	15-5020-03-42	15-5020-04-42	15-5020-03-42	15-5020-04-42
	Discharge Manifold, DIN	1	15-5020-03-43	15-5020-04-43	15-5020-03-43	15-5020-04-43
26	Inlet Manifold, ANSI	1	15-5080-03-42	15-5080-04-42	15-5080-03-42	15-5080-04-42
	Inlet Manifold, DIN	1	15-5080-03-43	15-5080-04-43	15-5080-03-43	15-5080-04-43
27	Valve Seat	4	*	*	15-1121-03	15-1121-04
28	Valve Ball	4	*	*	15-1080-55	15-1080-55
	Valve Seat O-Ring (not shown)	4	N/R	N/R	15-1200-55	15-1200-55
29	Screw, HHC (5/8"-11 X 2")	16	15-6180-03	15-6180-03	15-6180-03	15-6180-03
30	Washer, Flat (5/8")	16	15-6732-03	15-6732-03	15-6732-03	15-6732-03
31	Screw, HHC (1/2"-13 X 1-3/4")	16	15-6182-03	15-6182-03	15-6182-03	15-6182-03
32	Washer, Flat (1/2")	32	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60
33	Nut, Hex (1/2"-13)	16	15-6420-03	15-6420-03	15-6420-03	15-6420-03
	Muffler (not shown)	1	08-3510-99	08-3510-99	08-3510-99	08-3510-99

All boldface items are primary wear parts.

*Please review the elastomer chart.

¹Air Valve Assembly includes items 2 and 3.

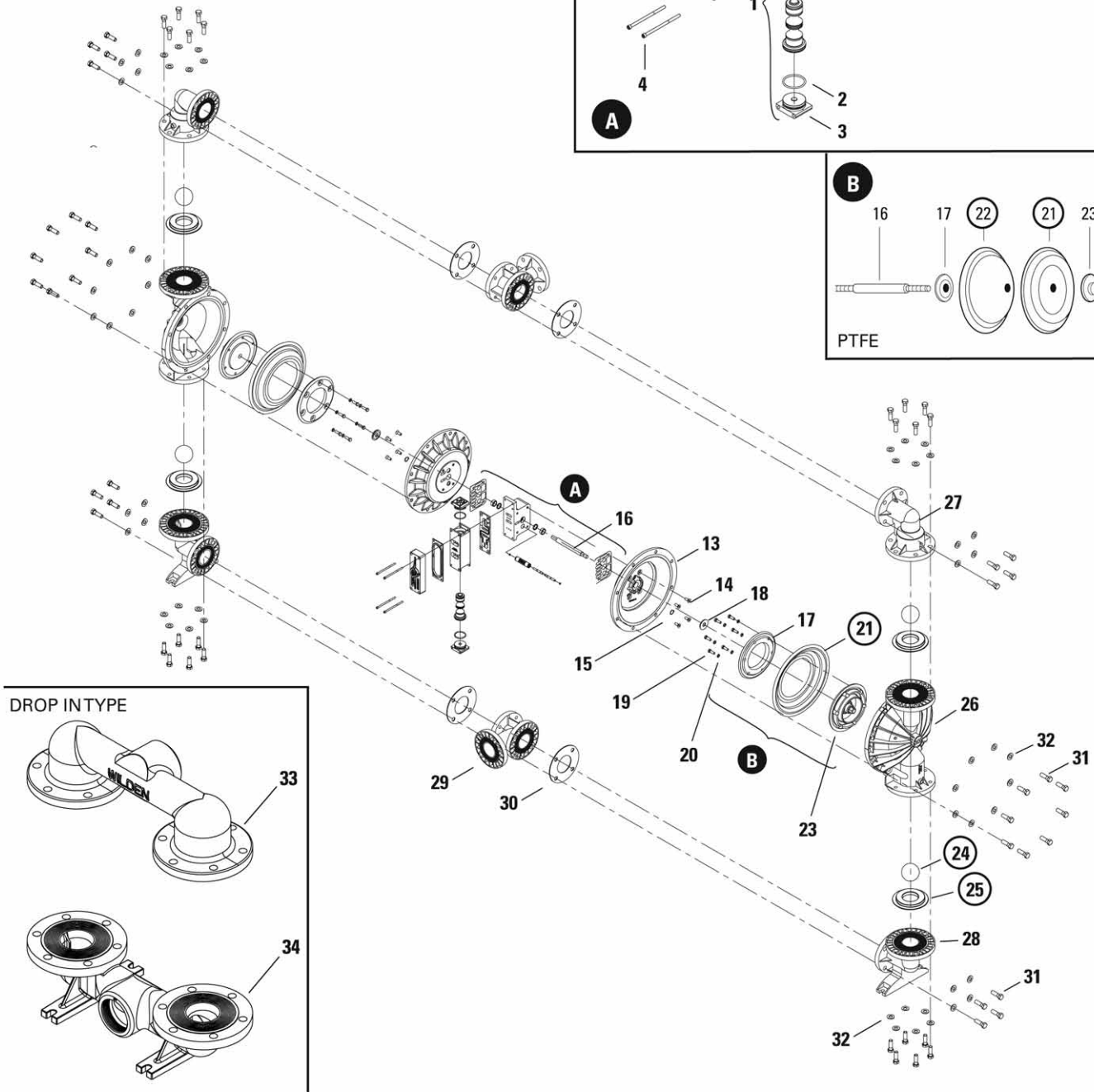
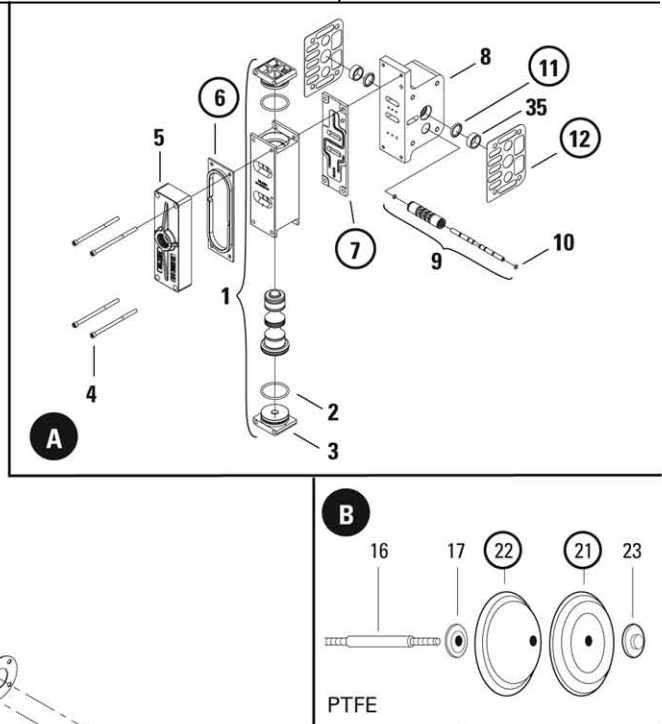
²Center Block Assembly includes item 11.

EXPLODED VIEW & PARTS LISTING

PV1500 ALUMINUM

PTFE/Rubber/TPE/Ultra-Flex™-Fitted

EXPLODED VIEW



ALL CIRCLED PART IDENTIFIERS ARE INCLUDED IN REPAIR KITS (see section 9).

EXPLODED VIEW & PARTS LISTING

PV1500 ALUMINUM

PTFE/Rubber/TPE/Ultra-Flex™-Fitted

PARTS LISTING

No.	Part Description	Qty. per Pump	Rubber/TPE-Fitted	PTFE-Fitted
			PV1500/AAAAA P/N	PV1500/ASAAA P/N
1	Air Valve Assembly¹	1	04-2030-01	04-2030-01
2	O-Ring (-225), End Cap (1.859 x .139)	2	04-2390-52-700	04-2390-52-700
3	End Cap	2	04-2340-01	04-2340-01
4	Screw, SCH, Air Valve (1/4"-20 x 4-1/2")	4	01-6000-03	01-6000-03
5	Muffler Plate	1	04-3185-01	04-3185-01
6	Gasket, Muffler Plate	1	04-3502-52	04-3502-52
7	Gasket, Air Valve	1	04-2620-52	04-2620-52
8	Center Block Assembly	1	15-3120-01	15-3120-01
9	Pilot Sleeve Assembly	1	15-3884-99	15-3884-99
10	Pilot Spool Retaining O-Ring	2	04-2650-49-700	04-2650-49-700
11	Shaft Seal	2	15-3210-55-225	15-3210-55-225
12	Gasket, Center Block	2	04-3528-52	04-3528-52
13	Air Chamber	2	15-3691-01	15-3691-01
14	Air Chamber Screw (3/8" - 16 x 1")	12	71-6250-08	71-6250-08
15	Retaining Ring	2	04-3890-03	04-3890-03
16	Shaft	1	15-3805-09	15-3805-09
17	Inner Piston	2	15-3700-01	15-3750-01
	Inner Piston, Ultra-Flex™	2	15-3760-08	N/A
18	Washer, Inner Piston Back-up	2	15-6850-08	N/A
19	Inner Piston Screw (3/8"-16 x 1-1/8")	12	15-6130-08	N/A
20	Inner Piston Washer (.390 x .625 x .063)	12	15-6740-08-50	N/A
21	Diaphragm, Primary	2	*	15-1010-55-42
22	Diaphragm, Back-up	2	N/R	15-1060-51
23	Outer Piston	2	15-4550-01	15-4600-03
	Outer Piston, Ultra-Flex™	2	15-4560-01	N/A
24	Valve Ball	4	*	15-1080-55
25	Seat Valve	4	*	15-1125-03
	Seat Valve O-ring (not shown)	4	N/R	15-1205-55
26	Liquid Chamber, Bolted	2	15-4980-01	15-4980-01
27	Discharge Elbow, Bolted	2	15-5250-01	15-5250-01
28	Inlet Elbow, Bolted	2	15-5210-01	15-5210-01
29	T-Section, Bolted (ANSI)	2	15-5180-01	15-5180-01
	T-Section, Bolted (DIN)	2	15-5185-01	15-5185-01
30	T-Section Gasket	4	*	15-1325-55
	Gasket, Manifold (not shown)	4	N/R	15-1405-55
31	Screw, HHC (5/8"-11 x 2")	56	15-6180-08	15-6180-08
32	Washer (5/8")	56	15-6732-08	15-6732-08
	Muffler 1" (not shown)	1	15-3510-99R	15-3510-99R
33	Discharge Manifold, NPT, Retrofit	1	15-5035-01	15-5035-01
	Discharge Manifold, BSPT, Retrofit	1	15-5036-01	15-5036-01
34	Inlet Manifold, NPT, Retrofit	1	15-5095-01	15-5095-01
	Inlet Manifold, NPT, Retrofit	1	15-5096-01	15-5096-01
35	Shaft Bushing	2	15-3306-13	15-3306-13

All boldface items are primary wear parts.

*Please review the elastomer chart.

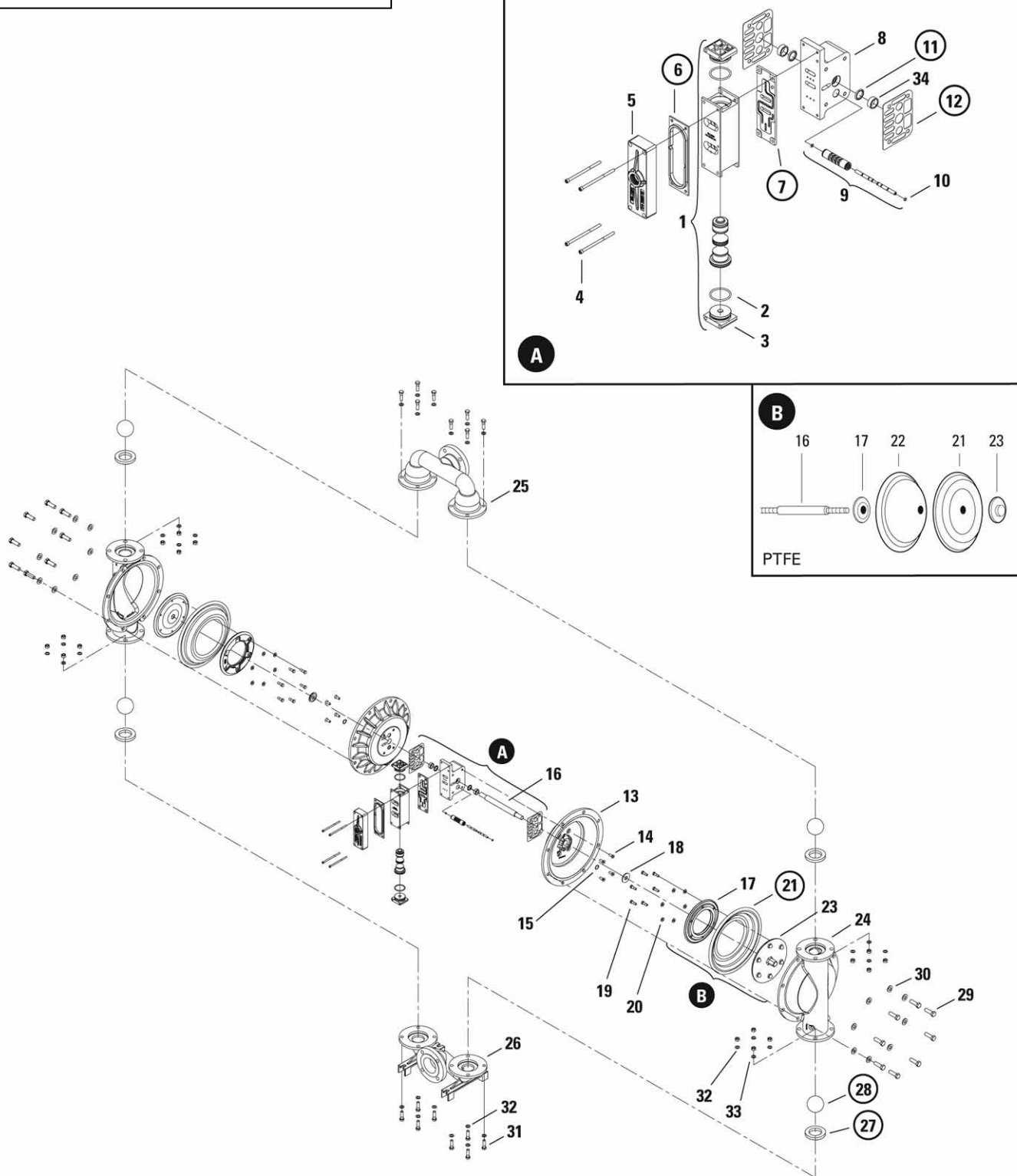
¹Air Valve Assembly includes items 2 and 3.

EXPLODED VIEW & PARTS LISTING

PV1500 STAINLESS STEEL

PTFE/Rubber/TPE/Ultra-Flex™-Fitted

EXPLODED VIEW



ALL CIRCLED PART IDENTIFIERS ARE INCLUDED IN REPAIR KITS (see section 9).

EXPLODED VIEW & PARTS LISTING

PV1500 STAINLESS STEEL | PTFE/Rubber/TPE/Ultra-Flex™-Fitted | PARTS LISTING

No.	Part Description	Qty.	Rubber/TPE-Fitted				PTFE-Fitted			
			PV1500/SSAAA P/N	PV1500/HHAAA P/N	PV1500/SSSSS P/N	PV1500/HHSSS P/N	PV1500/SSAAA P/N	PV1500/HHAAA P/N	PV1500/SSSSS P/N	PV1500/HHSSS P/N
1	Air Valve Assembly¹	1	04-2030-01	04-2030-01	04-2030-03	04-2030-03	04-2030-01	04-2030-01	04-2030-03	04-2030-03
2	O-Ring (-225), End Cap (1.859 x .139)	2	04-2390-52-700	04-2390-52-700	04-2390-52-700	04-2390-52-700	04-2390-52-700	04-2390-52-700	04-2390-52-700	04-2390-52-700
3	End Cap	2	04-2340-01	04-2340-01	04-2340-03	04-2340-03	04-2340-01	04-2340-01	04-2340-03	04-2340-03
4	Screw, SCH, Air Valve (1/4"-20 x 4-1/2")	4	01-6000-03	01-6000-03	01-6000-03	01-6000-03	01-6000-03	01-6000-03	01-6000-03	01-6000-03
5	Muffler Plate	1	04-3185-01	04-3185-01	04-3185-03	04-3185-03	04-3185-01	04-3185-01	04-3185-03	04-3185-03
6	Gasket, Muffler Plate	1	04-3502-52	04-3502-52	04-3502-52	04-3502-52	04-3502-52	04-3502-52	04-3502-52	04-3502-52
7	Gasket, Air Valve	1	04-2620-52	04-2620-52	04-2620-52	04-2620-52	04-2620-52	04-2620-52	04-2620-52	04-2620-52
8	Center Block Assembly	1	15-3120-01	15-3120-01	15-3120-03	15-3120-03	15-3120-01	15-3120-01	15-3120-03	15-3120-03
9	Pilot Sleeve Assembly	1	15-3884-99	15-3884-99	15-3884-99	15-3884-99	15-3884-99	15-3884-99	15-3884-99	15-3884-99
10	Pilot Spool Retaining O-Ring	2	04-2650-49-700	04-2650-49-700	04-2650-49-700	04-2650-49-700	04-2650-49-700	04-2650-49-700	04-2650-49-700	04-2650-49-700
11	Shaft Seal	2	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225	15-3210-55-225
12	Gasket, Center Block	2	04-3528-52	04-3528-52	04-3529-52	04-3529-52	04-3528-52	04-3528-52	04-3529-52	04-3529-52
13	Air Chamber	2	15-3691-01	15-3691-01	15-3690-03	15-3690-03	15-3691-01	15-3691-01	15-3690-03	15-3690-03
14	Air Chamber Screw (3/8"-16 x 1")	12	71-6250-08	71-6250-08	71-6250-08	71-6250-08	71-6250-08	71-6250-08	71-6250-08	71-6250-08
15	Retaining Ring	2	04-3890-03	04-3890-03	04-3890-03	04-3890-03	04-3890-03	04-3890-03	04-3890-03	04-3890-03
16	Shaft	1	15-3805-09	15-3805-09	15-3805-09	15-3805-09	15-3805-09	15-3805-09	15-3805-09	15-3805-09
17	Inner Piston	2	15-3700-01	15-3700-01	15-3700-03	15-3700-03	15-4600-03	15-4600-03	15-4600-03	15-4600-03
	Inner Piston, Ultra-Flex™	2	15-3760-08	15-3760-08	15-3760-08	15-3760-08	N/A	N/A	N/A	N/A
18	Washer, Inner Piston Back-up	2	15-6850-08	15-6850-08	15-6850-08	15-6850-08	N/A	N/A	N/A	N/A
19	Inner Piston Screw (3/8"-16 x 1-1/8")	12	15-6130-08	15-6130-08	15-6130-08	15-6130-08	N/A	N/A	N/A	N/A
20	Inner Piston Washer (.390 x .625 x .063)	12	15-6740-08-50	15-6740-08-50	15-6740-08-50	15-6740-08-50	N/A	N/A	N/A	N/A
21	Diaphragm, Primary	2	*	*	*	*	15-1010-55-42	15-1010-55-42	15-1010-55-42	15-1010-55-42
22	Diaphragm, Back-up	2	N/R	N/R	N/R	N/R	*	*	*	*
23	Outer Piston	2	15-4550-03	15-4550-04	15-4550-03	15-4550-04	15-4600-03	15-4600-04	15-4600-03	15-4600-04
	Outer Piston, Ultra-Flex™	2	15-4560-03	15-4560-04	15-4560-03	15-4560-04	N/A	N/A	N/A	N/A
24	Liquid Chamber, Bolted	2	15-5005-03	15-5005-04	15-5005-03	15-5005-04	15-5005-03	15-5005-04	15-5005-03	15-5005-04
25	Manifold, Discharge, ANSI	1	15-5020-03-42	15-5020-04-42	15-5020-03-42	15-5020-04-42	15-5020-03-42	15-5020-04-42	15-5020-03-42	15-5020-04-42
	Manifold, Discharge, DIN	1	15-5020-03-43	15-5020-04-43	15-5020-03-43	15-5020-04-43	15-5020-03-43	15-5020-04-43	15-5020-03-43	15-5020-04-43
26	Manifold, Inlet, ANSI	1	15-5080-03-42	15-5080-04-42	15-5080-03-42	15-5080-04-42	15-5080-03-42	15-5080-04-42	15-5080-03-42	15-5080-04-42
	Manifold, Inlet, DIN	1	15-5080-03-43	15-5080-04-43	15-5080-03-43	15-5080-04-43	15-5080-03-43	15-5080-04-43	15-5080-03-43	15-5080-04-43
27	Seat Valve	4	*	*	*	*	15-1121-03	15-1121-04	15-1121-03	15-1121-04
	Seat Valve O-ring (not shown)	4	N/R	N/R	N/R	N/R	15-1200-55	15-1200-55	15-1200-55	15-1200-55
28	Valve Ball	4	*	*	*	*	15-1080-55	15-1080-55	15-1080-55	15-1080-55
29	Screw, HHC (5/8"-11 x 2")	16	15-6180-03	15-6180-03	15-6180-03	15-6180-03	15-6180-03	15-6180-03	15-6180-03	15-6180-03
30	Washer (5/8")	16	15-6732-03	15-6732-03	15-6732-03	15-6732-03	15-6732-03	15-6732-03	15-6732-03	15-6732-03
31	Screw, HHC (1/2"-13 x 1-3/4")	16	15-6182-03	15-6182-03	15-6182-03	15-6182-03	15-6182-03	15-6182-03	15-6182-03	15-6182-03
32	Washer, Flat (.516 x .875 x .063)	32	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60	08-6840-03-60
33	Nut, Hex (1/2"-13)	16	15-6420-03	15-6420-03	15-6420-03	15-6420-03	15-6420-03	15-6420-03	15-6420-03	15-6420-03
	Muffler 1" (not shown)	1	15-3510-99R	15-3510-99R	15-3510-99R	15-3510-99R	15-3510-99R	15-3510-99R	15-3510-99R	15-3510-99R
34	Shaft Bushing	2	15-3306-13	15-3306-13	15-3306-13	15-3306-13	15-3306-13	15-3306-13	15-3306-13	15-3306-13

All boldface items are primary wear parts.

*Please review the elastomer chart.

¹Air Valve Assembly includes items 2 and 3.

ELASTOMER OPTIONS

P1500 & PV1500 Aluminum

MATERIAL	DIAPHRAGM (2)	ULTRA-FLEX DIAPHRAGM (2)	BACKUP DIAPHRAGM (2)	VALVE BALLS (4)	VALVE SEATS - ALUM (4)	VALVE SEATS- SS & ALLOY C (4)	VALVE SEAT O-RINGS - ALUM (4)	VALVE SEAT O-RINGS - SS & ALLOY C (4)	T-SECTION GASKET - ALUM (4)
Polyurethane	15-1010-50	N/A	N/A	15-1080-50	15-1126-50	15-1120-50	N/A	N/A	N/A
Neoprene	15-1010-51	15-1020-51	15-1060-51	15-1080-51	15-1126-51	15-1120-51	N/A	N/A	15-1325-51
Buna-N	15-1010-52	15-1020-52	N/A	15-1080-52	15-1126-52	15-1120-52	N/A	N/A	15-1325-52
EPDM	15-1010-54	15-1020-54	15-1060-54	15-1080-54	15-1126-54	15-1120-54	N/A	N/A	15-1325-54
Viton®	15-1010-53	15-1020-53	N/A	15-1080-53	15-1126-53	15-1120-53	N/A	N/A	N/A
Saniflex™	15-1010-56	N/A	15-1060-56	15-1080-56	15-1126-56	15-1120-56	N/A	N/A	N/A
PTFE	15-1010-55-42	N/A	N/A	15-1080-55	N/A	N/A	15-1205-55¹	15-1200-55¹	15-1325-55
Wil-Flex™	15-1010-58	N/A	N/A	15-1080-58	15-1126-58	15-1120-58	N/A	N/A	15-1325-58
Fluoro-Seal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15-1200-34¹	N/A
Aluminum	N/A	N/A	N/A	N/A	15-1125-01	15-1121-01	N/A	N/A	N/A
Stainless Steel	N/A	N/A	N/A	N/A	15-1125-03	15-1121-03	N/A	N/A	N/A
Alloy C	N/A	N/A	N/A	N/A	N/A	15-1121-04	N/A	N/A	N/A
Mild Steel	N/A	N/A	N/A	N/A	N/A	15-1121-08	N/A	N/A	N/A

¹Used in conjunction with metallic valve seat.

P1500 METAL STALLION

MATERIAL	DIAPHRAGMS (2) P/N	VALVE BALLS (4) P/N	VALVE SEATS (4) P/N
Neoprene	15-1020-51	08-1080-51	15-1120-51-50
Buna-N	15-1020-52	08-1080-52	15-1120-52-50
EPDM	15-1020-54	08-1080-54	15-1120-54-50
Viton®	15-1020-53	08-1080-53	15-1120-53-50

ELASTOMER KITS OPTION

PRO-FLO®

DESCRIPTION	NEOPRENE	BUNA-N	VITON®	EPDM
Pro-Flo® Metal	15-9554-51	15-9554-52	15-9554-53	15-9554-54
Pro-Flo® Advanced™ Aluminum - P1500¹,²	15-9559-51	15-9559-52	15-9559-53	15-9559-54
Pro-Flo® Metal (Ultra-Flex™)	15-9564-51	15-9564-52	15-9564-53	15-9564-54
Pro-Flo® Advanced™ Aluminum - P1500 (Ultra-Flex™)²	15-9569-51	15-9569-52	15-9569-53	15-9569-54
DESCRIPTION	PTFE	WIL-FLEX™	SANIFLEX™	POLYURETHANE
Pro-Flo® Metal	N/A	15-9554-58	15-9554-56	15-9554-50
Pro-Flo® Advanced™ Aluminum - P1500¹,²	15-9559-55	15-9559-58	15-9559-56	15-9559-50
Pro-Flo® Advanced™ SS & Alloy C - P1500 (PTFE)¹	15-9570-55	N/A	N/A	N/A

PRO-FLO V™

DESCRIPTION	NEOPRENE	BUNA-N	VITON®	EPDM
Pro-Flo V™ Metal	15-9582-51	15-9582-52	15-9582-53	15-9582-54
Pro-Flo V™ Advanced™ Aluminum - P1500¹,²	15-9583-51	15-9583-52	15-9583-53	15-9583-54
Pro-Flo V™ Metal (Ultra-Flex™)	15-9586-51	15-9586-52	15-9586-53	15-9586-54
Pro-Flo V™ Advanced™ Aluminum - P1500 (Ultra-Flex™)²	15-9587-51	15-9587-52	15-9587-53	15-9587-54
DESCRIPTION	PTFE	WIL-FLEX™	SANIFLEX™	POLYURETHANE
Pro-Flo V™ Metal	N/A	15-9582-58	15-9582-56	15-9582-50
Pro-Flo V™ Advanced™ Aluminum - P1500¹,²	15-9583-55	15-9583-55	15-9583-56	15-9583-57
Pro-Flo V™ Advanced™ SS & Alloy C - P1500 (PTFE)¹	15-9588-55	N/A	N/A	N/A

¹76 mm (3") Advanced™ aluminum, stainless steel and alloy C pump require special PTFE diaphragms (p/n 15-1010-55-42).

²76 mm (3") Advanced™ aluminum pumps use unique balls, seats and gaskets not found on Advanced stainless steel and alloy C pumps.

WARRANTY

Each and every product manufactured by Wilden Pump and Engineering, LLC is built to meet the highest standards of quality. Every pump is functionally tested to insure integrity of operation.

Wilden Pump and Engineering, LLC warrants that pumps, accessories and parts manufactured or supplied by it to be free from defects in material and workmanship for a period of five (5) years from date of installation or six (6) years from date of manufacture, whichever comes first. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Wilden pumps and parts is beyond our control, we cannot guarantee the suitability of any pump or part for a particular application and Wilden Pump and Engineering, LLC shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Responsibility is limited solely to replacement or repair of defective Wilden pumps and parts.

All decisions as to the cause of failure are the sole determination of Wilden Pump and Engineering, LLC.

Prior approval must be obtained from Wilden for return of any items for warranty consideration and must be accompanied by the appropriate MSDS for the product(s) involved. A Return Goods Tag, obtained from an authorized Wilden distributor, must be included with the items which must be shipped freight prepaid.

The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied (whether written or oral) including all implied warranties of merchantability and fitness for any particular purpose. No distributor or other person is authorized to assume any liability or obligation for Wilden Pump and Engineering, LLC other than expressly provided herein.

PLEASE PRINT OR TYPE AND FAX TO WILDEN

PUMP INFORMATION

Item # _____

Serial # _____

Company Where Purchased _____

YOUR INFORMATION

Company Name _____

Industry _____

Name _____

Title _____

Street Address _____

City _____

State _____

Postal Code _____

Country _____

Telephone _____

Fax _____

E-mail _____

Web Address _____

Number of pumps in facility? _____ Number of Wilden pumps? _____

Types of pumps in facility (check all that apply): ☐ Diaphragm ☐ Centrifugal ☐ Gear ☐ Submersible ☐ Lobe

☐ Other _____

Media being pumped? _____

How did you hear of Wilden Pump? ☐ Trade Journal ☐ Trade Show ☐ Internet/E-mail ☐ Distributor

☐ Other _____

ONCE COMPLETE, FAX TO (909) 783-3440

NOTE: WARRANTY VOID IF PAGE IS NOT FAXED TO WILDEN

WILDEN PUMP & ENGINEERING, LLC