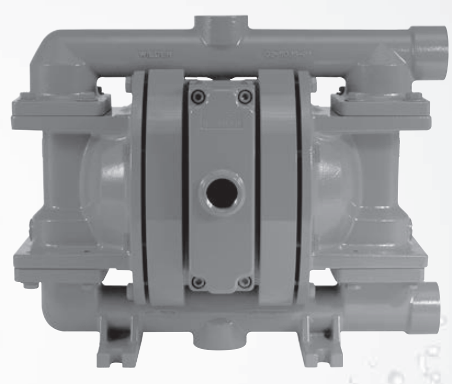
WILDEN®

EOM

Engineering
Operation &
Maintenance

Natural Gas-Operated
CSA-Certified
13 mm (1/2”) and
25 mm (1”) Metal Pump



Where Innovation Flows

wildenpump.com

CERTIFIED®

DESIGN CERTIFIED®

PSG® a DOVER company

TABLE OF CONTENTS

CAUTIONS—READ FIRST!

CAUTION: Do not apply pressurized gas to the exhaust port — pump will not function.

TEMPERATURE LIMITS:

Buna-N	–12°C to 82°C	10°F to 180°F
Wil-Flex™	–40°C to 107°C	–40°F to 225°F
Polytetrafluoroethylene (PTFE)[1]	4°C to 104°C	40°F to 220°F

[1]4°C to 149°C (40°F to 300°F) - 13 mm (1/2") and 25 mm (1") models only.

CAUTION: Canadian Standards Association (CSA) configured pumps should not be used in temperatures lower than 0°C (32°F) or higher than 52°C (125°F).

CAUTION: Maximum temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult Chemical Resistance Guide for chemical compatibility and temperature limits.

WARNING: Prevent 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. Pumps must be electrically grounded using the grounding conductor provided. Improper grounding can cause improper and dangerous operation.

CAUTION: Do not exceed 6.9 bar (100 psig) air supply pressure.

CAUTION: The process fluid and cleaning fluids must be chemically compatible with all wetted pump components. Consult Chemical Resistance Guide.

CAUTION: Do not exceed 82°C (180°F) air inlet temperature for Pro-Flo X™ models.

CAUTION: Pumps should be thoroughly flushed before installing into process lines.

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: Ensure that the gas supply line is clear of debris. Use an in-line air filter. A 5µ (micron) air filter is recommended.

NOTE: When installing PTFE diaphragms, it is important to tighten the outer pistons simultaneously (turning in opposite directions) to ensure a tight fit. (See torque specifications in Section 7.)

NOTE: Some 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.

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: All CSA-certified pumps are fitted with a single-point exhaust to route all exhaust gas through the muffler exhaust port. The gas outlet must be vented to a safe location in accordance with local codes or, in the absence of local codes, an industry or nationally recognized code having jurisdiction over the specified installation.

CAUTION: Tighten all hardware prior to installation.

WILDEN PUMP DESIGNATION SYSTEM

CSA-CERTIFIED METAL PUMPS

Maximum Flow Rates:
13 mm (1/2")
61.7 lpm (16.3 gpm)

25 mm (1")
206 lpm (55 gpm)

LEGEND

GPXXXX / XXXXX / XXX / XX / XXX / XXXX

- MODEL
- WETTED PARTS & OUTER PISTON
- CENTER BLOCK
- AIR VALVE
- DIAPHRAGMS
- VALVE BALLS
- VALVE SEAT
- O-RINGS
- SPECIALTY CODE (if applicable)

MATERIAL CODES

MODEL
GPX1 = ATEX, CSA, PRO-FLO X™
GPX200 = ATEX, CSA, PRO-FLO X™

WETTED PARTS & OUTER PISTON
AA = ALUMINUM / ALUMINUM
SS = STAINLESS STEEL / STAINLESS STEEL

CENTER BLOCK
AA = ALUMINUM

AIR VALVE
A = ALUMINUM

DIAPHRAGMS
BNS = BUNA-N (Red Dot)
TXU = PTFE w/CONDUCTIVE BUNA-N BACK-UP
XBS = CONDUCTIVE BUNA-N (Two Red Dots)

VALVE BALL
BN = BUNA-N (Red Dot)
TF = PTFE (White)

VALVE SEAT
A = ALUMINUM
S = STAINLESS STEEL

VALVE SEAT & MANIFOLD O-RING
BN = BUNA-N
TF = PTFE (White)

SPECIALTY CODES

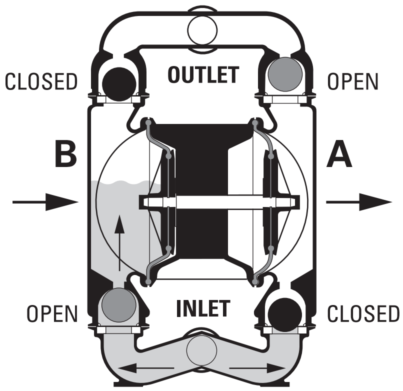
0014 BSPT (side-ported inlet and discharge on 1" models)
0504 DIN Flange
0677 NPT, center-ported inlet and discharge
0678 BSPT, center-ported inlet and discharge
0695 19 mm (3/4") NPT, center-ported discharge (inlet facing air inlet, discharge facing air exhaust)
0696 19 mm (3/4") BSPT, center-ported discharge (inlet facing air inlet, discharge facing air exhaust)
0697 19 mm (3/4") NPT, center-ported discharge (inlet facing air exhaust, discharge facing air inlet)
0698 19 mm (3/4") BSPT, center-ported discharge (inlet facing air exhaust, discharge facing air inlet)
0730 NPT, side-ported inlet and discharge

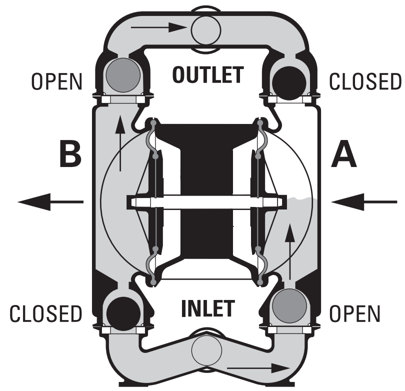
NOTE: Most elastomer materials use colored dots for identification.

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

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.





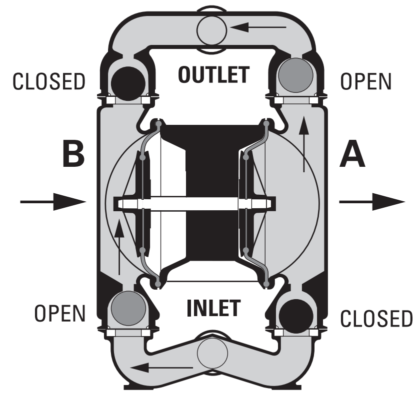
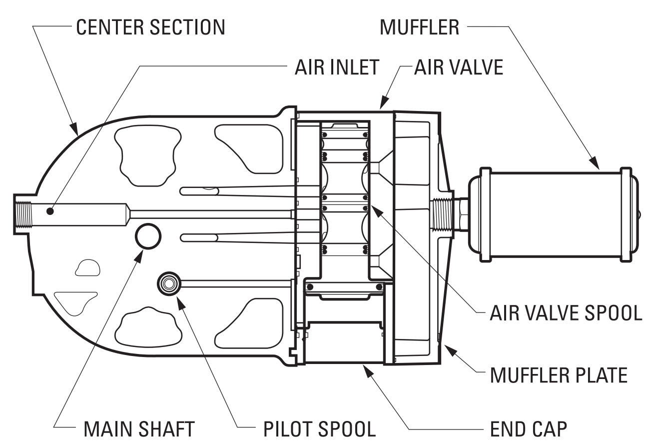


FIGURE 1 The air valve directs pressurized air to the back side of diaphragm A. The compressed air is applied directly to the liquid column separated by elastomeric diaphragms. The diaphragm acts as a separation membrane between the compressed air and liquid; a balanced load removes mechanical stress 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 the 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, while the opposite discharge valve ball is forced onto 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.

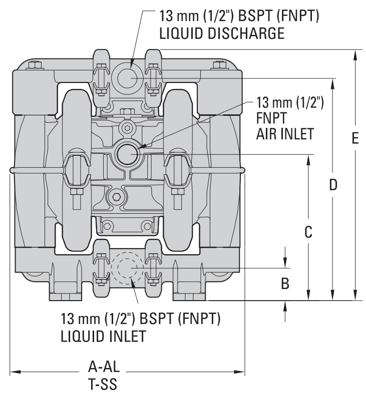
HOW IT WORKS—AIR DISTRIBUTION SYSTEM

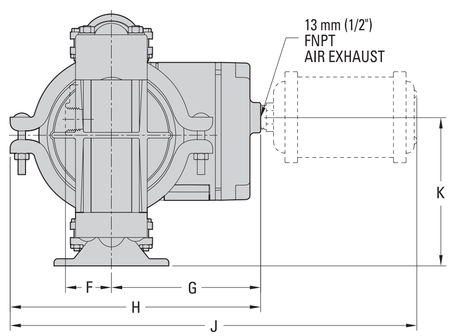


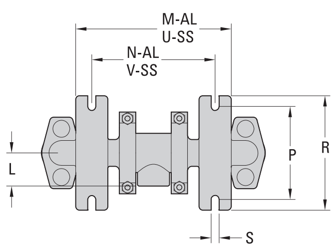
The Pro-Flo® patented air distribution system incorporates two moving parts: the air valve spool and the pilot spool. The heart of the system is the air valve spool and air valve. This valve design incorporates an unbalanced spool. The smaller end of the spool is pressurized continuously, while the large 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.

DIMENSIONAL DRAWINGS

GPX1 Metal





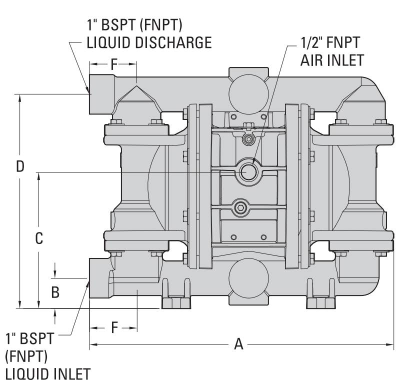


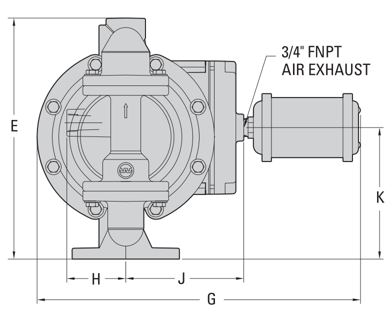
DIMENSIONS

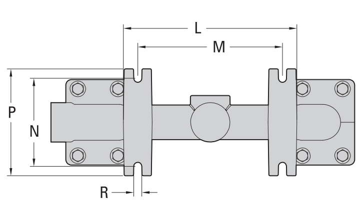
ITEM	METRIC (mm)	STANDARD (inch)
A	208	8.2
B	28	1.1
C	130	5.1
D	198	7.8
E	224	8.8
F	41	1.6
G	132	5.2
H	221	8.7
J	361	14.2
K	132	5.2
L	30	1.2
M	137	5.4
N	109	4.3
P	84	3.3
R	102	4
S	8.0	0.3
T	203	8.0
U	142	5.6
V	112	4.4

LW0058 REV. A

GPX200 Metal







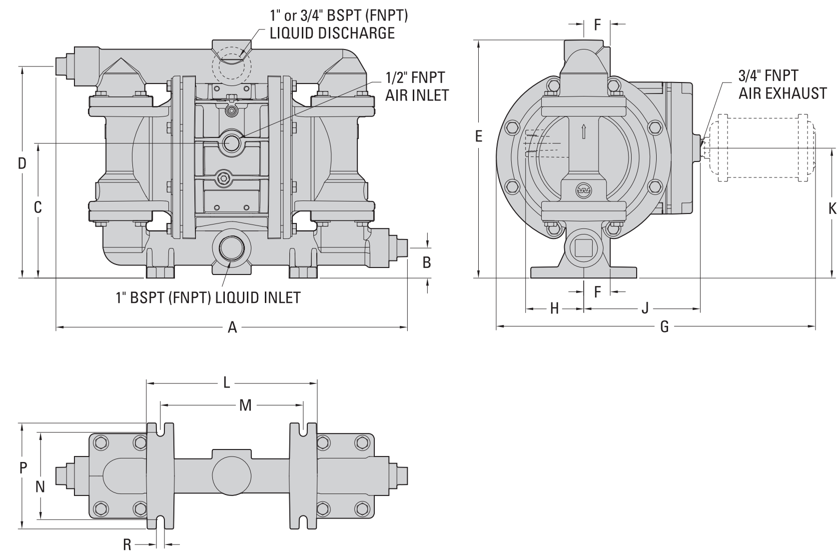
DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	361	14.2
B	36	1.4
C	163	6.4
D	254	10
E	287	11.3
F	56	2.2
G	384	15.1
H	71	2.8
J	140	5.5
K	155	6.1
L	206	8.1
M	173	6.8
N	104	4.1
P	127	5
R	10	0.4

LW0160 REV. A

DIMENSIONAL DRAWINGS

GPX200 Metal, Center-Ported

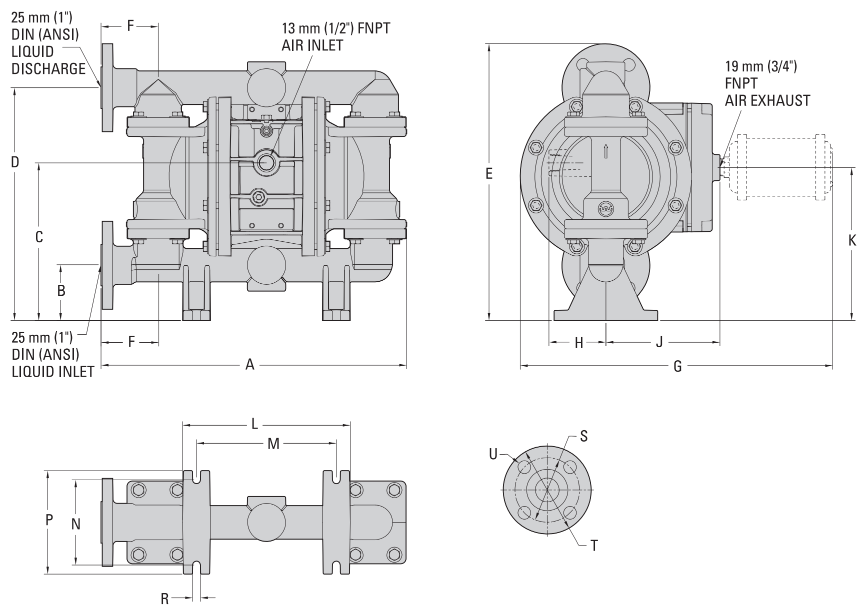


DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	422	16.6
B	36	1.4
C	163	6.4
D	254	10
E	287	11.3
F	33	1.3
G	384	15.1
H	71	2.8
J	140	5.5
K	155	6.1
L	206	8.1
M	173	6.8
N	104	4.1
P	127	5
R	10	0.4

LW0161 REV. A

GPX200 Stainless Steel, Flanged



DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	373	14.7
B	69	2.7
C	195	7.6
D	287	11.3
E	340	13.4
F	71	2.8
G	384	15.1
H	71	2.8
J	140	5.5
K	188	7.4
L	206	8.1
M	173	6.8
N	104	4.1
P	127	5.0
R	10	0.4
	DIN (mm)	**ANSI (inch)**
S	85 DIA.	3.1 DIA.
T	115 DIA.	4.3 DIA.
U	14 DIA.	0.6 DIA.

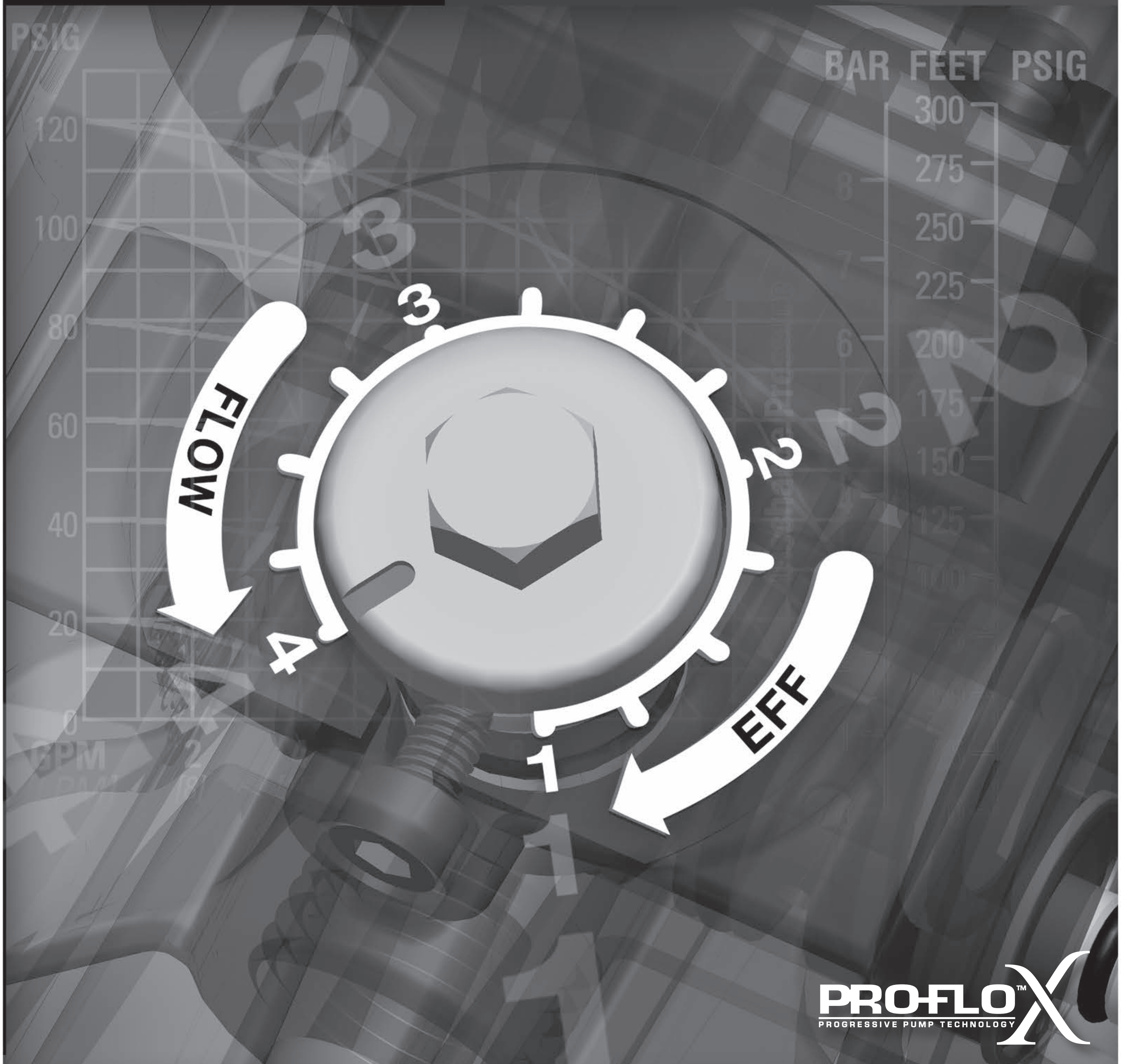
REV. B

NOTES

GPX200

M E T A L

WILDEN



PRO-FLO X
PROGRESSIVE PUMP TECHNOLOGY

GPX-CSA PERFORMANCE

Pro-Flo X™ Operating Principle

The Pro-Flo X™ air distribution system with the revolutionary Efficiency Management System (EMS) offers flexibility never before seen in the world of AODD pumps. The EMS is simple and easy to use. With the turn of an integrated control dial, the operator can select the optimal balance of flow and efficiency that best meets the application needs. Pro-Flo X™ provides higher performance, lower operational costs and flexibility that exceeds previous industry standards.

				
Turning the dial changes the relationship between air inlet and exhaust porting.	Each dial setting represents an entirely different flow curve.	Pro-Flo X™ pumps are shipped from the factory on setting 4, which is the highest flow rate setting possible.	Moving the dial from setting 4 causes a decrease in flow and an even greater decrease in air consumption.	When the air consumption decreases more than the flow rate, efficiency is improved and operating costs are reduced.

Example 1

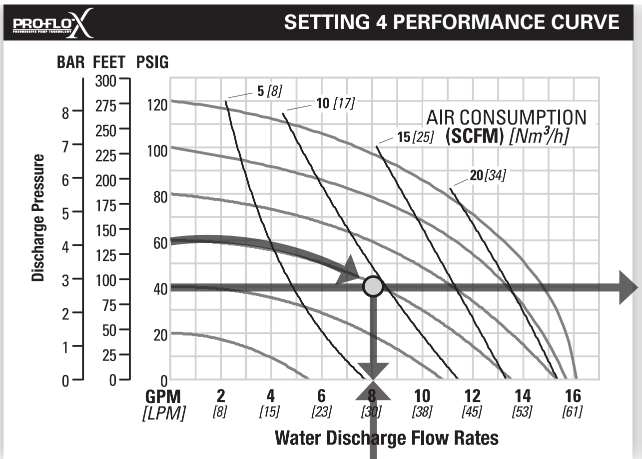


Figure 1

Example data point = **8.2** GPM

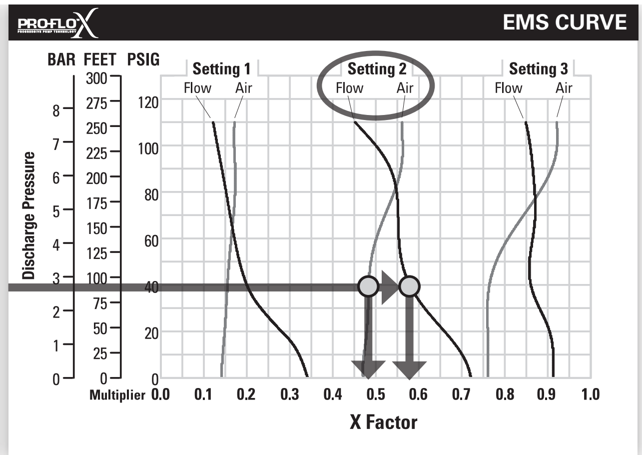


Figure 2

Example data point = **0.58** flow multiplier **0.48** air multiplier

This is an example showing how to determine flow rate and air consumption for your Pro-Flo X™ pump using the Efficiency Management System (EMS) curve and the performance curve. For this example we will be using 4.1 bar (60 psig) inlet air pressure and 2.8 bar (40 psig) discharge pressure and EMS setting 2.

Step 1: ***Identifying performance at setting 4.*** Locate the curve that represents the flow rate of the pump with 4.1 bar (60 psig) air inlet pressure. Mark the point where this curve crosses the horizontal line representing 2.8 bar (40 psig) discharge pressure (Figure 1). After locating your performance point on the flow curve, draw a vertical line downward until reaching the bottom scale on the chart. Identify the flow rate (in this case, 8.2 gpm). Observe location of performance point relative to air consumption curves and approximate air consumption value (in this case, 9.8 scfm).

Step 2: ***Determining flow and air X Factors.*** Locate your discharge pressure [2.8 bar (40 psig)] on the vertical axis of the EMS curve (Figure 2). Follow along the 2.8 bar (40 psig) horizontal line until intersecting both flow and air curves for your desired EMS setting (in this case, setting 2). Mark the points where the EMS curves intersect the horizontal discharge pressure line. After locating your EMS points on the EMS curve, draw vertical lines downward until reaching the bottom scale on the chart. This identifies the flow X Factor (in this case, 0.58) and air X Factor (in this case, 0.48).

Step 3: ***Calculating performance for specific EMS setting.*** Multiply the flow rate (8.2 gpm) obtained in Step 1 by the flow X Factor multiplier (0.58) in Step 2 to determine the flow rate at EMS setting 2. Multiply the air consumption (9.8 scfm) obtained in Step 1 by the air X Factor multiplier (0.48) in Step 2 to determine the air consumption at EMS setting 2 (Figure 3).

8.2	gpm	*(flow rate for setting 4)*
.58		*(Flow X Factor setting 2)*
4.8	gpm	*(Flow rate for setting 2)*
9.8	scfm	*(air consumption for setting 4)*
.48		*(Air X Factor setting 2)*
4.7	scfm	*(air consumption for setting 2)*

Figure 3

The flow rate and air consumption at Setting 2 are found to be 18.2 lpm (4.8 gpm) and 7.9 Nm³/h (4.7 scfm) respectively.

Example 2.1

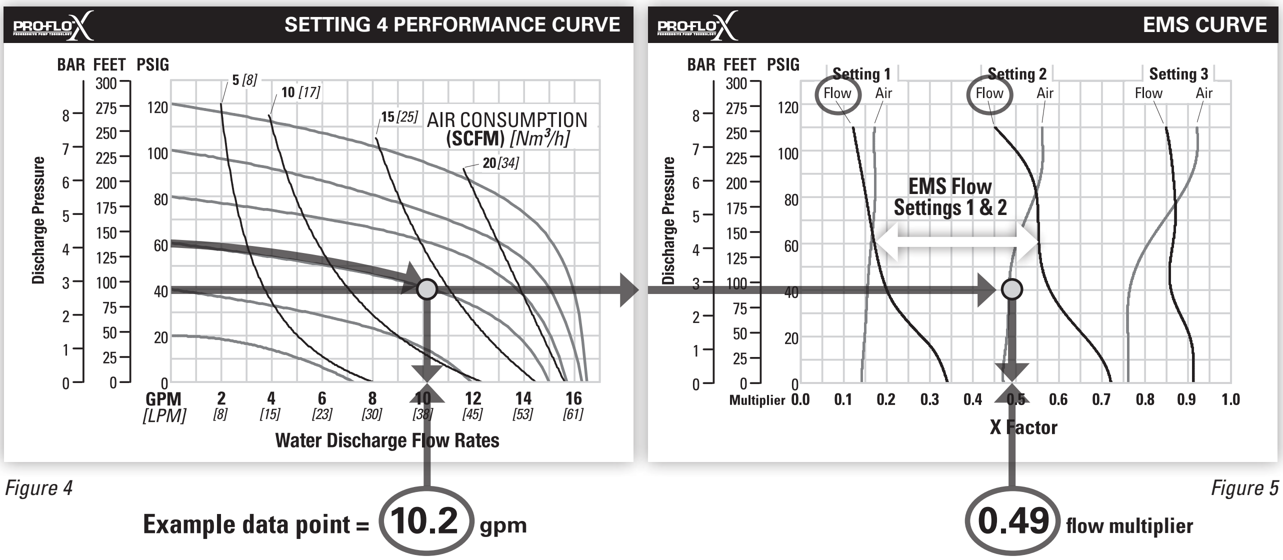


Figure 4

Figure 5

This is an example showing how to determine the inlet air pressure and the EMS setting for your Pro-Flo X™ pump to optimize the pump for a specific application. For this example we will be using an application requirement of 18.9 lpm (5 gpm) flow rate against 2.8 bar (40 psig) discharge pressure. This example will illustrate how to calculate the air consumption that could be expected at this operational point.

DETERMINE EMS SETTING

Step 1*: Establish inlet air pressure.* Higher air pressures will typically allow the pump to run more efficiently, however, available plant air pressure can vary greatly. If an operating pressure of 6.9 bar (100 psig) is chosen when plant air frequently dips to 6.2 bar (90 psig) pump performance will vary. Choose an operating pressure that is within your compressed air system's capabilities. For this example we will choose 4.1 bar (60 psig).

Step 2*: Determine performance point at setting 4.* For this example an inlet air pressure of 4.1 bar (60 psig) inlet air pressure has been chosen. Locate the curve that represents the performance of the pump with 4.1 bar (60 psig) inlet air pressure. Mark the point where this curve crosses the horizontal line representing 2.8 bar (40 psig) discharge pressure. After locating this point on the flow curve, draw a vertical line downward until reaching the bottom scale on the chart and identify the flow rate.

In our example it is 38.6 lpm (10.2 gpm). This is the setting 4 flow rate. Observe the location of the performance point relative to air consumption curves and approximate air consumption value. In our example setting 4 air consumption is 24 Nm³/h (14 scfm). (See figure 4.)

Step 3*: Determine flow X Factor.* Divide the required flow rate 18.9 lpm (5 gpm) by the setting 4 flow rate 38.6 lpm (10.2 gpm) to determine the flow X Factor for the application.

5 gpm / 10.2 gpm = 0.49 (flow X Factor)

Step 4*: Determine EMS setting from the flow X Factor.* Plot the point representing the flow X Factor (0.49) and the application discharge pressure 2.8 bar (40 psig) on the EMS curve. This is done by following the horizontal 2.8 bar (40 psig) discharge pressure line until it crosses the vertical 0.49 X Factor line. Typically, this point lies between two flow EMS setting curves (in this case, the point lies between the flow curves for EMS setting 1 and 2). Observe the location of the point relative to the two curves it lies between and approximate the EMS setting (Figure 5). For more precise results you can mathematically interpolate between the two curves to determine the optimal EMS setting.

For this example the EMS setting is 1.8.

Example 2.2

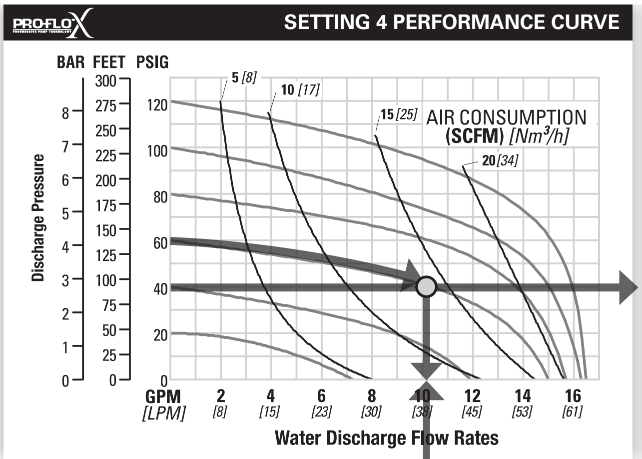


Figure 6

Example data point = 10.2 gpm

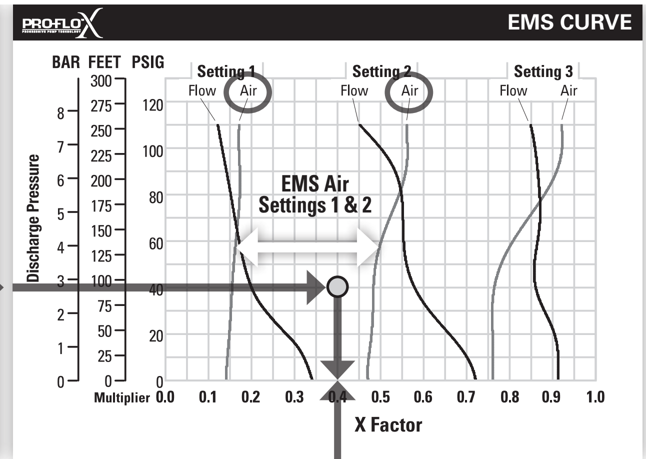


Figure 7

Example data point = 0.40 air multiplier

Determine air consumption at a specific EMS setting.

Step 1*: Determine air X Factor.* In order to determine the air X Factor, identify the two air EMS setting curves closest to the EMS setting established in example 2.1 (in this case, the point lies between the air curves for EMS setting 1 and 2). The point representing your EMS setting (1.8) must be approximated and plotted on the EMS curve along the horizontal line representing your discharge pressure (in this case, 40 psig). This air point is different than the flow point plotted in example 2.1. After estimating (or interpolating) this point on the curve, draw a vertical line downward until reaching the bottom scale on the chart and identify the air X Factor (Figure 7).

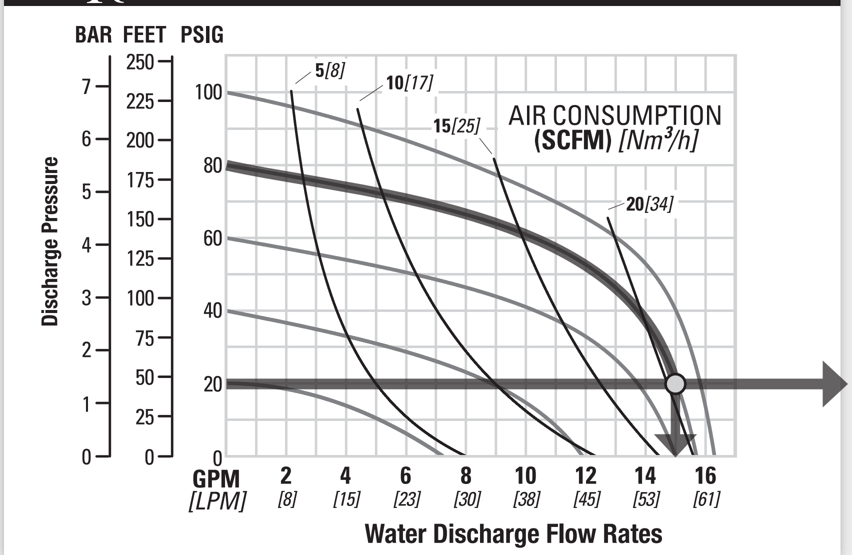
For this example the air X Factor is **0.40.**

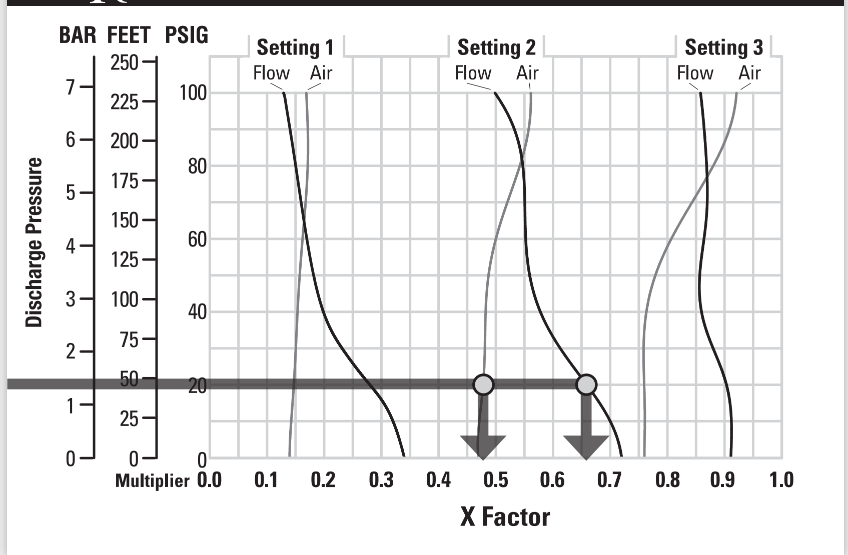
Step 2*: Determine air consumption.* Multiply your setting 4 air consumption (14 scfm) value by the air X Factor obtained above (0.40) to determine your actual air consumption.

14 scfm x **0.40** = 5.6 SCFM

In summary, for an application requiring 18.9 lpm (5 gpm) against 2.8 bar (40 psig) discharge pressure, the pump inlet air pressure should be set to 4.1 bar (60 psig) and the EMS dial should be set to 1.8. The pump would then consume 9.5 Nm3/h (5.6 scfm) of compressed air.

GPX1 METAL RUBBER-FITTED





TECHNICAL DATA

Height	224 mm (8.8")
Width	208 mm (8.2")
Depth	221 mm (8.7")
Ship Weight	Aluminum 6 kg (13 lb)
	316 Stainless Steel 9 kg (20 lb)
Air Inlet	13 mm (1/2")
Inlet	13 mm (1/2")
Outlet	13 mm (1/2")
Suction Lift	5.9 m Dry (19.3')
	7.9 m Wet (26.1')
Disp. Per Stroke	0.09 L (0.023 gal)[1]
Max. Flow Rate	61.7 lpm (16.3 gpm)
Max. Size Solids	1.6 mm (1/16")

[1]Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2 bar (30 psig) head pressure.

The Efficiency Management System (EMS) can be used to optimize the performance of your Wilden pump for specific applications. The pump is delivered with the EMS adjusted to setting 4, which allows maximum flow.

The EMS curve allows the pump user to determine flow and air consumption at each EMS setting. For any EMS setting and discharge pressure, the X factor is used as a multiplier with the original values from the setting 4 performance curve to calculate the actual flow and air consumption values for that specific EMS setting. Note: You can interpolate between the setting curves for operation at ivntermediate EMS settings.

EXAMPLE

A GPX1 metal, rubber-fitted pump operating at EMS setting 4, achieved a flow rate of 56.8 lpm (15.0 gpm) using 35.7 Nm³/h (21.0 scfm) of air when run at 5.5 bar (80 psig) air inlet pressure and 1.4 bar (20 psig) discharge pressure (See dot on performance curve).

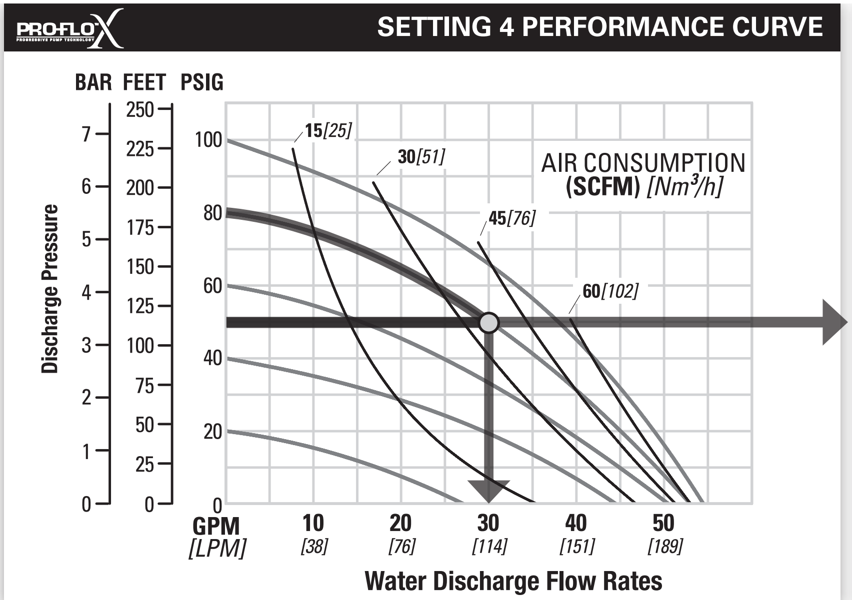
The end user did not require that much flow and wanted to reduce air consumption at his facility. He determined that EMS setting 2 would meet his needs. At 1.4 bar (20 psig) discharge pressure and EMS setting 2, the flow "X factor" is 0.66 and the air "X factor" is 0.48 (see dots on EMS curve).

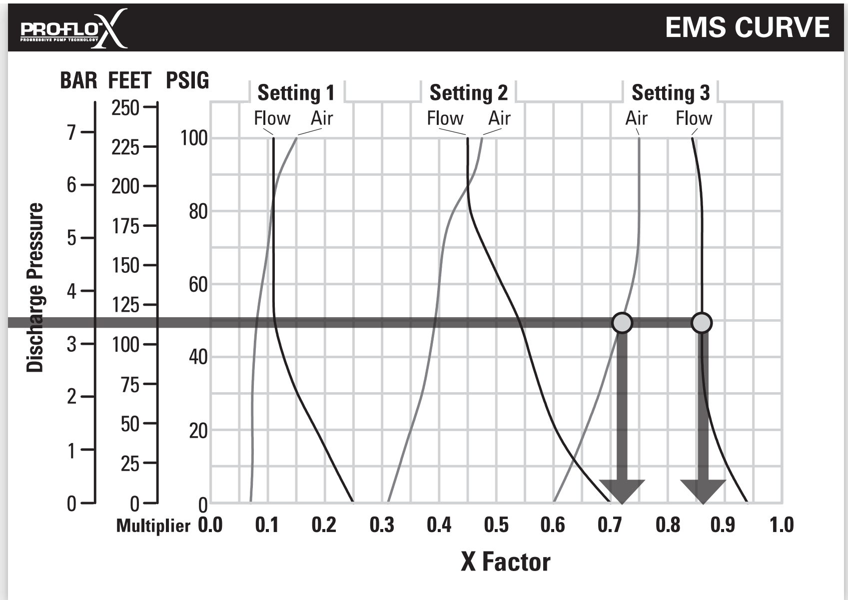
Multiplying the original setting 4 values by the "X factors" provides the setting 2 flow rate of 37.5 lpm (9.9 gpm) and an air consumption of 17.2 Nm³/h (10.1 scfm). The flow rate was reduced by 34% while the air consumption was reduced by 52%, thus providing increased ef ficiency.

For a detailed example for how to set your EMS, see beginning of performance curve section.

Caution: Do not exceed 6.9 bar (100 psig) air supply pressure.

GPX200 METAL RUBBER-FITTED





TECHNICAL DATA

Height . . . . 340 mm (13.4")
Width. . . . . 373 mm (14.7")
Depth. . . . . 245 mm (9.6")
Ship Weight . . . . Aluminum 15 kg (34 lb)
316 Stainless Steel 28 kg (61 lb)
Air Inlet. . . . . 13 mm (1/2")
Inlet . . . . 25 mm (1")
Outlet. . . . . 25 mm (1")
Suction Lift. . . . . 5.9 m Dry (19.3')
9.0 m Wet (29.5')
Disp. Per Stroke. . . . . 0.30 L (0.08 gal)[1]
Max. Flow Rate . . . . .206 lpm (55 gpm)
Max. Size Solids . . . . .6.4 mm (1/4")

[1]Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2 bar (30 psig) head pressure.

The Efficiency Management System (EMS) can be used to optimize the performance of your Wilden pump for specific applications. The pump is delivered with the EMS adjusted to setting 4 which allows maximum flow.

The EMS curve allows the pump user to determine flow and air consumption at each EMS setting. For any EMS setting and discharge pressure, the X factor is used as a multiplier with the original values from the setting 4 performance curve to calculate the actual flow and air consumption values for that specific EMS setting. Note: You can interpolate between the setting curves for operation at intermediate EMS settings.

EXAMPLE

A GPX200 metal, reduced-stroke, rubber-fitted pump operating at EMS setting 4, achieved a flow rate of 114 lpm (30 gpm) using 59 Nm³/h (35 scfm) of air when run at 5.5 bar (80 psig) air inlet pressure and 3.4 bar (50 psig) discharge pressure (See dot on performance curve).

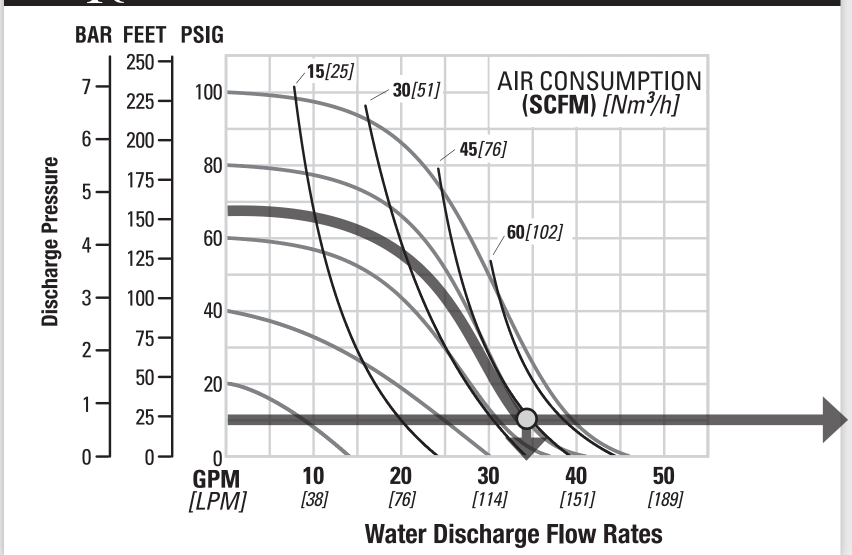
The end user did not require that much flow and wanted to reduce air consumption at his facility. He determined that EMS setting 3 would meet his needs. At 3.4 bar (50 psig) discharge pressure and EMS setting 3, the flow "X factor" is 0.86 and the air "X factor" is 0.72 (see dots on EMS curve).

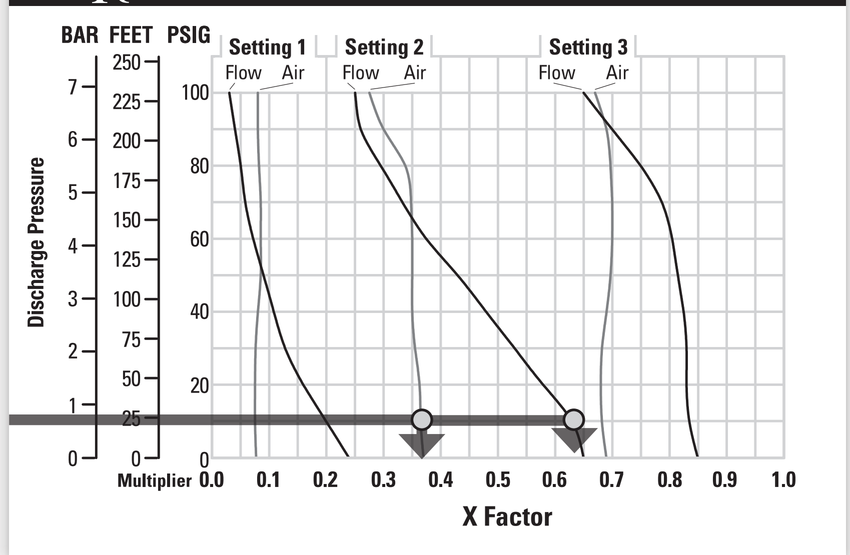
Multiplying the original setting 4 values by the "X factors" provides the setting 3 flow rate of 98 lpm (26 gpm) and an air consumption of 43 Nm³/h (25 scfm). The flow rate was reduced by 14% while the air consumption was reduced by 28%, thus providing increased efficiency.

For a detailed example for how to set your EMS, see beginning of performance curve section.

Caution: Do not exceed 6.9 bar (100 psig) air supply pressure.

GPX200 METAL REDUCED-STROKE PTFE-FITTED





TECHNICAL DATA

Height . . . . .340 mm (13.4")
Width. . . . . .373 mm (14.7")
Depth. . . . . .245 mm (9.6")
Ship Weight . . . . .Aluminum 15 kg (34 lb)
316 Stainless Steel 28 kg (61 lb)
Air Inlet . . . . 13 mm (1/2")
Inlet . . . . 25 mm (1")
Outlet. . . . . 25 mm (1")
Suction Lift .4.3 m Dry (14.2')
9.0 m Wet (29.5')
Disp. Per Stroke. . . . . 0.23 L (0.06 gal)[1]
Max. Flow Rate . . . . .174 lpm (46 gpm)
Max. Size Solids . . . . .6.4 mm (1/4")

[1]Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2 bar (30 psig) head pressure.

The Efficiency Management System (EMS) can be used to optimize the performance of your Wilden pump for specific applications. The pump is delivered with the EMS adjusted to setting 4 which allows maximum flow.

The EMS curve allows the pump user to determine flow and air consumption at each EMS setting. For any EMS setting and discharge pressure, the X factor is used as a multiplier with the original values from the setting 4 performance curve to calculate the actual flow and air consumption values for that specific EMS setting. Note: You can interpolate between the setting curves for operation at intermediate EMS settings.

EXAMPLE

A GPX200 metal, reduced-stroke PTFE-fitted pump operating at EMS setting 4, achieved a flow rate of 129 lpm (34 gpm) using 75 Nm³/h (44 scfm) of air when run at 5.5 bar (80 psig) air inlet pressure and 0.7 bar (10 psig) discharge pressure (See dot on performance curve).

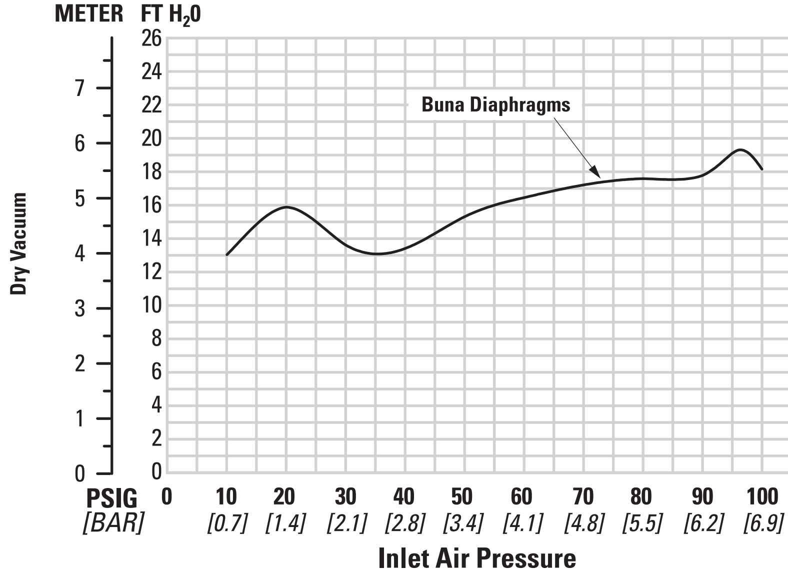
The end user did not require that much flow and wanted to reduce air consumption at his facility. He determined that EMS setting 2 would meet his needs. At 0.7 bar (10 psig) discharge pressure and EMS setting 2, the flow "X factor" is 0.63 and the air "X factor" is 0.36 (see dots on EMS curve).

Multiplying the original setting 4 values by the "X factors" provides the setting 2 flow rate of 81 lpm (21 gpm) and an air consumption of 27 Nm³/h (16 scfm). The flow rate was reduced by 37% while the air consumption was reduced by 64%, thus providing increased efficiency.

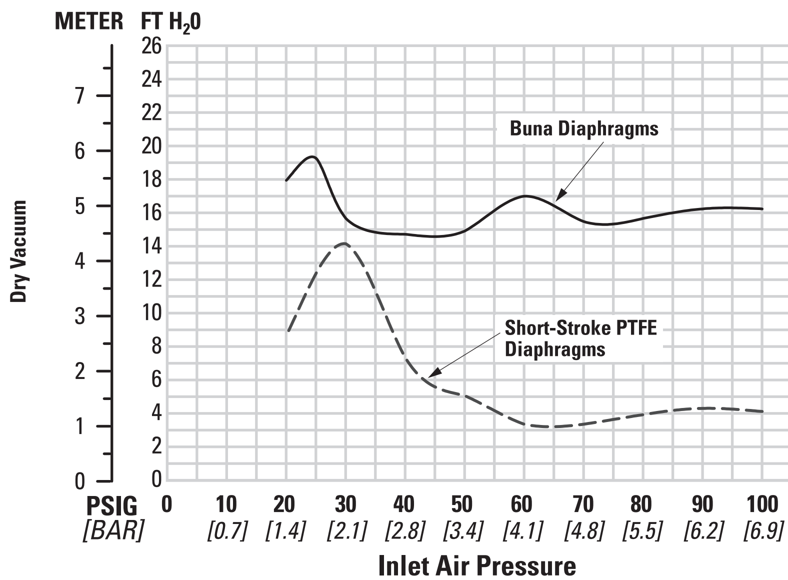
For a detailed example for how to set your EMS, see beginning of performance curve section.

Caution: Do not exceed 6.9 bar (100 psig) air supply pressure.

GPX1 METAL SUCTION-LIFT CAPABILITY



GPX200 METAL 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

Prior to pump installation, ensure that the flow and suction lift requirements are within the pump model's capabilities. Refer to the Section 5, Performance of the Engineering, Operation and Maintenance (EOM) Manual for specific flow and suction-lift capabilities.

Before installation confirm that the pump materials of construction are compatible with pumping application. Refer to the Wilden Chemical Resistance Guide for assistance with wetted path and elastomer options.

PIPING: The pump should be located so that the length and complexity of the suction and discharge piping is minimized. Unnecessary elbows, bends and fittings can increase friction losses and should be avoided.

Pipe sizes should be selected to keep friction losses within practical limits. The suction pipe diameter should be equivalent or larger than the diameter 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 to help reduce friction losses.

All piping should be supported independently of the pump. In addition, the piping should be correctly aligned with the inlet and discharge connection of the pump 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 and will also assist in minimizing pump vibration.

GAS SUPPLY: The pump should have a supply line large enough (a 3/4" supply line is recommended for 1-1/2" and larger pumps) to supply the volume of air necessary to achieve the desired pumping rate. Gas pressure to the pump should be controlled by a pressure-regulating valve and should not exceed a maximum of 6.9 bar (100 psig). It is suggested that a needle valve be placed in the supply line to control the flow of gas to the pump. For best results, a 5μ (micron) filter should be installed before the gas inlet of the pump to eliminate the majority of compressed gas line contaminants.

TYPE OF GAS: Sweet gas is highly recommended for natural gas-powered pumps. Please consult the factory if considering using sour gas as levels of hydrogen sulfide (H2S) may cause unacceptable corrosion and chemical attack.

PUMP MOUNTING AND INSTALLATION: For simple installation and removal of the pump shut-off valves should be installed in the inlet and discharge plumbing.

If the pump is to be mounted in a fixed location, a mounting pad placed between the pump and the foundation will 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.

SOLIDS PASSAGE: All Wilden pumps are capable of passing solids. A strainer should be used at the inlet of the pump to ensure that the pump's rated solids capabilities are not exceeded. Refer to the Section 5 of this EOM manual for specific solids-passage capabilities.

FLOODED SUCTION: Pumps in service with a positive suction head are most efficient when the 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) or higher.

SUCTION LIFT: When used in self-priming applications, it is critical that all fittings and connections are airtight or a reduction or loss of pump suction capability will result.

GAS OUTLET: All CSA-certified pumps are fitted with the single point exhaust option so that all exhaust gases are routed through the muffler plate exhaust port. The gas outlet must be recaptured or vented to a safe location in accordance with locally, nationally and/or industry recognized codes. The standard Wilden muffler supplied with CSA-certified pumps will reduce sound levels below OSHA specifications but may not comply with regulatory codes for recapturing or venting exhaust gases.

GROUNDING: Pumps and accessories must be electrically grounded to a proper grounding point to prevent an accumulation of electro-static charge when used in potentially explosive areas. CSA-certified pumps come with a grounding strap and are fitted with a grounding screw for the purpose of electrically grounding the pump. Periodic inspection of the ground connection should be performed to ensure the equipment is properly grounded. Refer to the Wilden CE Safety Supplement and Safety Manual for additional ATEX-certified pump considerations.

FUNCTIONAL TESTING:

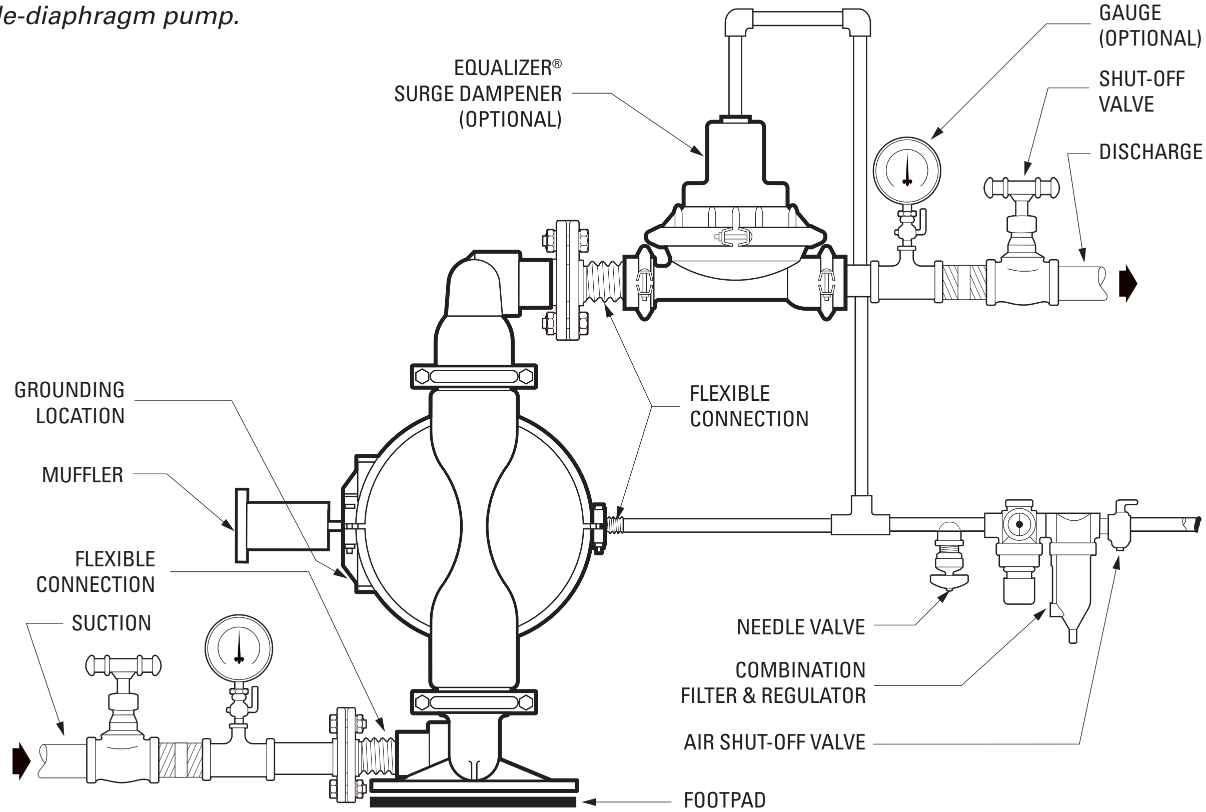
1. Tighten all hardware prior to initial start-up. Refer to Section 7, Reassembly Hints & Tips in the EOM manual for torque specifications.
2. Prior to pump installation connect compressed gas line [do not exceed rated pressure of 6.9 bar (100 psig)] to inlet of pump to ensure that pump cycles consistently.
3. Cycle pump for 2-3 minutes.
4. After pump installation, check piping connections for leaks.

PUMP OPERATION:

1. To avoid damage to the pump new installations should be checked for any debris in tank or piping system.
2. Once installation is complete, pump operation can be started. Confirm the shut-off valves in the inlet and discharge plumbing are open. Opening the gas shut-off valve [do not exceed the pump's maximum rated pressure of 6.9 bar (100 psig)]. The pressure regulating valve and needle valve can be used to adjust the speed of the pump.
3. Retighten all exposed fasteners after two (2) hours of operation. Refer to Section 7, Reassembly Hints & Tips in the EOM manual for torque specifications.

SUGGESTED INSTALLATION

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



EMERGENCY SHUT DOWN PROCEDURE: In the case of an emergency situation, the pump should be stopped immediately. To stop the pump's operation close the gas shut–off valve (user-supplied). A properly functioning valve will cut-off the gas supply, stopping the pump. The shut-off valve should be located far enough away from the pumping equipment such that it can be reached safely in an emergency situation.

In the event of pump or diaphragm failure, close shut-off valves at the inlet and discharge of pump to eliminate the possibility of medium leakage

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

Refer to the Wilden CE Safety Supplement, Safety Manual and EOM Manual for additional information.

PRIOR TO MAINTENANCE: Before any maintenance is performed, confirm pump is completely de-energized by shutting off the pump and disconnecting the gas supply line to the pump.

Refer to Section 7, Reassembly Hints & Tips and Section 8, Exploded View & Parts Listings in the EOM manual for maintenance and spare parts information.

SUGGESTED OPERATION & MAINTENANCE

OPERATION: CSA -certified pumps 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 DISASSEMBLY/REASSEMBLY.

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. CSA -certified pumps run solely on pressurized gas 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 SUGGESTED INSTALLATION).
3. Check for extreme air leakage (blow by) which would indicate worn seals/bores in the air valve, pilot spool and 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 pistons 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.

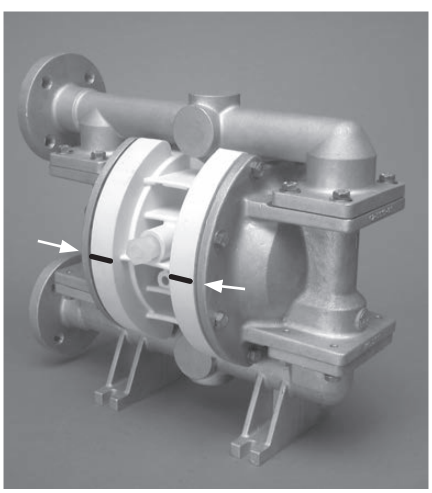
PUMP DISASSEMBLY

Tools Required:

- Appropriate-sized Wrench
- Adjustable Wrench
- Vise equipped with 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 used for these instructions incorporates rubber diaphragms and balls. Models with PTFE diaphragms and balls are the same except where noted. Your specific pump model may vary from configuration shown; however, pump disassembly procedure will be the same.



Step 1

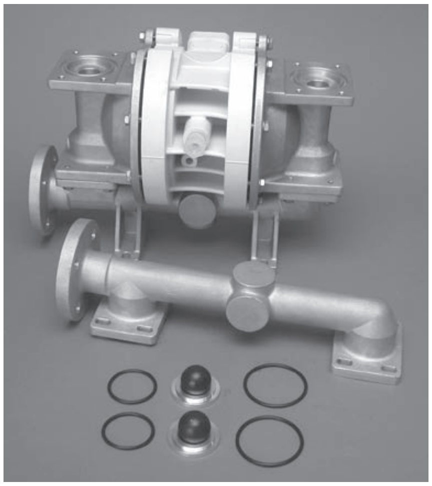
Please note alignment marks on center section. Use to properly align liquid chamber to center section.

Step 2

Using a wrench, loosen the discharge manifold from the liquid chambers.

Step 3

Remove the discharge manifold to expose the valve balls, valve seats and valve seat O-rings.

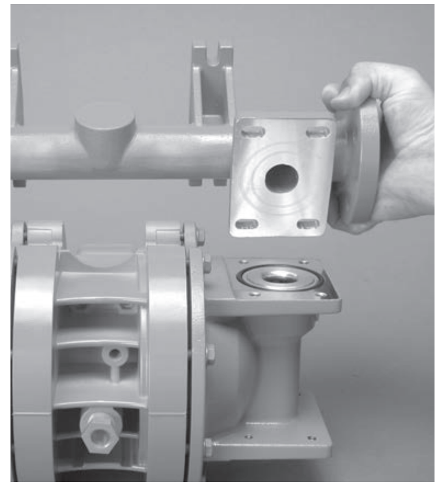


Step 4

Remove the discharge valve balls, seats and valve seat O-rings from the discharge manifold and liquid chamber, inspect for nicks, gouges, chemical attack or abrasive wear. **NOTE:** Replace worn parts with genuine Wilden part for reliable performance.

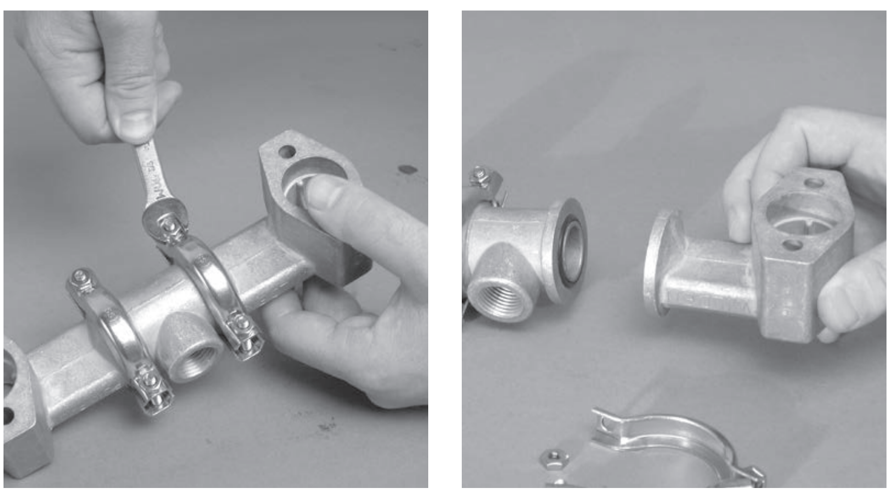
Step 5

Using a wrench, remove the inlet manifold.



Step 6

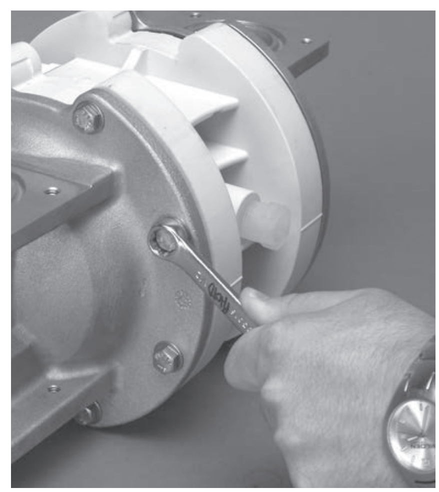
Remove the inlet valve balls, seats and valve seat O-rings from the liquid chamber and inlet manifold, inspect for nicks, gouges, chemical attack or abrasive wear.



Step 7

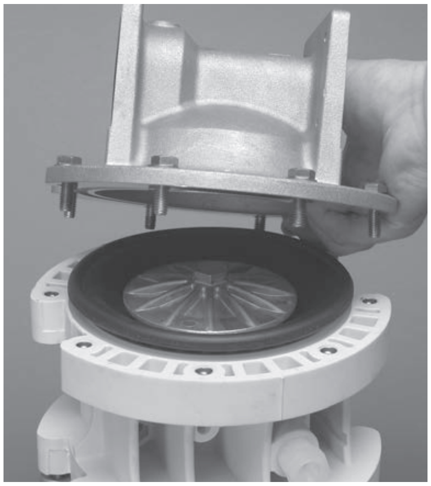
NOTE: This step is for PX1 pumps only.

Using an appropriate-sized wrench, remove the small clamp band that connects the manifold elbows to the tee section. Remove the tee section o-rings and inspect for signs of wear and/or chemical attack. Replace, if necessary.



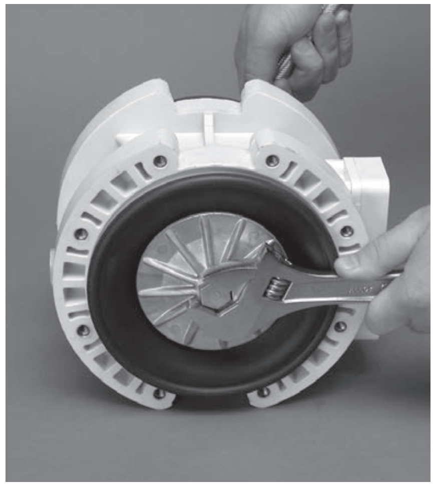
Step 8

Using a wrench, remove the liquid chambers from the center section.



Step 9

The liquid chamber should be removed to expose the diaphragm and outer piston. Rotate center section and remove the opposite liquid chamber.



Step 10

Using two adjustable wrenches, remove diaphragm assembly from center section assembly.

Step 11

After loosening and removing the outer piston the diaphragm assembly can be disassembled.

Step 12

To remove the remaining diaphragm assembly from the shaft, secure shaft with soft jaws (a vise fitted with plywood or other suitable material) to ensure shaft is not nicked, scratched, or gouged. Using an adjustable wrench, remove diaphragm assembly from shaft. Inspect all parts for wear and replace with genuine Wilden parts if necessary.

Step 13

Inspect diaphragms, outer and inner pistons for signs of wear. Replace with genuine Wilden parts if necessary.

GROUNDING STRAP FOR CSA PUMPS

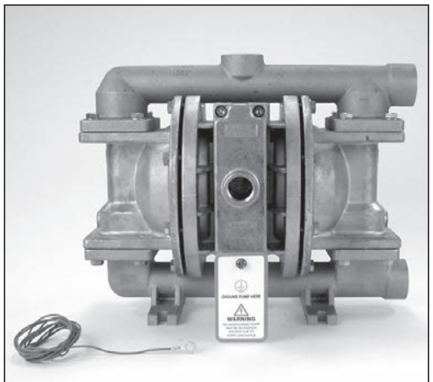


Figure 1

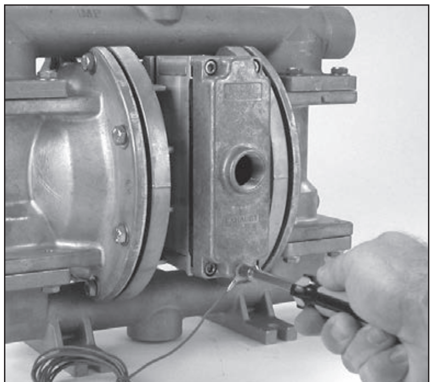


Figure 2

Canadian Standards Association (CSA) configured pumps must be electrically grounded using the grounding strap provided (Figure 1). Improper grounding can cause improper and dangerous operation. To properly attach the grounding strap to a CSA-configured pump, identify the designated grounding location on the muffler plate; using the provided self-tapping screw and grounding wire, thread the grounding screw through the grounding wire lug, into the muffler plate and tighten securely (Figure 2). Completion of the pump grounding procedure must be done in accordance with local codes, or in the absence of local codes, an industrial or nationally recognized code having jurisdiction over the specified installation.

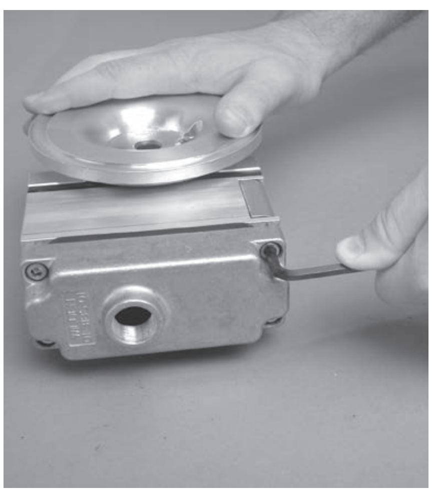
AIR VALVE / CENTER SECTION DISASSEMBLY

Tools Required:

- Hex-Head Wrenches
- Snap-Ring Pliers
- O-Ring Pick

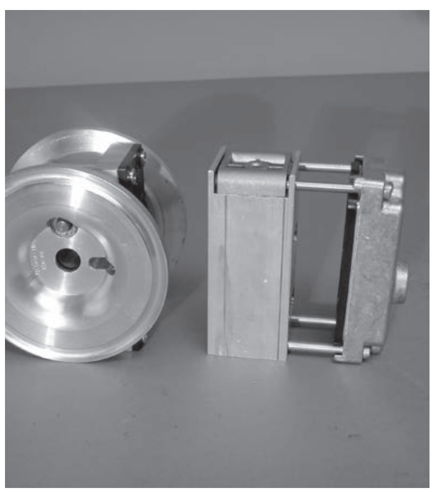
CAUTION: Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from the pump. Disconnect all intake, discharge and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable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

Proprietary composite seals reduce the coefficient of friction and allow the GPX1 and GPX200 to run lube-free. Constructed of aluminum, the Pro-Flo X™ air distribution system is designed to perform in on/off, non-freezing, non-stalling, tough-duty applications.



Step 1

Using a hex-head head wrench, loosen the air valve bolts.



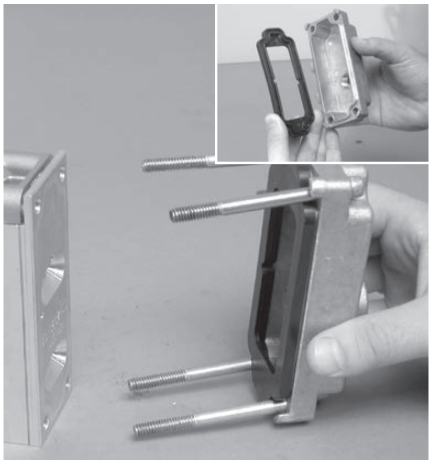
Step 2

Remove the air valve and muffler plate from the center section.

Step 3

Remove the air valve gasket and inspet for nicks, gouges and chemical attack. Replace if necessary with genuine Wilden parts. **NOTE**: When installing the air valve gasket onto the center section assembly, position gasket with the grooved side facing away from the center section.

AIR VALVE / CENTER SECTION DISASSEMBLY



Step 4

Remove muffler plate gasket and inspect. Replace, if necessary.

Step 5

Remove air valve end cap to expose air valve spool. **NOTE:** The end cap cannot be removed until removing air valve bolts.

Step 6

Remove air valve spool from air valve body by threading one air valve bolt into the end of the 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 7

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

Step 8

Remove pilot spool assembly from center section.

Step 9

Using an O-ring pick, gently remove the pilot spool retaining O-ring from the opposite side of the notched end of the spool. Gently remove the pilot spool from pilot spool sleeve and inspect for nicks, gouges and other signs of wear. Replace pilot spool assembly or outer sleeve O-rings if necessary. During re-assembly never insert the pilot spool into the sleeve with the “notched” end side first, this end incorporates the urethane O-ring and will be damaged as it slides over the ports cut in the pilot spool sleeve.

Step 10

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

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 of NLGI grade 2 white EP bearing grease can be applied to the muffler and air valve gaskets to lubricate 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.

GPX1 MAXIMUM TORQUE SPECS

Description of Part	Torque
Air Valve	13.6 N•m (120 in-lb)
Outer Piston	14.1 N•m (125 in-lb)
Small Clamp Band	1.7 N•m (15 in-lb)
Large Clamp Band (Rubber-Fitted)	9.0 N•m (80 in-lb)
Vertical Bolts	14.1 N•m (125 in-lb)

GPX200 MAXIMUM TORQUE SPECS

Description of Part	Torque
Air Valve	13.6 N•m (120 in-lb)
Outer Pistons, All Diaphragms	40.7 N•m (30 ft-lb)
Top and Bottom Manifold	9.0 N•m (80 in-lb)
Liquid Chamber to Center Section	9.0 N•m (80 in-lb)

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 a kidney 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 seals.

Figure A

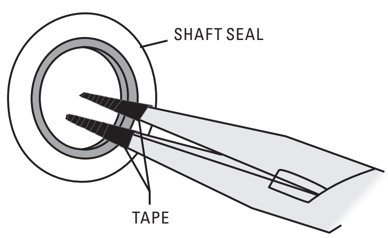
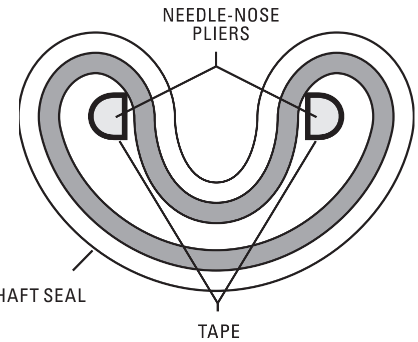


Figure B



NOTES

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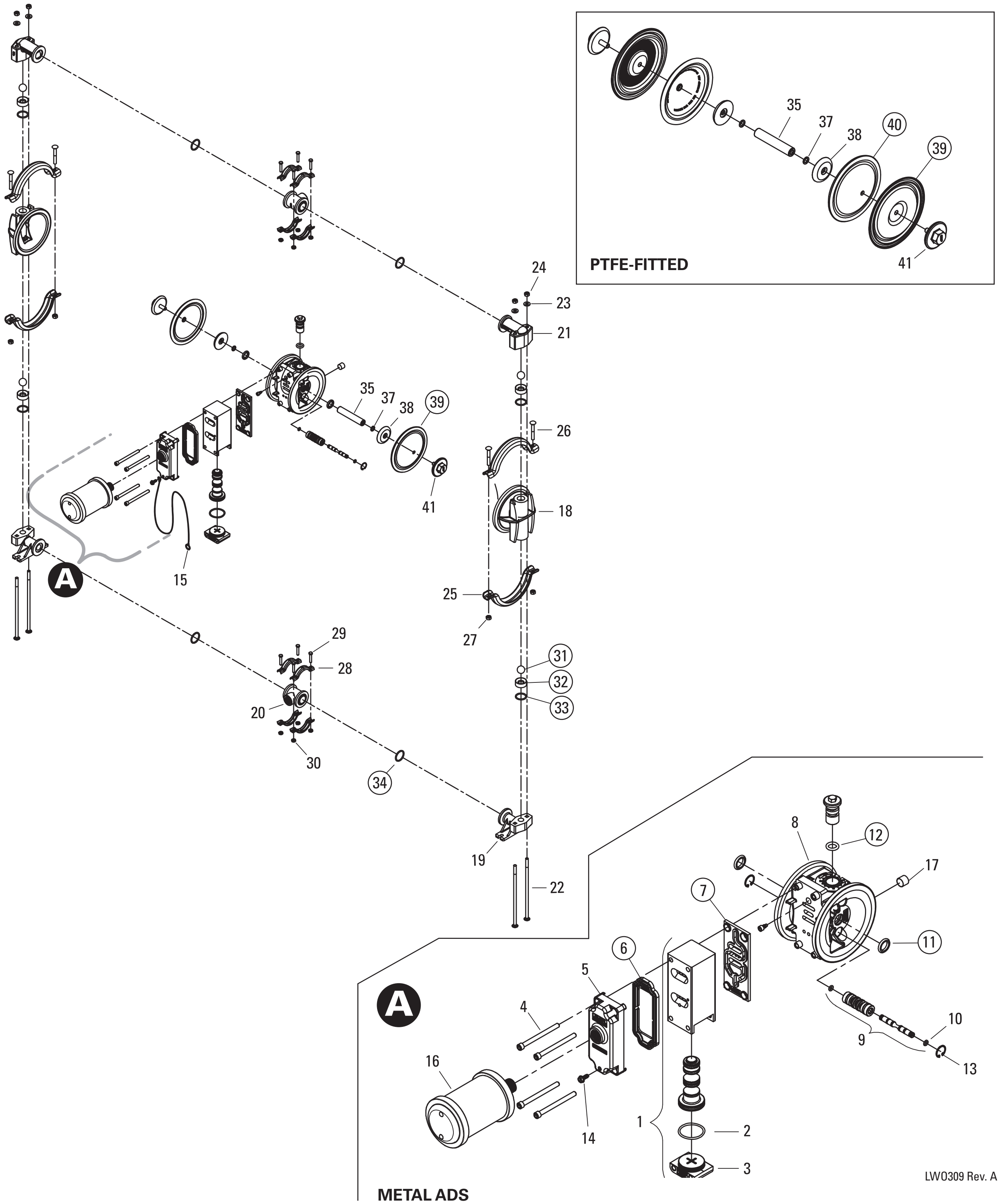
EXPLODED VIEW & PARTS LISTING

GPX1 METAL

EXPLODED VIEW



GPX1 METAL

PARTS LISTING

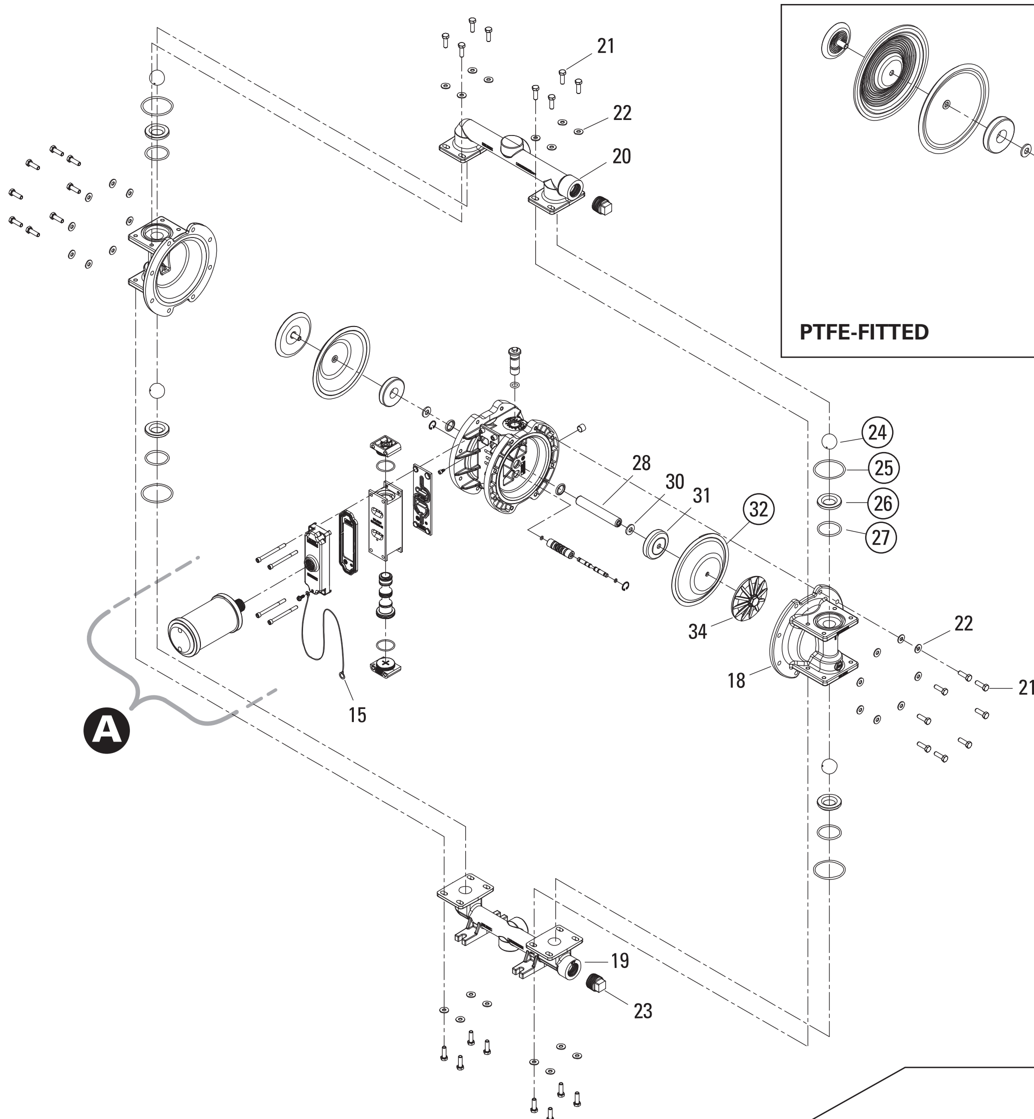
Item	Description	Qty.	GPX1/AAAAA P/N	GPX1/SSAAA P/N
	AIR DISTRIBUTION COMPONENTS			
1	**Pro-Flo X™ Air Valve Assembly[1]**	**1**	**01-2030-01**	**01-2030-01**
2	**O-Ring, End Cap (-126, Ø1.362 x Ø.103)**	**1**	**01-2395-52**	**01-2395-52**
3	End Cap	1	01-2340-01	01-2340-01
4	Screw, SHC, Air Valve (1/4"-20 x 3")	4	01-6001-03	01-6001-03
5	Muffler Plate, Pro-Flo X™	1	01-3185-01	01-3185-01
6	**Gasket, Muffler Plate, Pro-Flo X™**	**1**	**01-3502-52**	**01-3502-52**
7	**Gasket, Air Valve, Pro-Flo X™**	**1**	**01-2621-52**	**01-2621-52**
8	Center Section Assembly, Pro-Flo X™ [2]	1	01-3147-01	01-3147-01
9	**Pilot Sleeve Assembly**	**1**	**01-3880-99**	**01-3880-99**
10	**Pilot Spool Retaining O-Ring (-009, Ø.208" x Ø.070")**	**2**	**04-2650-49-700**	**04-2650-49-700**
11	**Shaft Seal**	**2**	**01-3220-55**	**01-3220-55**
12	**O-Ring, Air Adjustment (-206, Ø.484 x Ø.139)**	**1**	**00-1300-52**	**00-1300-52**
13	Retaining Ring	1	00-2650-03	00-2650-03
14	Grounding Screw, (10-32 x 1/2") Self-Tapping	1	04-6345-08	04-6345-08
15	Grounding Strap, CSA	1	01-8303-99	01-8303-99
16	Muffler 1/2" MNPT	1	02-3512-99	02-3512-99
17	Plug, Pipe, 1/4" MNPT	1	00-7010-08	00-7010-08
	WETTED PATH COMPONENTS			
18	Liquid Chamber	2	01-5000-01	01-5000-03
19	Inlet Manifold Elbow	2	01-5220-01	01-5220-03
20	Manifold Tee Section	2	01-5160-01	01-5160-03
21	Discharge Manifold Elbow	2	01-5230-01	01-5230-03
22	Bolt, Carriage (1/4"-20 x 7-3/8")	4	01-6080-03	01-6080-03
23	Washer (1/4")	4	01-6730-03	01-6730-03
24	Hex Nut (1/4"-20)	4	04-6400-03	04-6400-03
25	Large Clamp Band	4	01-7300-03	01-7300-03
26	Bolt, Carriage (1/4"-20 x 2 1/4")	4	01-6070-03	01-6070-03
27	Hex Nut (1/4"-20)	4	04-6400-03	04-6400-03
28	Small Clamp Band	8	01-7100-03	01-7100-03
29	Screw, HHC (#10-24 x 1")	8	01-6101-03	01-6101-03
30	Hex Nut (#10-24)	8	01-6400-03	01-6400-03
	VALVE BALLS/VALVE SEATS/VALVE O-RINGS/MANIFOLD O-RINGS			
31	**Ball, Valve**	**4**	**01-1080-52**	**01-1080-52**
	Ball, Valve, PTFE Fitted	**4**	**01-1080-55**	**01-1080-55**
32	**Seat, Valve**	**4**	**01-1120-01**	**01-1120-03**
33	**O-Ring, Valve Seat (-119, Ø.924 x Ø.103)**	**4**	**00-1260-52**	**00-1260-52**
	O-Ring, Valve Seat (-119, Ø.924 x Ø.103) PTFE Fitted	**4**	**01-1200-55**	**01-1200-55**
34	**O-Ring, Manifold (-120, Ø.987 x Ø.103)**	**4**	**01-1300-52**	**01-1300-52**
	O-Ring, Manifold (-120, Ø.987 x Ø.103) PTFE Fitted	**4**	**01-1300-55**	**01-1300-55**
	RUBBER/PTFE COMPONENTS			
35	Shaft	1	01-3810-03	01-3810-03
36	Stud, 5/16"-18 x 1 3/8" (not shown)	2	N/A	01-6150-03
37	Disc Spring	2	01-6802-08	01-6802-08
38	Inner Piston	2	01-3711-08	01-3711-08
39	**Diaphragm, Primary**	**2**	**01-1010-52**	**01-1010-52**
	Diaphragm, Primary, PTFE Fitted	**2**	**01-1010-55**	**01-1010-55**
40	**Diaphragm, Back-Up, PTFE Fitted**	**2**	**01-1060-86**	**01-1060-86**
41	Outer Piston	1	01-4570-01	01-4570-03

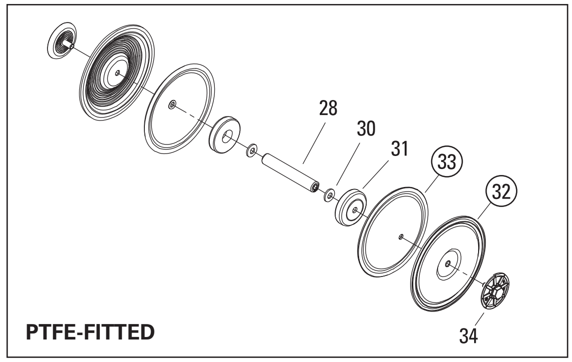
LW0310 Rev. B

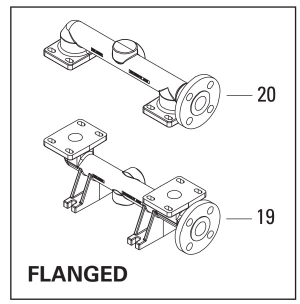
[1]Air Valve Assembly includes items 2 and 3.
[2]Center Section Assembly includes items 11 and 12.
All boldface items are primary wear parts.

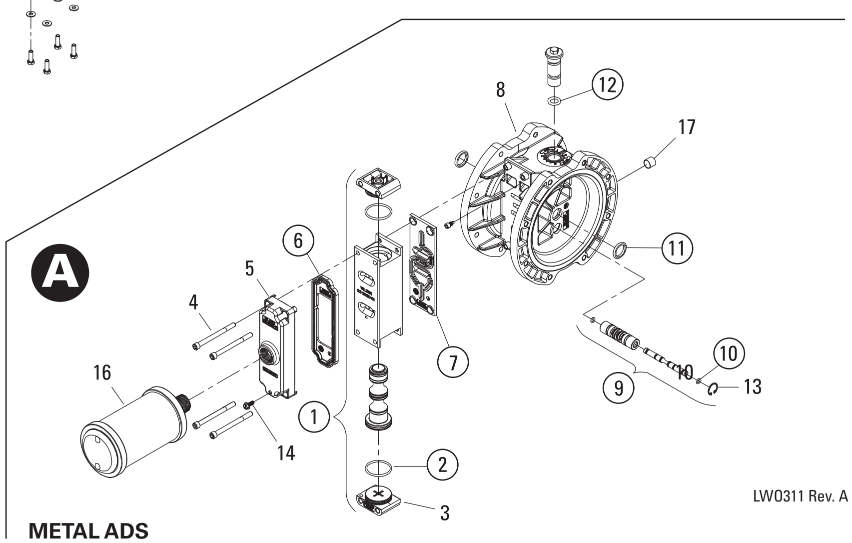
GPX200 METAL

EXPLODED VIEW









GPX200 METAL

PARTS LISTING

Item	Description	Qty.	GPX200/AAAAA P/N	GPX200/SSAAA P/N
	AIR DISTRIBUTION COMPONENTS			
1	**Pro-Flo X™ Air Valve Assembly**[1]	**1**	**02-2030-01**	**02-2030-01**
2	**O-Ring, End Cap (-126, Ø1.362 x Ø.103)**	**2**	**01-2395-52**	**01-2395-52**
3	End Cap	2	01-2340-01	01-2340-01
4	Screw, SHC, Air Valve (1/4"-20 x 3")	4	01-6001-03	01-6001-03
5	Muffler Plate, Pro-Flo X™	1	02-3185-01	02-3185-01
6	**Gasket, Muffler Plate, Pro-Flo X™**	**1**	**02-3502-52**	**02-3502-52**
7	**Gasket, Air Valve, Pro-Flo X™**	**1**	**02-2621-52**	**02-2621-52**
8	Center Section Assembly, Pro-Flo X™ [2]	1	02-3148-01	02-3148-01
9	**Pilot Sleeve Assembly**	**1**	**02-3880-99**	**02-3880-99**
10	**Pilot Spool Retaining O-Ring (-009. Ø.208 x Ø.070)**	**1**	**04-2650-49-700**	**04-2650-49-700**
11	**Shaft Seal**	**2**	**02-3210-55-225**	**02-3210-55-225**
12	**O-Ring, Air Adjustment (-206, Ø.484 x Ø.139)**	**1**	**00-1300-52**	**00-1300-52**
13	Retaining Ring	1	00-2650-03	00-2650-03
14	Grounding Screw, (10-32 x 1/2") Self-Tapping	1	04-6345-08	04-6345-08
15	Grounding Strap, CSA	1	01-8303-99	01-8303-99
16	Muffler, 3/4" MNPT	1	08-3510-99R	08-3510-99R
17	Plug, Pipe, 1/4" MNPT	1	00-7010-08	00-7010-08
	WETTED PATH COMPONENTS			
18	Liquid Chamber	2	02-5015-01	02-5015-03
19	Inlet Manifold, ANSI Flange	1	02-5090-01	02-5090-03
	Inlet Manifold, DIN Flange	1	02-5091-01	02-5091-03
	Inlet Manifold, Side Ported, 1" NPT	1	02-5095-01	02-5095-03
	Inlet Manifold, Side Ported, 1" BSPT	1	02-5096-01	02-5096-03
	Inlet Manifold, Center Ported, 1" NPT	1	02-5095-01-677	02-5095-03-677
	Inlet Manifold, Center Ported, 1" BSPT	1	02-5096-01-678	02-5096-03-678
20	Discharge Manifold, ANSI Flange	1	02-5030-01	02-5030-03
	Discharge Manifold, DIN Flange	1	02-5031-01	02-5031-03
	Discharge Manifold, Side Ported, 1" NPT	1	02-5035-01	02-5035-03
	Discharge Manifold, Side Ported, 1" BSPT	1	02-5036-01	02-5036-03
	Discharge Manifold, Center Ported, 3/4" NPT	1	02-5035-01-697	02-5035-03-697
	Discharge Manifold, Center Ported, 3/4" BSPT	1	02-5036-01-698	02-5036-03-698
	Discharge Manifold, Center Ported, 1" NPT	1	02-5035-01-677	02-5035-03-677
	Discharge Manifold, Center Ported, 1" BSPT	1	02-5036-01-678	02-5036-03-678
21	Screw, HHC, 5/16"-18 x 1"	32	08-6180-03-42	08-6180-03-42
22	Washer, 5/16"	32	02-6731-03	02-6731-03
23	Pipe Plug, 1" NPT	2	02-7010-01	02-7010-03
	Pipe Plug, 1" BSPT	2	02-7011-03	02-7011-03
	VALVE BALLS/VALVE SEATS/VALVE O-RINGS/MANIFOLD O-RINGS			
24	**Ball, Valve**	**4**	**02-1085-52**	**02-1085-52**
	Ball, Valve, PTFE Fitted	**4**	**02-1085-55**	**02-1085-55**
25	**O-ring, Manifold (-229, Ø2.359 x Ø.139)**	**4**	**70-1280-52**	**70-1280-52**
	O-ring, Manifold (-229, Ø2.359 x Ø.139) PTFE Fitted	**4**	**70-1280-55**	**70-1280-55**
26	**Valve Seat**	**4**	**02-1125-01**	**02-1125-03**
27	**O-ring, Valve Seat (-224, Ø1.734 x Ø.139)**	**4**	**02-1205-52**	**02-1205-52**
	O-ring, Valve Seat (-224, Ø1.734 x Ø.139) PTFE Fitted	**4**	**02-1205-55**	**02-1205-55**
	RUBBER/PTFE COMPONENTS			
28	Shaft	1	02-3810-03	02-3810-03
	Shaft, PTFE Fitted	1	02-3840-03	02-3840-03
29	Stud, 3/8"-16 x 1 1/4" (not shown)	2	N/A	02-6150-08
30	Disc Spring	2	02-6802-08	02-6802-08
31	Inner Piston	2	02-3701-01	02-3701-01
	Inner Piston, PTFE Fitted	2	02-3751-01	02-3751-01
32	**Diaphragm, Primary**	**2**	**02-1010-52**	**02-1010-52**
	Diaphragm, Primary, PTFE Fitted	**2**	**02-1010-55**	**02-1010-55**
33	**Diaphragm, Back-Up, PTFE Fitted**	**2**	**02-1060-86**	**02-1060-86**
34	Outer Piston	2	02-4550-01	02-4550-03
	Outer Piston, PTFE Fitted	2	02-4601-01	02-4600-03

[1]Air Valve Assembly includes items 2 and 3.

[2]Center Section Assembly includes items 11v and 12.

All boldface items are primary wear parts.

LW0312 Rev. B

REPAIR KITS

	SIZE	
Repair Kits	1/2"	1"
Buna Wet Kit (BNS)*	01-9804-52	02-9814-52
Conductive Buna Wet Kit (XBS)*	01-9804-86	02-9814-86
Reduced-Stroke PTFE Wet Kit (TXU)*	NA	02-9814-55-215
Air Kit**	01-9988-99-320	02-9988-99-320

*Wet Kit includes primary diaphragms, back-up diaphragms (PTFE-fitted pumps only), valve balls and valve seat/O-rings.

**Air Kit includes air-valve spool assembly, end-cap O-rings, air-valve gasket, muffler-plate gasket, pilot sleeve assembly, snap rings, shaft Glyd-rings and grease kit.

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WILDEN®

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

OR GO TO PSGDOVER.COM > WILDEN > SUPPORT TO COMPLETE THE WARRANTY REGISTRATION ONLINE

NOTE: WARRANTY VOID IF PAGE IS NOT FAXED TO WILDEN OR SUBMITTED ONLINE VIA THE PSGDOVER.COM WEBSITE

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Where Innovation Flows

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WIL-17010-E-01

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