

# S20 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" NPT (internal)
- 2" BSP Tapered (internal)
- 2" ANSI 150# Raised Face Flanged

### CAPACITY

- 0 to 200 gallons per minute (0 to 758 LPM)

### AIR DISTRIBUTION VALVE

- No-lube, no-stall design

### SOLIDS-HANDLING

- Up to .25 in. (6mm)

### HEADS UP TO

- 125 psi or 289 ft. of water  
(8.6 Kg/cm<sup>2</sup> or 86 meters)

### MAXIMUM OPERATING PRESSURE

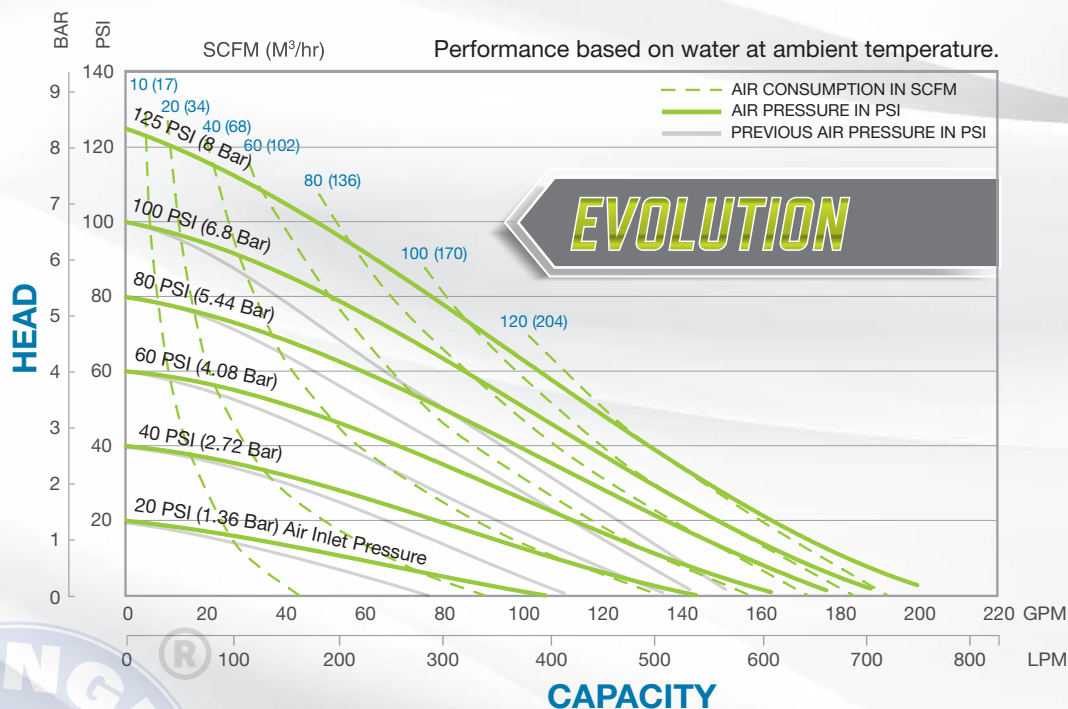
- 125 psi (8.6 bar)

### DISPLACEMENT/STROKE

- .46 Gallon / 1.7 liter

### WEIGHTS

- Aluminum 69 lbs. (31kg)
- Cast Iron 129 lbs. (59kg)
- Stainless Steel 114 lbs. (52kg)



### 5 YEAR LIMITED PRODUCT WARRANTY

5 Year Guarantee for defects in material or workmanship. See [sandpiperpump.com/content/warranty-certifications](http://sandpiperpump.com/content/warranty-certifications) for complete warranty, including terms and conditions, limitations and exclusions.



### USE ONLY GENUINE SANDPIPER PARTS

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

**SANDPIPER**  
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Warren Rupp, Inc. • A Unit of IDEX Corporation  
800 N. Main St., Mansfield, Ohio 44902 USA  
Telephone 419.524.8388 • Fax 419.522.7867

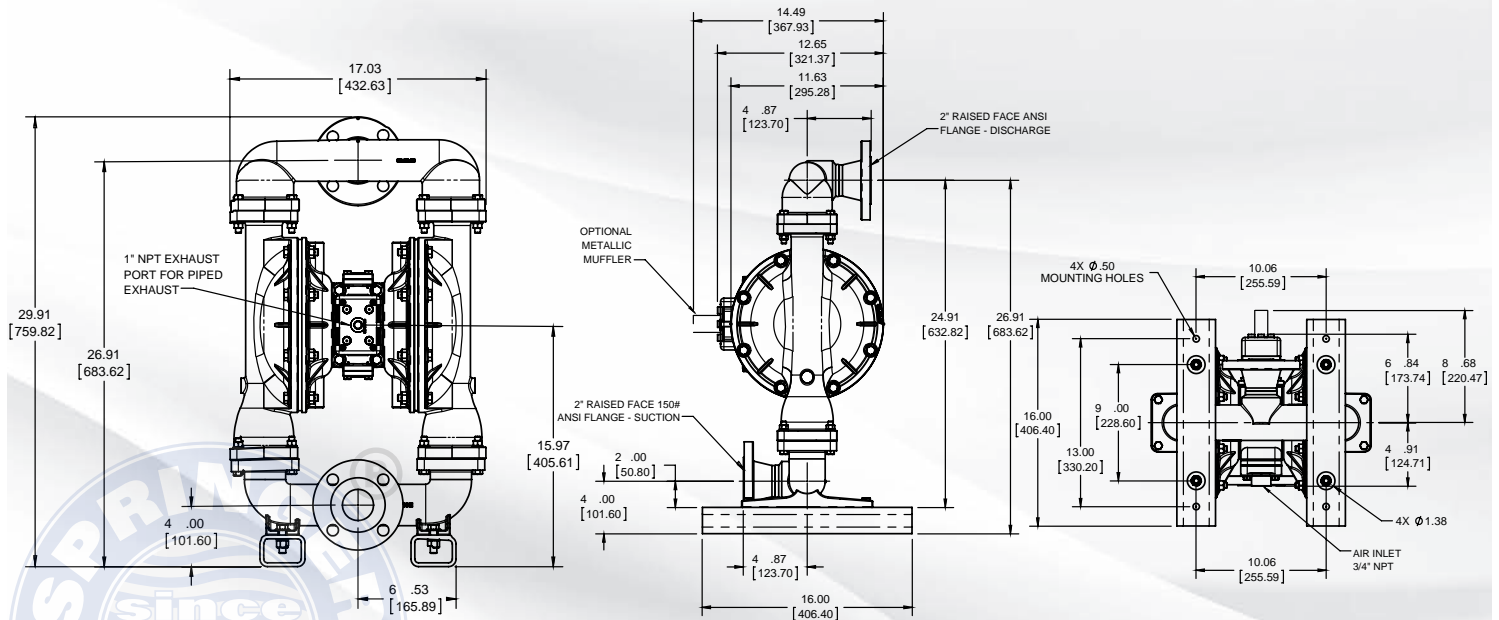
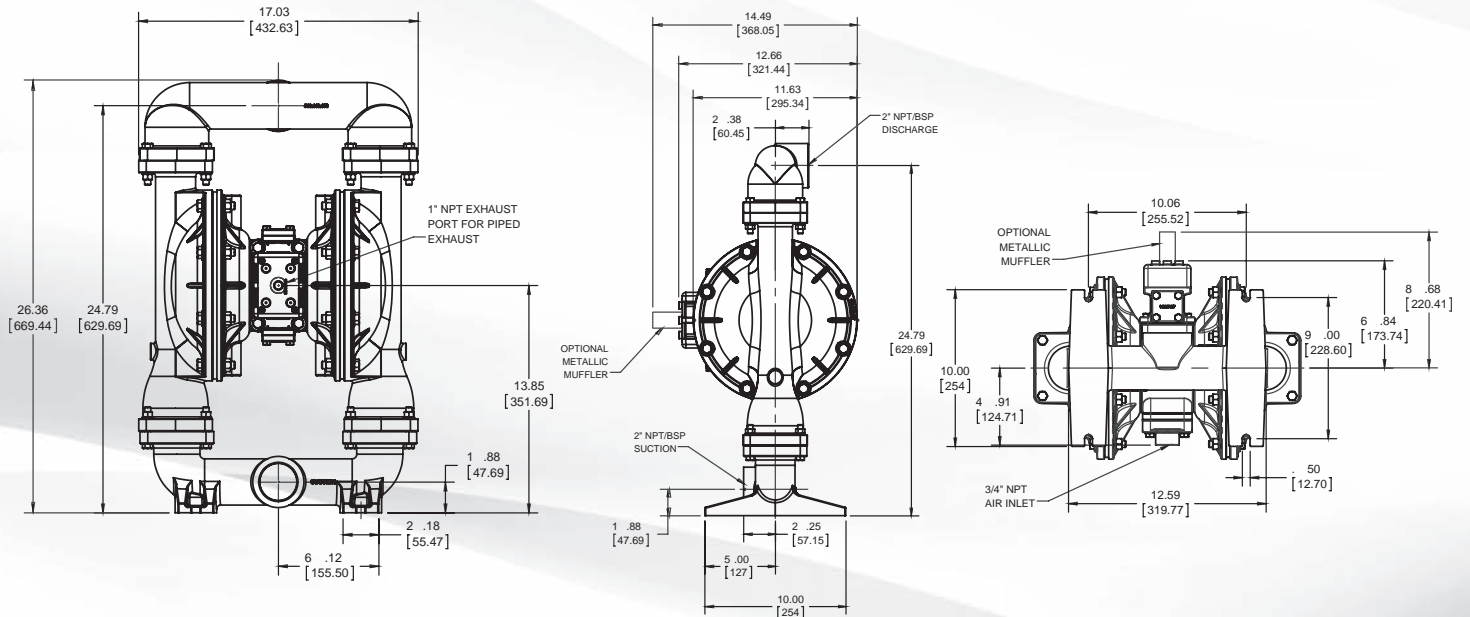


Tel: 866-777-6060  
Fax: 866-777-6383  
Int'l: +001 267 404 2910

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## DIMENSIONS



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## EXPLANATION OF PUMP NOMENCLATURE

Your Model #: **S**

(fill in from  
pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: <b>S</b>	<b>XX</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>XX</b>
<b>PUMP BRAND</b>		<b>I</b>		<b>Z</b>		<b>PORTING OPTIONS</b>		<b>KIT OPTIONS (CONTINUED)</b>			
<b>S</b> SANDPIPER®		<b>G</b> PTFE-Neoprene/PTFE		<b>M</b> Santoprene/PTFE		<b>N</b> NPT Threads		<b>E2.</b> Solenoid Kit with 24VAC/12VDC Coil			
<b>PUMP SIZE</b>		<b>N</b> Neoprene/Neoprene		<b>Z</b> One-Piece Bonded/PTFE		<b>B</b> BSP (Tapered) Threads		<b>E3.</b> Solenoid Kit with 12VDC Explosion-Proof Coil			
<b>20</b> 2"		<b>CHECK VALVE TYPE</b>		<b>CHECK VALVE SEAT</b>		<b>R</b> Raised Face 150# Threaded ANSI Flange		<b>E4.</b> Solenoid Kit with 110VAC Coil			
<b>B</b> Ball		<b>A</b> Aluminum		<b>S</b> Stainless Steel		<b>W</b> Welded Raised Face #150 ANSI Flanged Manifolds		<b>E5.</b> Solenoid Kit with 110VAC Explosion-Proof Coil			
<b>W</b> Weighted		<b>B</b> Nitrile		<b>E</b> EPDM		<b>PUMP STYLE</b>		<b>E6.</b> Solenoid Kit with 220VAC Coil			
<b>DESIGN LEVEL</b>		<b>C</b> Carbon Steel		<b>N</b> Neoprene		<b>S</b> Standard		<b>E7.</b> Solenoid Kit with 220VAC Explosion-Proof Coil			
<b>1</b> Design Level		<b>S</b> Stainless Steel		<b>T</b> PTFE		<b>PUMP OPTIONS</b>		<b>E8.</b> Solenoid Kit with 110VAC, 50 Hz Explosion-Proof Coil			
<b>WETTED MATERIAL</b>		<b>V</b> FKM		<b>W</b> UHMW Polyethylene		<b>0</b> None		<b>E9.</b> Solenoid Kit with 230VAC, 50 Hz Explosion-Proof Coil			
<b>A</b> Aluminum		<b>NON-WETTED MATERIAL OP-TIONS</b>		<b>A</b> Painted Aluminum		<b>6</b> Metal Muffler		<b>SP.</b> Stroke Indicator Pins			
<b>I</b> Cast Iron		<b>I</b> Cast Iron		<b>J</b> Painted Aluminum w/PTFE Coated Hardware		<b>KIT OPTIONS</b>		<b>A1.</b> Solenoid Kit with 12 VDC ATEX Compliant Coil			
<b>S</b> Stainless Steel		<b>J</b> Painted Aluminum w/PTFE Coated Hardware		<b>S</b> Stainless Steel with Stainless Steel Hardware		<b>P0.</b> 10.30VDC Pulse Output Kit		<b>A2.</b> Solenoid Kit with 24 VDC ATEX Compliant Coil			
<b>H</b> Alloy C		<b>S</b> Stainless Steel with Stainless Steel Hardware		<b>Y</b> Painted Aluminum with Stainless Steel Hardware		<b>P1.</b> Intrinsically-Safe 5.30VDC, 110/120VAC 220/240 VAC Pulse Output Kit		<b>A3.</b> Solenoid Kit with 110/120 VAC 50/60 Hz ATEX Compliant Coil			
<b>X</b> Unpainted Aluminum		<b>DIAPHRAGM/CHECK VALVE MATERIALS</b>		<b>1</b> Santoprene/Santoprene		<b>P2.</b> 110/120 or 220/240VAC Pulse Output Kit		<b>A4.</b> Solenoid Kit with 220/240 VAC 50/60 Hz ATEX Compliant Coil			
<b>1</b> Santoprene/Santoprene		<b>2</b> PTFE-Santoprene/PTFE		<b>B</b> Nitrile/Nitrile		<b>E0.</b> Solenoid Kit with 24VDC Coil					
<b>2</b> PTFE-Santoprene/PTFE		<b>C</b> FKM/PTFE		<b>E</b> EPDM/EPDM		<b>E1.</b> Solenoid Kit with 24VDC					
<b>B</b> Nitrile/Nitrile											
<b>C</b> FKM/PTFE											
<b>E</b> EPDM/EPDM											

## MATERIALS

Material Profile:	Operating Temperatures:	
	Max.	Min.
<b>CAUTION!</b> 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.	180°F 82°C	32°F 0°C
<b>PVDF:</b> (Polyvinylidene Fluoride) A durable fluoroplastic with excellent chemical resistance. Excellent for UV applications. High tensile strength and impact resistance.	250°F 121°C	0°F -18°C
<b>SANTOPRENE®:</b> Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
<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.	180°F 82°C	-35°F -37°C
<b>URETHANE:</b> Shows good resistance to abrasives. Has poor resistance to most solvents and oils.	150°F 66°C	32°F 0°C
<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.	220°F 104°C	-35°F -37°C
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.

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**NOTE: See service manual for ATEX details.**

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Tel: 866-777-6060  
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Int'l: +001 267 404 2910

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