



CPE SYSTEMS INC

ALL-PUR FDA F100

AODD PUMP



The All-Pur F100 AODD pump by All-Flo is specifically designed for the tough conditions of sanitary processing plants. The F100 can handle partial solids, a variety of temperatures, and is available in a range of materials to customize it the applications.

FEATURES

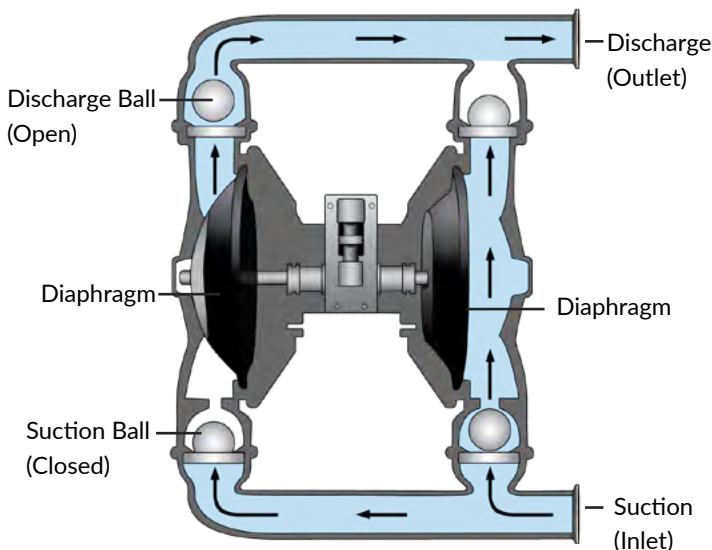
- Shear Sensitive
- Self-Priming
- Wide Temperature Range
- Simple Air Motor
- Streamline Bolted Design

DESIGN

The F-series pumps are designed for use in food processing and sanitary processing environments. With a simple bolted design and minimal moving parts, the F100 is durable, easy to repair and maintenance, and incredibly reliable. All-Flo pumps are known for their performance and efficiency, with special features such as the high efficiency air valve that handles up to 120 psi of air pressure. All F-Series AODD pumps are operated with an air-compressor and do not require an electric motor.

OPERATION

The F100 has two diaphragms, a left and right which are connected with a rod. Pressurized air is used to move the diaphragms, alternating from left to right. When pressurized air moves the left diaphragm outwards, it in turn pulls the joined right diaphragm inwards. This causes the right side suction ball to move upward opening the inlet and the discharge ball to move down closing the outlet; this causes liquid to be suctioned into the chamber. When the pressurized air moves the diaphragm to the right the balls move opening the outlet and closing the inlet, this pushes the liquid out the discharge. This process occurs on both the left and right sides of the pump providing a more constant flow rate.



TECHNICAL SPECIFICATIONS

Physical Specifications

Air Inlet Connection Size:	1/4" FNPT
Air Exhaust Connection Size:	3/4"
Liquid Inlet:	1-1/2"
Liquid Discharge:	1-1/2"
Connection Type:	Tri-Clamp
Weight:	38 lbs (17 kg)

Porting:

Standard	Suction Right / Discharge Right
Special Order (Field Changeable)	Suction Right / Discharge Left
Special Order (Field Changeable)	Suction Left / Discharge Right
Special Order (Field Changeable)	Suction Left / Discharge Left

Materials

Wet End:	Passivated 316 Stainless Steel
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Air End:

Standard	Aluminum
Special Order	PTFE Coated Aluminum

Diaphragm:

TPE Model	Hytrel® (FDA)
PTFE Model	PTFE
Rubber Model	Santoprene® (FDA)

Valve/Ball:

Hytrel® Diaphragm	Buna-N (FDA)
PTFE Diaphragm	PTFE
Santoprene® Diaphragm	Santoprene® (FDA)

Seat:

Stainless Steel

O-Rings:

Hytrel® Diaphragm	Buna-N (FDA)
PTFE Diaphragm	PTFE
Santoprene® Diaphragm	EPDM (FDA)

Hardware:

Stainless Steel

Muffler:

Plastic
Metal (Special Order)

Operating Limits

Max Flow Rate (PTFE):	45 gpm (170 lpm)
Max Flow Rate (TPE):	48 gpm (182 lpm)
Max Pressure:	120 PSI (8.2 bar)
Max Solids Diameter:	1/4" (6.4 mm)
Max Suction Lift Capability (Dry):	17 ft-H ₂ O (5.2 m-H ₂ O)
Max Suction Lift Capability (Wet):	30 ft-H ₂ O (9.1 m-H ₂ O)

Approvals

FDA, CE, ATEX Compliant



The F100 has a variety of options to customize it to specific duties, including elastomer and air end materials, muffler options, porting options, and more. CPE Systems offer three base models that cover the majority of applications and needs. Other combinations and models are available upon request. Please contact the CPE Systems sales team for inquiries and special orders.

F100-TAE-4S3M-S70

- Connection Type: Tri-Clamp
- Diaphragm: Santoprene®
- Ball: Santoprene®
- Seat Material: Stainless steel
- O-Ring Material: EPDM FDA)
- Porting: Suction right / discharge right
- Stainless steel hardware
- Plastic muffler

F100-TAE-TT3T-S70

- Connection Type: Tri-Clamp
- Diaphragm: PTFE
- Ball: PTFE
- Seat Material: Stainless steel
- O-Ring Material: PTFE
- Porting: Suction right / discharge right
- Stainless steel hardware
- Plastic muffler

F100-TAE-HB3B-S70

- Connection Type: Tri-Clamp
- Diaphragm: Hytrel®
- Ball: Buna-N (FDA)
- Seat Material: Stainless steel
- O-Ring Material: Buna-N (FDA)
- Porting: Suction right / discharge right
- Stainless steel hardware
- Plastic muffler

Materials

Elastomer	Description	Temperature Range	Flex Life	General Use	Strengths	Weaknesses
Buna-N (Nitrile)	A general purpose elastomer used in a variety of industries because of its tensile strength and versatility	10°F to 180°F -12°C to 82°C	Low	Water and Oils	Suitable for Petroleum/ Oily Products High Abrasion Resistance	Low Chemical Resistance
Geolast®	An injection molded thermoplastic material with similar characteristics to Buna-N	10°F to 180°F -12°C to 82°C	High	Water and Oils	Suitable for Petroleum/ Oily Products High Abrasion Resistance	Low Chemical Resistance
Hytrel®	A thermoplastic polyester elastomer that is both strong and flexible	10°F to 180°F -12°C to 82°C	High	Water and Oils	Suitable for Petroleum/ Oily Products High Abrasion Resistance	Low Chemical Resistance
EPDM	A general purpose synthetic rubber that is resistant to a variety of chemicals and has a large temperature range	-40°F to 280°F -40°C to 138°C	Low	Some Acids and Bases	Resistant to Mild Chemicals	Not Suitable for Oily/Petroleum Products
Santoprene®	An Injection molded material with similar characteristics to EPDM	-40°F to 225°F -40°C to 107°C	High	Some Acids and Bases	Resistant to Mild Chemicals and Abrasives	Not Suitable for Oily/Petroleum Products
PTFE	A specialty synthetic thermoplastic that has high chemical compatibility and can withstand caustic liquids	40°F to 220°F 4°C to 104°C	Medium	Most Chemicals	Inert to Most Chemicals	Low Abrasion Resistance
FKM (Viton)	A thermoset rubber elastomer with high chemical resistance and a large temperature range	-40°F to 350°F -40°C to 177°C	Very Low	Wide Variety of Acids and Bases	Large Temperature Range Good Corrosion Resistance Good Chemical Resistance	Low Flex Life

Geolast® is a registered trademark of ExxonMobil Chemical Co.

Santoprene® is a registered trademark of ExxonMobil Chemical Co.

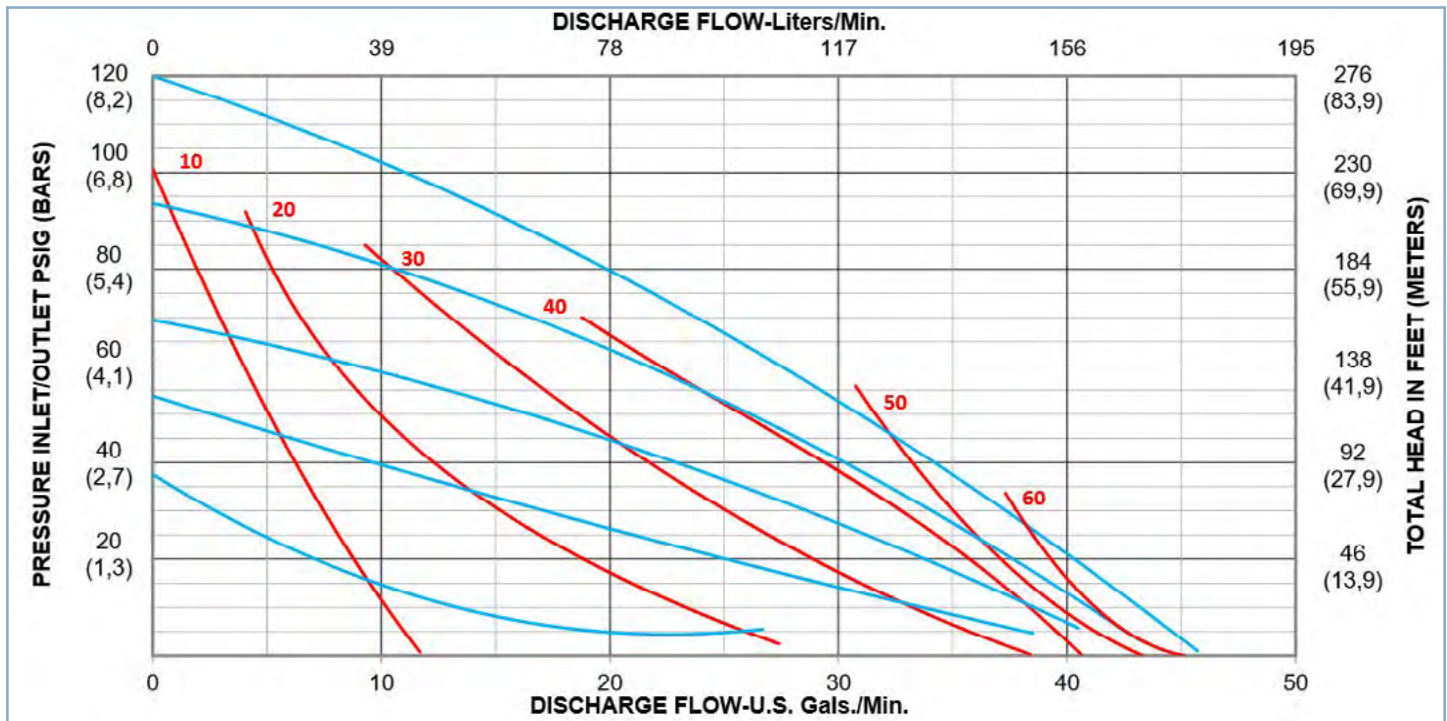
Hytrel® is a registered trademark of DuPont Performance Elastomers L.L.C.



Capacity Curves

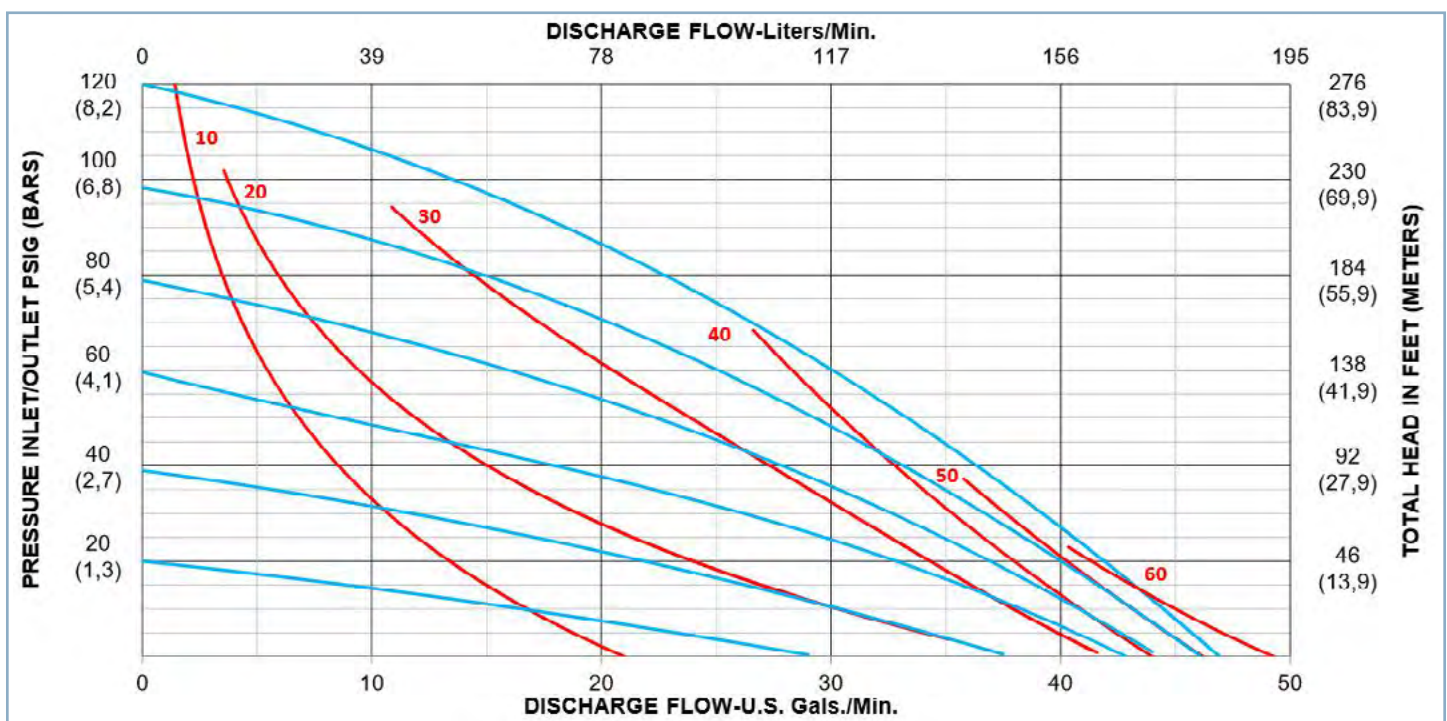
MODEL: F100 METAL PTFE

Diaphragm Material: PTFE



MODEL: F100 METAL RUBBER

Diaphragm Material: Santoprene

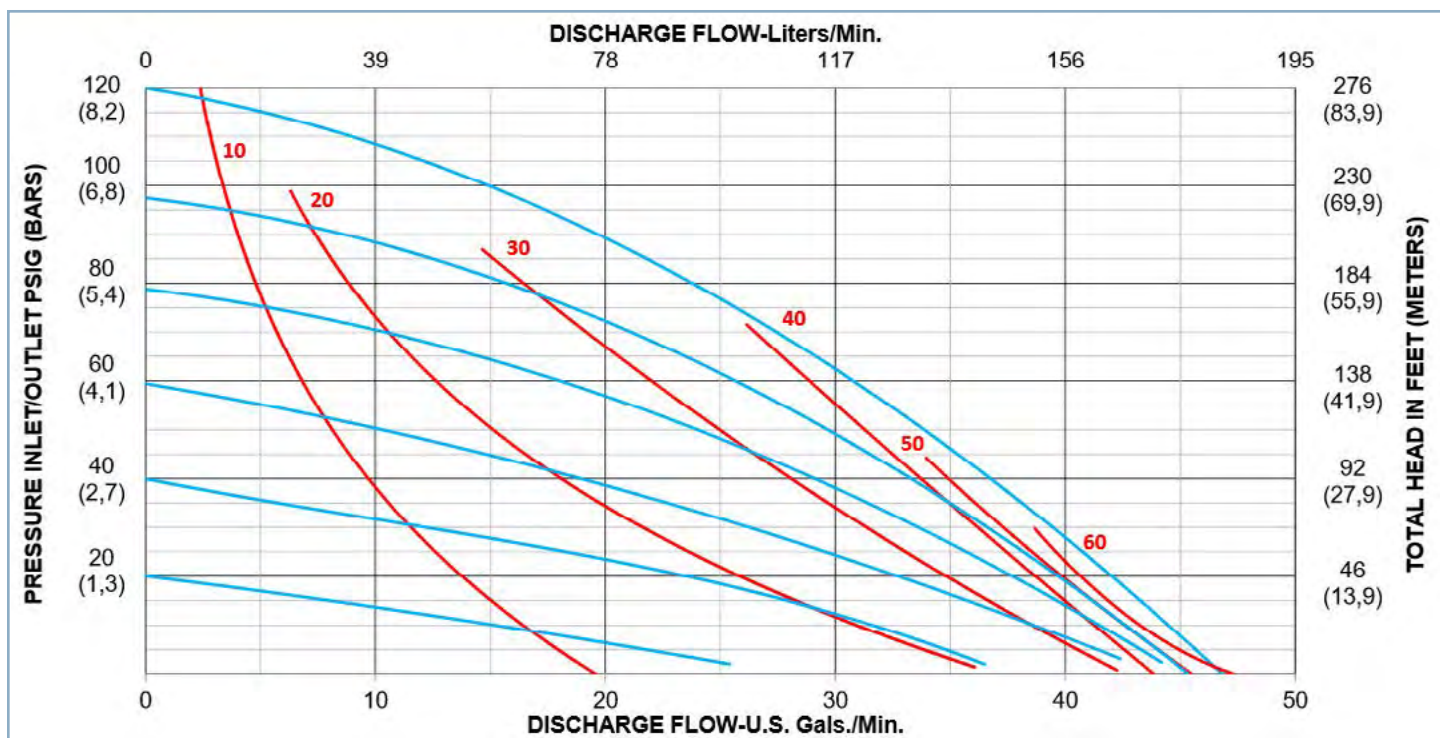




Capacity Curves

MODEL: F100 METAL TPE

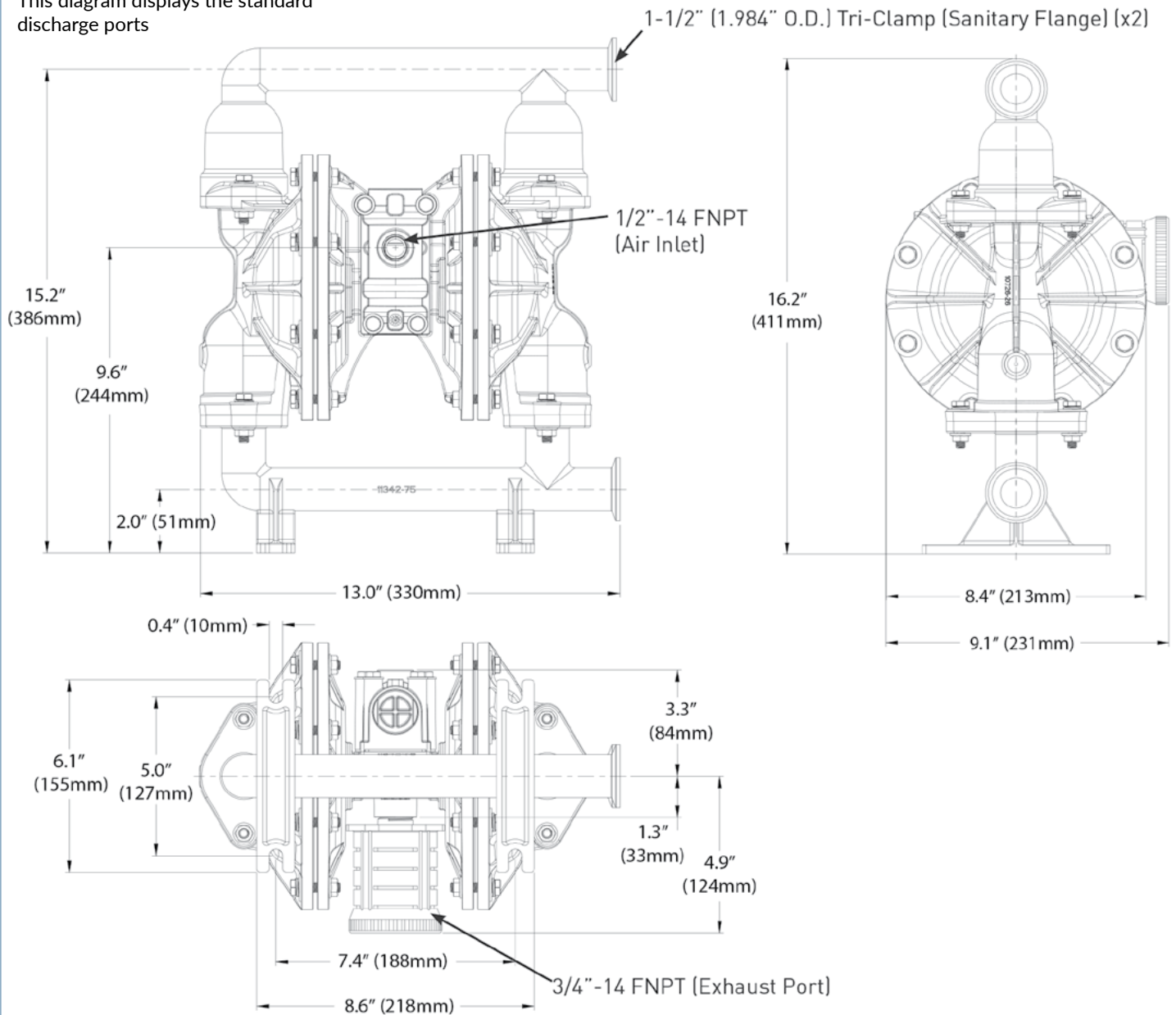
Diaphragm Material: Hytrel



F100 DIMENSIONS

Note:

This diagram displays the standard discharge ports

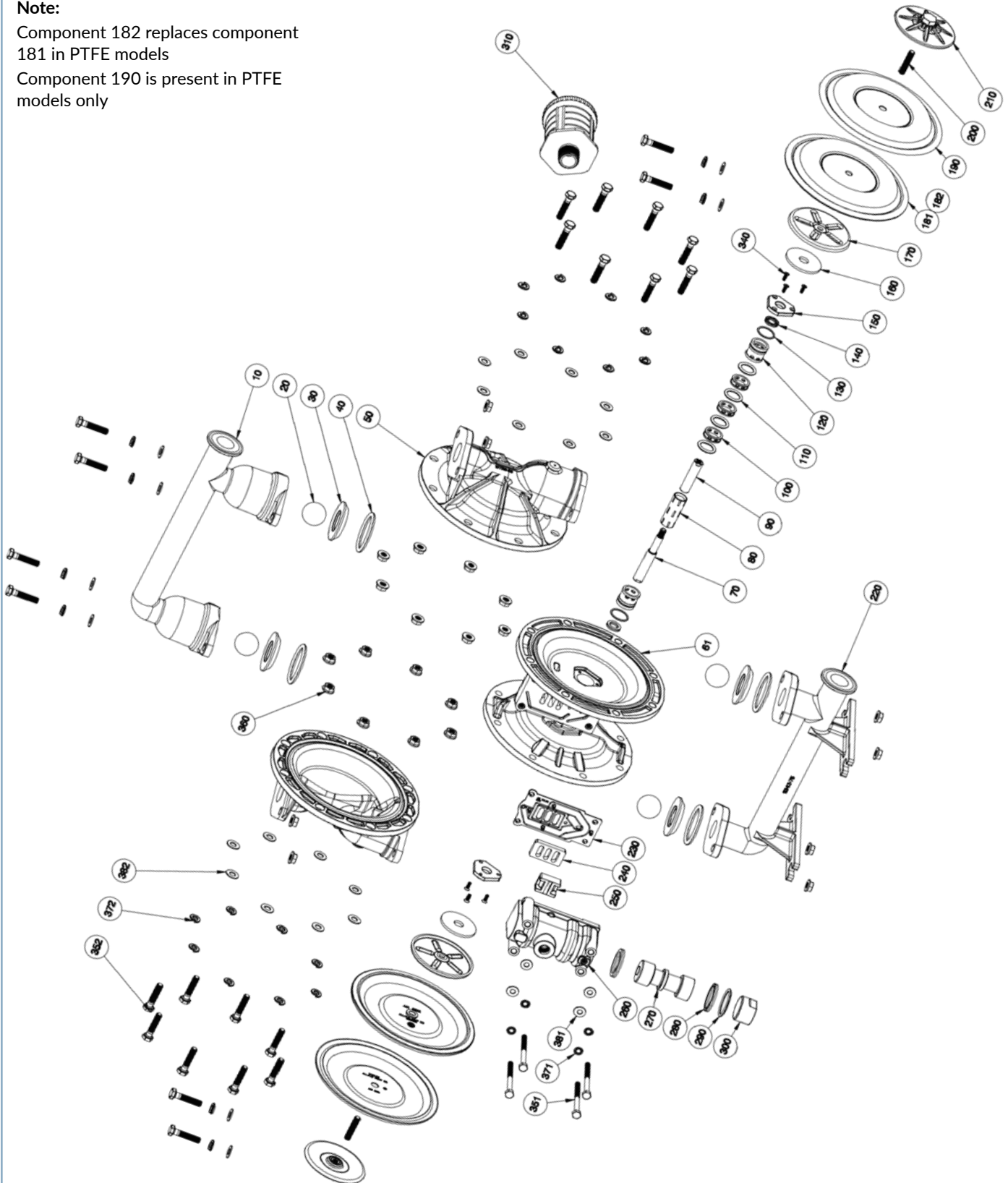


F100 EXPANDED VIEW

Note:

Component 182 replaces component 181 in PTFE models

Component 190 is present in PTFE models only





F100 Parts List

Part #	Part Name	Quantity	Pump Models	Part Number	Material
10.	Discharge Manifold (Tri-Clamp)	1	All Models	11341-75	Stainless Steel
20.	Ball	4	F100-TAE-*B**-* F100-TAE-*S**-* F100-TAE-*T**-*	11008-14 11008-23 11008-45	Buna-N (FDA) Santoprene (FDA) PTFE
30.	Valve Seat	4	F100-TAE-*3**-*	10927-26	Stainless Steel
40.	O-Ring (Valve Seat)	4	F100-TAE-*B**-* F100-TAE-*M**-* F100-TAE-*T**-*	11947-14 11947-17 11947-81	Buna-N (FDA), EPDM (FDA), or PTFE
50.	Outer Chamber	2	All Models	10726-75	Stainless Steel
61.	Intermediate	1	All Models	11526-20	Aluminum
70 & 90.	Diaphragm Rod Assembly	1	All Models	35005-00	Stainless Steel
80.	Pilot Sleeve	1	All Models	10105-31	Acetel
100.	Inner Spacer (Pilot Sleeve)	3	All Models	10203-40	Polypropylene
110.	O-Ring (Pilot Sleeve)	4	All Models	11920-16	Urethane
120.	End Spacer (Pilot Sleeve)	2	All Models	10209-40	Polypropylene
130.	O-Ring (End Spacer)	2	All Models	11923-16	Urethane
140.	Lip Seal (Diaphragm Rod)	2	All Models	12000-76	Nitrile
150.	Retaining Plate	2	All Models	12718-54	Nylon
160.	Bumper	2	All Models	12325-16	Urethane
170.	Inner Diaphragm Plate	2	All Models	11104-25	Plated Steel
181.	Diaphragm	2	F100-TAE-H***-* F100-TAE-4***-*	10612-18 10612-80	Hytrek (FDA) Santoprene (FDA)
182.	Diaphragm, Backup (PTFE Only)	2	F100-TA3-T***-*	10613-80	Santoprene (FDA)
190.	PTFE Overlay (PTFE Only)	2	F100-TA3-T***-*	11409-59	PTFE
200 & 210.	Outer Diaphragm Plate w. Threaded Stud	2	F100-TAE-****-*	11220-75	Stainless Steel
220.	Suction Manifold (Tri-Clamp)	1	All Models	11342-75	Stainless Steel
230.	Air Valve Gasket	1	All Models	12125-19	Nitrile
240.	Shuttle Plate	1	All Models	10451-77	Ceramic
250.	Shuttle	1	All Models	10431-32	Special
260.	Air Valve Body	1	All Models	11619-20	Aluminum
270.	Air Valve Spool	1	All Models	10482-31	Acetel
280.	Lip Seal (Air Valve)	2	All Models	12003-76	Nitrile
290.	O-Ring (Air Valve End Plug)	1	All Models	11913-11	Nitrile
300.	Air Valve End Plug	1	All Models	11706-20	Aluminum
310.	Muffler	1	All Models Optional	13001-00 13009-00	Standard Metal
340.	Screw, Flat Head (#6-32 X 7/16")	6	All Models	12578-26	Stainless Steel
351.	Screw, Flat Head Cap (1/4 - 20 X 3")	4	All Models	12516-26	Stainless Steel
352.	Screw, Hex Head Cap (5/16"-18 X 1-1/2")	24	All Models	12584-26	Stainless Steel
360.	Nut, Flange (5/16" - 18)	24	All Models	12608-26	Stainless Steel
371.	Washer, Lock Tooth (1/4")	4	All Models	12350-26	Stainless Steel
372.	Washer, Split Lock (5/16")	24	All Models	12313-26	Stainless Steel
381.	Washer (1/4")	4	All Models	12300-26	Stainless Steel
382.	Washer (5/16")	24	All Models	12310-26	Stainless Steel
400.	Grounding Lug (not shown)	1	Optional	13481-20	Aluminum