SERVICE & OPERATING MANUAL

Original Instructions

Certified Quality

ISO 9001 Certified
ISO 14001 Certified

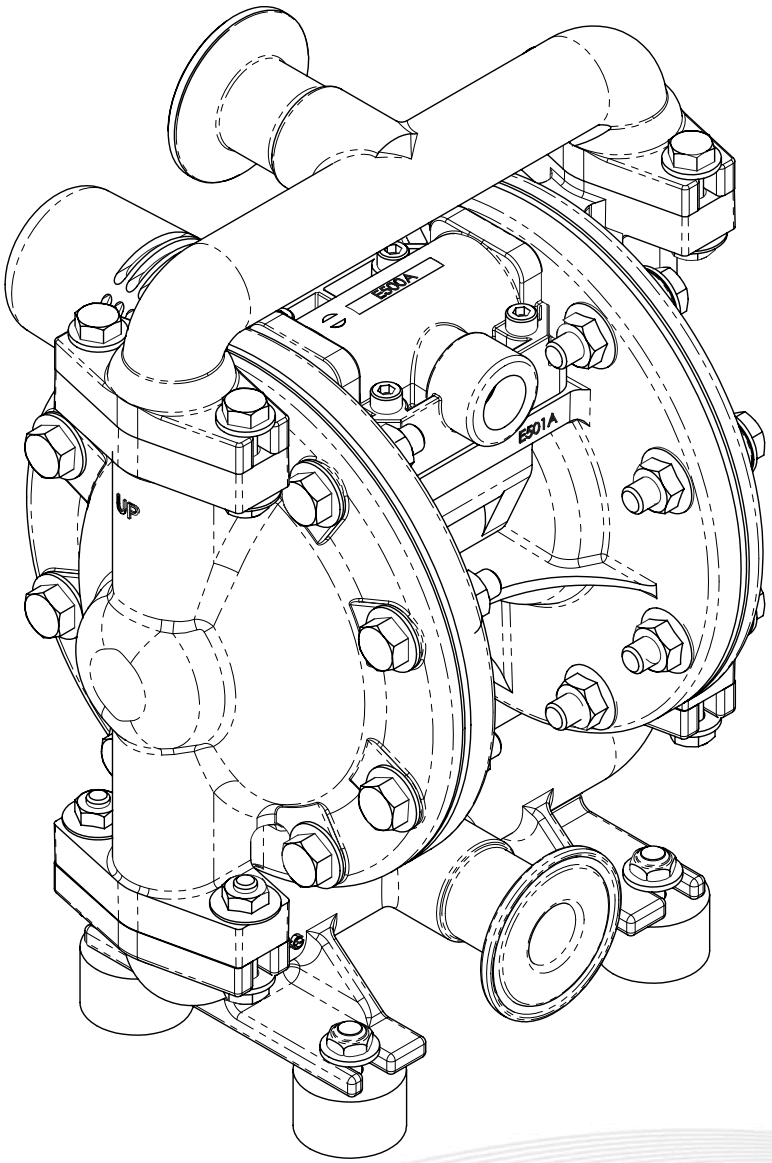
1935/2004/EC

Model F05

Metallic Food Processing Pump

Constructed with FDA Compliant Materials

Design Level 1



Warren Rupp, Inc.
A Unit of IDEX Corporation
800 N. Main St.,
Mansfield, Ohio 44902 USA
Telephone 419.524.8388
Fax 419.522.7867
SANDPIPERPUMP.COM

SANDPIPER®
A WARREN RUPP, INC. BRAND
SANDPIPERPUMP.COM

Safety Information

⚠ IMPORTANT

Read the safety warnings and instructions in this manual before pump installation and start-up. Failure to comply with the recommendations stated in this manual could damage the pump and void factory warranty.

When the pump is used for materials that tend to settle out or solidify, the pump should be flushed after each use to prevent damage. In freezing temperatures the pump should be completely drained between uses.

⚠ CAUTION

Before pump operation, inspect all fasteners for loosening caused by gasket creep. Retighten loose fasteners to prevent leakage. Follow recommended torques stated in this manual.

Nonmetallic pumps and plastic components are not UV stabilized. Ultraviolet radiation can damage these parts and negatively affect material properties. Do not expose to UV light for extended periods of time.

WARNING
Pump not designed, tested or certified to be powered by compressed natural gas. Powering the pump with natural gas will void the warranty.

WARNING
The use of non-OEM replacement parts will void (or negate) agency certifications, including CE, ATEX, CSA, 3A and EC1935 compliance (Food Contact Materials). Warren Rupp, Inc. cannot ensure nor warrant non-OEM parts to meet the stringent requirements of the certifying agencies.

⚠ WARNING

When used for toxic or aggressive fluids, the pump should always be flushed clean prior to disassembly.

Before maintenance or repair, shut off the compressed air line, bleed the pressure, and disconnect the air line from the pump. Be certain that approved eye protection and protective clothing are worn at all times. Failure to follow these recommendations may result in serious injury or death.

Airborne particles and loud noise hazards. Wear eye and ear protection.

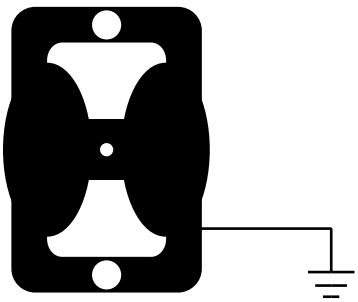
In the event of diaphragm rupture, pumped material may enter the air end of the pump, and be discharged into the atmosphere. If pumping a product that is hazardous or toxic, the air exhaust must be piped to an appropriate area for safe containment.

Take action to prevent static sparking. Fire or explosion can result, especially when handling flammable liquids. The pump, piping, valves, containers and other miscellaneous equipment must be properly grounded.

This pump is pressurized internally with air pressure during operation. Make certain that all fasteners and piping connections are in good condition and are reinstalled properly during reassembly.

Use safe practices when lifting

Grounding ATEX Pumps



ATEX compliant pumps are suitable for use in explosive atmospheres when the equipment is properly grounded in accordance with local electrical codes. Pumps equipped with electrically conductive diaphragms are suitable for the transfer of conductive or non-conductive fluids of any explosion group. When operating pumps equipped with non-conductive diaphragms that exceed the maximum permissible projected area, as defined in EN 13463-1: 2009 section 6.7.5 table 9, the following protection methods must be applied:

- Equipment is always used to transfer electrically conductive fluids or
- Explosive environment is prevented from entering the internal portions of the pump, i.e. dry running

For further guidance on ATEX applications, please consult the factory.

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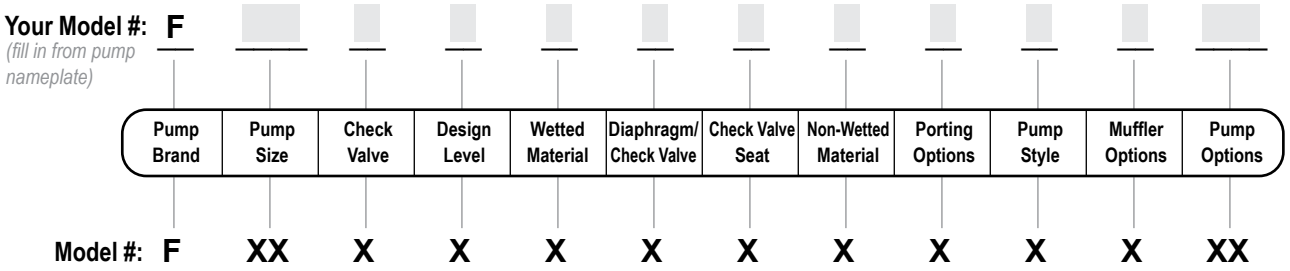
Explanation of Pump Nomenclature



Pump Brand
F Food Processing

Pump Size
05 1/2"

Check Valve Type
B **Ball**

Design Level
1 Design Level

Wetted Material
S Stainless Steel

Diaphragm/Check Valve Materials
D FDA Santoprene / PTFE
H FDA Hytrel / FDA Hytrel
G PTFE with Neoprene Backer / PTFE
Z PTFE One-Piece Bonded Fusion Diaphragm / PTFE

Check Valve Seat
S Stainless Steel

Non-Wetted Material Options
P Polypropylene

Porting Options
T 1 1/2" Sanitary Clamp

Pump Style
F Food

Muffler Options
0 Plastic Threaded Muffler

Pump Options
0 None

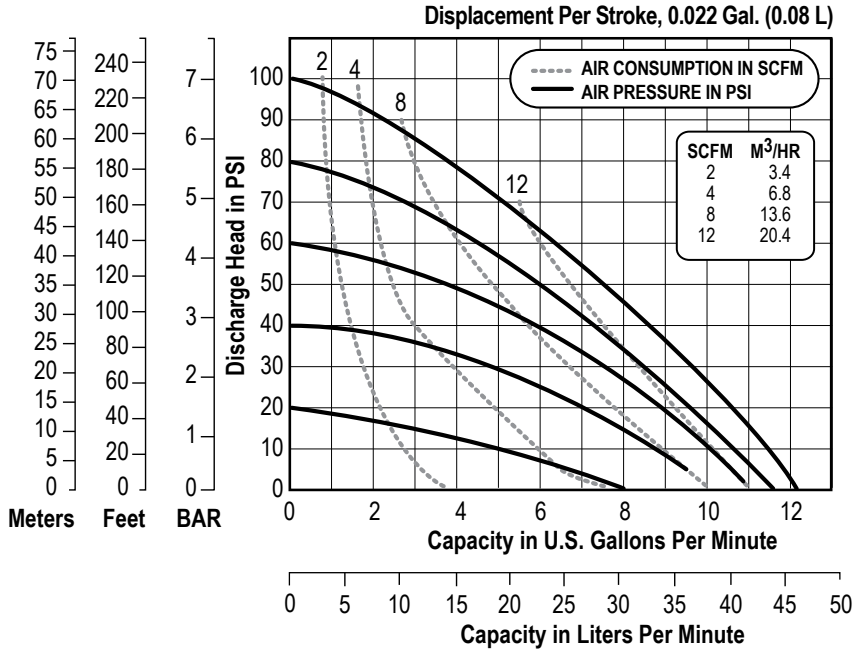
Your Serial #: *(fill in from pump nameplate)* _____

*Complies with Code of Federal Regulations (CFR) Title 21 Part 177

Performance

1/2" Bolted Metal
TPE Fitted

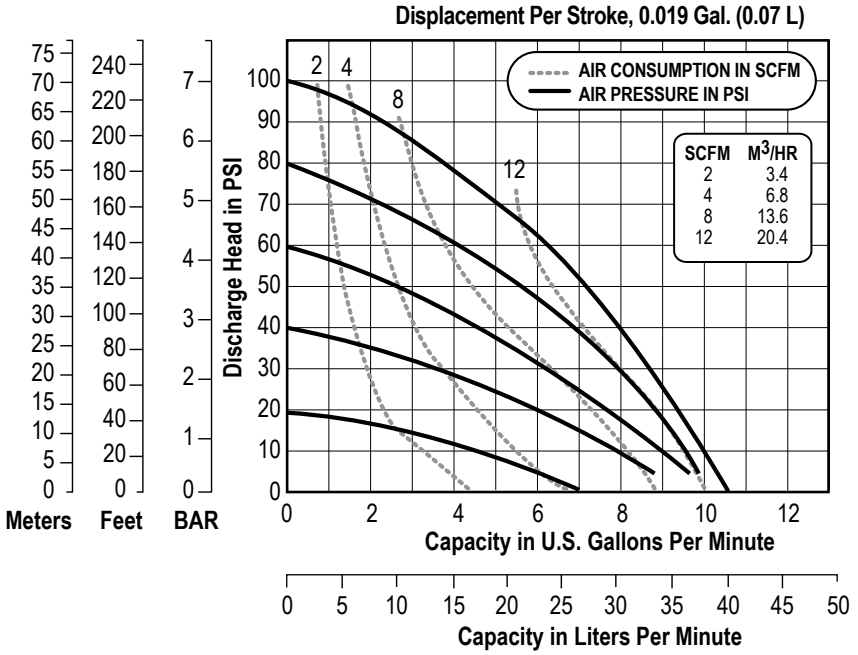
Flow Rate
Adjustable to . . . . . 0-12 gpm (45.4 lpm)
Port Size
Suction . . . . . 1 1/2" Sanitary Clamp
Discharge . . . . . 1 1/2" Sanitary Clamp
Air Inlet . . . . . 3/8" NPT
Air Exhaust . . . . . 3/8" NPT
Suction Lift
Dry . . . . . 13' (3.9 m)
Wet . . . . . 22' (6.7 m)
Max Solid Size (Diameter)
. . . . . 1/16" (1.6 mm)
Max Noise Level . . . . . 84 dB(A)
Shipping Weights
Stainless . . . . . 17 lbs (7.7 kg)



NOTE: Performance based on the following: PTFE fitted pump, flooded suction, water at ambient conditions. The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.

1/2" Bolted Metal
PTFE Fitted

Flow Rate
Adjustable to . . . . . 0-11 gpm (41.6 lpm)
Port Size
Suction . . . . . 1 1/2" Sanitary Clamp
Discharge . . . . . 1 1/2" Sanitary Clamp
Air Inlet . . . . . 3/8" NPT
Air Exhaust . . . . . 3/8" NPT
Suction Lift
Dry . . . . . 12' (3.6 m)
Wet . . . . . 22' (6.7 m)
Max Solid Size (Diameter)
. . . . . 1/16" (1.6 mm)
Max Noise Level . . . . . 87 dB(A)
Shipping Weights
Stainless . . . . . 17 lbs (7.7 kg)



NOTE: Performance based on the following: PTFE fitted pump, flooded suction, water at ambient conditions. The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.

Materials

Material Profile:	Operating Temperatures: Max.	Min.
EPDM: Shows very good water and chemical resistance. Has poor resistance to oils and solvents, but is fair in ketones and alcohols.	280°F 138°C	-40°F -40°C
Hytrel®: Good on acids, bases, amines and glycols at room temperatures only.	220°F 104°C	-20°F -29°C
Santoprene®: Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
Virgin PTFE: (PFA/TFE) Chemically inert, virtually impervious. Very few chemicals are known to chemically react with PTFE; molten alkali metals, turbulent liquid or gaseous fluorine and a few fluoro-chemicals such as chlorine trifluoride or oxygen difluoride which readily liberate free fluorine at elevated temperatures.	220°F 104°C	-35°F -37°C
Maximum and Minimum Temperatures are the limits for which these materials can be operated. Temperatures coupled with pressure affect the longevity of diaphragm pump components. Maximum life should not be expected at the extreme limits of the temperature ranges.		

Ambient temperature range -20 C to +40 C
Process temperature range -20 C to +80 C for models rated as category 1 equipment
-20 c to +100 C for model rated as category 2 equipment

In addition, the ambient temperature range and the process temperature range do not exceed the operating temperature range of the applied non-metallic parts as listed in the manuals of the pumps.

For specific applications, always consult the Chemical Resistance Chart.

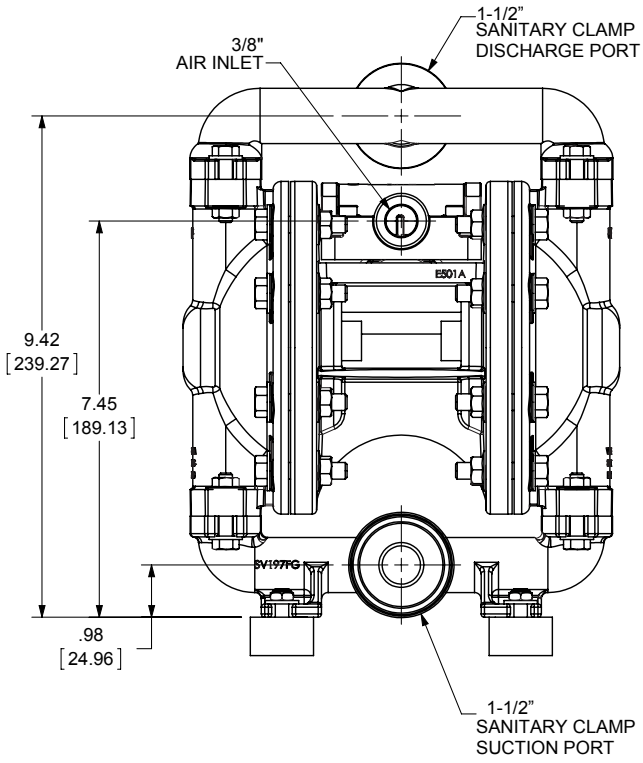
Note: This document is a high level guide. Please be aware that not all model and or material combinations are possible for all sizes. Please consult factory or your distributor for specific details.

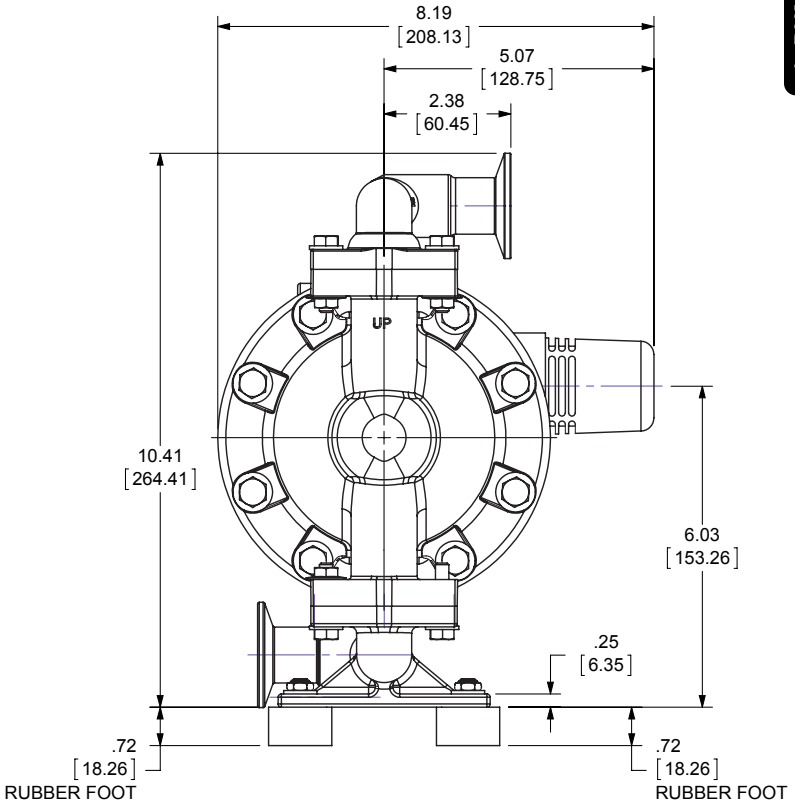
Dimensional Drawings

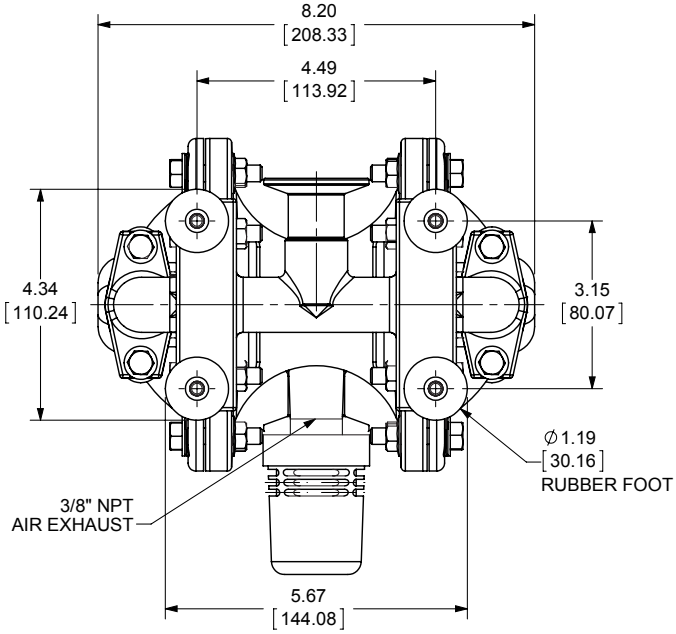
Food Processing Metallic

Dimensions in inches (mm dimensions in brackets).

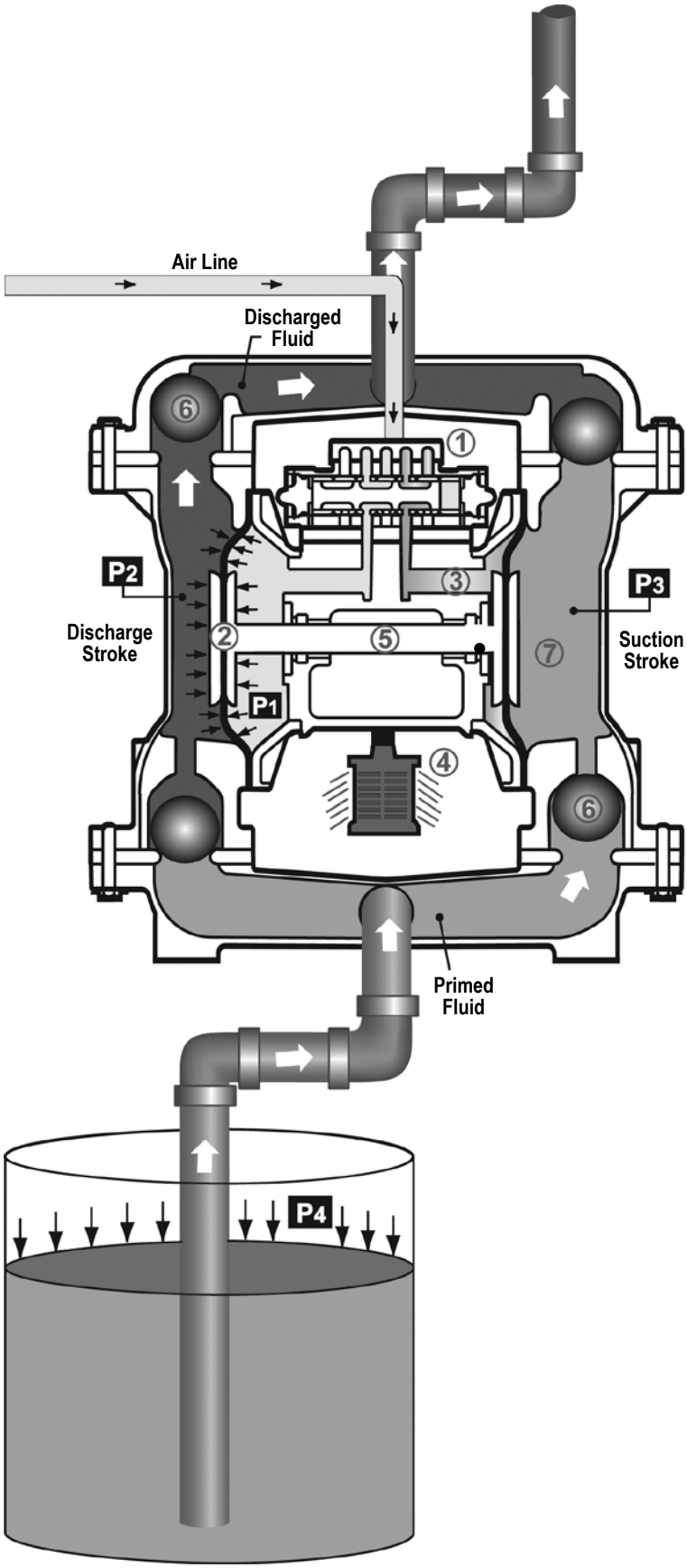
The dimensions on this drawing are for reference only. A certified drawing can be requested if physical dimensions are needed.







Principle of Pump Operation



Air-Operated Double Diaphragm (AODD) pumps are powered by compressed air or nitrogen.

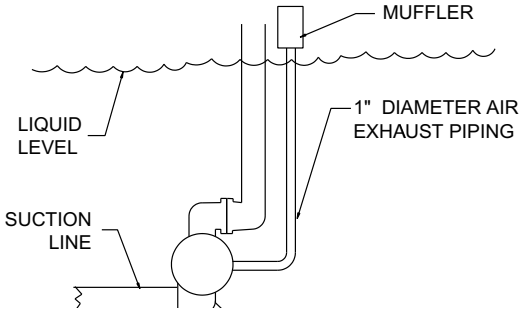
The main directional (air) control valve ① distributes compressed air to an air chamber, exerting uniform pressure over the inner surface of the diaphragm ②. At the same time, the exhausting air ③ from behind the opposite diaphragm is directed through the air valve assembly(s) to an exhaust port ④.

As inner chamber pressure **(P1)** exceeds liquid chamber pressure **(P2)**, the rod ⑤ connected diaphragms shift together creating discharge on one side and suction on the opposite side. The discharged and primed liquid's directions are controlled by the check valves (ball or flap)⑥ orientation.

The pump primes as a result of the suction stroke. The suction stroke lowers the chamber pressure **(P3)** increasing the chamber volume. This results in a pressure differential necessary for atmospheric pressure **(P4)** to push the fluid through the suction piping and across the suction side check valve and into the outer fluid chamber ⑦.

Suction (side) stroking also initiates the reciprocating (shifting, stroking or cycling) action of the pump. The suction diaphragm's movement is mechanically pulled through its stroke. The diaphragm's inner plate makes contact with an actuator plunger aligned to shift the pilot signaling valve. Once actuated, the pilot valve sends a pressure signal to the opposite end of the main directional air valve, redirecting the compressed air to the opposite inner chamber.

SUBMERGED ILLUSTRATION



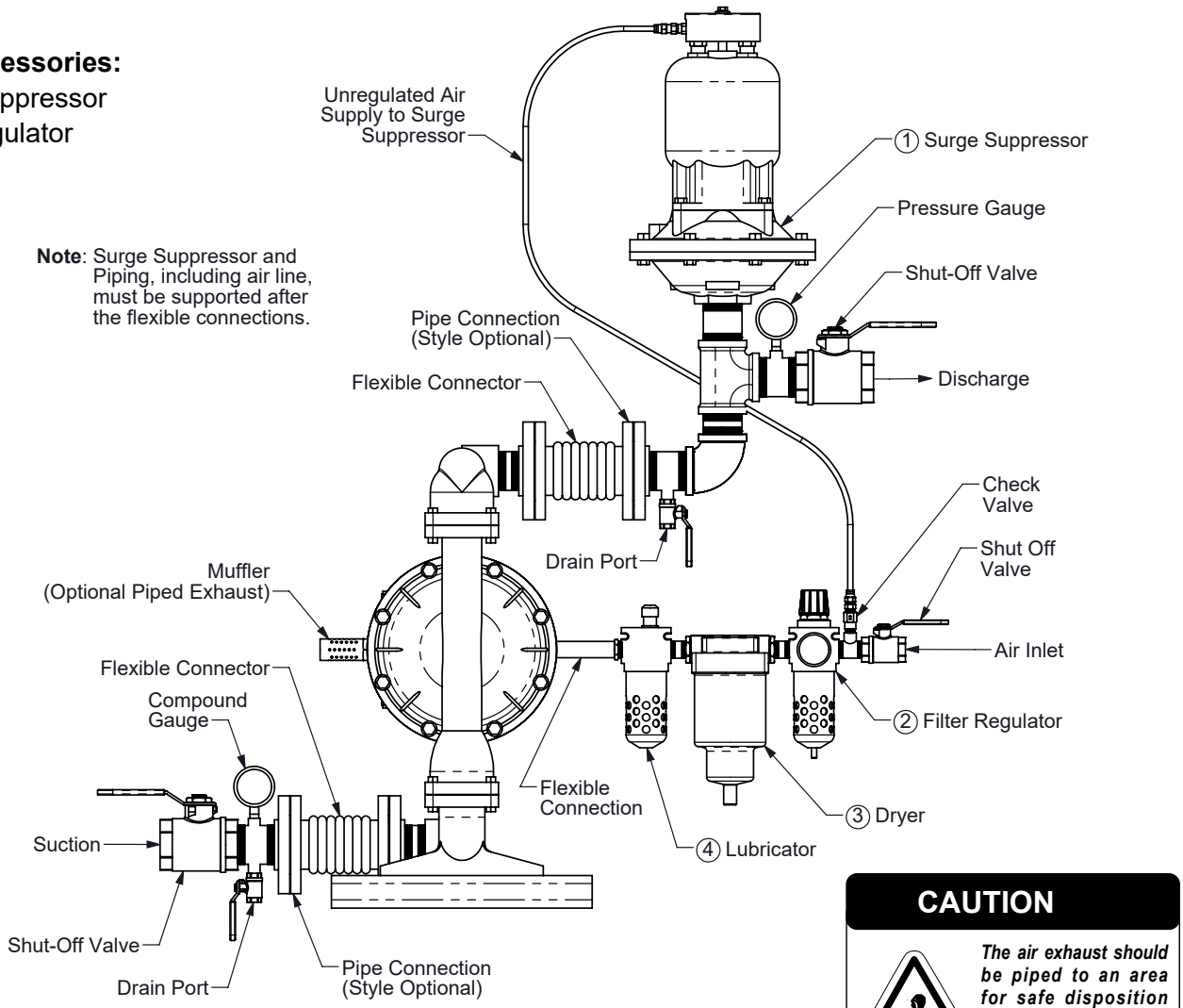
Pump can be submerged if the pump materials of construction are compatible with the liquid being pumped. The air exhaust must be piped above the liquid level. When the pumped product source is at a higher level than the pump (flooded suction condition), pipe the exhaust higher than the product source to prevent siphoning spills.

Recommended Installation Guide

Available Accessories:

1. Surge Suppressor
2. Filter/Regulator
3. Air Dryer
4. Lubricator

Note: Surge Suppressor and Piping, including air line, must be supported after the flexible connections.



CAUTION

The air exhaust should be piped to an area for safe disposition of the product being pumped, in the event of a diaphragm failure.

Installation And Start-Up

Locate the pump as close to the product being pumped as possible. Keep the suction line length and number of fittings to a minimum. Do not reduce the suction line diameter.

Air Supply

Connect the pump air inlet to an air supply with sufficient capacity and pressure to achieve desired performance. A pressure regulating valve should be installed to insure air supply pressure does not exceed recommended limits.

Air Valve Lubrication

The air distribution system is designed to operate WITHOUT lubrication. This is the standard mode of operation. If lubrication is desired, install an air line lubricator set to deliver one drop of SAE 10 non-detergent oil for every 20 SCFM (9.4 liters/sec.) of air the pump consumes. Consult the Performance Curve to determine air consumption.

Air Line Moisture

Water in the compressed air supply may cause icing or freezing of the exhaust air, causing the pump to cycle erratically or stop operating. Water in the air supply can be reduced by using a point-of-use air dryer.

Air Inlet And Priming

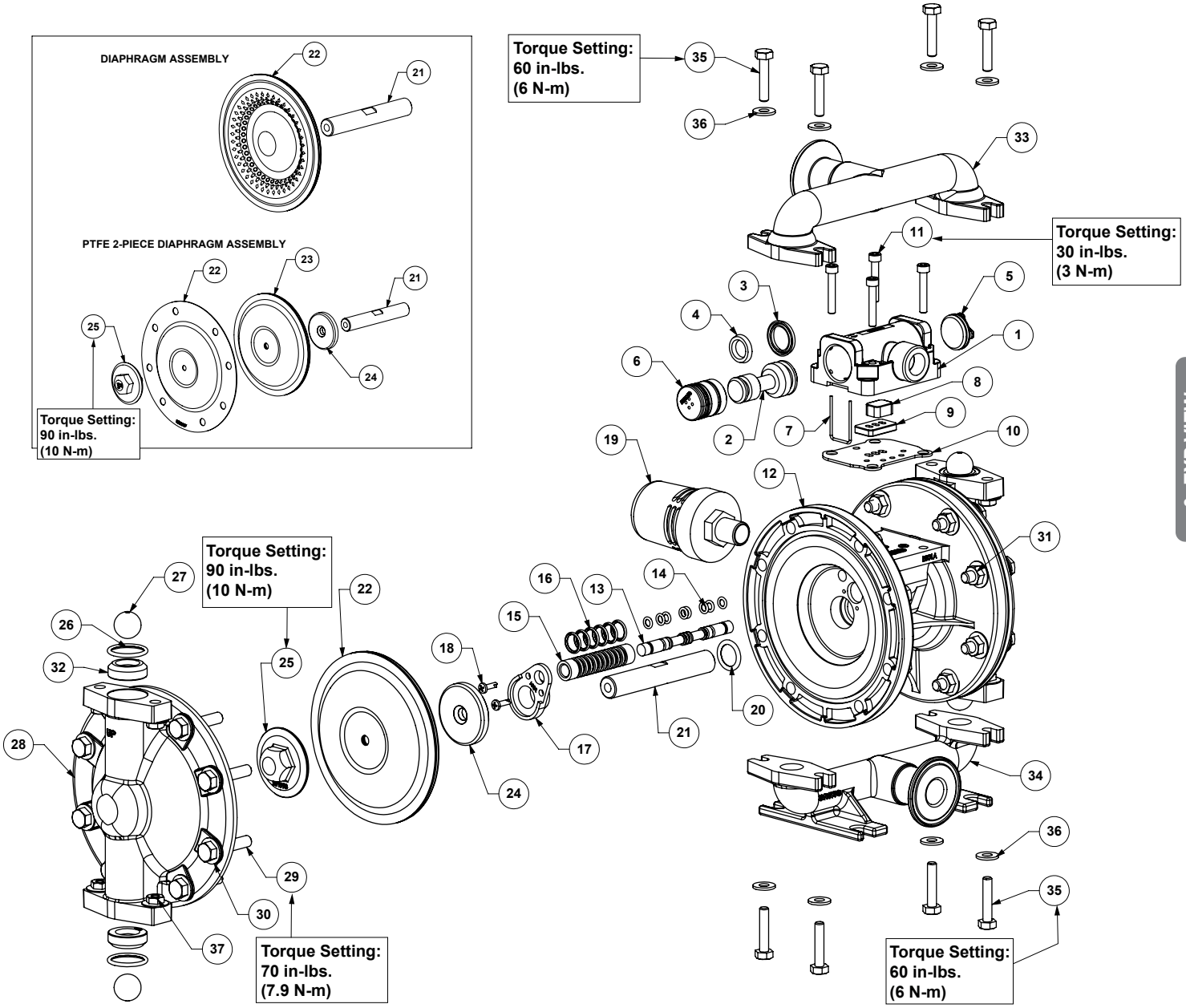
To start the pump, slightly open the air shut-off valve. After the pump primes, the air valve can be opened to increase air flow as desired. If opening the valve increases cycling rate, but does not increase the rate of flow, cavitation has occurred. The valve should be closed slightly to obtain the most efficient air flow to pump flow ratio.

Troubleshooting Guide

Symptom:	Potential Cause(s):	Recommendation(s):
Pump Cycles Once	Deadhead (system pressure meets or exceeds air supply pressure).	Increase the inlet air pressure to the pump. Pump is designed for 1:1 pressure ratio at zero flow. (Does not apply to high pressure 2:1 units).
	Air valve or intermediate gaskets installed incorrectly.	Install gaskets with holes properly aligned.
	Bent or missing actuator plunger.	Remove pilot valve and inspect actuator plungers.
Pump Will Not Operate / Cycle	Pump is over lubricated.	Set lubricator on lowest possible setting or remove. Units are designed for lube free operation.
	Lack of air (line size, PSI, CFM).	Check the air line size and length, compressor capacity (HP vs. CFM required).
	Check air distribution system.	Disassemble and inspect main air distribution valve, pilot valve and pilot valve actuators.
	Discharge line is blocked or clogged manifolds.	Check for inadvertently closed discharge line valves. Clean discharge manifolds/piping.
	Deadhead (system pressure meets or exceeds air supply pressure).	Increase the inlet air pressure to the pump. Pump is designed for 1:1 pressure ratio at zero flow. (Does not apply to high pressure 2:1 units).
	Blocked air exhaust muffler.	Remove muffler screen, clean or de-ice, and re-install.
	Pumped fluid in air exhaust muffler.	Disassemble pump chambers. Inspect for diaphragm rupture or loose diaphragm plate assembly.
	Pump chamber is blocked.	Disassemble and inspect wetted chambers. Remove or flush any obstructions.
Pump Cycles and Will Not Prime or No Flow	Cavitation on suction side.	Check suction condition (move pump closer to product).
	Check valve obstructed. Valve ball(s) not seating properly or sticking.	Disassemble the wet end of the pump and manually dislodge obstruction in the check valve pocket. Clean out around valve ball cage and valve seat area. Replace valve ball or valve seat if damaged. Use heavier valve ball material.
	Valve ball(s) missing (pushed into chamber or manifold).	Worn valve ball or valve seat. Worn fingers in valve ball cage (replace part). Check Chemical Resistance Guide for compatibility.
	Valve ball(s) / seat(s) damaged or attacked by product.	Check Chemical Resistance Guide for compatibility.
	Check valve and/or seat is worn or needs adjusting.	Inspect check valves and seats for wear and proper setting. Replace if necessary.
	Suction line is blocked.	Remove or flush obstruction. Check and clear all suction screens or strainers.
	Excessive suction lift.	For lifts exceeding 20' of liquid, filling the chambers with liquid will prime the pump in most cases.
	Suction side air leakage or air in product.	Visually inspect all suction-side gaskets and pipe connections.
	Pumped fluid in air exhaust muffler.	Disassemble pump chambers. Inspect for diaphragm rupture or loose diaphragm plate assembly.
Pump Cycles Running Sluggish / Stalling, Flow Unsatisfactory	Over lubrication.	Set lubricator on lowest possible setting or remove. Units are designed for lube free operation.
	Icing.	Remove muffler screen, de-ice, and re-install. Install a point of use air drier.
	Clogged manifolds.	Clean manifolds to allow proper air flow.
	Deadhead (system pressure meets or exceeds air supply pressure).	Increase the inlet air pressure to the pump. Pump is designed for 1:1 pressure ratio at zero flow. (Does not apply to high pressure 2:1 units).
	Cavitation on suction side.	Check suction (move pump closer to product).
	Lack of air (line size, PSI, CFM).	Check the air line size, length, compressor capacity.
	Excessive suction lift.	For lifts exceeding 20' of liquid, filling the chambers with liquid will prime the pump in most cases.
	Air supply pressure or volume exceeds system hd.	Decrease inlet air (press. and vol.) to the pump. Pump is cavitating the fluid by fast cycling.
	Undersized suction line.	Meet or exceed pump connections.
	Restrictive or undersized air line.	Install a larger air line and connection.
	Suction side air leakage or air in product.	Visually inspect all suction-side gaskets and pipe connections.
	Suction line is blocked.	Remove or flush obstruction. Check and clear all suction screens or strainers.
	Pumped fluid in air exhaust muffler.	Disassemble pump chambers. Inspect for diaphragm rupture or loose diaphragm plate assembly.
	Check valve obstructed.	Disassemble the wet end of the pump and manually dislodge obstruction in the check valve pocket.
	Check valve and/or seat is worn or needs adjusting.	Inspect check valves and seats for wear and proper setting. Replace if necessary.
	Entrained air or vapor lock in chamber(s).	Purge chambers through tapped chamber vent plugs. Purging the chambers of air can be dangerous.
Product Leaking Through Exhaust	Diaphragm failure, or diaphragm plates loose.	Replace diaphragms, check for damage and ensure diaphragm plates are tight.
	Diaphragm stretched around center hole or bolt holes.	Check for excessive inlet pressure or air pressure. Consult Chemical Resistance Chart for compatibility with products, cleaners, temperature limitations and lubrication.
Premature Diaphragm Failure	Cavitation.	Enlarge pipe diameter on suction side of pump.
	Excessive flooded suction pressure.	Move pump closer to product. Raise pump/place pump on top of tank to reduce inlet pressure. Install Back pressure device (Tech bulletin 41r). Add accumulation tank or pulsation dampener.
	Misapplication (chemical/physical incompatibility).	Consult Chemical Resistance Chart for compatibility with products, cleaners, temperature limitations and lubrication.
	Incorrect diaphragm plates or plates on backwards, installed incorrectly or worn.	Check Operating Manual to check for correct part and installation. Ensure outer plates have not been worn to a sharp edge.
Unbalanced Cycling	Excessive suction lift.	For lifts exceeding 20' of liquid, filling the chambers with liquid will prime the pump in most cases.
	Undersized suction line.	Meet or exceed pump connections.
	Pumped fluid in air exhaust muffler.	Disassemble pump chambers. Inspect for diaphragm rupture or loose diaphragm plate assembly.
	Suction side air leakage or air in product.	Visually inspect all suction-side gaskets and pipe connections.
	Check valve obstructed.	Disassemble the wet end of the pump and manually dislodge obstruction in the check valve pocket.
	Check valve and/or seat is worn or needs adjusting.	Inspect check valves and seats for wear and proper setting. Replace if necessary.
	Entrained air or vapor lock in chamber(s).	Purge chambers through tapped chamber vent plugs.

For additional troubleshooting tips contact After Sales Support at service.warrenrupp@idexcorp.com or 419-524-8388

Composite Repair Parts Drawing



Service & Repair Kits

476.377.351 **Wet End Kit**
Santoprene Diaphragms, PTFE Check Balls, PTFE Seat O-Rings

476.377.635 **Wet End Kit**
Neoprene Diaphragms, PTFE Diaphragms, PTFE Check Balls, PTFE Seat O-Rings

476.377.350 **Wet End Kit**
FDA Hytrel Diaphragms, FDA Hytrel Check Balls, PTFE Seat O-Rings

476.377.659 **Wet End Kit**
1-Piece PTFE Diaphragms, PTFE Check Balls, PTFE Seat O-Rings

476.372.000 **Air End Kit**
Sleeve and Spool Set, Air Diverter, Buna Gaskets, Buna O-rings, Buna Shaft Seals, Pilot Retainer, Ceramic Plate

Composite Repair Parts List

Air Valve Assembly			
Item #	**Qty.**	**Description**	**Part Number**
		Air Side Repair Kit (Includes Items 3,4,6, 8-10,13-17,20)	476.V007.000
-	1	Valve Body (includes items 1-11)	031.V004.552
1	1	Valve Body	PE500A
2	1	Valve Spool Assembly (Includes items 3&4)	E500BUB ASY
3	1	Large Valve Spool U-Cup	P98-104A
4	1	Small Valve Spool U-Cup	P98-104AUB
5	1	End Cap Assembly (Includes O-Ring)	E500D ASY
6	1	Reducing End Cap Assembly (Includes 560.0580.360 O-rings)	E500DUB ASY
7	2	Staple	E500F
8	1	CT Air Diverter	10-075
9	1	Air Diverter Plate	E500H
10	1	Air Valve Gasket	360.V003.360
11	4	Valve Mounting Screws	S1004

Center Section Assembly			
Item #	**Qty.**	**Description**	**Part Number**
12	1	Center Section	E501A
		Pilot Repair Kit (Includes Items 13-17)	476.V006.000
13	1	Pilot Spool ASY (Includes Item #14)	775.V003.000
14	8	Pilot Spool O-Rings	560.023.358
15	1	Pilot Valve Sleeve ASY (Includes Item #16)	755.V003.000
16	6	Pilot Valve Sleeve O-Rings	560.033.358
17	2	Shaft/Pilot Retainer	670.V001.554
18	4	Retainer Screw	E501C
19	1	Muffler	VTM-3

Diaphragm Assembly / Elastomers						
Item #	**Qty.**	**Description**	**Part Number**			
			TPE		**PTFE 2 Piece**	**PTFE Fustion**
			FDA Hytrel	**FDA Santoprene**		
20	2	Main Shaft O-Ring	E502B			
21	1	Main Shaft	E502A			
22	2	Diaphragm	E505FG	E505XLFG	E505TF	E505F
23	2	Back-Up Diaphragm	N/A	N/A	E505N	N/A
24	2	Inner Diaphragm Plate	V199C			N/A
25	2	Outer Diaphragm Plate	SV199BFG			N/A
26	4	Valve Seat O-Ring	V110HT			
27	4	Valve Ball	V111TPEFG	V111TF		

Wet End Assembly			
Item #	**Qty.**	**Description**	**Part Number**
28	2	Water Chamber	E504SFG
29	16	Water Chamber Bolt	SV189D
30	16	Water Chamber Washer	SV189C
31	16	Water Chamber Nut	SV185B
32	4	Valve Seat	SV110
33	1	Discharge Manifold	SV196FG
34	1	Suction Manifold	SV197FG
35	8	Manifold Bolts	SV197D
36	8	Manifold Washer	SV196C
37	8	Manifold Nut	SV197E

Parts for Rubber Mounting Feet			
Item #	**Qty.**	**Description**	**Part Number**
38	4	Foot, Mounting	350.002.360
39	4	Nut, Hex	547.002.115
40	4	Machne Screw	706.024.115
41	4	Flat Washer	901.035.115

5 - YEAR Limited Product Warranty

Warren Rupp, Inc. ("Warren Rupp") warrants to the original end-use purchaser that no product sold by Warren Rupp that bears a Warren Rupp brand shall fail under normal use and service due to a defect in material or workmanship within five years from the date of shipment from Warren Rupp's factory. Warren Rupp brands include Warren Rupp®,SANDPIPER®, SANDPIPER Signature Series™, MARATHON®, Porta-Pump®, SludgeMaster™ and Tranquilizer®.

The use of non-OEM replacement parts will void (or negate) agency certifications, including CE, ATEX, CSA, 3A and EC1935 compliance (Food Contact Materials). Warren Rupp, Inc. cannot ensure nor warrant non-OEM parts to meet the stringent requirements of the certifying agencies.

~ See sandpiperpump.com/content/warranty-certifications for complete warranty, including terms and conditions, limitations and exclusions. ~

WARREN RUPP, INC.

Declaration of Conformity

Manufacturer: Warren Rupp, Inc., 800 N. Main Street
Mansfield, Ohio, 44902 USA

Certifies that Air-Operated Double Diaphragm Pump Series: HDB, HDF, M Non-Metallic, S Non-Metallic, M Metallic, S Metallic, T Series, G Series, U Series, EH and SH High Pressure, RS Series, W Series, F Series, SMA and SPA Submersibles, and Tranquilizer® Surge Suppressors comply with the European Community Directive 2006/42/EC on Machinery, according to Annex VIII. This product has used Harmonized Standard EN809:2012, Pumps and Pump Units for Liquids - Common Safety Requirements, to verify conformance.

David Roseberry
Signature of authorized person

October 20, 2005
Date of issue

Director of Engineering
Title

Authorised Representative:
IDEX Pump Technologies
R79 Shannon Industrial Estate
Shannon, Co. Clare, Ireland

Attn: Barry McMahon

Revision Level: F

February 27, 2017
Date of revision

CE

WARREN RUPP, INC.

Declaration of Conformity

Manufacturer: Warren Rupp, Inc., 800 N. Main Street, Mansfield, Ohio, 44902 USA
certifies that SANDPIPER® Air-Operated Double Diaphragm Food Processing Pump Models and Tranquilizer® Surge Suppressor Models comply with the European Community Regulations:

(EC) No 1935/2004 for Food Contact Materials
(EC) No 2023/2006 Good Manufacturing Practice
(EU) No 10/2011 on plastic materials and articles intended to come in contact with food

Food Processing Pump Models:

T1FB1SASWTS600.	T15B1SSTSTS600.	T30B1SDSWTS600.	F10B1SZSNTF600.	F20B1SHHNTF600.
T1FB1S9SWTS600.	T20B1SASWTS600.	T30B1SASSTS600.	F10B1SDSNTF600.	F20B1SKSNTF600.
T1FB1SDSWTS600.	T20B1SDSWTS600.	T30B1SDSSTS600.	F15B1SKSNTF600.	F20B1SZSNTF600.
T1FB1SLSWTS600.	T20B1SASSTS600.	SSB2, TD3SS.	F15B1SKTNTF600.	F20B1SDDNTF600.
T1FB1S9TWTS600.	T20B1SDSSTS600.	F05B1SGSPTF000.	F15B1SZSNTF600.	F20B1SHSNTC600.
T15B1SDSWTS600.	T20B1SASWTS600.	F05B1SZSPTF000.	F15B1SHHNTF600.	F20B1SKSNTC600.
T15B1SSSWTS600.	T20B1SDSWTS600.	F05B1SHSPTF000.	F15B1SDDNTF600.	F20B1SZSNTC600.
T15B1SDSSTS600.	T20B1SASSTS600.	F05B1SDSPTF000.	F15B1SKSNTC600.	F30B1SHHNTF600.
T15B1SSSSTS600.	T20B1SDSSTS600.	F10B1SHSNTF600.	F15B1SZSNTC600.	F30B1SDDNTF600.
T15B1SSTWTS600.	T30B1SASWTS600.	F10B1SKSNTF600.	F15B1SHSNTC600.	F30B1SKSNTF600.
				F30B1SZSNTF600.

Tranquilizer® Surge Suppressors:

TA1,NG1SS	TA2,NG2SS
TA25,NG1SS	TA50,NG2SS
TA1-1/2,NG1SS	TA3,NG2SS
TA40,NG1SS	TA80,NG2SS

- Materials used in equipment intended for food contact (Annex I (EC) No 1935/2004) :
  - Rubber • Metals & Alloys • Plastics

Plastic Materials: PTFE and FKM/ PTFE coated
The plastic components are suitable to come in contact with multiple food types, provided that storage contact time does not exceed 1/2 hour, contact temperature does not exceed 40°C and maximum operating temperatures within the instructions manual are not exceeded. Diaphragm failure may allow process fluids to come in contact with nonconforming materials. Regular inspections are recommended.

- This Declaration is based on :
  - Declaration of Conformities from raw material suppliers
  - Total Migration Analysis per (EU) No 10/2011

- Supporting document will be made available to competent authorities to demonstrate compliance

David Roseberry
Signature of authorized person

February 8, 2013
Date of issue

David Roseberry
Printed name of authorized person

Director of Engineering
Title

February 25, 2019
Date of revision

IDEX

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