



FTI AIR AODD MODELS FT30P & FT30V
Assembly, Installation, & Operation Manual
P/N 212602 Rev. 3



Record your Model and Serial Number here.

MODEL NUMBER _____

SERIAL NUMBER _____



FINISH THOMPSON INC.

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EU Declaration of Conformity



Finish Thompson Inc. hereby declares that the following machine(s) fully comply with the applicable health and safety requirements as specified by the EU Directives listed. The product may not be taken into service until it has been established that the drive motor for the centrifugal pump complies with the provisions of all relevant EU Directives. The complete product complies with the provisions of the EU Directive on machinery safety provided motors carry CE marking.

This declaration is valid provided that the devices are fully assembled and no modifications are made to these devices.

Type of Device:

AODD Pumps

Models:

FT025P, FT025V, FT025C, FT05P, FT05V, FT05C, FT05A, FT05S, FT10P, FT10V, FT10A, FT10S, FT15P, FT15ZP, FT15V, FT15ZV, FT15A, FT15ZA, FT15S, FT15ZS, FT20P, FT20V, FT20A, FT20S, FT30P, FT30V, FT30A, FT30S

EU Directives:

Machinery Safety (2006/42/EC)

Applied Harmonized Standards:

EN ISO 12100:2010

Manufacturer: Finish Thompson Inc.
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Signed,

Engineering Manager

7 May 2025

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Conflict Minerals Compliance Statement

Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, along with the United States Securities and Exchange Commission have adopted the rule into law, requiring corporations listed on the United States stock exchange to report the use of “Conflict Minerals” in the sourcing and manufacturing of products.

The term “conflict minerals” is used to describe the minerals cassiterite, columbite-tantalite, gold, wolframite, and/or their derivatives, including tin, tantalum, and tungsten, originating from the Democratic Republic of Congo and the specified adjoining countries in Africa, known to support human rights violations and funding to rebel warlords.

As a privately held company, we are not required to report to the SEC, however, many of our customers are required to meet this obligation. To support our customers, we are committed to get the best available information from our suppliers on all products we sell, and to openly share that information with our customers.

Finish Thompson suppliers agree to abide by our FINISH THOMPSON INC SUPPLIER CODE OF CONDUCT (available on our website) which includes the following statement: “Responsible Sourcing of Minerals: Participants shall adopt a policy and exercise due diligence on the source and chain of custody of the tantalum, tin, tungsten, and gold in the products they manufacture to reasonably assure that they are sourced in a way consistent with the Organization for Economic Co-operation and Development (OECD) Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas or an equivalent and recognized due diligence framework.” As of July 2024, over 75% of our supply chain has been contacted and supplied information regarding compliance to Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act regarding “Conflict Minerals.” 7 of the 598 smelters identified by our supply chain have been identified as conflict smelters. As part of our due diligence process, we have reached out to those specific suppliers regarding the need to eliminate sourcing from them.

We will continue to work with our suppliers to identify any potential use of Conflict Minerals in our supply chain, and ensure the representations made in this compliance statement remain accurate. To that end, we reserve the right to amend this statement at any time based on subsequent developments or information.

Should you have any questions or concerns regarding this statement, please do not hesitate to contact us.

Orkun Demirag

Director of Purchasing

Finish Thompson

REACH Compliance Statement

Finish Thompson products are REACH compliant. Finish Thompson Inc. (FTI) does not produce substances of very high concern (SVHC). Finish Thompson is a downstream user of articles and relies on upstream suppliers for notification regarding substances registered with REACH. The substances present in articles produced by FTI do not meet the thresholds required for REACH registration.

Some FTI components may contain trace amounts of substances listed on the REACH Candidate list. To this end, normal hygiene practices are recommended to ensure safe handling of FTI products. After handling FTI products, wash hands with soap and water. When the product is no longer useful, dispose of the product in compliance with local regulations.

Neil Kruse

Engineering Manager
Finish Thompson



Table of Contents

Important Information - READ ME FIRST

Export Regulation Notice	6
Chemical Reaction Disclaimer	6
Safety Precautions	6-7

Pump Specifications

Materials Profiles.....	7
Model Number Explanation & Example Part Numbers.....	8
Dimensional Drawing.....	8
Performance Curve	9
Specifications	9

Installation/Operation

Installation Drawing.....	10
Precautions.....	10-11
Troubleshooting.....	11

Maintenance

Recommended Tools	11
Wet End Servicing	11
Disassembly	12-13
Reassembly	14-17
Air End Servicing	18
Shaft Bushing & O-ring Replacement.....	18-19
Air Valve & Gasket Replacement.....	20
Air Valve Slide, Plate, & Gasket Orientation.....	20
Discharge & Suction Manifold Assembly.....	21
Exploded View	22
Spare Parts List.....	22-24

Warranty	25
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Important Information- Read Me first

IMPORTANT NOTICE

U.S. Export Administration Regulations, pursuant to ECCN 2B350, prohibit the export or re-export to certain enumerated countries of air operated double diaphragm pumps in which all wetted materials are constructed from fluoropolymers without first applying for and obtaining a license from the U.S. Bureau of Industry and Security(BIS). This affects all FTI AIR pumps constructed from PVDF with PTFE balls and diaphragms. Please contact the BIS (www.bis.doc.gov) or FTI Air with questions regarding the Regulations or a list of the countries to which they apply.

Chemical Reaction Disclaimer

The user must exercise primary responsibility in selecting the product's materials of construction which are compatible with the fluid(s) that come(s) in contact with the product. The user may consult FTI Air (manufacturer) and a manufacturer's representative/distributor agent to seek a recommendation of the product's material of construction that offers the optimum available chemical compatibility.

However neither manufacturer nor agent shall be liable for product damage or failure, injuries, or any other damage or loss arising out of a reaction, interaction or any chemical effect that occurs between the materials of the product's construction and fluids that come into contact with the product's components.

Unpacking & Inspection

Unpack the pump and examine for any signs of shipping damage. If damage is detected, save the packaging and notify the carrier immediately.

To install the pump, follow the installation instructions provided

Safety Precautions

⚠ WARNING: Never use a Polypropylene or PVDF pump with flammable or combustible fluids/materials.

⚠ WARNING: FTI Air maximum temperature limits are based upon the material's mechanical stress only. Maximum temperature is application dependent. Consult a chemical resistance guide or the chemical manufacturer for chemical compatibility and temperature limits.

⚠ WARNING: Chemical Hazard. This pump is used for transferring many types of potentially dangerous chemicals. Always wear protective clothing, eye protection and follow standard safety procedures when handling corrosive or personally harmful materials. Proper procedures should be followed for draining and decontaminating the pump before disassembly and inspection of the pump. There may be small quantities of chemicals present during inspection.

⚠ WARNING: Hot surfaces. FTI Air pumps are capable of handling liquids with temperatures as high as 220°F (104°C). This may cause the outer areas of the pump to become hot as well and could cause burns.

⚠ WARNING: If a diaphragm rupture occurs, material being pumped may be forced out of the air exhaust. Proper care should be taken, always wear protective clothing, eye protection & follow standard safety procedures.

⚠ WARNING: When pumping hazardous liquids, or operating the pump in an enclosed room, it is important to pipe the exhaust air to a safe area.

⚠ WARNING: Do not exceed 120 psig (8.3 bar) for air supply.

⚠ CAUTION: Before attaching air supply to pump to make sure all airline debris is clear. It is recommended to use a minimum 5μ (micron) air filter before the air valve.

⚠ CAUTION: Before maintenance or repair, close the compressed air line supply valve, bleed the pressure and disconnect air line from the pump. Discharge line may also be pressurized. Any pressure must be relieved prior to servicing. Isolate and remove suction / discharge lines & drain the pump. Note that flooded suction systems could be subject to significant leaking through the exhaust before suction isolation valve is closed.

⚠ CAUTION: If pump is used with materials that tend to solidify or settle, the pump should be flushed after each use to prevent damage.

⚠ WARNING: Pump exhaust may be loud and contain particles. Wear appropriate ear and eye protection. In the event of a diaphragm rupture material can be forced out of the air exhaust muffler. If product is hazardous or toxic, pipe exhaust to appropriate safe area.

⚠ CAUTION: Do not over-tighten the air inlet fitting or muffler. Too much torque could damage the air valve or muffler plate.

⚠ CAUTION: Use only genuine FTI Air replacement parts to assure compatibility & longest service life.

CAUTION: Check the temperature limits for all wetted components when choosing pump materials. See table below.

EXPLOSION HAZARD! FTI Air pumps with standard materials of construction should not be used with halogenated hydrocarbons. Halogenated hydrocarbon solvents can cause explosion when used with aluminum components in a closed (pressurized) system. FTI Air pumps with standard materials of construction contain aluminum components and will be affected by halogenated hydrocarbon solvents.

1-1-1 Trichloroethane and Methylene Chloride are the most common halogenated hydrocarbons. However, other halogenated hydrocarbon solvents are suspect if used either as part of paint or adhesive formulation, or for clean-up flushing.

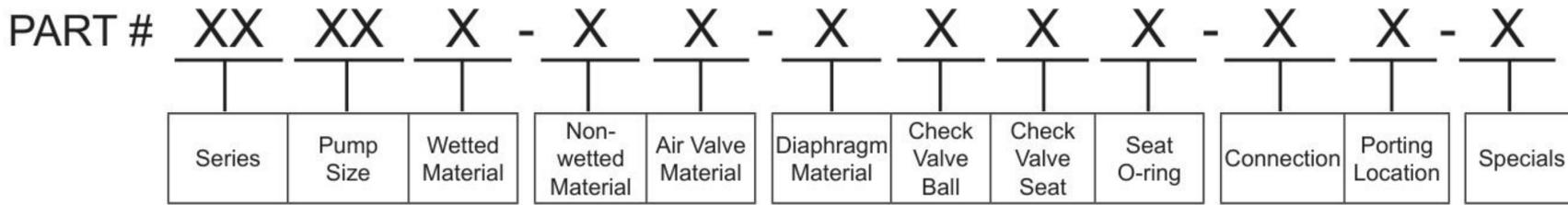
For applications that may involve halogenated hydrocarbons, contact FTI Air to discuss the availability of alternative pump materials of construction.

Material Profiles

Material	Chemical Composition	Description	Operating Temperature		Relative Cost
			Minimum	Maximum	
Polypropylene	GF Polypropylene	Thermoplastic that is resistant to alkali and strong acids.	32°F (0°C)	158°F (70°C)	\$
PVDF	CF Polyvinylidene Fluoride	Strong fluoropolymer with excellent chemical resistance.	10°F (-12°C)	220°F (104°C)	\$\$\$
Stainless Steel	316 Stainless Steel	Excellent chemical resistance, high tensile and impact strength, abrasion resistant.	Limited by other materials used		\$\$
Aluminum	ADC 12, LM24, LM25	Moderate chemical resistance with good impact strength and abrasion resistance.	Limited by other materials used		\$
Buna	Acrylonitrile-butadiene Rubber	General purpose elastomer. Resistant to oil, water, solvent, and hydraulic fluid.	10°F (-12°C)	190°F (88°C)	\$
EPDM	Ethylene Propylene Diene Rubber	Good resistance to mild acids, detergents, alkalis, ketones, and alcohols.	-40°F (-40°C)	250°F (121°C)	\$
FKM	Fluorocarbon Rubber	Good chemical resistance and high temperature properties. Resistant to most acids, aliphatic, aromatic, and halogenated hydrocarbons, oils, grease, and fuels.	-40°F (-40°C)	350°F (177°C)	\$\$
Neoprene	Chloroprene Rubber	General purpose elastomer with good resistance to moderate chemicals, oils, grease, solvents, and some refrigerants.	0°F (-18°C)	212°F (100°C)	\$
Santoprene™	Fully cured EPDM rubber particles encapsulated in a polypropylene (PP) matrix	Thermoplastic elastomer with good abrasion resistance with chemical resistance to a wide range of solvents and chemicals. Injection molded with no fabric layer.	-40°F (-40°C)	225°F (107°C)	\$
Hytrel®	Thermoplastic polyester elastomer	Combines resistance and flexibility of elastomers with the strength of plastics. Resistant to acids, bases, amines, and glycols. Injection molded with no fabric layer.	-20°F (-29°C)	220°F (104°C)	\$
Polyurethane	Polyester Urethane	Thermoplastic that exhibits excellent abrasion resistance. Injection molded with no fabric layer.	32°F (0°C)	150°F (66°C)	\$
PTFE	Polytetrafluoroethylene	Chemically inert. Resistant to a wide range of chemicals.	40°F (4°C)	225°F (107°C)	\$\$
FEP	Fluorinated Ethylene Propylene	Similar to PTFE in composition and chemical resistance. Used to encapsulate FKM o-rings for superior chemical resistance.	40°F (4°C)	225°F (107°C)	\$\$

Santoprene™ is a registered tradename of Celanese
Hytrel® is a registered tradename of Dupont™

Model Number Explanation & Example Part Numbers



Series*

FT - Pump End
FW - Wet End

Pump Size*

30 - 3"

Wetted Materials*

P - GF Polypropylene
V - CF PVDF

Non-wetted Materials

S - Stainless Steel Center Section
w/ Polypropylene Air Chambers

Air Valve Materials

S - Stainless Steel

Diaphragm Materials*

N - Neoprene
B - Buna-N
E - EPDM
F - FKM
R - Santoprene
H - Hytrel
U - Polyurethane

1 - PTFE/Neoprene
2 - PTFE/Santoprene
3 - PTFE/Buna-N
4 - PTFE/Santoprene (Natural)
5 - Santoprene (Natural)
6 - Hytrel (Natural)

Check Valve Ball Materials*

N - Neoprene
B - Buna-N
E - EPDM
S - 316SS
W - Weighted PTFE

F - FKM
R - Santoprene
T - PTFE
5 - Santoprene (Natural)

Check Valve Seat Materials*

P - Polypropylene
V - PVDF

Check Valve Seat O-Ring Materials*

B - Buna-N
F - FKM
R - Santoprene

U - Polyurethane
C - FEP/FKM

Connection

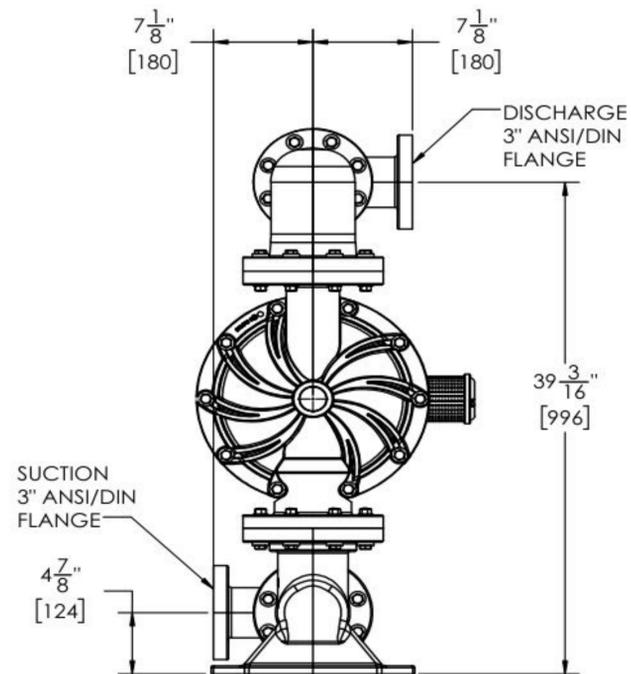
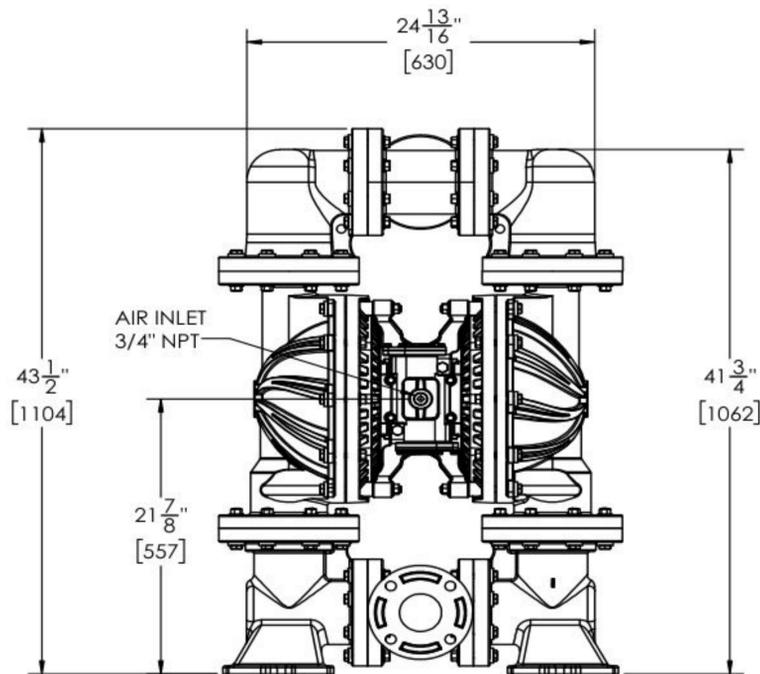
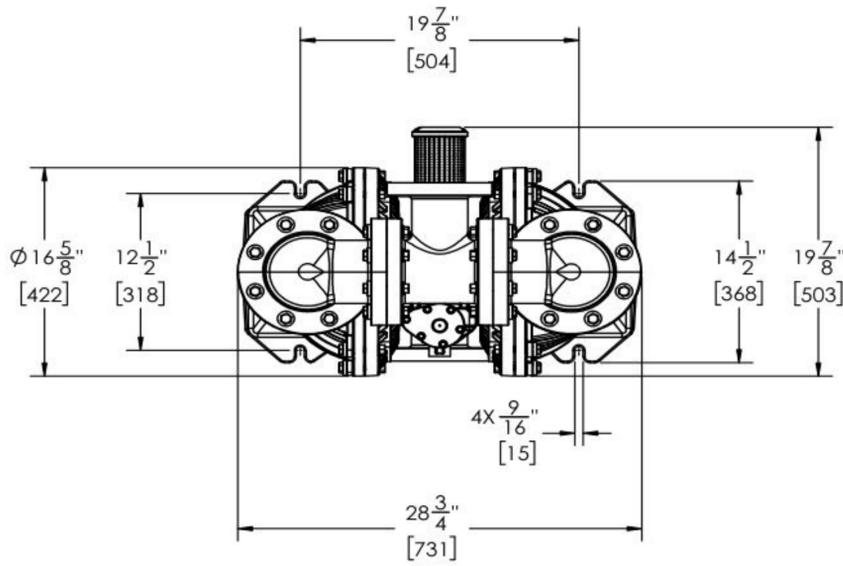
F - ANSI/DIN/ISO Flange

Porting location

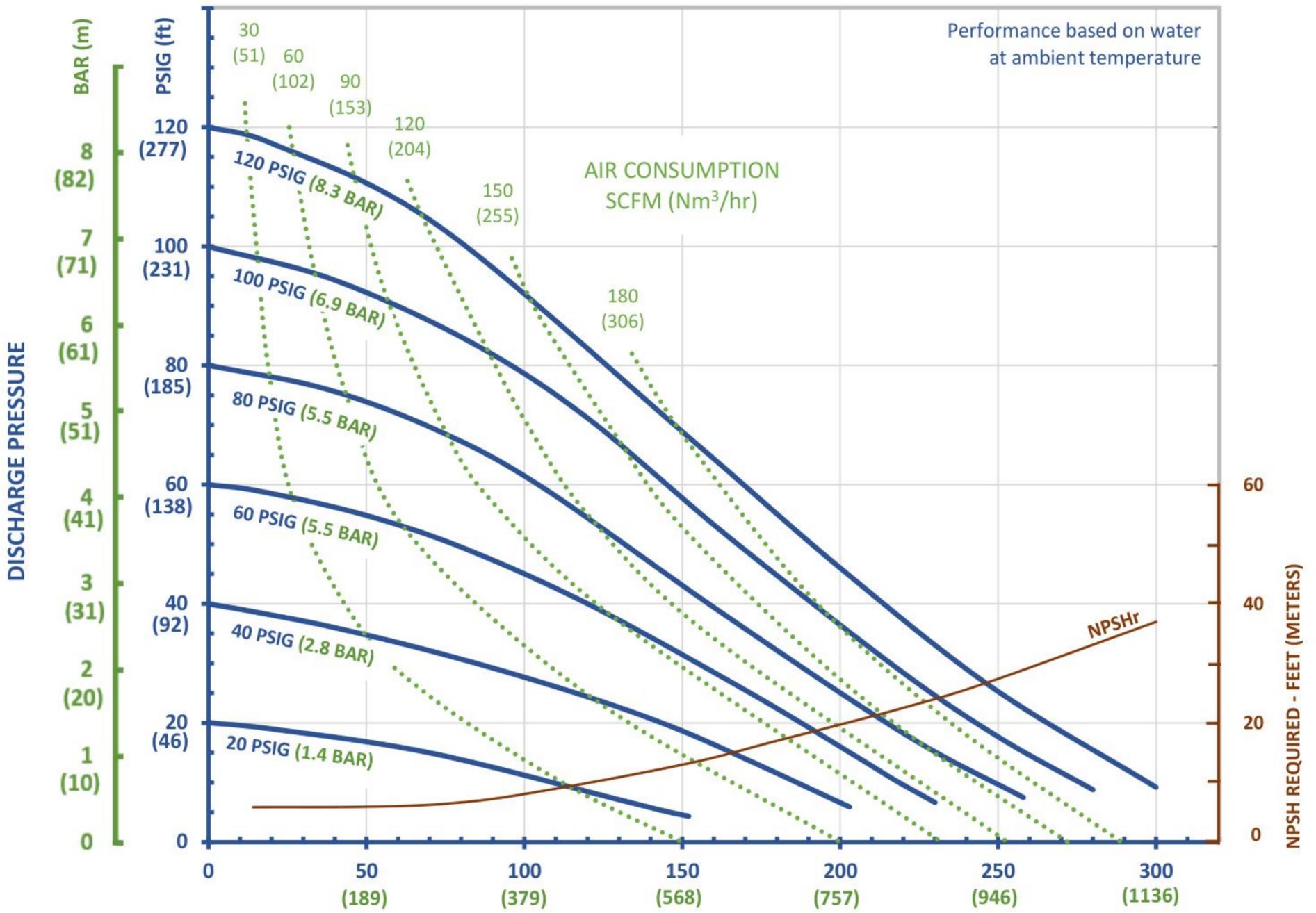
2 - Center (standard)

*Required for wet end

Dimensional Drawing



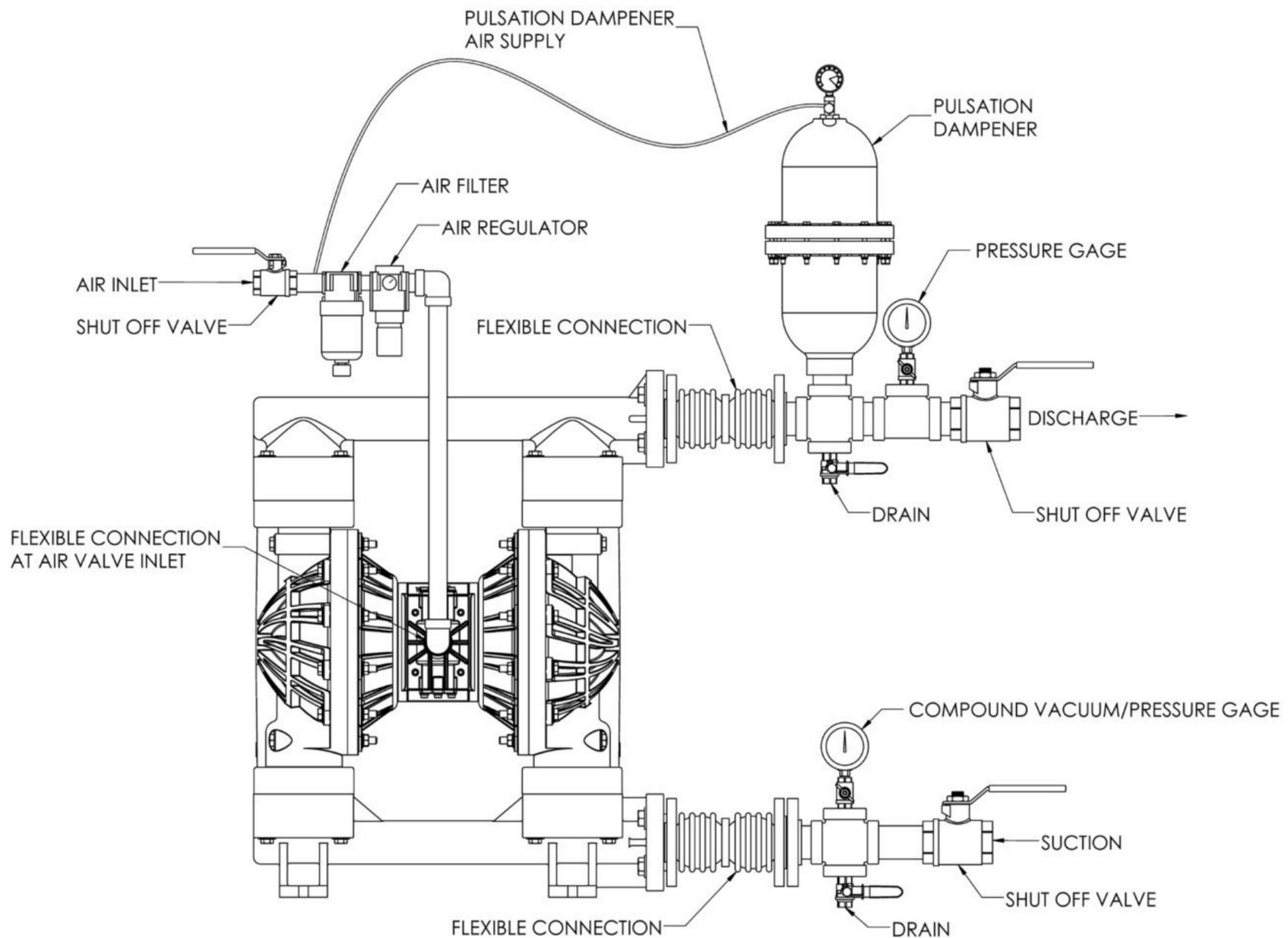
Performance Curve



Specifications

Pump Type: Non-Metallic Air Operated Double Diaphragm	
	Wet - 28 ft H ₂ O (8.5 m H ₂ O)
Air Inlet/Exhaust Size: 3/4"/1" FNPT	Max Suction Lift: Dry - Rubber: 20.1 ft H ₂ O (6.1 m H ₂ O) PTFE: 19.8 ft H ₂ O (6 m H ₂ O)
Max Air Inlet Pressure: 120 psig (8.3 bar)	Max Flow Rate: 300 gpm (1163 lpm)
Max Material Inlet Pressure: 10 psig (0.7 bar)	Suction/Discharge Size: 3" ANSI/DIN/ISO 150# flange
Air Consumption @ 100 psi: 115 scfm (185 Nm ³ /hr)	Max Particle Size: 0.50" (12.7 mm)
Noise Level: 87.5 dB (A)	Max Outlet Pressure: 120 psig (8.3 bar)
	Displacement Per Stroke: 0.98 gal (3.7 liter)

Installation Drawing



PUMP MUFFLER IS ON THE BACK SIDE OF THE PUMP.
IT CAN BE REMOVED AND EXHAUST CAN BE PIPED TO DESIRED LOCATION.

Installation / Operation Precautions

Installation and Start up

Install the pump in a vertical position or it may not prime properly. Pump should be located as close to the product being pumped as possible. Suction line length should be as short as possible and limit the number of fittings. Suction line diameter should not be reduced smaller than the suction diameter of the pump. When using rigid pipe run short sections of flexible hose or flexible connections between the pump & piping. Secure the pump to a suitable surface.

Air Supply

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

Air Valve Lubrication

No lubrication is required for the air distribution system.

Fasteners

Re-torque all fasteners before operation. Creep of housing and gasket materials may cause fasteners to loosen. Re-torque all fasteners to the torque specifications listed on the exploded view drawing in this manual.

Air Inlet & Priming

Pump will start to operate as soon as the shut-off valve is opened. It is recommended to open the shut-off valve slowly at first. Once the pump primes; the shut-off valve can be opened additionally to increase the pump's flow. If the pump is operating but not pumping any liquid see the troubleshooting section for tips & suggestions.

Accessories

Pulsation Dampeners, Surge suppressors, Spill stops & Filter regulators are available and should be used with FTI Air pumps.

Troubleshooting Tips & Suggestions

PUMP WILL NOT START OR CYCLE:

- Blocked liquid pipe or hose - Clean out or replace
- Clogged liquid chamber - Remove debris
- Diaphragm shaft bushing / O-ring leak - Replace O-rings
- Air valve carrier not shifting - Inspect, clean, re-oil with 10 wt. air tool oil.

ERRATIC CYCLING:

- Diaphragm failure - Replace diaphragm
- Valve ball not seating properly, worn or damaged – Inspect, remove debris or replace
- Leak in suction line - Inspect, repair or replace
- Diaphragm shaft bushing / o-ring leak - Replace o-rings
- Air valve carrier not shifting - Inspect, clean, re-oil with 10 wt. air tool oil. (aluminum air valve)
- Air valve carrier not shifting - Inspect, replace seals (polypropylene air valve)
- Over lubrication in air valve - Inspect, degrease, reuse. Adjust lubrication
- Excess moisture in air valve – Inspect, dry, reuse. Consider installing an air dryer
- For metal air valves, worn carrier or valve bore – measure carrier and valve bore, diametrical clearance should be between .0020” - .0035”. Replace worn components as needed

PUMP CYCLES BUT WILL NOT PUMP:

- Too much suction lift - Reduce suction lift or fill liquid chambers with liquid
- Leak in suction line - Inspect, repair or replace
- Valve ball not seating properly, worn or damaged - Inspect, remove debris or replace
- Clogged suction pipe or hose - Inspect & clear
- Clogged strainer if used - Inspect & clear
- Diaphragm failure - Replace diaphragm

PUMPED LIQUID RELEASED FROM AIR EXHAUST

- Diaphragm failure - Replace diaphragm
- Outer plate unthreading - Tighten & re-torque

Maintenance

Recommended tools for Servicing Pump

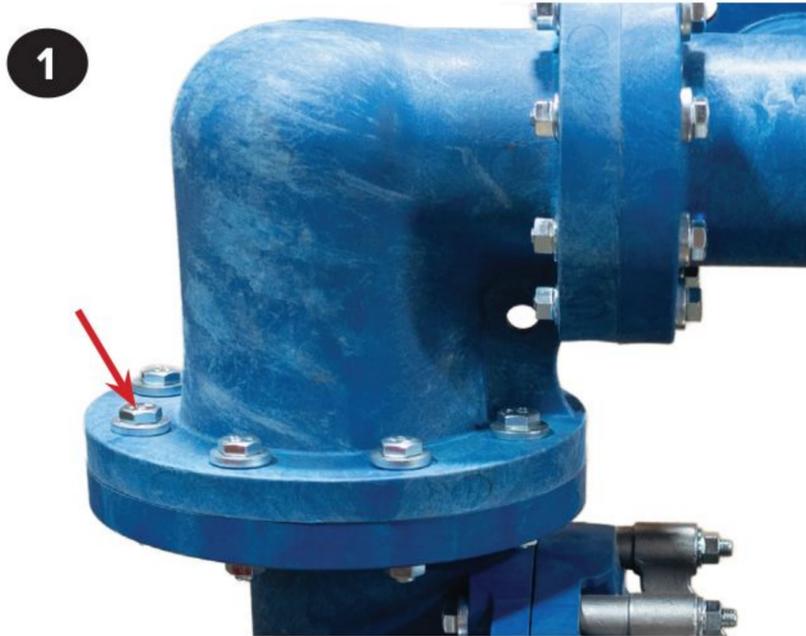
- 10 mm, 13 mm (1/2”), & 19 mm (3/4”) box and/or socket wrenches; (2) - 51mm (2”) socket wrenches, snap ring pliers; & torque wrench.

Wet End Servicing (Installing Wet End Kit)

- Relieve airline pressure and fluid line pressures before conducting maintenance.
- The pump can be drained by turning it upside down and allowing fluid to drain into an appropriate container. Use proper safety equipment when conducting maintenance as internal components may still contain the pumped media.
- Lubricate all stainless steel to stainless steel fasteners to prevent galling. Torque values listed in the back of this manual are for lubricated fasteners.

Wet End Disassembly

1 Remove the (16) discharge manifold bolts, washers, and nuts (item 31, 32, 33) from the discharge manifold assembly using a 19 mm wrench.



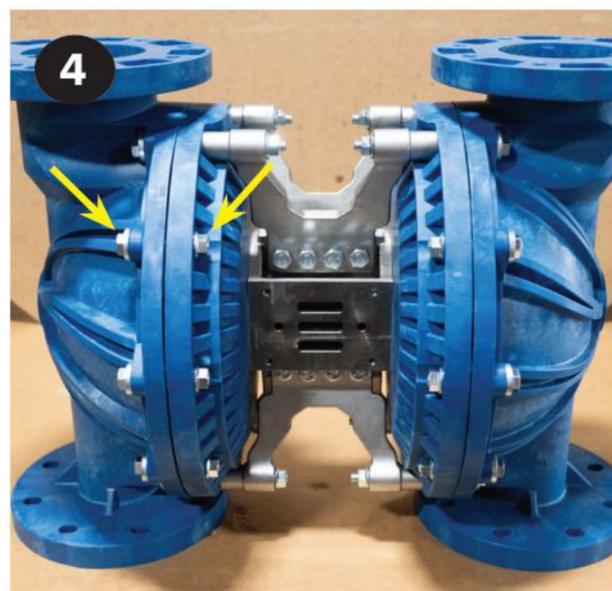
2 The discharge seat o-rings, valve seats and valve balls (items 36, 37, 38) can now be accessed and replaced if needed.



3 Repeat the above steps for the suction manifold assembly. The seat o-rings, valve seats and valve balls (items 36, 37, 38) are located in the liquid chambers (item 29).



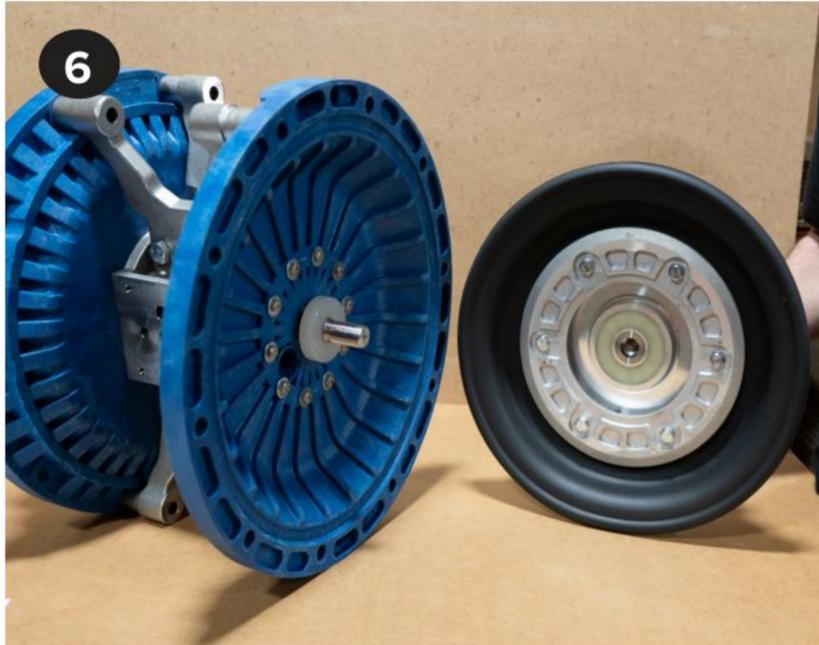
4 Remove both liquid chambers (item 29) by removing the (10) bolts, washers, & nuts (item 31, 32, 33) on each liquid chamber using a 19 mm wrench. Inspect and replace diaphragms if needed.



5 To remove the diaphragms (items 25/26), begin by loosening the (2) outer plates (item 27) using two 2" (51 mm) wrenches.



6 Remove the inner/ outer plates, outer washer and diaphragm(s) (items 24, 25/26, 27, 28) from the side that is loosened. Pull or push the shaft (item 18) and remaining plates and diaphragms out of the center section. If pulling, it may be easier to grip the diaphragm if it is inverted.



7 To remove the remaining diaphragm(s) (items 25/26), plates, and washer (items 24, 27, & 28) from the shaft (item 18), place the shaft in a vise. Using a 6-sided 2" (51 mm) wrench, remove the remaining diaphragm(s) and plates.



8 To remove diaphragms from inner & outer plates, remove the (6) bolts and washers (items 22 & 23) that connect the inner plates to the outer plates using a 13 mm wrench.



After performing required maintenance, the pump can be reassembled. The pump can also be reassembled using the disassembly instructions in the reverse order as listed above. For detailed assembly instructions, follow steps in Wet End Reassembly section beginning on page 15.

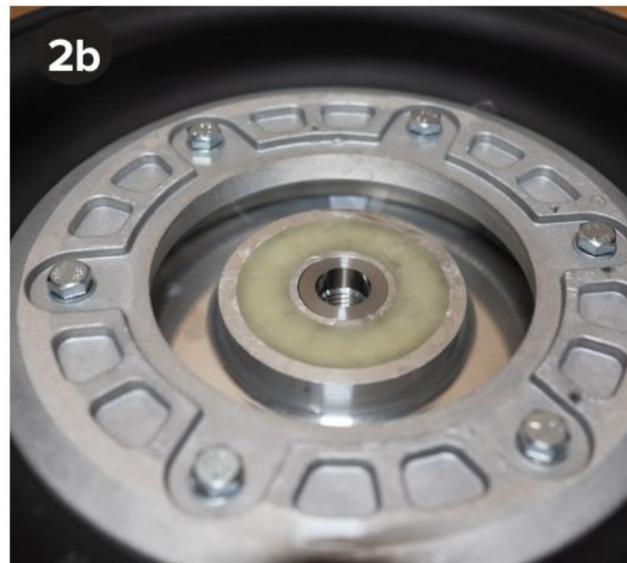
Wet End Reassembly

1 Place the diaphragm (item 25) on the outer plate (item 27).

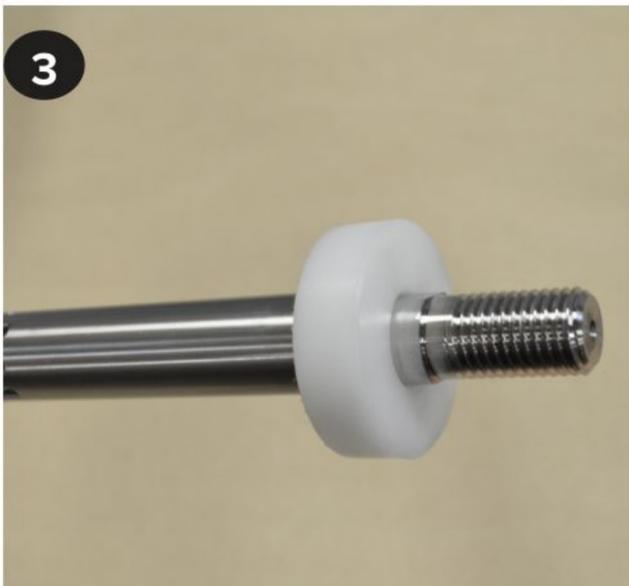
If the pump is fitted with PTFE diaphragms (item 26), first place a PTFE diaphragm on the outer plate (item 27). Then place the backup diaphragm (item 25) on the PTFE diaphragm. The shape of the PTFE diaphragm and back up diaphragm should roughly conform to one another. See the exploded view drawing for proper orientation.



2 Place the inner plate (item 24) on the diaphragm. Ensure the round recess in the plate faces the diaphragm (item 25). Tighten the (6) bolts and washers (items 22,23) in a star pattern using a 13 mm wrench. Install outer plate washer (item 28) into center of outer plate.



3 Place the bump stop (item 21) onto one end of the shaft (item 18).



4 Apply a couple drops of a medium strength thread locker, such as Loctite® 246, to the threads on end of shaft. Thread the shaft (item 18) into the outer plate (item 27) until it is snug.



5 The shaft (item 18) and inner bushing o-rings (item 17) should retain the lubricant that was factory applied. If they appear dry, apply a light coat of lithium thickened grease. Avoid over-lubrication as it can cause decreased performance of the air distribution system.



6 Push the shaft (item 18) through the center of the shaft bushing (item 15). It is normal for this to be a tight fit, especially if the shaft and shaft o-rings are in good condition.



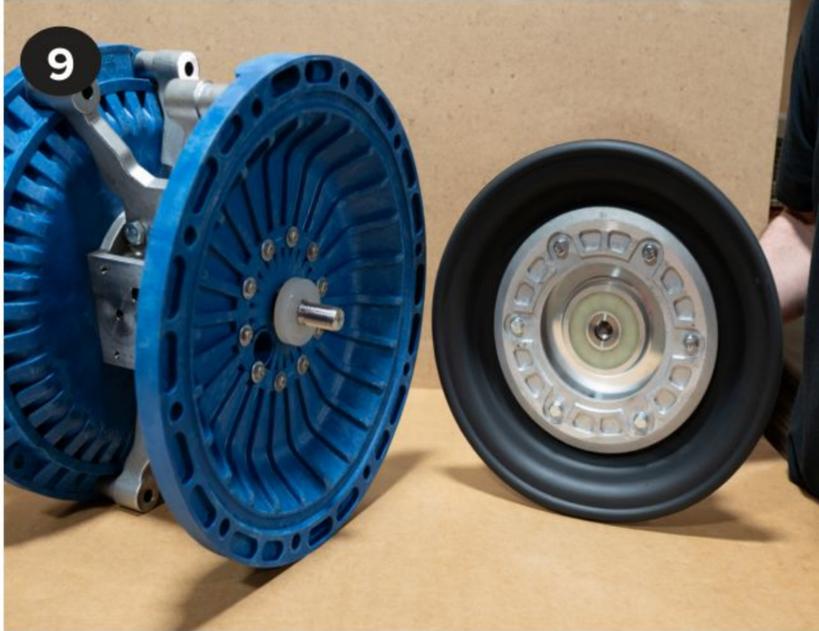
7 Place the remaining bump stop (item 21) on the other end of the shaft (item 18).



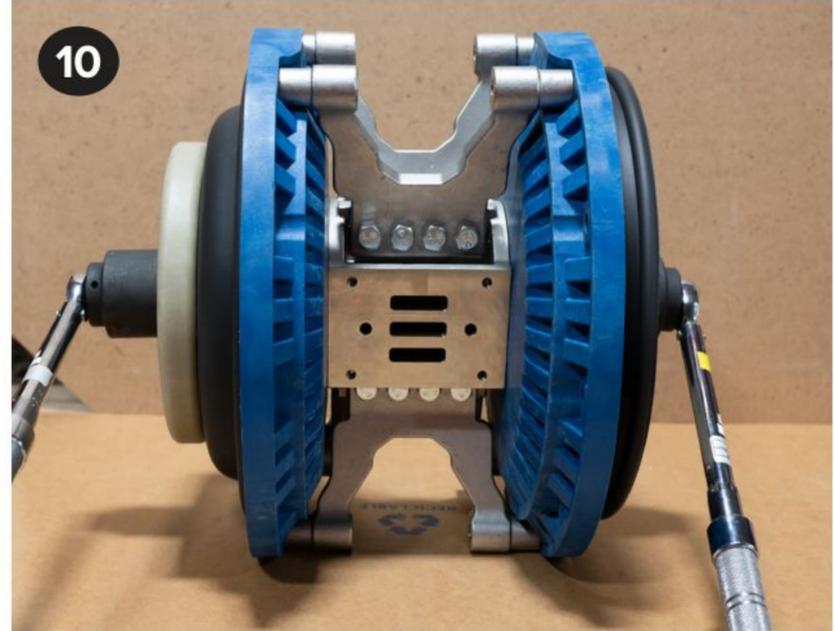
8 It may be easier to thread the outer plate onto the shaft, if the diaphragm(s) is inverted on one or both sides. This can be done by hand.



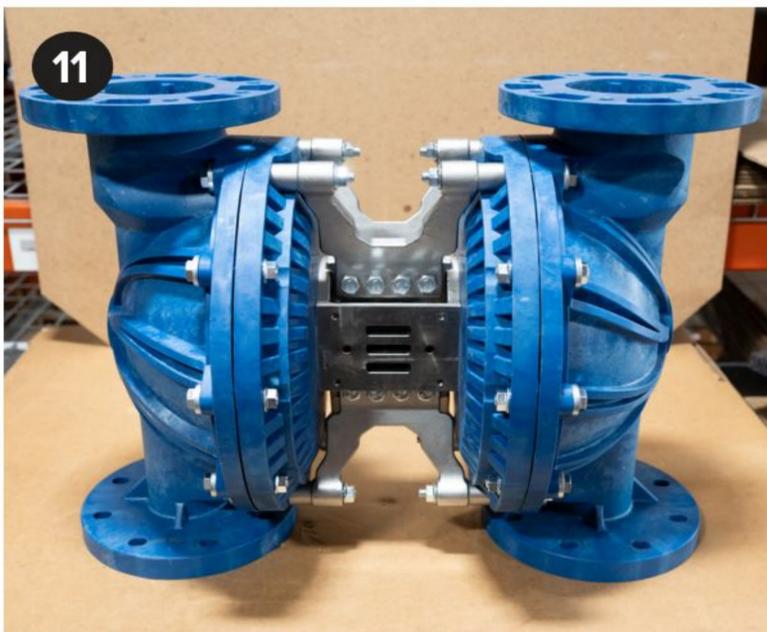
9 The other diaphragm(s), inner/outer plates, and outer plate washer can be installed onto the opposite end of the shaft.



10 Tighten and torque the outer plates using (2) - 2" (51mm) sockets.



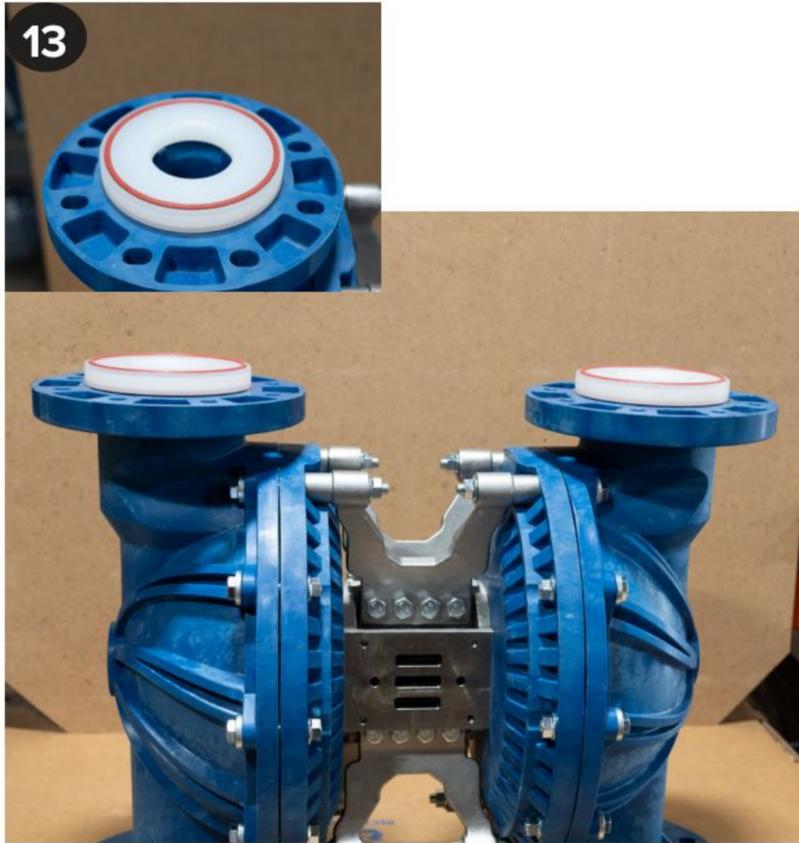
11 Install the liquid chambers (item 29) by placing one side over the diaphragm. Start all bolts, washers & nuts before tightening and torqueing. Torque all fasteners in a star pattern. Repeat to install the second liquid chamber. Ensure both chambers are orientated the same and that the inlet and outlet ports are vertical when facing the front of the pump as shown.



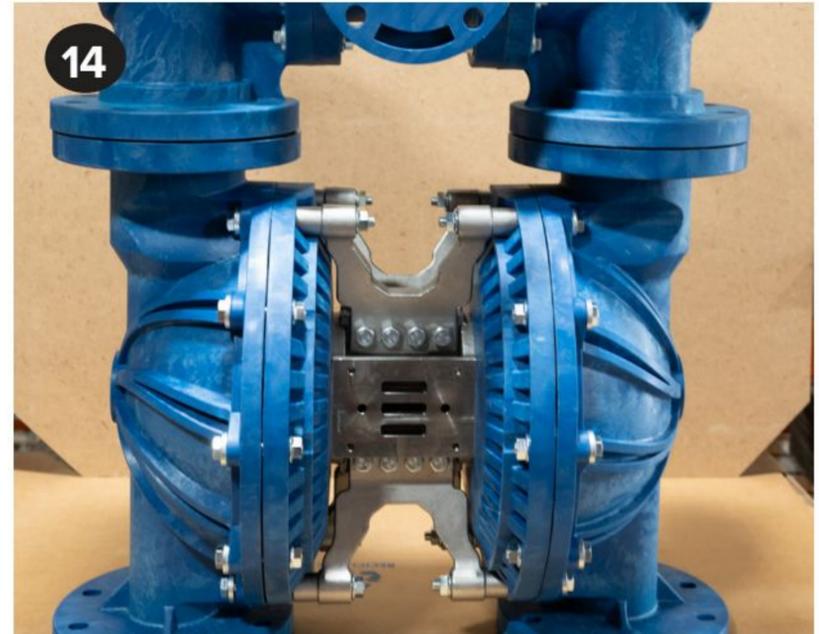
12 Flip the pump upside down and drop the suction valve balls (item 36) into the liquid chamber (item 29) ball cages.



13 Install the valve seat o-rings (item 37) into the glands on both sides of the valve seat. All seats are symmetrical, i.e. there is no top or bottom. Then place seat assembly over the liquid chamber ball cage as shown.



14 Place the suction manifold assembly atop the pump, install, tighten and torque the (16) manifold bolts, washers, and nuts (item 31, 32, & 33).



15 Stand the pump upright onto the suction manifold feet. Place the seat assembly with O-rings on the liquid chamber. Place the valve balls (item 36) on the seats and discharge manifold assembly atop the components that are stacked on top of the liquid chambers. Install, tighten and torque the (16) manifold bolts, washers, and nuts (item 31, 32, & 33).



Air End Servicing (Installing Air End Kit)

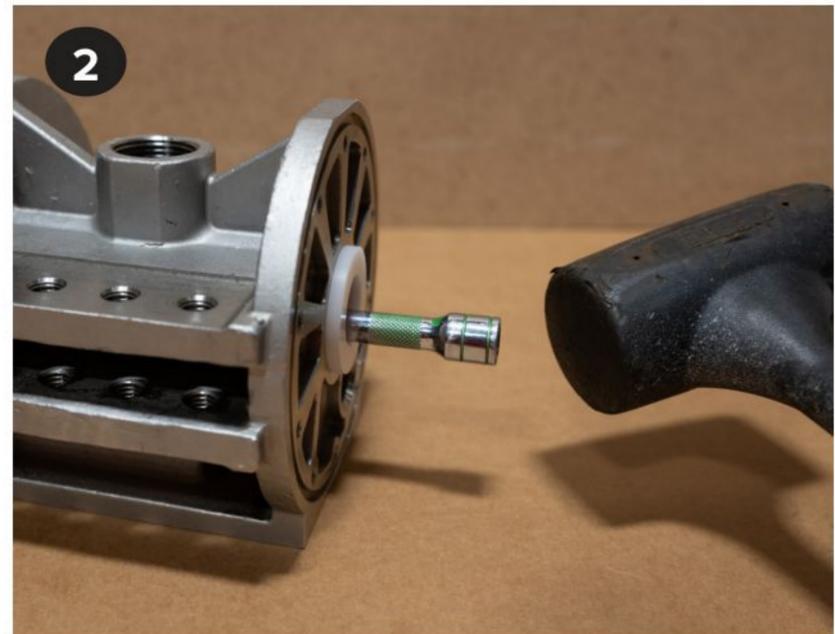
- Follow steps 1 – 8 in the Wet End Servicing disassembly section to access the shaft bushings (item 15) and O-rings (items 16 & 17), then follow steps below.

Shaft, Bushing, & O-ring Replacement

1 Remove both air chambers by removing the (10) bolts & washers (items 19 & 20) on each side of the pump with a 10mm socket wrench.



2 The shaft bushings can be removed by placing a large socket between the two bushings. Place an extension into the socket from one side of the center section (item 11). Tap with a rubber mallet to remove the bushing. Repeat for the remaining bushing.



3 Use the supplied grease packets to lightly grease the OD and ID o-rings (items 16 & 17) that come pre-installed in the new shaft bushings supplied in air end kits.



4 Insert both bushings into the center section. Ensure the bushing is fully installed and the large rib on the outside of the bushing is flat against the center section.



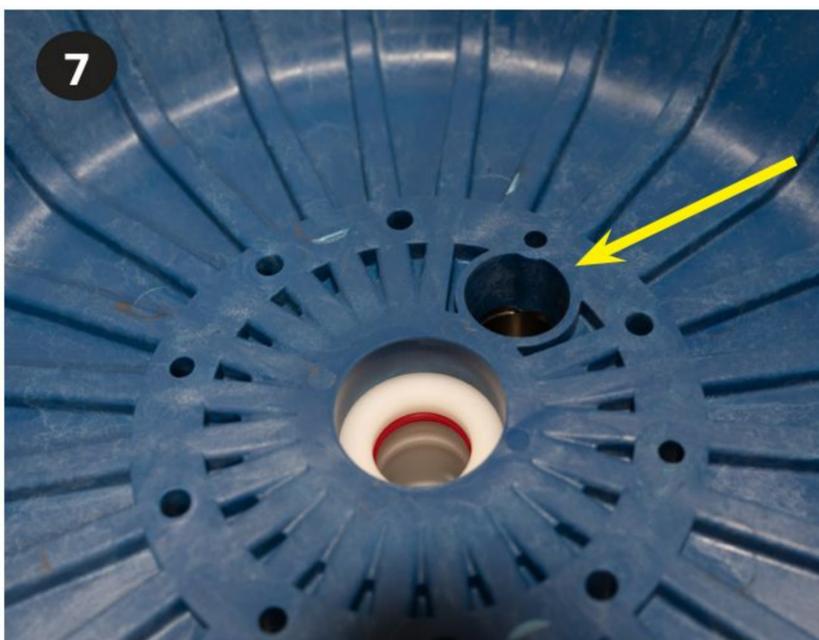
5 Inspect the shaft (item 18) for damage. It is common for shafts to become grooved during service. Grooving is normally caused by carbonized oil and/or abrasive foreign material getting trapped between the seal and the shaft. Over time, deep grooves can form in the shaft. When that occurs, it is recommended that the shaft be replaced.



6 After determining if the condition of the shaft is acceptable, ensure the center section o-rings (items 13) are in place on both sides of the center section.



7 Install air chambers (item 14) by placing one side on top of the center section (item 11). Ensure the air path hole of the center section lines up with the through hole in the air chamber.



8 Tighten and torque the (10) fasteners (items 19 & 20) that connect the air chamber (item 14) to the center section (item 11). Repeat for the second air chamber.



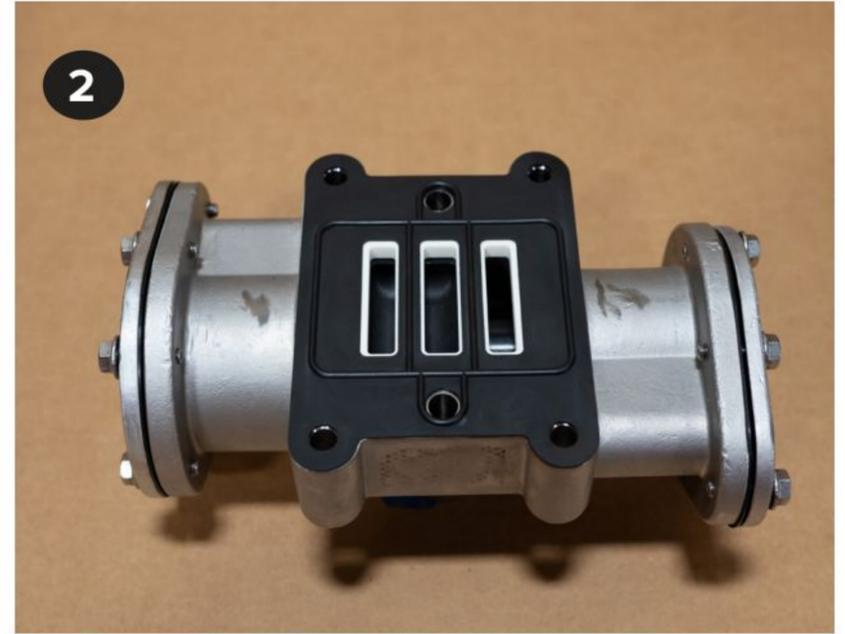
• To rebuild the rest of the pump, follow steps 5 – 15 in the Wet End Servicing – Wet End Reassembly section.

Air Valve and Gasket Replacement

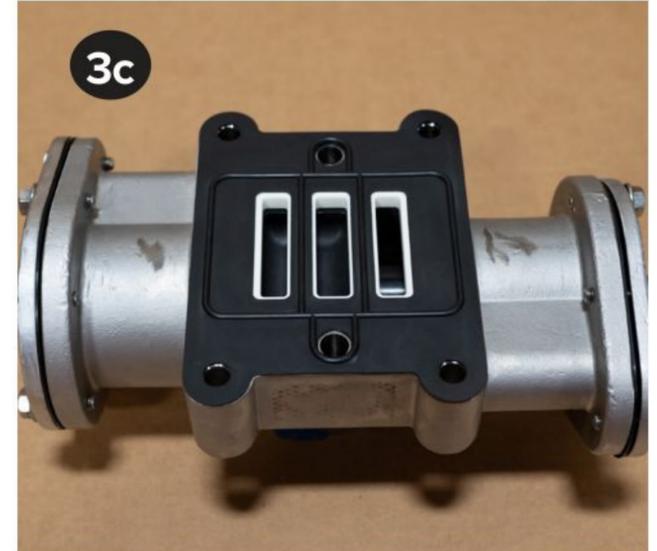
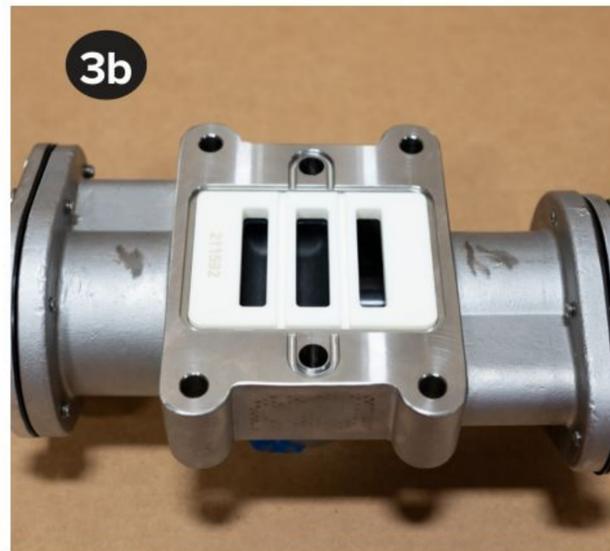
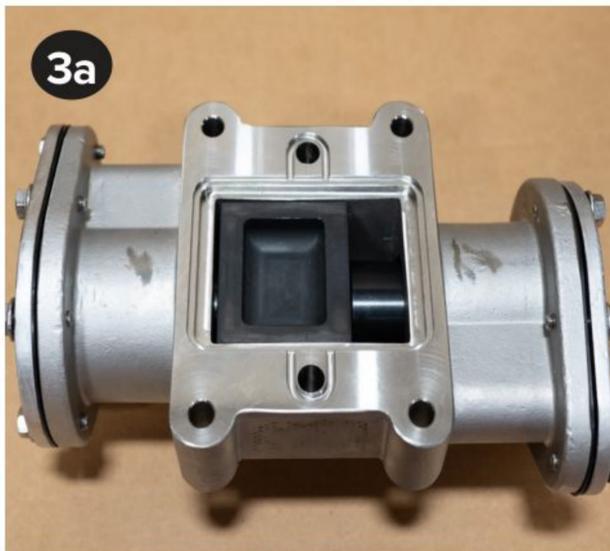
1 Remove the air valve body (item 2) by removing the (4) bolts (item 1) that attach the valve body to the center section (item 11) with a 13 mm socket wrench



2 Place the new gasket (item 10) on the air valve (item 2) and ensure the slots in the gasket align with the slots in the air valve and valve plate (item 10). Reinstall air valve assembly with (4) bolts (item 1) - Tighten and torque.



3 Air Valve Slide, Plate & Gasket Orientation: If the valve plate (item 5) and slide valve (item 4) are removed, ensure they are installed in the proper orientation. The flat face of the slide valve (item 4) sits in the pocket of the valve carrier (item 3), so that the square cut out is facing out. Then install the valve plate (item 5) with the smooth polished side facing inward. Add gasket (item 10) ensuring that the slots in the gasket align with the slots in the air valve and valve plate.



Discharge and Suction Manifold Assembly

1 Insert manifold tee O-ring (item 39) into the groove on one side of the manifold tee (item 40).



2 Install the discharge elbow (item 34) aligning the bolt holes so that the discharge flange is in the required location. Ensure that the non-ball cage side is installed on the manifold tee flange with O-ring.



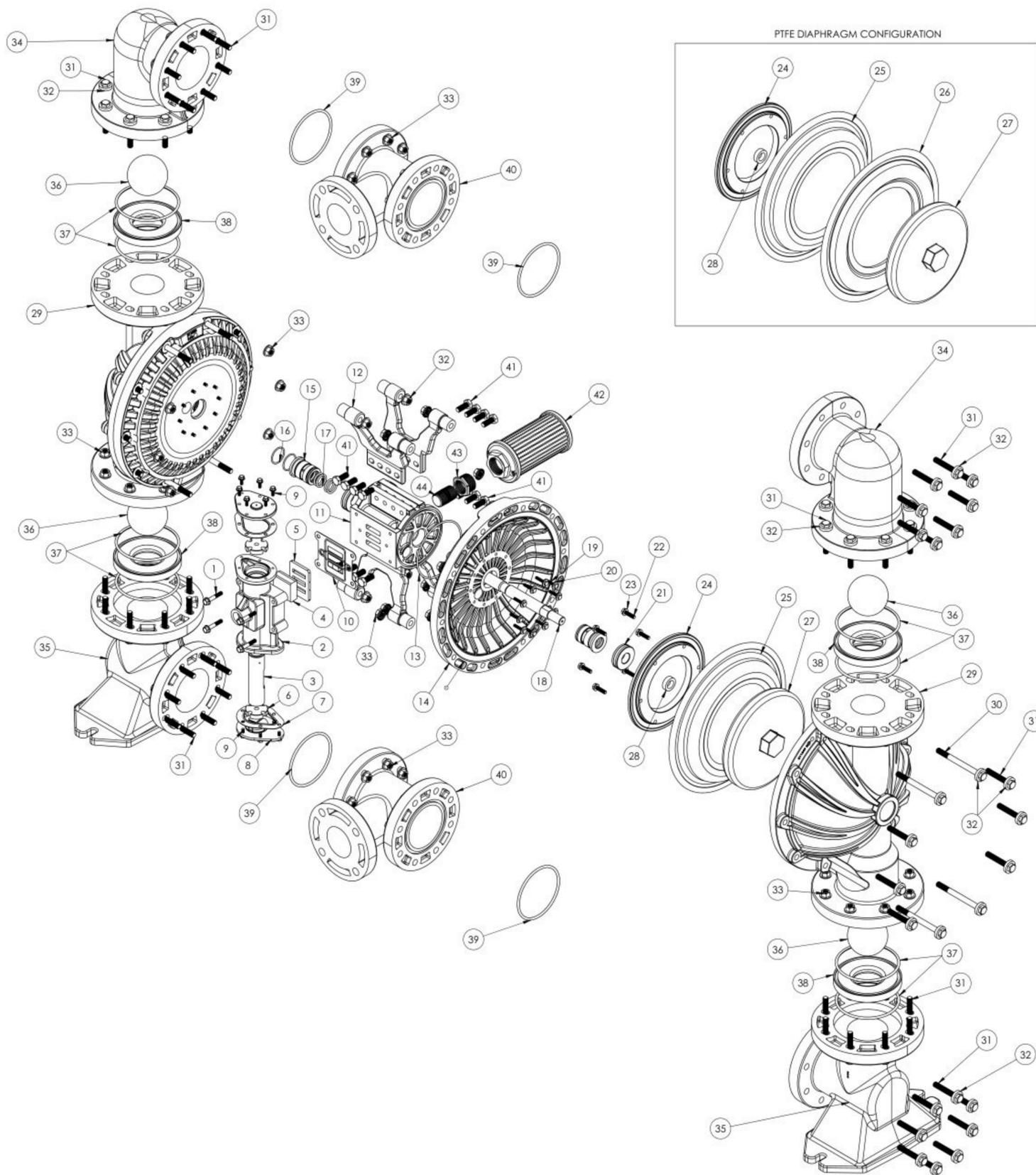
3 Tighten and torque the (8) bolts, washers, and nuts (items 31, 32, & 33). Repeat steps for other side.



4 Repeat steps 1 - 3 for suction manifold assembly using items (31, 32, 33, 35, 39, & 40)



Exploded View & Spare Parts List



ITEM	DESCRIPTION	PART NO.	QTY	KIT
1	CAP SCREW, FLANGED M6-1.25X45MM	109508	4	
2	VALVE BODY	213031	1	V / VA
3	VALVE CARRIER	212153	1	V / VA
4	SLIDE VALVE	212439	1	V
5	VALVE PLATE	211592	1	V
6	SNUBBER	210915	2	V / VA
7	GASKET, VALVE CAP	211598	2	V / VA
8	END CAP, VALVE	211573	2	V / VA
9	CAP SCREW, FLANGED M6-1.0X16MM	109504	12	V / VA
10	GASKET, VALVE TO CENTER SECTION	211597	1	V
11	CENTER SECTION	211555	1	

ITEM	DESCRIPTION	PART NO.	QTY	KIT
12	BRACKETS	212137	4	
13	O-RING, CENTER SECTION AND AIR CHAMBER	212489	2	A
14	AIR CHAMBER, POLYPROPYLENE	211550	2	
15	MAIN SHAFT BUSHING ASSEMBLY (INCLUDE #16 AND #17)	213275	2	A
16	O-RING, BUSHING OD	109420	4	A
17	SEAL, BUSHING ID (SEE ITEM #15)	---	8	A
18	SHAFT, MAIN	212676	1	
19	CAP SCREW, HEX HEAD M6+1.0X30MM	J103968	20	
20	WASHER, M6	212506	20	
21	BUMP STOP	212452	2	
22	CAP SCREW, HEX HEAD M8-1.25X30MM	109471	16	
23	WASHER, M8	109469	16	
24	INNER PLATE, ALUMINUM	109171	2	
25	DIAPHRAGM, NEOPRENE (GREEN DOT)	109189-1	2	W
	DIAPHRAGM, BUNA-N, FDA (RED DOT)	109189-2		W
	DIAPHRAGM, EPDM (BLUE DOT)	109189-3		W
	DIAPHRAGM, FKM (WHITE OR SILVER DOT)	109189-4		W
	DIAPHRAGM, SANTOPRENE (RED)	109197		W
	DIAPHRAGM, SANTOPRENE (NATURAL)	109197-1		W
	DIAPHRAGM, HYTREL (CREAM)	109193		W
	DIAPHRAGM, HYTREL (NATURAL)	109193-1		W
	DIAPHRAGM, POLYURETHANE (BEIGE)	109438		W
26	DIAPHRAGM, PTFE (WHITE) – REQUIRES BACKUP DIAPHRAGM (ITEM 24)	109185-1	2	W
27	OUTER PLATE, POLYPROPYLENE	211596	2	
28	WASHER, OUTER PLATE	212263	2	
29	LIQUID CHAMBER, POLYPROPYLENE	211549	2	
30	CAP SCREW, HEX HEAD M12-1.75X140MM	212487	8	
31	CAP SCREW, HEX HEAD M12-1.75X75MM	212486	84	
32	WASHER, M12	212505	92	
33	NUT, M12-1.75 FLANGED SERRATED	109510	92	
34	ELBOW, DISCHARGE POLYPROPYLENE	211547	2	
35	ELBOW, SUCTION POLYPROPYLENE	211548	2	
36	VALVE BALL, NEOPRENE (GREEN DOT)	109206	4	W
	VALVE BALL, BUNA-N (RED DOT)	109210		W
	VALVE BALL, EPDM (BLUE DOT)	109214		W
	VALVE BALL, FKM (WHITE OR SILVER)	109218		W
	VALVE BALL, SANTOPRENE (RED)	109222		W
	VALVE BALL, SANTOPRENE (NATURAL)	109222-1		W
	VALVE BALL, PTFE, FDA, (WHITE)	109202		W
	VALVE BALL, 316 STAINLESS STEEL	109371		W
	VALVE BALL, WEIGHTED PTFE	109380		W

ITEM	DESCRIPTION	PART NO.	QTY	KIT
37	O-RING, VALVE SEAT, BUNA-N	212481	8	W
	O-RING, VALVE SEAT, FKM	212482		W
	O-RING, VALVE SEAT, POLYURETHANE	212483		W
	O-RING, VALVE SEAT, SANTOPRENE	212484		W
	O-RING, VALVE SEAT, FEP ENCAPSULATED FKM	212485		W
38	VALVE SEAT, POLYPROPYLENE	211886	4	W
39	O-RINGS, MANIFOLD TEE, BUNA-N	212476	4	
	O-RINGS, MANIFOLD TEE, FKM	212477		
	O-RINGS, MANIFOLD TEE, POLYURETHANE	212478		
	O-RINGS, MANIFOLD TEE, SANTOPRENE	212479		
	O-RINGS, MANIFOLD TEE, FEP ENCAPSULATED FKM	212480		
40	MANIFOLD TEE, POLYPROPYLENE	211546	2	
41	CAP SCREW, HEX HEAD, M12-1.75X30MM	212488	16	
42	MUFFLER	212453	1	
43	REDUCER	212527	1	
44	NIPPLE	J101944	1	
---	GREASE, LITHIUM	110100	3	A

FT30P & FT30V KITS

KIT KEY	DESCRIPTION	PART NO.
W	PARTS SUPPLIED IN WET END KITS	-
A	AIR END KIT	212599
V	AIR VALVE KIT (Includes air valve assembly, slide, valve plate, and gasket)	212587
VA	AIR VALVE ASSEMBLY (Includes items 2, 3, 6, 7, 8, & 9)	213284

AIR VALVE COMPONENTS

ITEM	DESCRIPTION	PART NO.	QTY	KIT
2	VALVE BODY, STAINLESS STEEL	211576	1	V
3	VALVE CARRIER	212153	1	V
4	SLIDE VALVE	212439	1	V
5	VALVE PLATE	211592	1	V
6	SNUBBER	210915	2	V
7	GASKET, VALVE CAP	211598	2	V
8	END CAP, VALVE	211573	2	V
9	CAP CREW, FLANGED M6-1.0X16MM	109504	12	V
10	GASKET, VALVE TO CENTER SECTION	211597	1	V

FT30P & FT30V Maximum Torque Settings

Item #	Torque
1	M8x1.25 – 8.2 Nm (73 in-lbs)
9	M6x1.0 – 6.5 Nm (58 in-lbs)
19	M6x1.0 – 6.5 Nm (58 in-lbs)
22	M8x1.25 – 24 Nm (212 in-lbs)
30	M12x1.75 – 63 Nm (558 in-lbs)
31	M12x1.75 – 63 Nm (558 in-lbs)
41	M12x1.75 – 63 Nm (558 in-lbs)

Values are for lubricated hardware. Stainless steel to stainless steel fasteners should be lubricated to prevent galling. Stainless steel fasteners tend to gall, especially with long run downs, impact drivers, and lack of lubrication. It is highly encouraged to use a lubricant or anti-seize compound and assemble with a slow and continuously applied torque to avoid galling

Warranty



FTI Air A Division of Finish Thompson, Inc (manufacturer) warrants this pump product to be free of defects in materials and workmanship for a period of five years from date of purchase by original purchaser. If a warranted defect, which is determined by manufacturer's inspection, occurs within this period, it will be repaired or replaced at the manufacturer's option, provided (1) the product is submitted with proof of purchase date and (2) transportation charges are prepaid to the manufacturer.

Liability under this warranty is expressly limited to repairing or replacing the product or parts thereof and is in lieu of any other warranties, either expressed or implied. This warranty does not apply to normal wear of the product or components. This warranty does not apply to products or parts broken due to, in whole or in part, accident, overload, abuse, chemical attack, tampering, or alteration. The warranty does not apply to any other equipment used or purchased in combination with this product. The manufacturer accepts no responsibility for product damage or personal injuries sustained when the product is modified in any way. If this warranty does not apply, the purchaser shall bear all cost for labor, material and transportation.

Manufacturer shall not be liable for incidental or consequential damages including, but not limited to process down time, transportation costs, costs associated with replacement or substitution products, labor costs, product installation or removal costs, or loss of profit. In any and all events, manufacturer's liability shall not exceed the purchase price of the product and/or accessories



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