

# F20 NON-METALLIC PUMP TECHNICAL DATA SHEET



## SERIES

### STANDARD DUTY BALL VALVE PUMPS

Offering the widest range of performance and application capabilities

## PERFORMANCE

### SUCTION / DISCHARGE PORT SIZE

- 2" Universal Flange  
(Fits ANSI & DIN Flange)

### CAPACITY

- 0 to 160 gallons per minute (0 to 605 LPM)

### AIR DISTRIBUTION VALVE

- No-lube, no-stall design

### SOLIDS-HANDLING

- Up to .66 in. (17mm)

### HEADS UP TO

- 100 psi or 231 ft. of water  
(7 Kg/cm<sup>2</sup> or 70 meters)

### MAXIMUM OPERATING PRESSURE

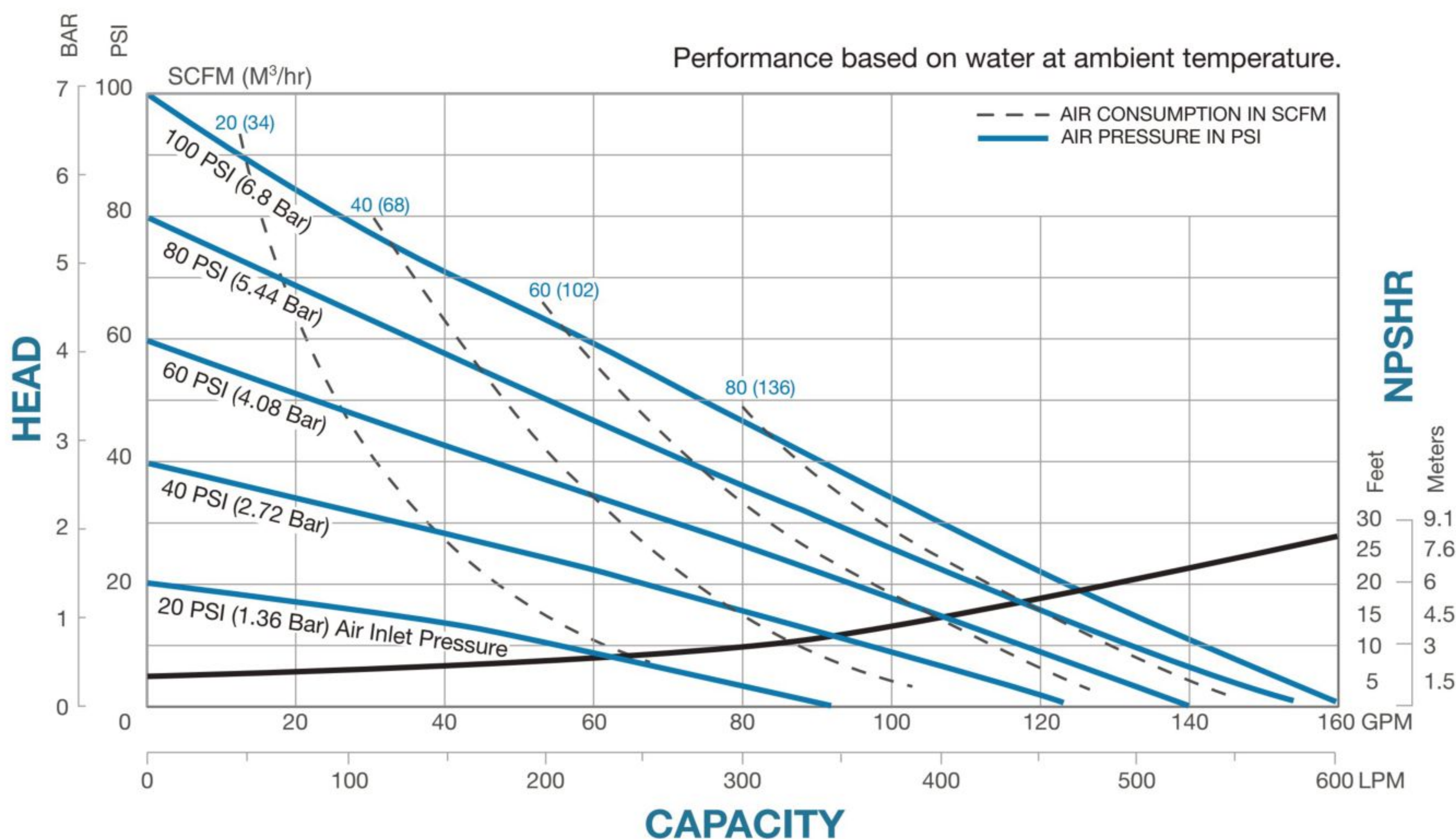
- 100 psi (7 bar)

### DISPLACEMENT/STROKE

- .46 Gallon / 1.73 liter

### WEIGHTS

- Polypropylene 95 lbs. (43kg)
- PVDF 130 lbs. (59kg)
- Conductive Polypropylene 100 lbs. (45kg)



5 YEAR LIMITED PRODUCT WARRANTY



### USE ONLY GENUINE FTA PARTS

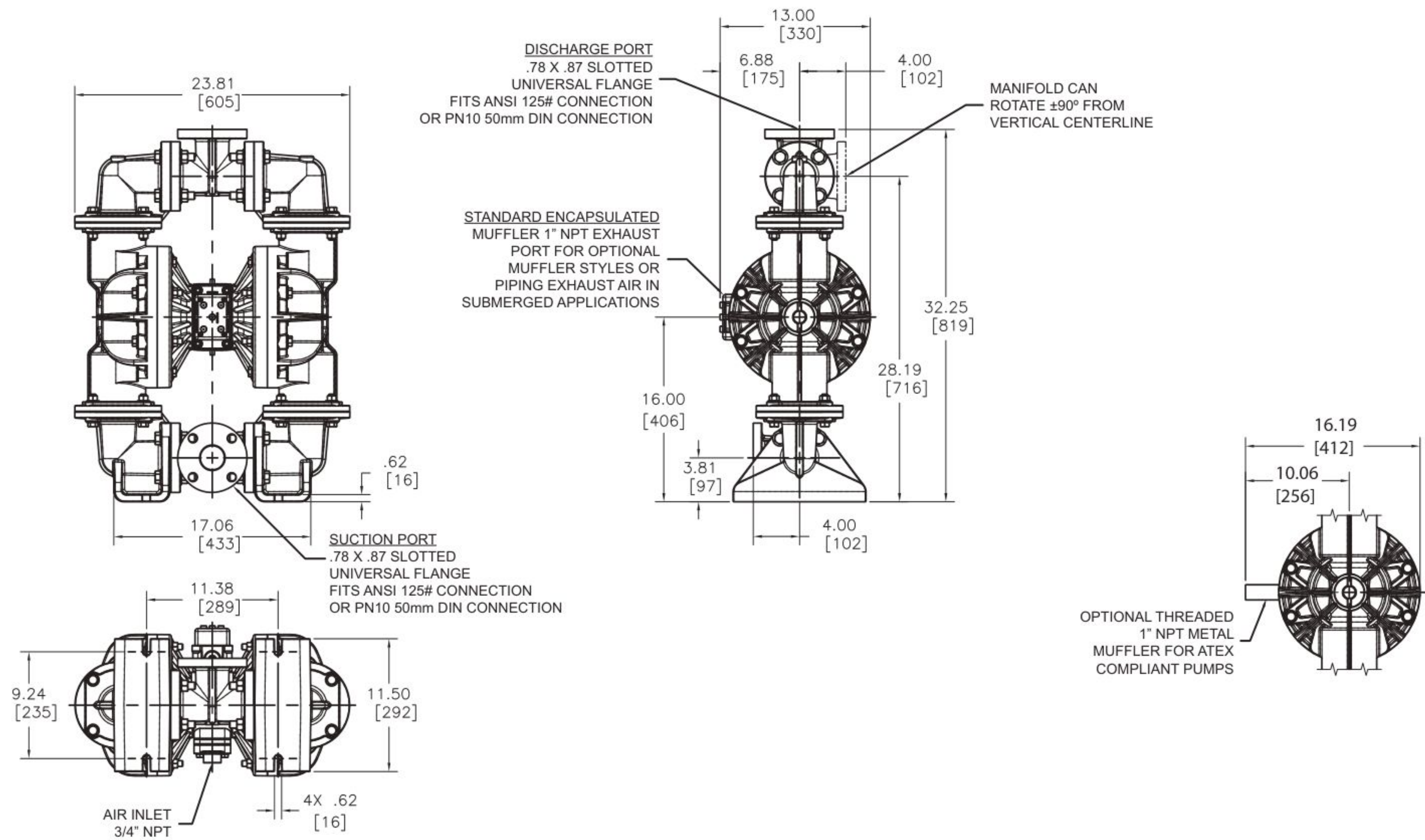
All certification, standards, guarantees & warranties originally supplied with this pump will be invalidated by the use of service parts not identified as "Genuine FTA Parts."



# DIMENSIONS / Details on Service Manual

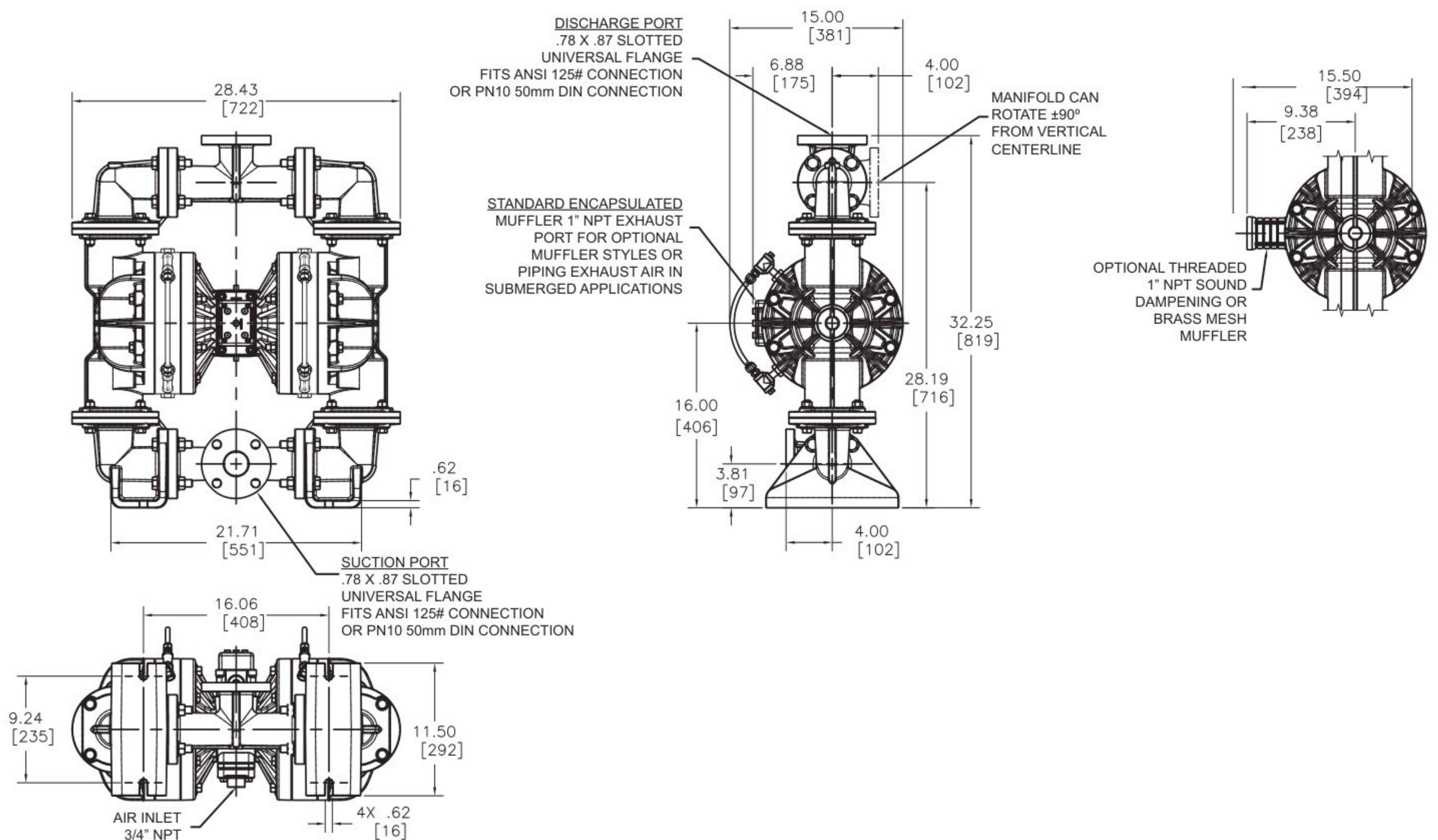
## F20 Non-Metallic

Dimensions in Inches [ ] in Millimeters. Dimensional tolerance: +/- 1/8" [ ] +/- 3mm



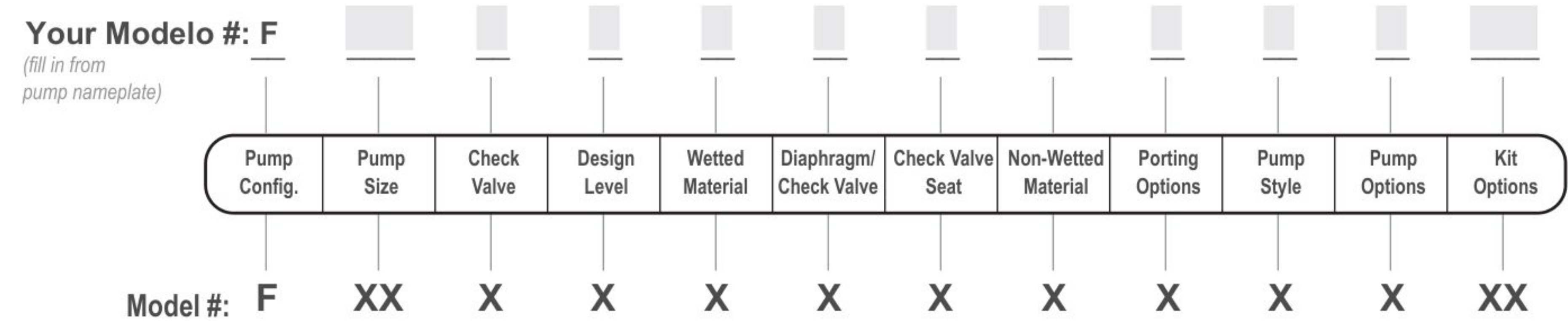
## F20 Non-Metallic with Spill Containment

Dimensions in Inches [ ] in Millimeters. Dimensional tolerance: +/- 1/8" [ ] +/- 3mm





EXPLANATION OF PUMP NOMENCLATURE



PUMP BRAND

F FTA®

PUMP SIZE

20 2"

CHECK VALVE TYPE

B Ball

DESIGN LEVEL

3 Design Level

WETTED MATERIAL

K PVDF  
P Polypropylene  
C Conductive Polypropylene

DIAPHRAGM/CHECK VALVE MATERIALS

1 Santoprene/Santoprene  
2 PTFE-Santoprene Backup/PTFE  
6 PTFE Pumping, PTFE-Neoprene Backup Driver/PTFE  
B Nitrile/Nitrile  
C FKM / PTFE  
G PTFE-Neoprene Backup/PTFE  
M Santoprene/PTFE  
N Neoprene/Neoprene  
Z One-Piece Bonded/PTFE

CHECK VALVE SEAT

K PVDF  
P Polypropylene

NON-WETTED MATERIAL OPTIONS

C Carbon Filled Conductive Polypropylene  
P 40%Glass Filled Polypropylene  
1 40%Glass Filled Polypropylene w/PTFE Coated Hardware

PORTING OPTIONS

U Universal Flange (Fits ANSI & DIN)  
7 Dual Porting (ANSI)  
8 Top Dual Porting (ANSI)  
9 Bottom Dual Porting (ANSI)

PUMP STYLE

D with Electronic Leak Detection (12-32 VDC)  
E with Electronic Leak Detection (110-120VAC / 220-240 VAC)  
M with Mechanical Leak Detection  
S Standard  
V with Visual Leak Detection

PUMP OPTIONS


0 None  
6 Metal Muffler

KIT OPTIONS

00. None  
P0. 10.30VDC Pulse Output Kit

P1. Intrinsically-Safe 5.30VDC, 110/120VAC 220/240 VAC Pulse Output Kit  
P2. 110/120 or 220/240VAC Pulse Output Kit  
E0. Solenoid Kit with 24VDC Coil  
E1. Solenoid Kit with 24VDC Explosion-Proof Coil  
E2. Solenoid Kit with 24VAC/12VDC Coil  
E3. Solenoid Kit with 12VDC Explosion-Proof Coil  
E4. Solenoid Kit with 110VAC Coil  
E5. Solenoid Kit with 110VAC Explosion-Proof Coil  
E6. Solenoid Kit with 220VAC Coil  
E7. Solenoid Kit with 220VAC Explosion-Proof Coil  
E8. Solenoid Kit with 110VAC, 50 Hz Explosion-Proof Coil  
E9. Solenoid Kit with 230VAC, 50 Hz Explosion-Proof Coil  
SP. Stroke Indicator Pins  
A1. Solenoid Kit with 12 VDC ATEX Compliant Coil  
A2. Solenoid Kit with 24 VDC ATEX Compliant Coil  
A3. Solenoid Kit with 110/120 VAC 50/60 Hz ATEX Compliant Coil  
A4. Solenoid Kit with 220/240 VAC 50/60 Hz ATEX Compliant Coil

MATERIALS

Material Profile:	Operating Temperatures:	
	Max.	Min.
 CAUTION! Operating temperature limitations are as follows:		
<b>CONDUCTIVE ACETAL:</b> Tough, impact resistant, ductile. Good abrasion resistance and low friction surface. Generally inert, with good chemical resistance except for strong acids and oxidizing agents.	190°F 88°C	-20°F -29°C
<b>EPDM:</b> 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
<b>FKM (FLUOROCARBON):</b> Shows good resistance to a wide range of oils and solvents; especially all aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils. Hot water or hot aqueous solutions (over 70°F(21°C)) will attack FKM.	350°F 177°C	-40°F -40°C
<b>HYTREL®:</b> Good on acids, bases, amines and glycols at room temperatures only.	220°F 104°C	-20°F -29°C
<b>NEOPRENE:</b> All purpose. Resistance to vegetable oils. Generally not affected by moderate chemicals, fats, greases and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters and nitro hydrocarbons and chlorinated aromatic hydrocarbons.	200°F 93°C	-10°F -23°C
<b>NITRILE:</b> General purpose, oil-resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons.	190°F 88°C	-10°F -23°C
<b>NYLON:</b> 6/6 High strength and toughness over a wide temperature range. Moderate to good resistance to fuels, oils and chemicals.	180°F 82°C	32°F 0°C
<b>POLYPROPYLENE:</b> A thermoplastic polymer. Moderate tensile and flex strength. Resists strong acids and alkali. Attacked by chlorine, fuming nitric acid and other strong oxidizing agents.		
<b>PVDF:</b> (Polyvinylidene Fluoride) A durable fluoroplastic with excellent chemical resistance. Excellent for UV applications. High tensile strength and impact resistance.		
<b>SANTOPRENE®:</b> Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.		
<b>UHMW PE:</b> A thermoplastic that is highly resistant to a broad range of chemicals. Exhibits outstanding abrasion and impact resistance, along with environmental stress-cracking resistance.		
<b>URETHANE:</b> Shows good resistance to abrasives. Has poor resistance to most solvents and oils.		
<b>VIRGIN PTFE:</b> (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.		
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.		
<b>Metals:</b>		
<b>ALLOY C:</b> Equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy.		
<b>STAINLESS STEEL:</b> Equal to or exceeding ASTM specification A743 CF-8M for corrosion resistant iron chromium, iron chromium nickel and nickel based alloy castings for general applications. Commonly referred to as 316 Stainless Steel in the pump industry.		

For specific applications, always consult the Chemical Resistance Chart.