

DATA SHEET

Specifications & Performance

Certified Quality



Quality System
ISO 9001 Certified



Environmental Management System
ISO 14001 Certified



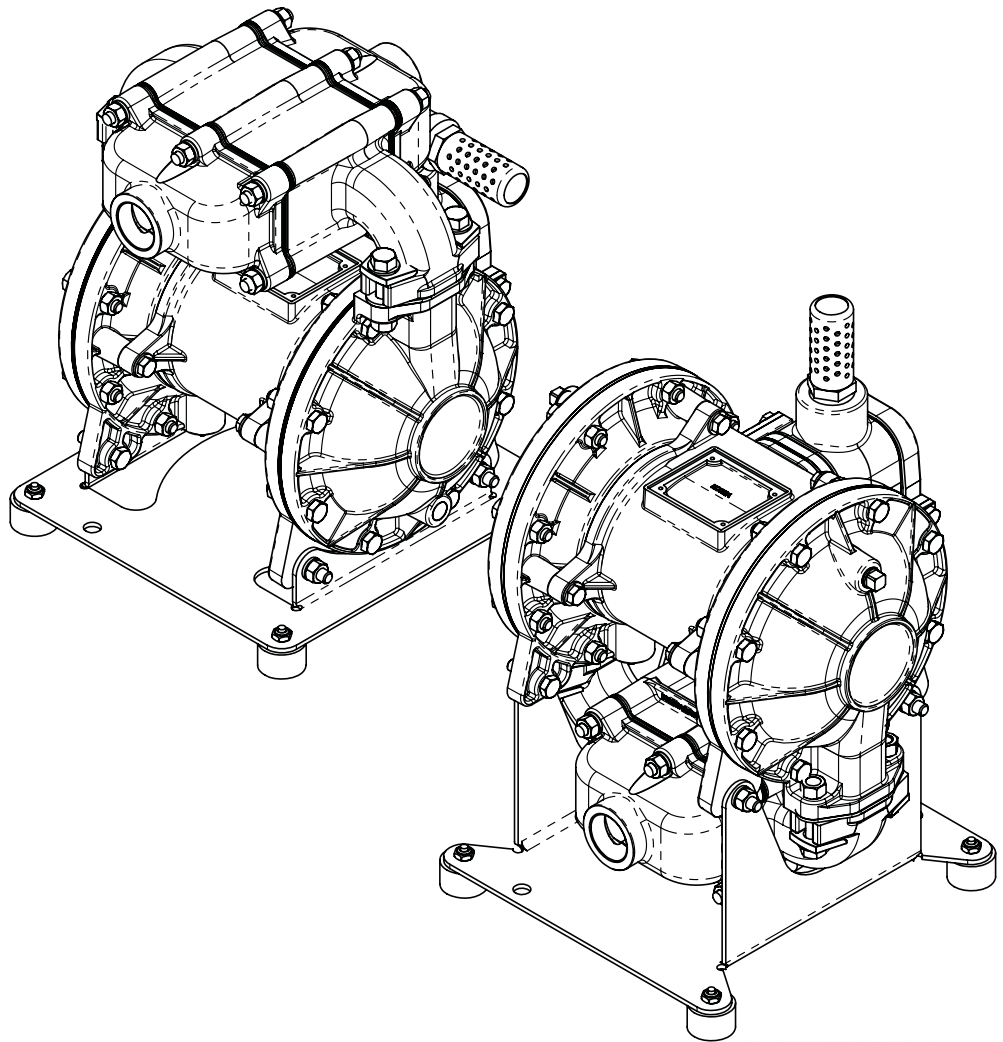
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Model SA1 & SA25

Heavy Duty Flap Valve Design Level 5

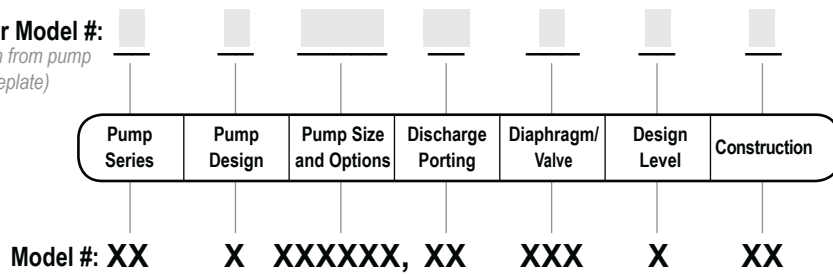


SANDPIPER[®]
A WARREN RUPP, INC. BRAND

SANDPIPERPUMP.COM

Explanation of Pump Nomenclature

Your Model #: _____
 (fill in from pump nameplate)



Pump Series

S SANDPIPER®

Pump Design

A Flap

Pump Size

1 1"

25 1" BSPT (Tapered Thread)

Discharge Porting Position

D Bottom

ET Dual Top

T Top

ED Dual Bottom

Options

P1 Intrinsically Safe ATEX Compliant
 Pulse Output

Wet End Materials

B Nitrile

N Neoprene

R Hytrel

S Santoprene

V FKM

E EPDM

Design Level

5

Construction


A Aluminum Wetted, Aluminum Air

SI Stainless Steel Wetted, Cast Iron Air

SS Stainless Steel Wetted, Aluminum Air

Your Serial #: (fill in from pump nameplate) _____

ATEX Detail

	ATEX Detail	Construction	Options
	II 1G c T5 II 1D c T100°C I M1 c I M2 c	SI, HI	00
	II 2G c T5 II 2D c T100°C	A, SI, SS, HC, HI	00
	II 2G Ex ia c IIC T5 II 2D Ex c iaD 20 IP67 T100°C	A, HC, HI, SI, SS	P1

Performance

SA1/SA25

SUCTION/DISCHARGE PORT SIZE

- SA1: 1" (25.4mm) NPT(F)
- SA25: 1" (25.4mm) BSP Tapered

CAPACITY

- 0 to 42 gallons per minute (0 to 159 liters per minute)

AIR DISTRIBUTION VALVE

- No-lube, no-stall design

SOLIDS-HANDLING

- Up to 1 in. (25.4mm)

HEADS UP TO

- 125 psi or 289 ft. of water (8.8 Kg/cm² or 88 meters)

MAXIMUM OPERATING PRESSURE

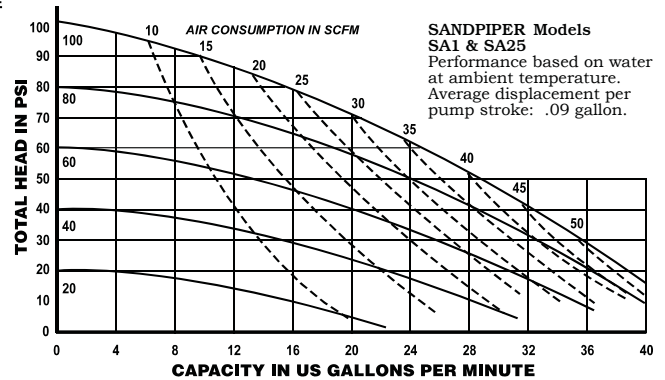
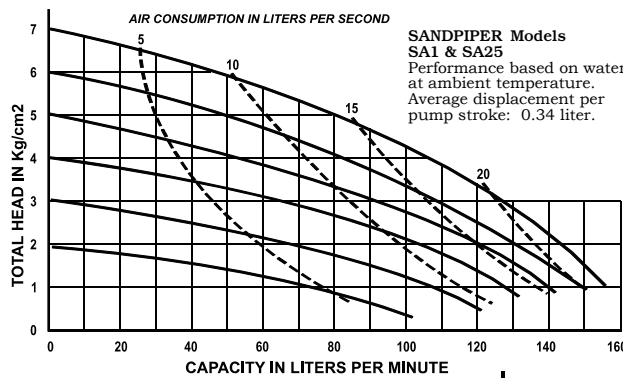
- 125 psi (8.6 bar)

DISPLACEMENT/STROKE

- .10 Gallon / .38 liter

SHIPPING WEIGHT

- Aluminum 48 lbs. (21kg)
- Cast Iron 76 lbs. (34kg)
- Stainless Steel 79 lbs. (36kg)



Materials

Material Profile:	Operating Temperatures:	
	Max.	Min.
Conductive Acetal: 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
EPDM: 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
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(21°C)) will attack FKM.	350°F 177°C	-40°F -40°C
Hytrel®: Good on acids, bases, amines and glycols at room temperatures only.	220°F 104°C	-20°F -29°C
Neoprene: 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
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
Nylon: 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

Ambient temperature range: -20°C to +40°C
Process temperature range: -20°C to +80°C for models rated as category 1 equipment
 -20°C to +100°C for models rated as category 2 equipment

In addition, the ambient temperature range and the process temperature range do not exceed the operating temperature range of the applied non-metallic parts as listed in the manuals of the pumps.

Polypropylene: 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
PVDF: (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
Santoprene®: Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
UHMW PE: 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
Urethane: Shows good resistance to abrasives. Has poor resistance to most solvents and oils.	150°F 66°C	32°F 0°C
Virgin PTFE: (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.

Metals:

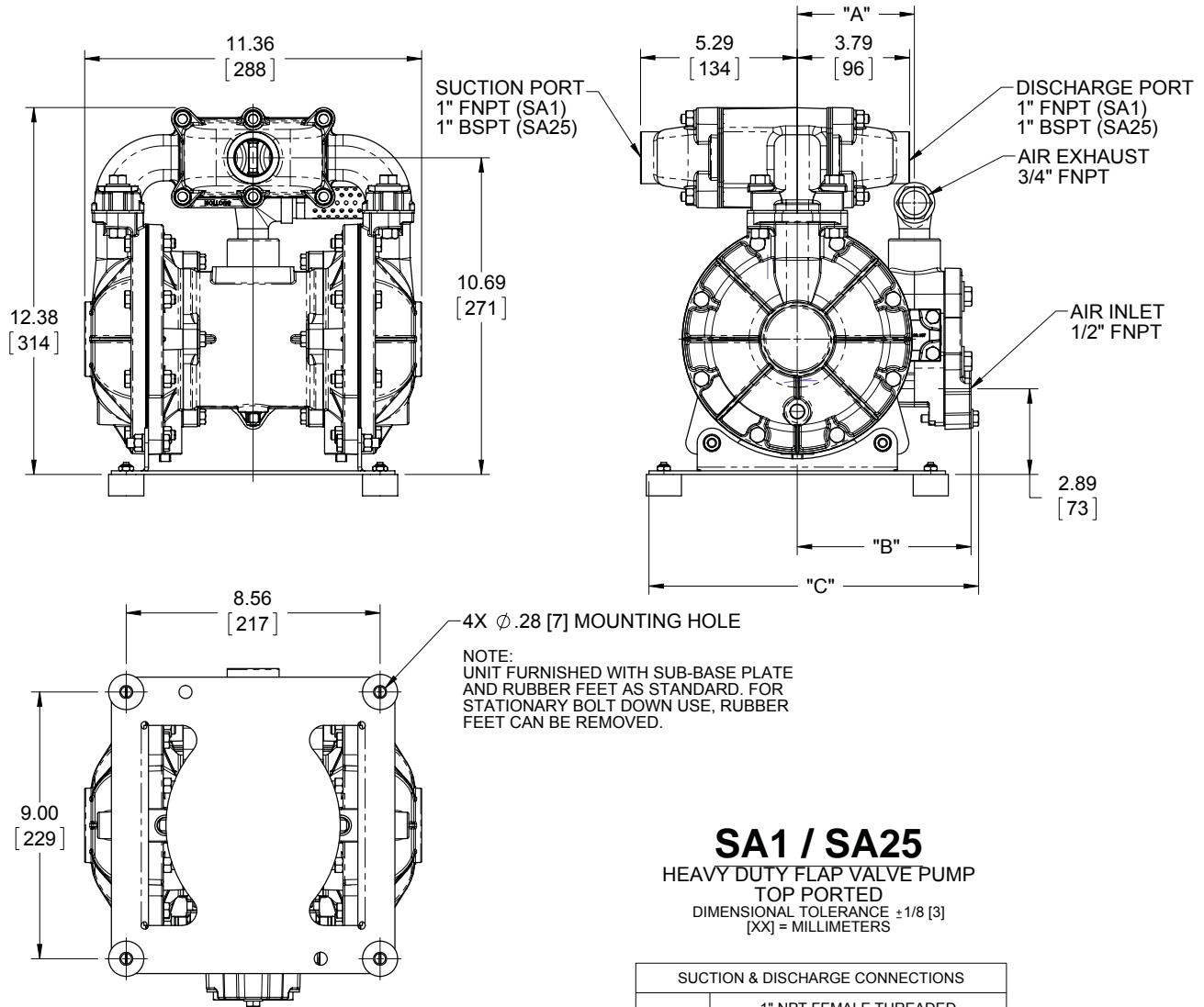
Alloy C: Equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy.
Stainless Steel: Equal to or exceeding ASTM specification A743 CF-8M for corrosion resistant iron chromium, iron chromium nickel and nickel based alloy castings for general applications. Commonly referred to as 316 Stainless Steel in the pump industry.

For specific applications, always consult the Chemical Resistance Chart.

Dimensional Drawings

SA1 & SA25 Heavy Duty Flap Valve - Top Ported

Dimensions in inches (metric dimensions in brackets). Dimensional Tolerance .125" (3mm).



SA1 / SA25 HEAVY DUTY FLAP VALVE PUMP TOP PORTED DIMENSIONAL TOLERANCE $\pm 1/8$ [3] [XX] = MILLIMETERS

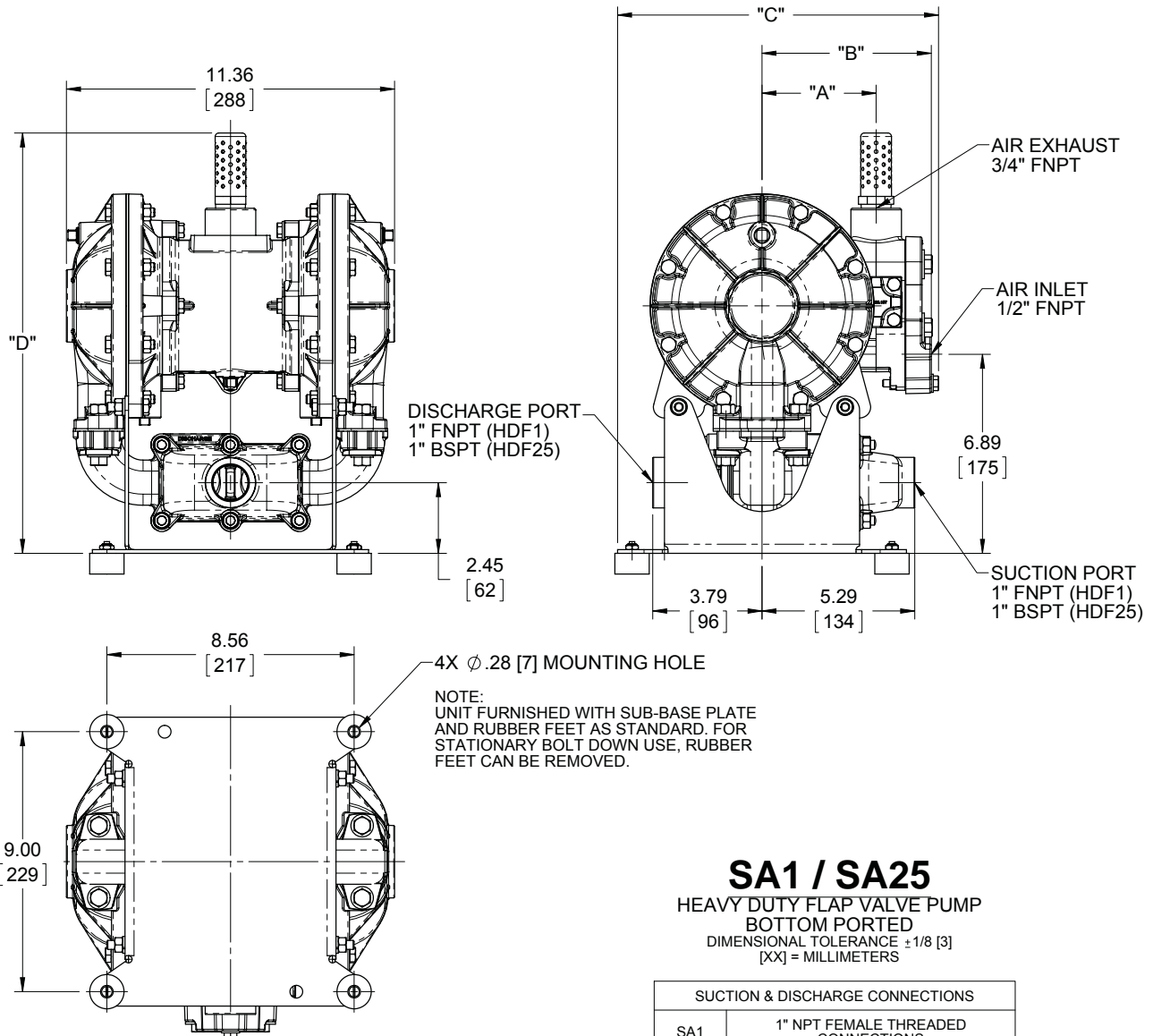
SUCTION & DISCHARGE CONNECTIONS	
SA1	1" NPT FEMALE THREADED CONNECTIONS
SA25	1" BSP TAPERED FEMALE THREADED CONNECTIONS

PUMP CONFIGURATION	DIM "A"	DIM "B"	DIM "C"
ALUMINUM CENTER SECTION	3.95 [100]	5.86 [149]	11.11 [282]
CAST IRON CENTER SECTION	4.10 [104]	5.54 [141]	11.26 [286]
PULSE OUTPUT CONFIGURATION			

Dimensional Drawings

SA1 & SA25 Heavy Duty Flap Valve - Bottom Ported

Dimensions in inches (metric dimensions in brackets). Dimensional Tolerance .125" (3mm).



SA1 / SA25 HEAVY DUTY FLAP VALVE PUMP BOTTOM PORTED DIMENSIONAL TOLERANCE $\pm 1/8$ [3] [XX] = MILLIMETERS

SUCTION & DISCHARGE CONNECTIONS	
SA1	1" NPT FEMALE THREADED CONNECTIONS
SA25	1" BSP TAPERED FEMALE THREADED CONNECTIONS

PUMP COFIGURATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
ALUMINUM CENTER SECTION	3.95 [100]	5.86 [149]	11.11 [282]	14.55 [370]
CAST IRON CENTER SECTION	4.10 [104]	5.54 [141]	11.26 [286]	15.75 [400]
PULSE OUTPUT CONFIGURATION				

WARREN RUPP, INC.

EC / EU Declaration of Conformity

This document certifies that the products described herein are in conformity with the applicable European Union directives: D 94/9/EC (A 19, 2016) and D 2014/34/EU (A 20, 2016).

Manufacturer:

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P.O. Box 1568
Mansfield, OH 44902 USA

Applicable Standard:

EN13463-1: 2001
EN13463-5: 2003
EN60079-25: 2004

Harmonised Standard:

EN13463-1: 2009
EN13463-5: 2011
EN60079-25:2010

This document certifies that the products described herein are in conformity with the applicable European Union directives: D 94/9/EC (A 19, 2016) and D 2014/34/EU (A 20, 2016).

AODD Pumps and Surge Suppressors

Technical File No.: 203104000-1410/MER

AODD (Air-Operated Double Diaphragm) Pumps

EC Technical File No.: 203104000-1410/MER
EMA 09ATEX0071 X

DEIRA Corporation B.V. (0344)

Maastricht 1051

6825 MAA

Tilburg

Hazardous Locations Applied:

I M1 c	II 1 G c T5
II 2 G Ex ia c II CT5	II 1 D c T100°C
II 2 D Ex c iaD 20 IP67 T100°C	II 2 G c T5
II 2 G Eex m c II T5	II 2 D c T100°C
II 2 D c IP65 T100°C	

SANDPIPER®
A WARREN RUPP, INC. BRAND

Tranquilizer®

DATE/APPROVAL/TITLE:

18 March 2016

David Roseberry
David Roseberry, Director of Engineering

IDEX