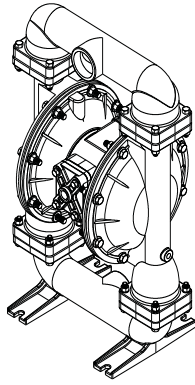
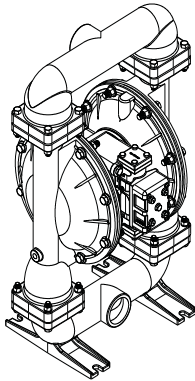


**WARREN
RUPP®**

Quality System
ISO9001 Certified

Environmental
Management System
ISO14001 Certified

IDEX
FLUID & METERING



SANDPIPER®

A WARREN RUPP PUMP BRAND

**S20 Metallic
Design Level 1
Ball Valve**

**Air-Operated
Double Diaphragm Pump**

ENGINEERING, PERFORMANCE
& CONSTRUCTION DATA



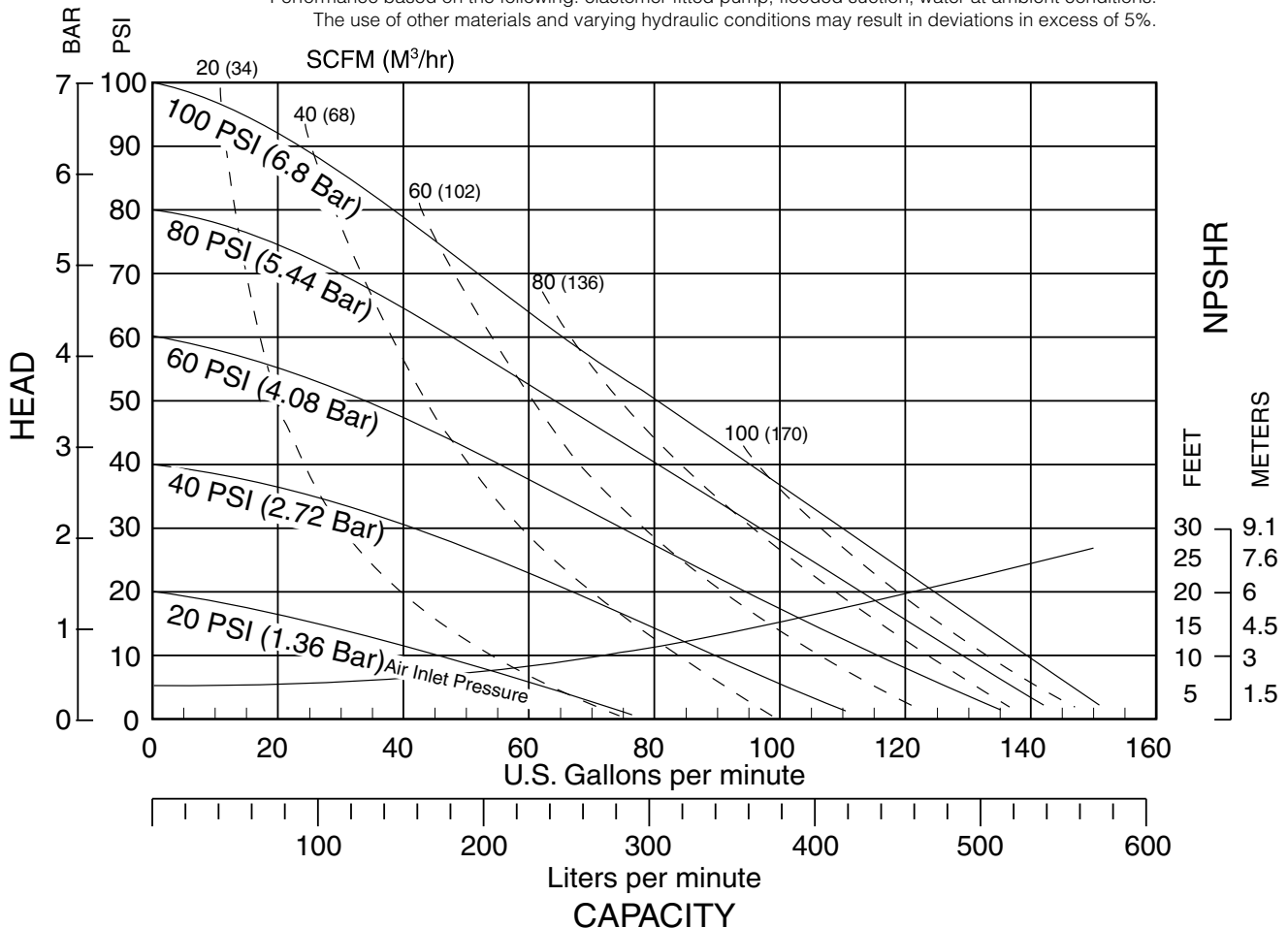
I M2 c T5
II 2GD T5

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

INTAKE/DISCHARGE PIPE SIZE	CAPACITY	AIR VALVE	SOLIDS-HANDLING	HEADS UP TO	DISPLACEMENT/STROKE
2" NPT (internal) 2" BSP Tapered (internal)	0 to 150 gallons per minute (0 to 567 liters per minute)	No-lube, no-stall design	Up to .25 in. (6mm)	125 psi or 289 ft. of water (8.6 Kg/cm ² or 86 meters)	.42 Gallon / 1.59 liter

MODEL S20 Metallic Performance Curve

Performance based on the following: elastomer fitted pump, flooded suction, water at ambient conditions.
The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.



SANDPIPER® pumps are designed to be powered only by compressed air.

Explanation of Pump Nomenclature

S20 Metallic · Design Level 1· 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)
S20B1ABBANS000.	S	20	B	1	A	B	B	A	N	S	0	00.	63 (31)
S20B1AEEANS000.	S	20	B	1	A	E	E	A	N	S	0	00.	63 (31)
S20B1AGTANS000.	S	20	B	1	A	G	T	A	N	S	0	00.	63 (31)
S20B1ANNANS000.	S	20	B	1	A	N	N	A	N	S	0	00.	63 (31)
S20B1A1EANS000.	S	20	B	1	A	1	E	A	N	S	0	00.	63 (31)
S20B1ACTANS000.	S	20	B	1	A	C	T	A	N	S	0	00.	63 (31)
S20B1IBBANS000.	S	20	B	1	I	B	B	A	N	S	0	00.	129 (59)
S20B1IEEANS000.	S	20	B	1	I	E	E	A	N	S	0	00.	129 (59)
S20B1IGTANS000.	S	20	B	1	I	G	T	A	N	S	0	00.	129 (59)
S20B1INNANS000.	S	20	B	1	I	N	N	A	N	S	0	00.	129 (59)
S20B1I1EANS000.	S	20	B	1	I	1	E	A	N	S	0	00.	129 (59)
S20B1ICTANS000.	S	20	B	1	I	C	T	A	N	S	0	00.	129 (59)
S20B1IEEANS000.	S	20	B	1	I	E	E	A	N	S	0	00.	129 (59)
S20B1SBBANS000.	S	20	B	1	S	B	B	A	N	S	0	00.	114 (52)
S20B1SGTANS000.	S	20	B	1	S	G	T	A	N	S	0	00.	114 (52)
S20B1SNNANS000.	S	20	B	1	S	N	N	A	N	S	0	00.	114 (52)
S20B1S1EANS000.	S	20	B	1	S	1	E	A	N	S	0	00.	114 (52)
S20B1SCTANS000.	S	20	B	1	S	C	T	A	N	S	0	00.	114 (52)

Pump Brand

S= SANDPIPER®

Pump Size

20= 2"

Check Valve Type

B= Ball

Design Level

1= Design Level

Wetted Material

A= Aluminum

I= Cast Iron

S= Stainless Steel

H= Alloy C

Diaphragm Check Valve

Materials

1= Santoprene/Santoprene

2= PTFE-Santoprene/PTFE

B= Nitrile/Nitrile

C= FKM/PTFE

E= EPDM/EPDM

I= EPDM/Santoprene

G= PTFE-Neoprene/PTFE

N= Neoprene/Neoprene

Z= One-Piece Bonded/PTFE

Check Valve Seat

A= Aluminum

B= Nitrile

C= Carbon Steel

E= EPDM

Check Valve Seat Cont.

N= Neoprene

S= Stainless Steel

T= PTFE

V= FKM

Non-Wetted Material Options

A= Painted Aluminum

I= Cast Iron

J= Painted Aluminum w/PTFE Coated Hardware

S= Stainless Steel with Stainless Steel Hardware

Y= Painted Aluminum with Stainless Steel Hardware

Z= Cast Iron with Stainless Steel Hardware

Porting Options

N= NPT Threads

B= BSP (Tapered) Threads

R= Raised Face 150# Threaded ANSI Flange

Pump Style

S= Standard

Pump Options

0= None

1= Sound Dampening Muffler

2= Mesh Muffler

3= High temperature Air Valve w/Integral Muffler

4= High temperature Air Valve w/Sound Dampening Muffler

5= High temperature Air Valve w/Mesh Muffler

⚠ 6= Metal Muffler

⚠ 7= Metal Muffler w/Grounding Cable

Kit Options

⚠ 00.= None

P0.= 10-30VDC Pulse Output Kit

⚠ P1.= Intrinsically-Safe 5-30VDC, 110/120VAC, 220/240VAC 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, 60 Hz Explosion-Proof Coil

E6.= Solenoid Kit with 220VAC Coil

⚠ E7.= Solenoid Kit with 220VAC, 60 Hz 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

Note: Pumps are only ATEX compliant when ordered with pump options 6 or 7, and kit options 00, P1, E1, E3, E5, E7, E8 or E9.



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

Materials	Operating Temperatures	
	Maximum	Minimum
Nitrile: 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
EPDM: Shows very good water and chemical resistance. Has poor resistance to oil and solvents, but is fair in ketones and alcohols.	280°F 138°C	-40°F -40°C
Neoprene: All purpose. Resistant to vegetable oil. Generally not affected by moderate chemicals, fats, greases and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters, nitro hydrocarbons and chlorinated aromatic hydrocarbons.	200°F 93°C	-10°F -23°C
Santoprene®: Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
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.	220°F 104°C	-35°F -37°C
FKM (Fluorocarbon): 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) will attack FKM.	350°F 177°C	-40°F -40°C
Polypropylene:	180°F 82°C	32°F 0°C

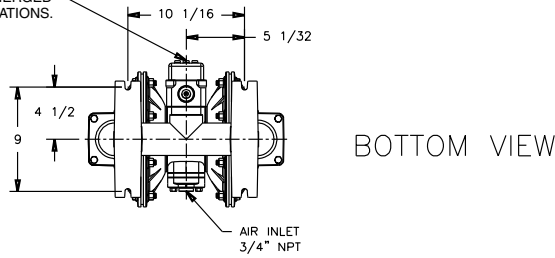
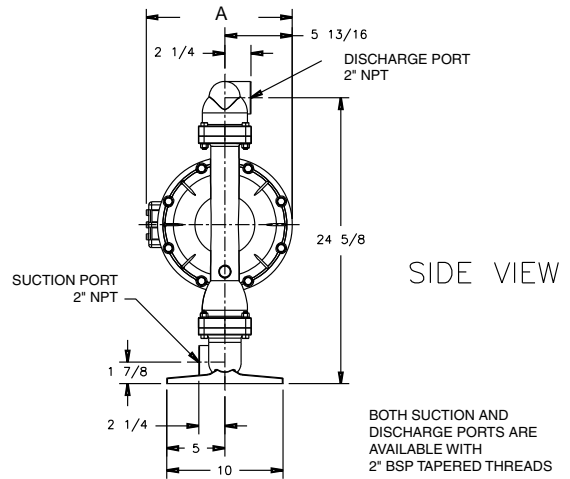
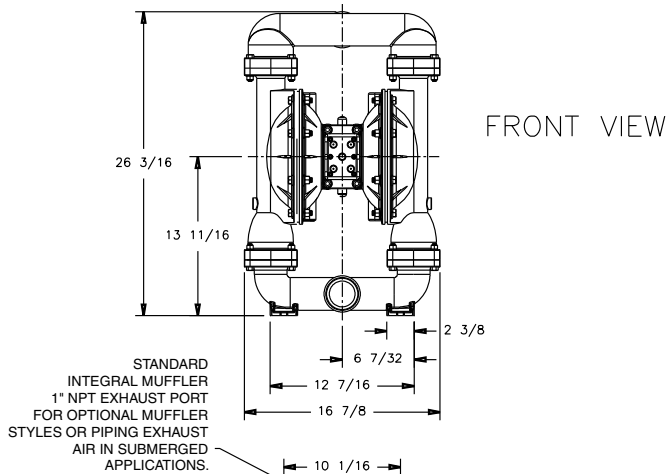
For specific applications, always consult The Warren Rupp Chemical Resistance Chart

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Dimensions: S20 Metallic

Dimensions in Inches

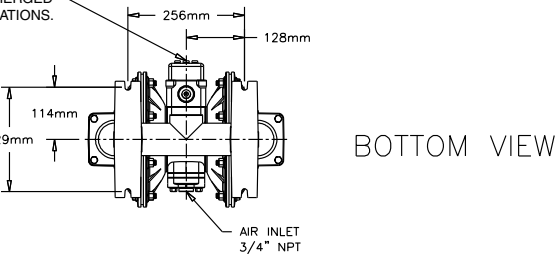
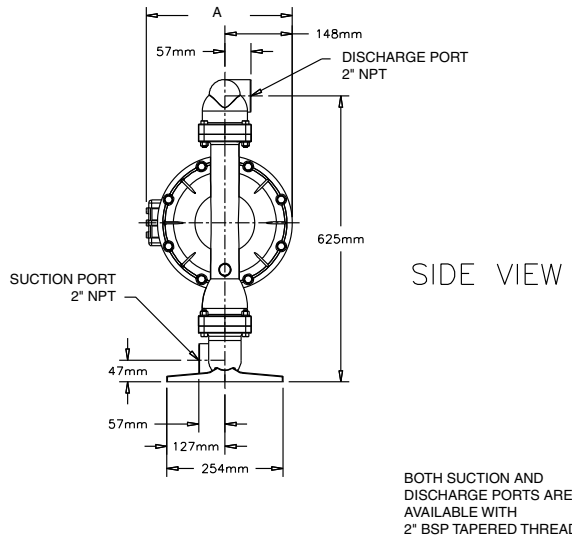
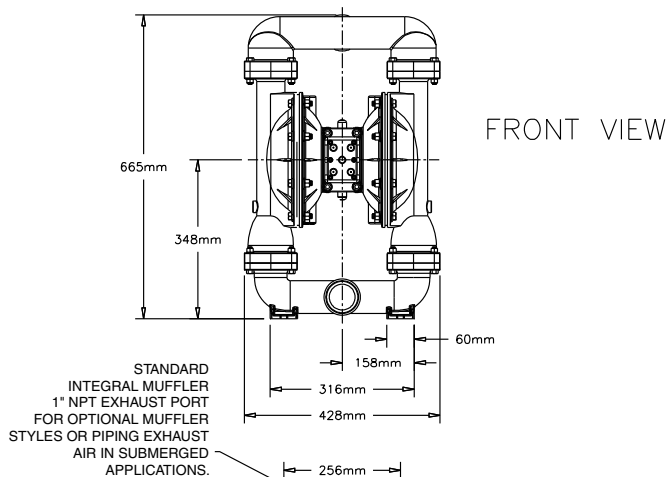
Dimensional Tolerance: $\pm 1/8$ "



Dimension	A	B	C	D	E	F
Integral Muffler	12 19/32					
Pulse Output Kit	12 19/32					
Aluminum		24 5/8	1 7/8	5/16	13 11/16	26 3/16
Stainless Steel		24 3/4	2	7/16	13 13/16	26 5/16
Mesh Muffler	15 1/8					
Sound Dampening Muffler	15 1/8					
Metal Muffler	14 11/16					

Dimensions in Millimeters

Dimensional Tolerance: ± 3 mm



Dimension	A	B	C	D	E	F
Integral Muffler	320					
Pulse Output Kit	320					
Aluminum		625	47	8	348	665
Stainless Steel		629	51	12	351	669
Mesh Muffler	384					
Sound Dampening Muffler	384					
Metal Muffler	373					