DATA SHEET Specifications & Performance

Certified Quality







Quality System
ISO9001 Certified



Environmental Management System ISO14001 Certified

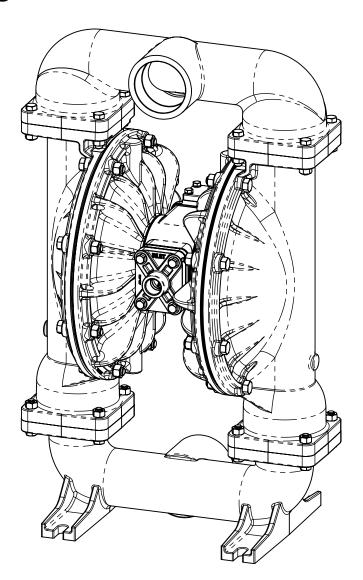


Warren Rupp, Inc. A Unit of IDEX Corporation 800 N. Main St., Mansfield, Ohio 44902 USA Telephone 419.524.8388 Fax 419.522.7867 WWW.SANDPIPERPUMP.COM



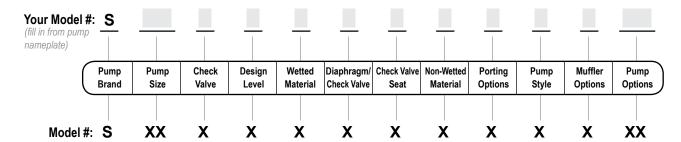
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Model S30 Metallic Design Level 1





Explanation of Pump Nomenclature



Pump Brand

SANDPIPER®

Pump Size

Check Valve Type

B Ball

Design Level

Design Level

Wetted Material

- Aluminum
- Cast Iron
- Stainless Steel
- Alloy C
- Unpainted Aluminum

Diaphragm/Check Valve Materials

- Santoprene/Santoprene
- PTFE-Santoprene/PTFE
- В Nitrile/Nitrile
- C FKM/PTFE
- E EPDM/EPDM
- EPDM/Santoprene
- PTFE-Neoprene/PTFE G
- М Santoprene/PTFF
- Neoprene/Neoprene

Check Valve Seat

- Aluminum Α
- Nitrile R
- С Carbon Steel
- **EPDM** Е
- N Neoprene
- s Stainless Steel
- Т **PTFE**
- FKM
- UHMW Polyethylene

Non-Wetted Material Options

- Painted Aluminum
- Cast Iron
- Painted Aluminum w/PTFE Coated Hardware
- Stainless Steel with
- Stainless Steel Hardware
- Painted Aluminum with Stainless Steel Hardware
- Cast Iron with Stainless Steel Hardware

Porting Options

- 150# Raised Face 3" ANSI Flange (Integral Manifold)
- 80 DIN Flange (Integral Manifold)
- NPT Threads
- BSP (Tapered) Threads

Pump Style

Standard

Muffler Options

- n None
- Sound Dampening Muffler
- Mesh Muffler
- High temperature Air Valve w/Integral Muffler
- High temperature Air Valve w/Sound Dampening Muffler
- High temperature Air Valve w/Mesh Muffler
- 6 Metal Muffler
- Metal Muffler w/Grounding Cable

Pump Options

00. None

P0. 10.30VDC Pulse Output Kit

P1. Intrinsically-Safe 5.30VDC, 110/120VAC 220/240 VAC 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 Explosion-Proof Coil
 - E6. Solenoid Kit with 220VAC Coil
- ▲ E7. Solenoid Kit with 220VAC
- 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
- A1. Solenoid Kit with 12 VDC ATEX Compliant Coil
- A2. Solenoid Kit with 24 VDC ATEX Compliant Coil
- A3. Solenoid Kit with 110/120 VAC 50/60 Hz ATEX Compliant Coil
- Solenoid Kit with 220/240 VAC 50/60 Hz ATEX Compliant Coil

Your Serial #: (fill in from pump nameplate)

ATEX Detail



II 1G c T5 II 3/1 G c T5 II 1D c T100°C IM1 c

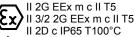
I M2 c

Models equipped with Wetted Options I, S or H, Non-Wetted Options I, S or Z, Pump Options 6 or 7, and Kit Option 0.

Note: See ATEX Explanation of **EC-Type Certificate**

II 2G c T5 II 3/2 G c T5 II 2D c T100°C Models equipped with Wetted Options A, I, S, or H, Non-Wetted Options A, I, S, Y, or Z, Pump Options 6 or 7, and Kit Option 0.

Note: See ATEX Explanation of Type **Examination Certificate**





Note: Pumps ordered with the options listed in (1) to the left are ATEX compliant when ordered with kit option A1, A2, A3 or A4. Compressed Air Temperature Range: Maximum Ambient Temperature to plus 50°C.

*Note: See page 19 for Special Conditions For Safe Use.



II 2G Ex ia c IIC T5 II 3/2 G Ex ia c IIC T5 II 2D Ex c ia 20 IP67 T100°C

Note: Pumps ordered with the options listed in (1) to the left are ATEX compliant when ordered with kit option P1.





Note: Pump models equipped with these explosion-proof solenoid kit options E1, E3, E5, E7, E8 or E9, are certified and approved by the above agencies. They are **NOT** ATEX compliant.



Performance

SUCTION/DISCHARGE PORT SIZE

- 3" NPT or 3" BSP Tapered
- 3" ANSI Flange or 3" DIN Flange

CAPACITY

• 0 to 235 gallons per minute (0 to 889 liters per minute)

AIR DISTRIBUTION VALVE

· No-lube, no-stall design

SOLIDS-HANDLING

• Up to .38 in. (9.65mm)

HEADS UP TO

 125 psi or 289 ft. of water (8.6 Kg/cm² or 86 meters)

DISPLACEMENT/STROKE

• .94 Gallon / 3.56 liter

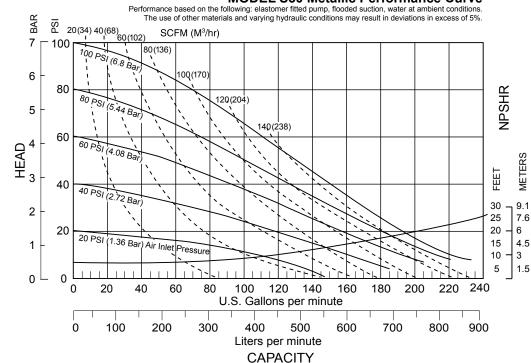
MAXIMUM OPERATING PRESSURE

• 125 psi (8.6 bar)

SHIPPING WEIGHT

- · Aluminum 116 lbs. (53kg)
- Cast Iron 215 lbs. (98kg)
- · Stainless Steel 194 lbs. (87kg)





Materials

Material Profile:		Operating Temperatures:	
CAUTION! Operating temperature limitations are as follows:		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.		-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.		-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

Polypropylene: A thermoplastic polymer. Moderate tensile and flex strength. Resists stong 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.		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.		-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.

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.

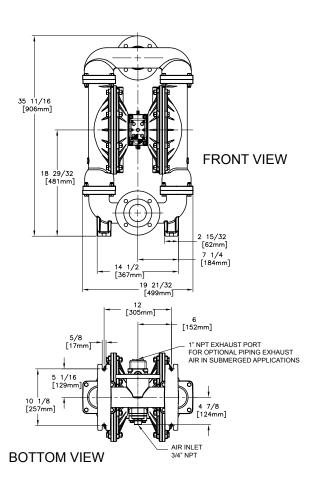


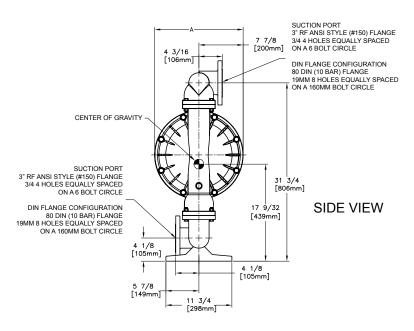
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Model S30 Metallic • 2

Dimensional Drawings

S30 Metallic, Flanged PortsDimensional Tolerance:± 3mm



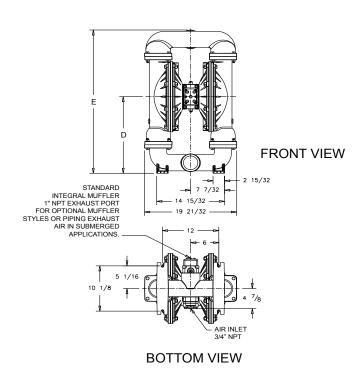


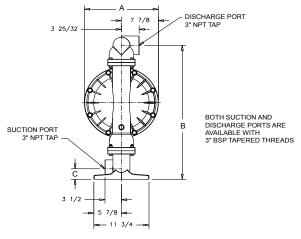
DIMENSION	Α		
STANDARD PUMP	15 3/4 / (400MM)		
PULSE OUTPUT	16 1/32 / (407MM)		
METAL MUFFLER	16 3/4 / (429MM)		
MESH MUFFLER	17 3/16 / (441MM)		
SOUND DAMPENING MUFFLER	17 3/16 / (441MM)		

PUMP WEIGHT: 273 lbs

Dimensional Drawings

S30 Metallic, Threaded Ports Dimensions in Inches. Dimensional Tolerance:±1/8"



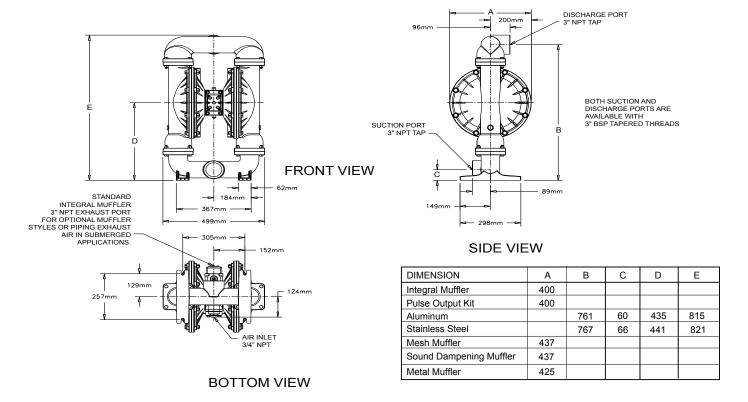


SIDE VIEW

DIMENSION	Α	В	С	D	Е
Integral Muffler	15 3/4				
Pulse Output Kit	15 3/4				
Aluminum		29 31/32	2 11/32	17 9/64	32 1/16
Stainless Steel		30 3/16	2 9/16	17 23/64	32 9/32
Mesh Muffler	17 3/16				
Sound Dampening Muffler	17 3/16				
Metal Muffler	16 3/4				

S30 Metallic, Threaded Ports

Dimensions in Millimeters. Dimensional Tolerance: ± 3mm





Written Warranty

5 - YEAR Limited Product Warranty

Quality System ISO9001 Certified • Environmental Management Systems ISO14001 Certified

Warren Rupp, Inc. ("Warren Rupp") warrants to the original end-use purchaser that no product sold by Warren Rupp that bears a Warren Rupp brand shall fail under normal use and service due to a defect in material or workmanship within five years from the date of shipment from Warren Rupp's factory. Warren Rupp brands include SANDPIPER®, MARATHON®, PortaPump®, SludgeMaster™ and Tranquilizer®.

~ See complete warranty at www. sandpiperpump.com/About/guaranteesandwarranties.html ~

WARREN RUPP, INC.º

Declaration of Conformity

Manufacturer: Warren Rupp, Inc.®, 800 N. Main Street, P.O. Box 1568, Mansfield, Ohio, 44901-1568 USA

Certifies that Air-Operated Double Diaphragm Pump Series: HDB, HDF, M Non-Metallic, S Non-Metallic, M Metallic, S Metallic, T Series, G Series, U Series, EH and SH High Pressure, RS Series, W Series, SMA and SPA Submersibles, and Tranquilizer Surge Suppressors comply with the European Community Directive 2006/42/EC on Machinery, according to Annex VIII. This product has used Harmonized Standard EN809:1998+A1:2009, Pumps and Pump Units for Liquids - Common Safety Requirements, to verify conformance.

Signature of authorized person

David Roseberry

Printed name of authorized person

Revision Level: F

October 20, 2005

Date of issue

Engineering Manager

Title

August 23, 2012

Date of revision





WARREN RUPP, INC.®

EC Declaration of Conformity

In accordance with ATEX Directive 94/9/EC, Equipment intended for use in potentially explosive environments.

Manufacturer: Warren Rupp, Inc.®, A Unit of IDEX Corportion 800 North Main Street, P.O. Box 1568, Mansfield, OH 44901-1568 USA

EN 60079-25: 2004

For pumps equipped with Pulse Output ATEX Option KEMA Quality B.V. (0344)

AODD Pumps and Surge Suppressors

For Type Examination Designations

AODD (Air-Operated Double Diaphragm) Pumps

EC Type Examination Certificate No. Pumps: KEMA 09ATEX0071 X

KEMA Quality B.V. Utrechtseweg 310

6812 AR Arnhem, The Netherlands

SANDPIPER

Applicable Standard:

EN13463-1: 2001, EN13463-5: 2003

Tranquilizer®



DATE/APPROVAL/TITLE: 27 MAY 2010

David Roseberry, Engineering Manager

ATEX Summary of Markings

Туре		Marking		Listed In	Non-Conductive Fluids
Pump types, S1F, S15, S20, and S30 provided with the pulse output option		II 2 G Ex ia c IIC T5 II 3/2 G Ex ia c IIC T5 II 2 D Ex c iaD 20 IP67 T100°C	KEMA 09ATEX0071 X CE 0344	KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X	No Yes Yes
Pump types, S1F, S15, S20, and S30 provided with the integral solenoid option		II 2 G EEx m c II T5 II 3/2 G EEx m c II T5 II 2 D c IP65 T100°C	KEMA 09ATEX0071 X CE 0344	KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X	No Yes Yes
Pump types, HDB1½, HDB40, HDB2, HDB50, HDB3, HDF1, HDF25, HDF2, HDF3M, PB¼, S05, S1f, S15, S20, S30, SB1, SB25, ST1½, ST40, G15, G20, and G30, without the above listed options, no aluminum parts	⟨£x⟩	II 1 G c T5 II 3/1 G c T5 II 1 D c T100°C I M1 c I M2 c		KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0072 X	No Yes Yes No Yes
Pump types, DMF2, DMF3, HDB1½, HDB40, HDB2, HDB50, HDB3, HDF1, HDF25, HDF2, HDF3M, PB½, S05, S1F, S15, S20, S30, SB1, S825, SE½, ST1, ST25, ST1½, ST40, U1F, G05, G1F, G15, G20, and G30		2 G c T5 3/2 G c T5 2 D c T100°C	KEMA 09ATEX0072 X CE	KEMA 09ATEX0072 X KEMA 09ATEX0072 X KEMA 09ATEX0072 X	No Yes Yes
Surge Suppressors all types		II 2 G T5 II 3/2 G T5 II 2 D T100°C	KEMA 09ATEX0073 CE	KEMA 09ATEX0073 KEMA 09ATEX0073 KEMA 09ATEX0073	No Yes Yes

EC Type Certificate No. Pumps: KEMA 09ATEX0071 X Type Certificate No. Pumps: KEMA 09ATEX0072 X Type Certificate No. Suppressors: KEMA 09ATEX0073