

**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



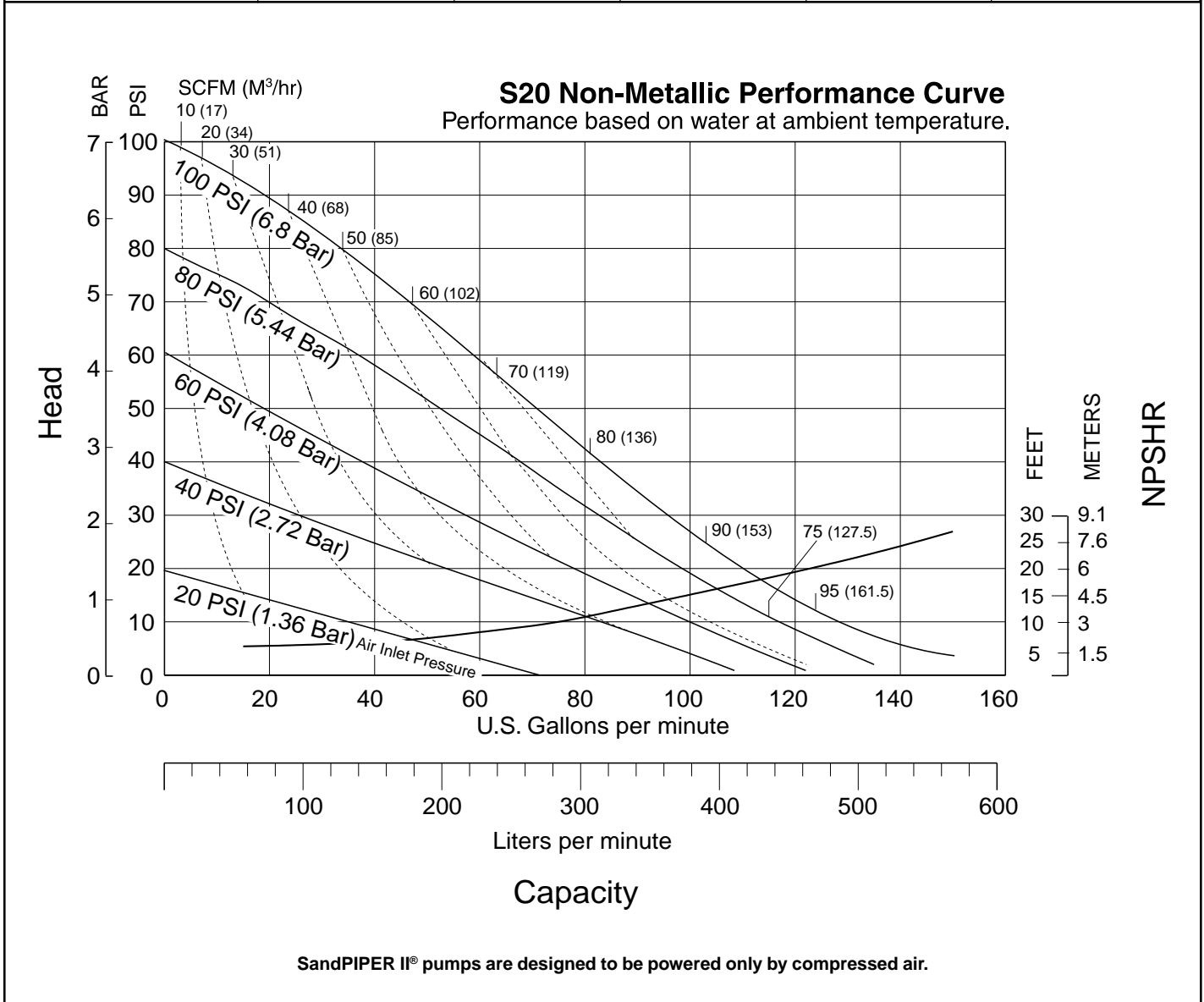
SandPIPER II®

S20 Non-Metallic Design Level 2 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
2" ANSI Flange or PN10 50mm DIN Flange	0 to 150 gallons per minute (0 to 568 liters per minute)	No-lube, no-stall design	Up to .66 in. (17mm)	100 psi or 231 ft. of water (7 bar or 70 meters)	.36 Gallon / 1.36 liter



Explanation of Pump Nomenclature

S20 Non-Metallic - Design Level 2- 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)
S20B2P1PQAS000.	S	20	B	2	P	1	P	Q	A	S	0	00.	117 (53)
S20B2K1KQAS000.	S	20	B	2	K	1	K	Q	A	S	0	00.	117 (53)
S20B2P2PQAS000.	S	20	B	2	P	2	P	Q	A	S	0	00.	151 (68)
S20B2K2KQAS000.	S	20	B	2	K	2	K	Q	A	S	0	00.	151 (68)
S20B2P3PQAV000.	S	20	B	2	P	3	P	Q	A	V	0	00.	148 (67)
S20B2K3KQAV000.	S	20	B	2	K	3	K	Q	A	V	0	00.	189 (86)
S20B2P4PQAV000.	S	20	B	2	P	4	P	Q	A	V	0	00.	148 (67)
S20B2K4KQAV000.	S	20	B	2	K	4	K	Q	A	V	0	00.	189 (86)

Pump Brand
S= SandPIPER II®

Pump Size
20=2"

Check Valve Type
B= Ball

Design Level
2= Design Level

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 Driver/Santoprene

Check Valve Seat
K= PVDF
P= Polypropylene

Non-Wetted Material Options
A= Painted Aluminum
J= Painted Aluminum w/PTFE Coated Hardware
Q= Epoxy Coated Aluminum
K= PTFE Coated Aluminum
L= PTFE Coated Aluminum with PTFE Coated Hardware
R= Epoxy Coated Aluminum with PTFE Coated Hardware

Porting Options
A= ANSI Flange
D= DIN Flange
7= Dual Porting (ANSI)
8= Top Dual Porting (ANSI)
9= Bottom Dual Porting (ANSI)

Pump Style
D= RuppGUARD™ with Electronic Leak Detection (110V)
E= RuppGUARD™ with Electronic Leak Detection (220V)
M= RuppGUARD™ with Mechanical Leak Detection
S= Standard
V= RuppGUARD™ with Visual Leak Detection

Pump Options
0= None
1= 3M Muffler
2= Mesh Muffler
3= High temperature Air Valve w/Encapsulated Muffler
4= High temperature Air Valve w/3M 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
SP.=Stroke Indicator Pins

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

Materials	Operating Temperatures		
	Maximum*	Minimum*	Optimum**
Virgin PTFE 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	-10°F -23°C	50°F to 212°F 10°C to 100°C
Santoprene® Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	212°F 100°C	-35°F -37°C	50°F to 212°F 10°C to 100°C
Polypropylene	150°F 65°C	-40°F 5°C	
Polyurethane	210°F 99°C	-40°F -40°C	-40°F to 210°F -40°C to 99°C

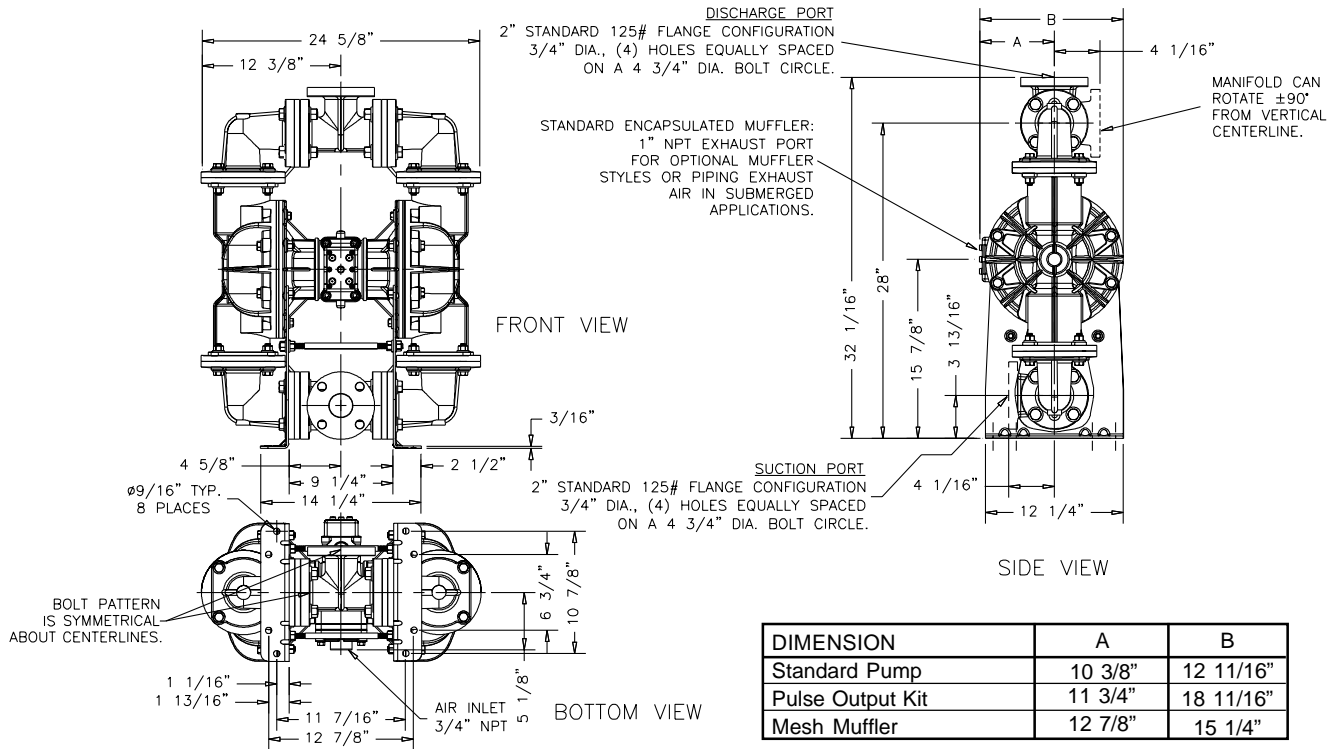
For specific applications, always consult "Chemical Resistance Chart" Technical Bulletin

*Definite reduction in service life.

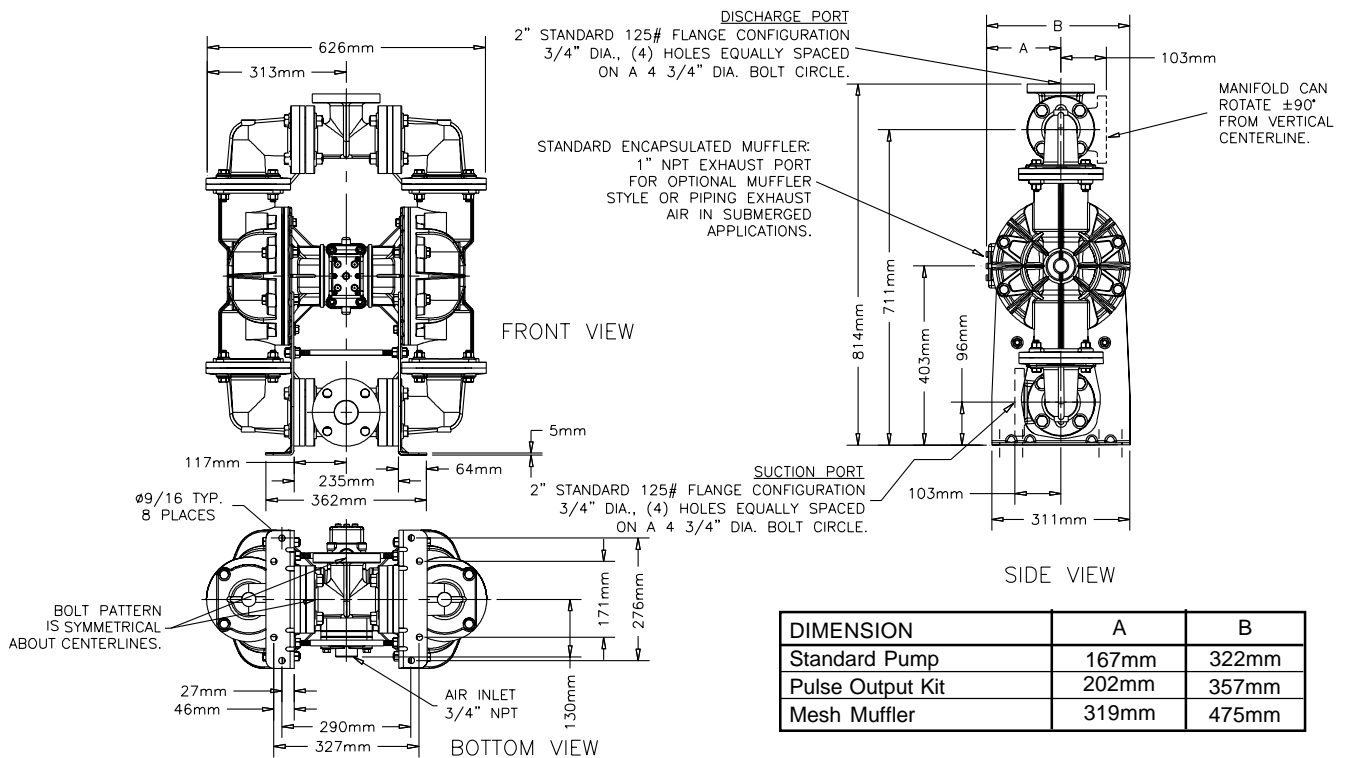
**Minimal reduction in service life at ends of range.

Dimensions: S20 Non-Metallic

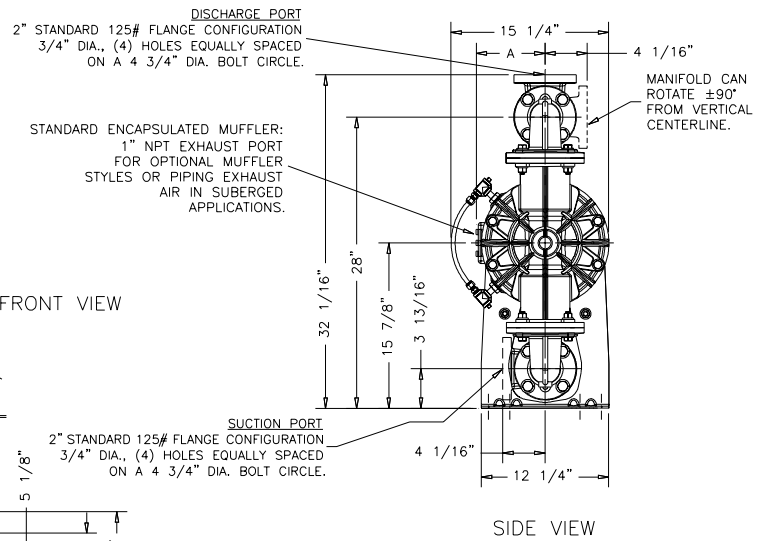
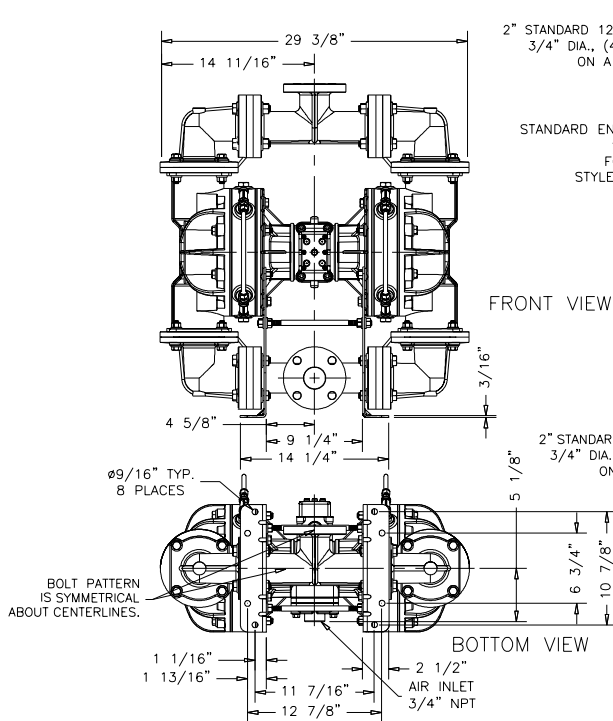
Dimensions in Inches
Dimensional Tolerance: $\pm 1/8"$



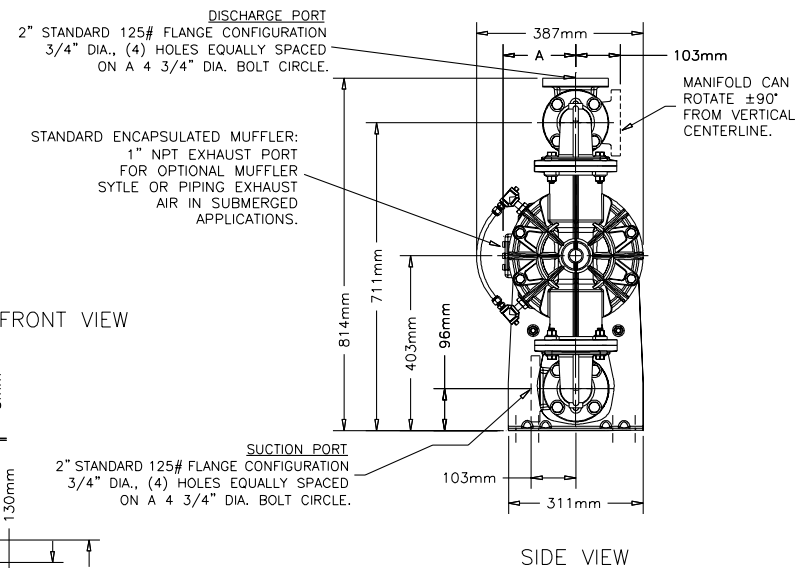
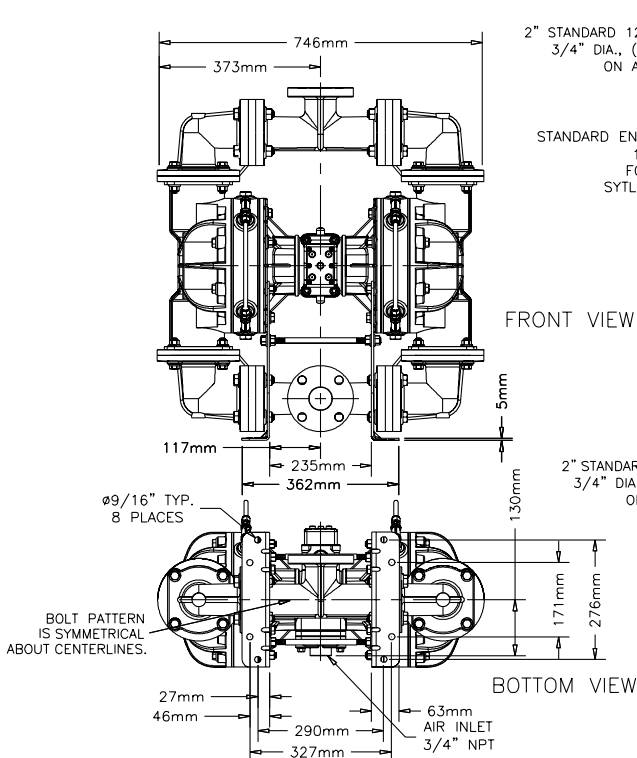
Dimensions in Millimeters
Dimensional Tolerance: $\pm 3\text{mm}$



Dimensions: S20 Non-Metallic with RuppGUARD™ Spill Prevention



DIMENSION	A	B
Standard Pump	6 9/16"	12 11/16"
Pulse Output Kit	7 15/16"	14 1/16"
Mesh Muffler	8 13/16"	14 15/16"



DIMENSION	A	B
Standard Pump	167mm	322mm
Pulse Output Kit	202mm	357mm
Mesh Muffler	225mm	380mm