

**WARREN  
RUPP®**

Quality System  
ISO9001 Certified

Environmental  
Management System  
ISO14001 Certified

**IDEX**  
IDEX CORPORATION

U.S. Patent #5,996,627 & 6,241,487  
Other U.S. Patents Applied for



**SANDPIPER®**

A WARREN RUPP PUMP BRAND

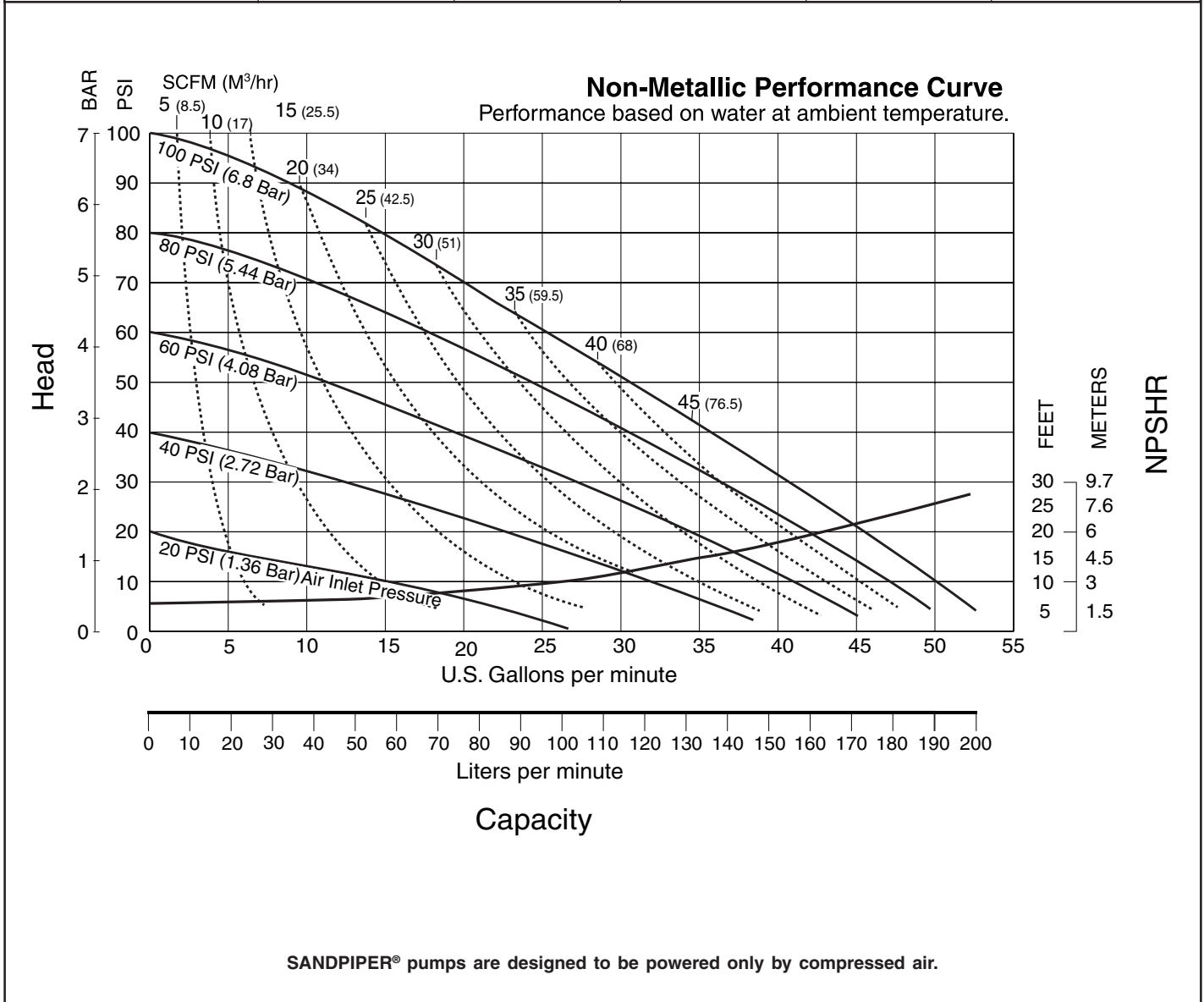
# S1F Non-Metallic Design Level 3 Ball Valve

**Air-Powered  
Double-Diaphragm Pump**

ENGINEERING, PERFORMANCE  
& CONSTRUCTION DATA



INTAKE/DISCHARGE PIPE SIZE	CAPACITY	AIR VALVE	SOLIDS-HANDLING	HEADS UP TO	DISPLACEMENT/STROKE
1" ANSI Flange or PN10 25mm DIN Flange	0 to 45 gallons per minute (0 to 170 liters per minute)	No-lube, no-stall design	Up to .25 in. (6mm)	100 psi or 231 ft. of water (7 bar or 70 meters)	.17 Gallon / .64 liter



# Explanation of Pump Nomenclature

## S1F Non-Metallic · Design Level 3· Ball Valve

MODEL	Pump Brand	Pump Size	Check Valve Type	Design Level	Wetted Material	Diaphragm/Check Valve Materials	Check Valve Seat	Non-Wetted Material Options	Porting Options	Pump Style	Pump Options	Shipping Kit Options	Weight lbs. (kg)
S1FB3P1PPUS000.	S	1F	B	3	P	1	P	P	U	S	0	00.	42 (19)
S1FB3P2PPUS000.	S	1F	B	3	P	2	P	P	U	S	0	00.	42 (19)
S1FB3K1KPUS000.	S	1F	B	3	K	1	K	P	U	S	0	00.	54 (24)
S1FB3K2KPUS000.	S	1F	B	3	K	2	K	P	U	S	0	00.	54 (24)
S1FB3P3PPUV000.	S	1F	B	3	P	3	P	P	U	V	0	00.	48 (22)
S1FB3K3KPUV000.	S	1F	B	3	K	3	K	P	U	V	0	00.	64 (29)
S1FB3P4PPUV000.	S	1F	B	3	P	4	P	P	U	V	0	00.	48 (22)
S1FB3K4KPUV000.	S	1F	B	3	K	4	K	P	U	V	0	00.	64 (29)

**Pump Brand**  
S= SANDPIPER®

**Pump Size**  
1F= 1" Full Flow

**Check Valve Type**  
B= Ball

**Design Level**  
3= Design Level 3

**Wetted Material**  
K= PVDF  
P= Polypropylene

**Diaphragm Check Valve Materials**  
1= Santoprene/Santoprene  
2= PTFE Santoprene Backup/PTFE  
3= PTFE Pumping, PTFE Santoprene Backup Driver/PTFE  
4= Santoprene Pumping/Santoprene

**Check Valve Seat**  
K= PVDF  
P= Polypropylene

**Non-Wetted Material Options**  
P= Polypropylene  
X= Unpainted Aluminum  
1= Polypropylene with PTFE hardware

**Porting Options**  
U= Universal (Fits ANSI and DIN)  
7= Dual Porting (ANSI)  
8= Top Dual Porting (ANSI)  
9= Bottom Dual Porting (ANSI)

**Pump Style**  
D= Containment Duty with Electronic Leak Detection (110V)  
E= Containment Duty with Electronic Leak Detection (220V)  
M= Containment Duty with Mechanical Leak Detection  
S= Standard  
V= Containment Duty with Visual Leak Detection

**Pump Options**  
0= None  
1= Sound Dampening Muffler  
2= Mesh Muffler  
3= High temperature Air Valve w/Encapsulated Muffler  
4= High temperature Air Valve w/Sound Dampening Muffler  
5= High temperature Air Valve w/Mesh Muffler

**Kit Options**  
00.= None  
P0.= 0-30VDC Pulse Output Kit  
P1.= Intrinsically-Safe 10-30VDC Pulse Output Kit  
P2.= 110/120 or 220/240VAC Pulse Output Kit  
P3.= Intrinsically-Safe 110/120VAC Pulse Output Kit  
P4.= Intrinsically-Safe 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 24VAC/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  
SP.= Stroke Indicator Pins

 **CAUTION! Operating temperature limitations are as follows:**

Materials	Operating Temperatures		
	Maximum*	Minimum*	Optimum**
<b>Virgin PTFE</b> Chemically inert, virtually impervious. Very few chemicals are known to react chemically 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.	212°F 100°C	-35°F -37°C	50°F to 212°F 10°C to 100°C
<b>Santoprene®</b> Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	212°F 100°C	-10°F -23°C	50°F to 212°F 10°C to 100°C
<b>PVDF</b>	200°F -93°C	-10°F -13°C	
<b>Polypropylene</b>	150°F 65°C	-40°F 5°C	

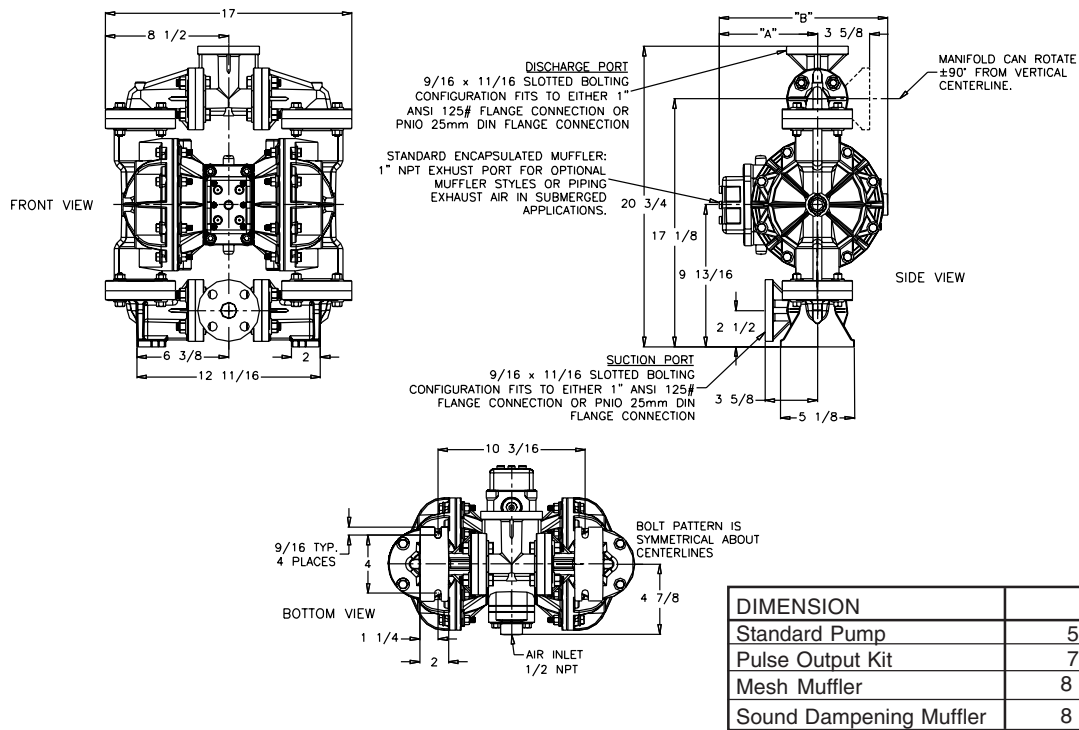
For specific applications, always consult "Chemical Resistance Chart" Technical Bulletin

\*Definite reduction in service life.

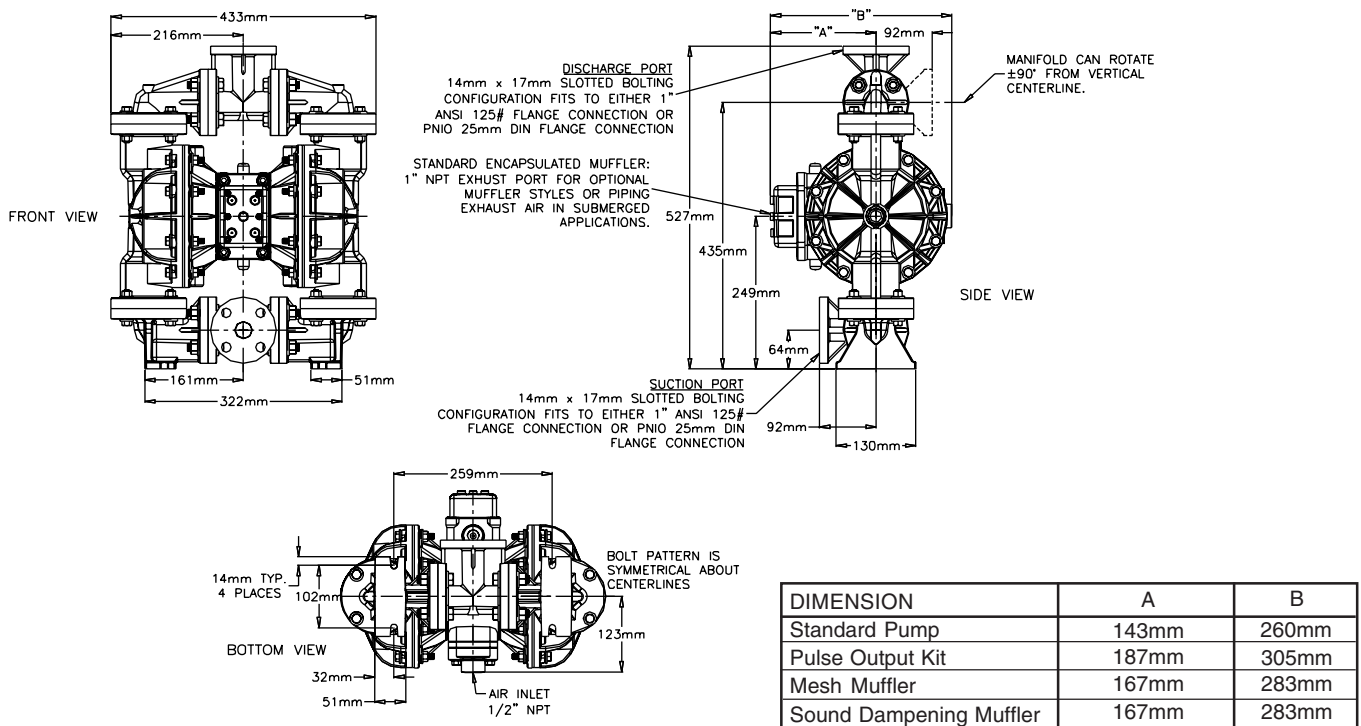
\*\*Minimal reduction in service life at ends of range.

# Dimensions: S1F Non-Metallic

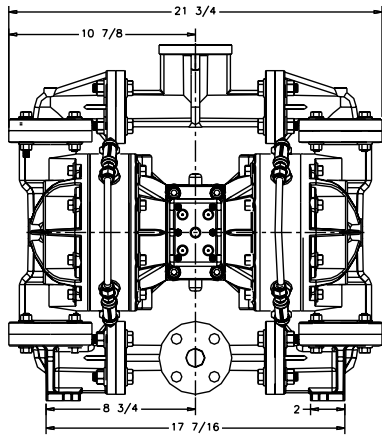
Dimensions in Inches  
Dimensional Tolerance:  $\pm 1/8"$



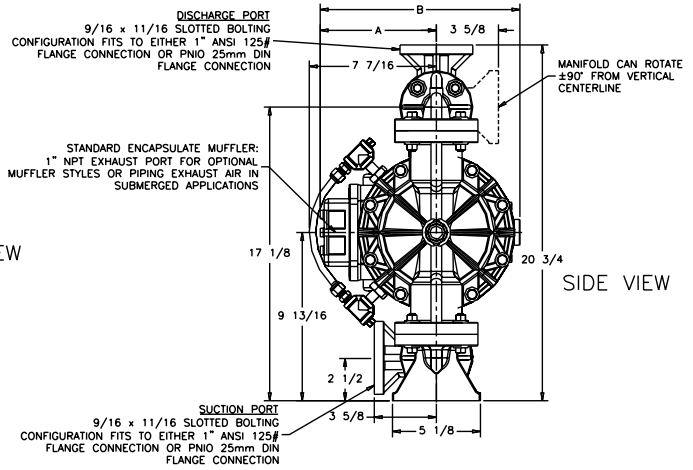
Dimensions in Millimeters  
Dimensional Tolerance:  $\pm 3\text{mm}$



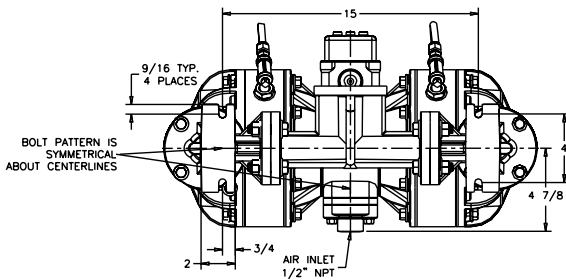
# Dimensions: S1F Non-Metallic with Spill Containment



FRONT VIEW

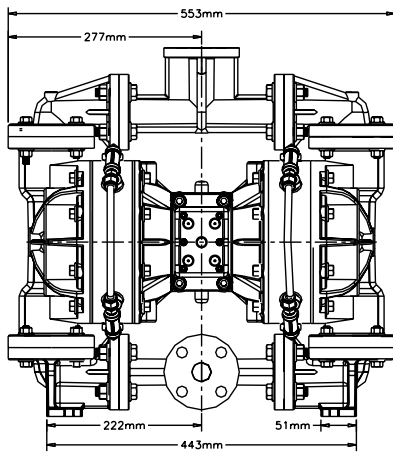


SIDE VIEW

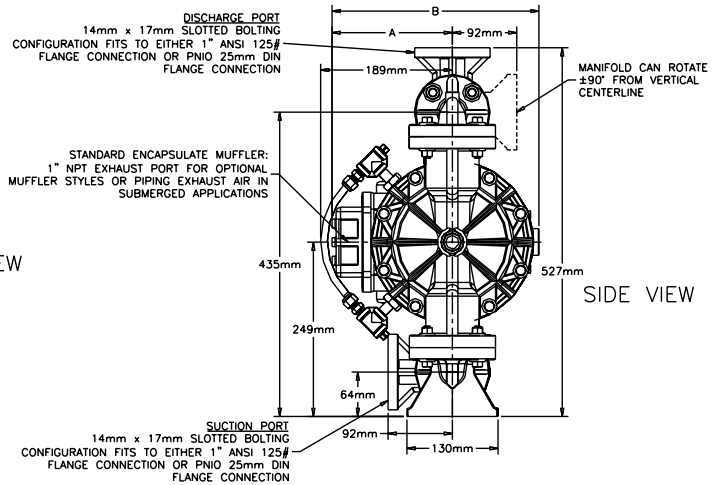


BOTTOM VIEW

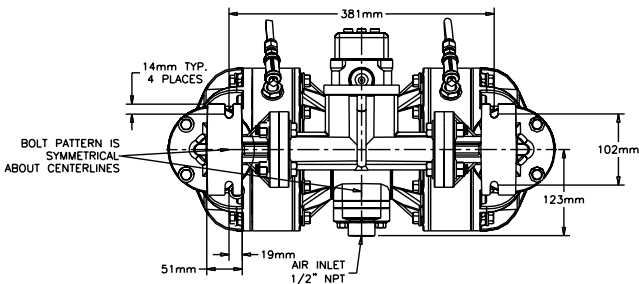
DIMENSION	A	B
Standard	5 5/8"	10 1/4"
Pulse Output Kit	7 3/8"	12"
Mesh Muffler	8 9/16"	11 5/32"
Sound Dampening Muffler	8 9/16"	11 5/32"



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

DIMENSION	A	B
Standard	143mm	260mm
Pulse Output Kit	187mm	305mm
Mesh Muffler	167mm	283mm
Sound Dampening Muffler	167mm	283mm