

# DATA SHEET

## Specifications & Performance

Certified Quality



Quality System  
ISO9001 Certified



Environmental Management System  
ISO14001 Certified



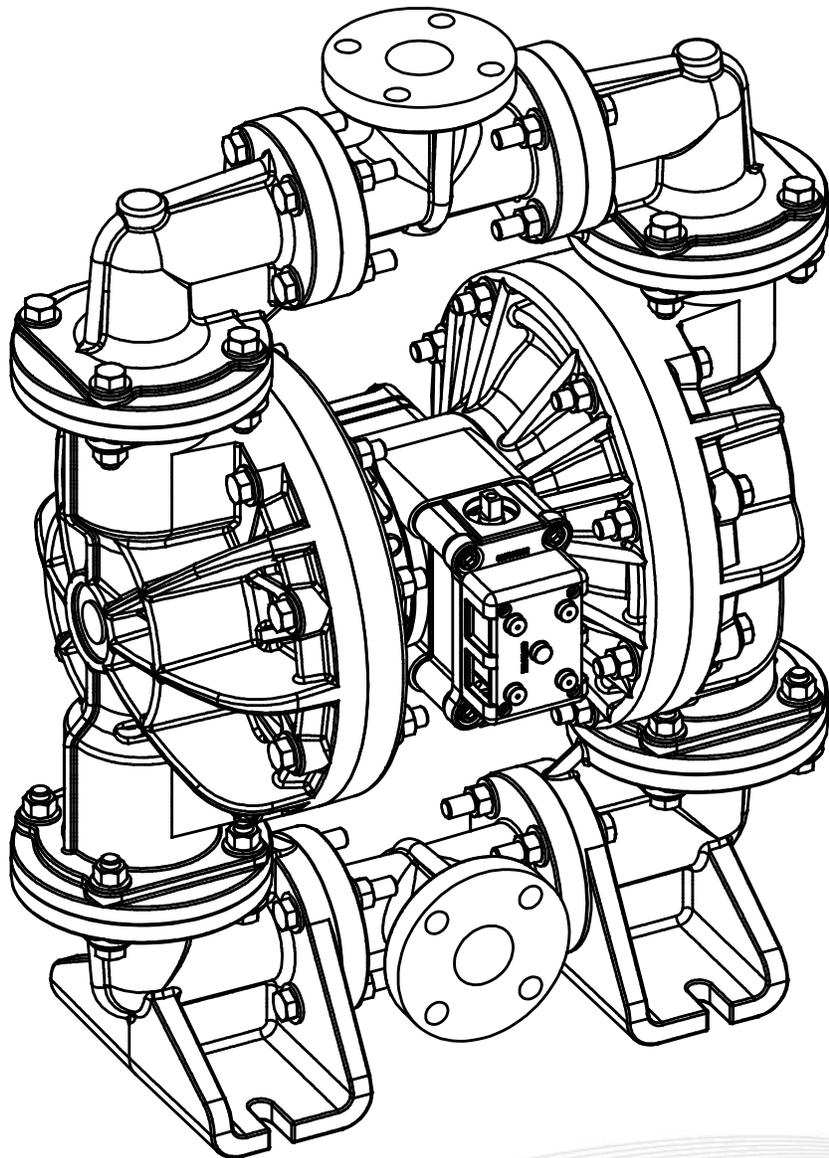
Warren Rupp, Inc.  
A Unit of IDEX Corporation  
800 N. Main St.,  
Mansfield, Ohio 44902 USA  
Telephone 419.524.8388  
Fax 419.522.7867  
SANDPIPERPUMP.COM



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# Model S15

## Non-Metallic Design Level 3



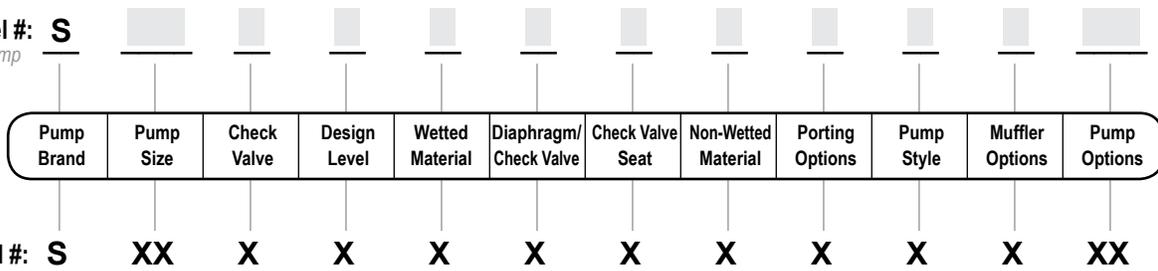
**SANDPIPER®**  
A WARREN RUPP, INC. BRAND

SANDPIPERPUMP.COM

# Explanation of Pump Nomenclature

Your Model #: **S**

(fill in from pump nameplate)



**Pump Brand**  
S SANDPIPER®

**Pump Size**  
15 1 1/2"

**Check Valve Type**  
B Ball

**Design Level**  
3 Design Level

**Wetted Material**  
K PVDF  
P Polypropylene

**C** Conductive Polypropylene

**Diaphragm/Check Valve Materials**

- 1 Santoprene/Santoprene
- 2 PTFE-Santoprene Backup/PTFE
- 6 PTFE Pumping, PTFE-Neoprene Backup Driver/PTFE
- B Nitrile/Nitrile
- C FKM / PTFE
- G PTFE-Neoprene Backup/PTFE
- N Neoprene/Neoprene
- U Urethane/Urethane
- Z One-Piece Bonded/PTFE

**Check Valve Seat**  
K PVDF  
P Polypropylene

**Non-Wetted Material Options**

- C Carbon Filled Conductive Polypropylene
- P 40%Glass Filled Polypropylene
- 1 40%Glass Filled Polypropylene w/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 with Electronic Leak Detection (110V)
- E with Electronic Leak Detection (220V)
- M with Mechanical Leak Detection
- S Standard
- V with Visual Leak Detection

**Pump Options**

- 0** None
- 1** Sound Dampening Muffler
- 2** Mesh Muffler
- 3** Expanded Clearance Air Valve w/Integral Muffler
- 4** Expanded Clearance Air Valve w/Sound Dampening Muffler
- 5** Expanded Clearance Air Valve w/Mesh Muffler
- 6** Metal Muffler
- 7** 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
- A4.** Solenoid Kit with 220/240 VAC 50/60 Hz ATEX Compliant Coil

Your Serial #: (fill in from pump nameplate) \_\_\_\_\_

## ATEX Detail

- (1) II 1G c T5  
Doc. #2 II 3/1 G c T5  
II 1D c T100°C  
I M1 c  
I M2 c

**Note:** Pumps are only ATEX compliant when ordered with wetted material option C, non-wetted material option C, pump option 0, 6 or 7, and kit option 0.

- (3) II 2G EEx m c II T5  
II 3/2 2G EEx m c II T5  
II 2D c IP65 T100°C

**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 **Special Conditions For Safe Use.**

- (2) 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.

- (4) IEC EEx m T4

**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

## S15 NON-METALLIC

### SUCTION/DISCHARGE PORT SIZE

- 1 1/2 ANSI Flange or  
PN10 40mm DIN Flange

### CAPACITY

- 0 to 100 gallons per minute  
(0 to 378 liters per minute)

### AIR DISTRIBUTION VALVE

- No-lube, no-stall design

### SOLIDS-HANDLING

- Up to .47 in. (12mm)

### HEADS UP TO

- 100 psi or 231 ft. of water  
(7 bar or 70 meters)

### DISPLACEMENT/STROKE

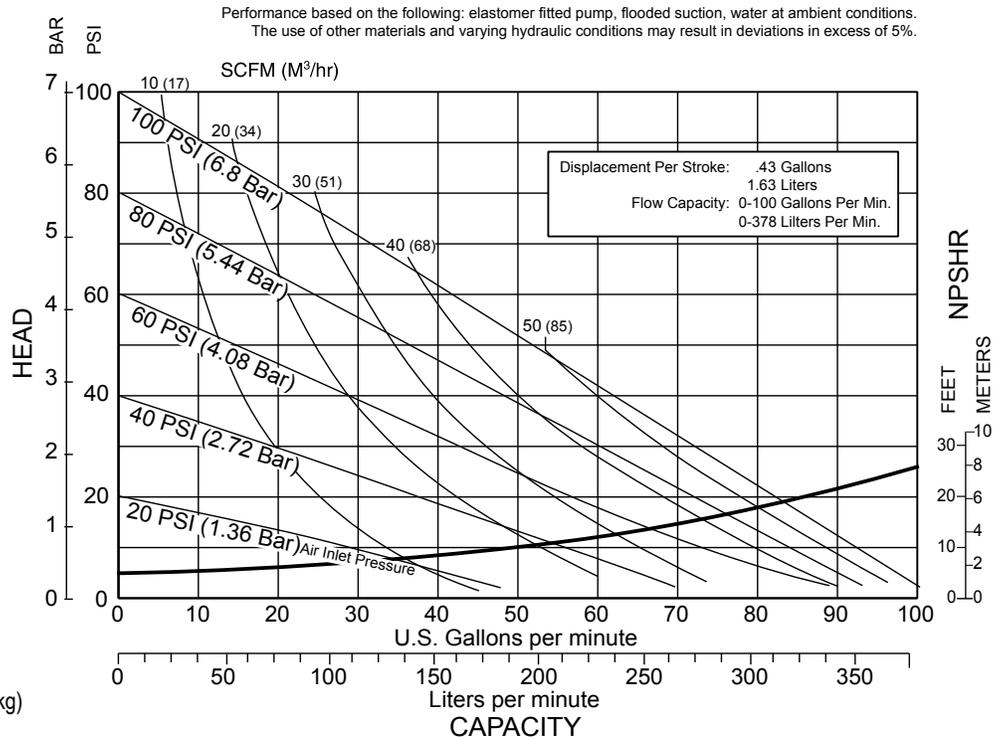
- .43 Gallon / 1.63 liter

### MAXIMUM OPERATING PRESSURE

- 100 psi (7 bar)

### SHIPPING WEIGHT

- Polypropylene 82 lbs. (37kg)
- PVDF 112 lbs. (51kg)
- Conductive Polypropylene 85 lbs. (38kg)
- Polypropylene Spill Containment 149 lbs. (68kg)
- PVDF Spill Containment 194 lbs. (88kg)



# Materials

| Material Profile:  | Operating Temperatures: |                | 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          | 32°F           |
|--|-------------------------|----------------|--|----------------|----------------|
|  | Max.                    | Min.           |  | 82°C           | 0°C            |
| <b>CAUTION!</b> Operating temperature limitations are as follows:<br><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<br>88°C           | -20°F<br>-29°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<br>121°C | 0°F<br>-18°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<br>138°C          | -40°F<br>-40°C | <b>Santoprene®:</b> Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.   | 275°F<br>135°C | -40°F<br>-40°C |
| <b>FKM:</b> (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<br>177°C          | -40°F<br>-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<br>82°C  | -35°F<br>-37°C |
| <b>Hytrel®:</b> Good on acids, bases, amines and glycols at room temperatures only.  | 220°F<br>104°C          | -20°F<br>-29°C | <b>Urethane:</b> Shows good resistance to abrasives. Has poor resistance to most solvents and oils.  | 150°F<br>66°C  | 32°F<br>0°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<br>93°C           | -10°F<br>-23°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<br>104°C | -35°F<br>-37°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<br>88°C           | -10°F<br>-23°C | <i>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.</i>   |                |                |
| <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<br>82°C           | 32°F<br>0°C    | <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.

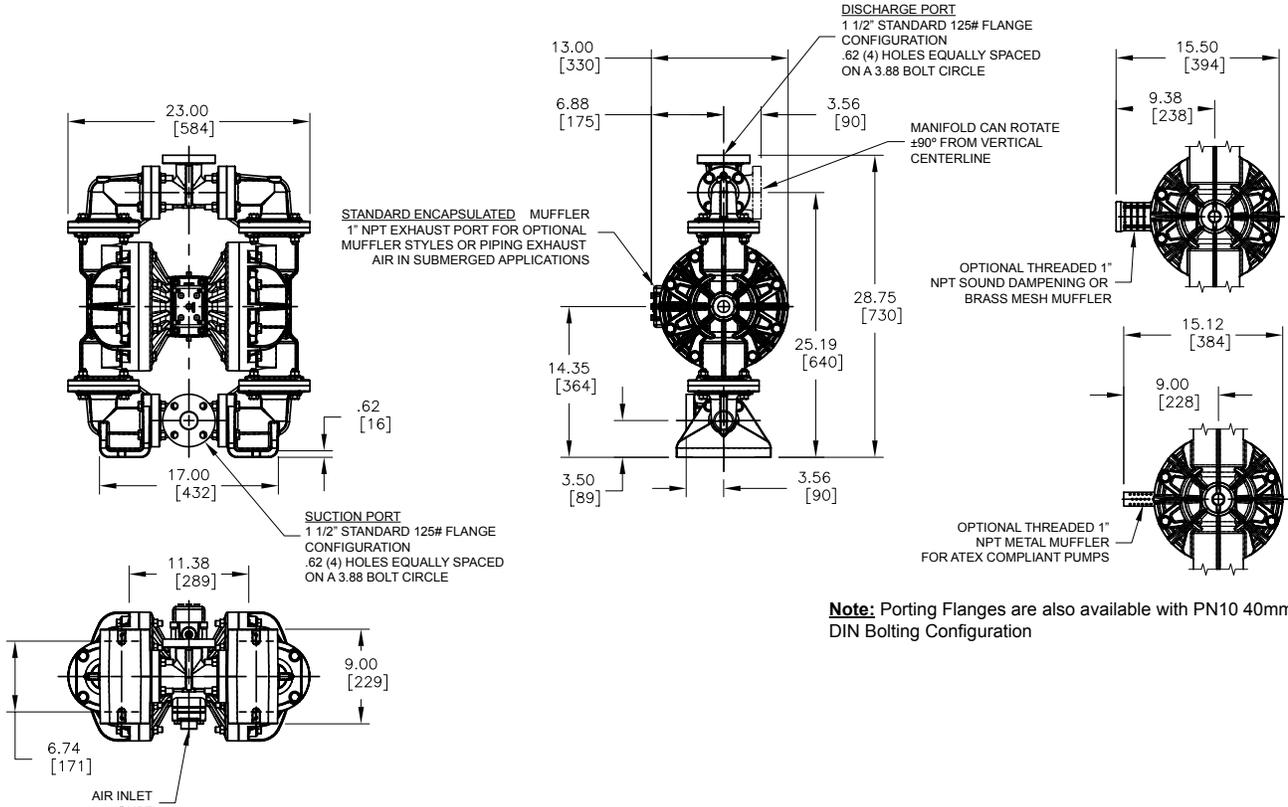
- Ambient temperature range:** -20°C to +40°C  
**Process temperature range:** -20°C to +80°C for models rated as category 1 equipment  
-20°C to +100°C for models rated as category 2 equipment

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.

# Dimensional Drawings

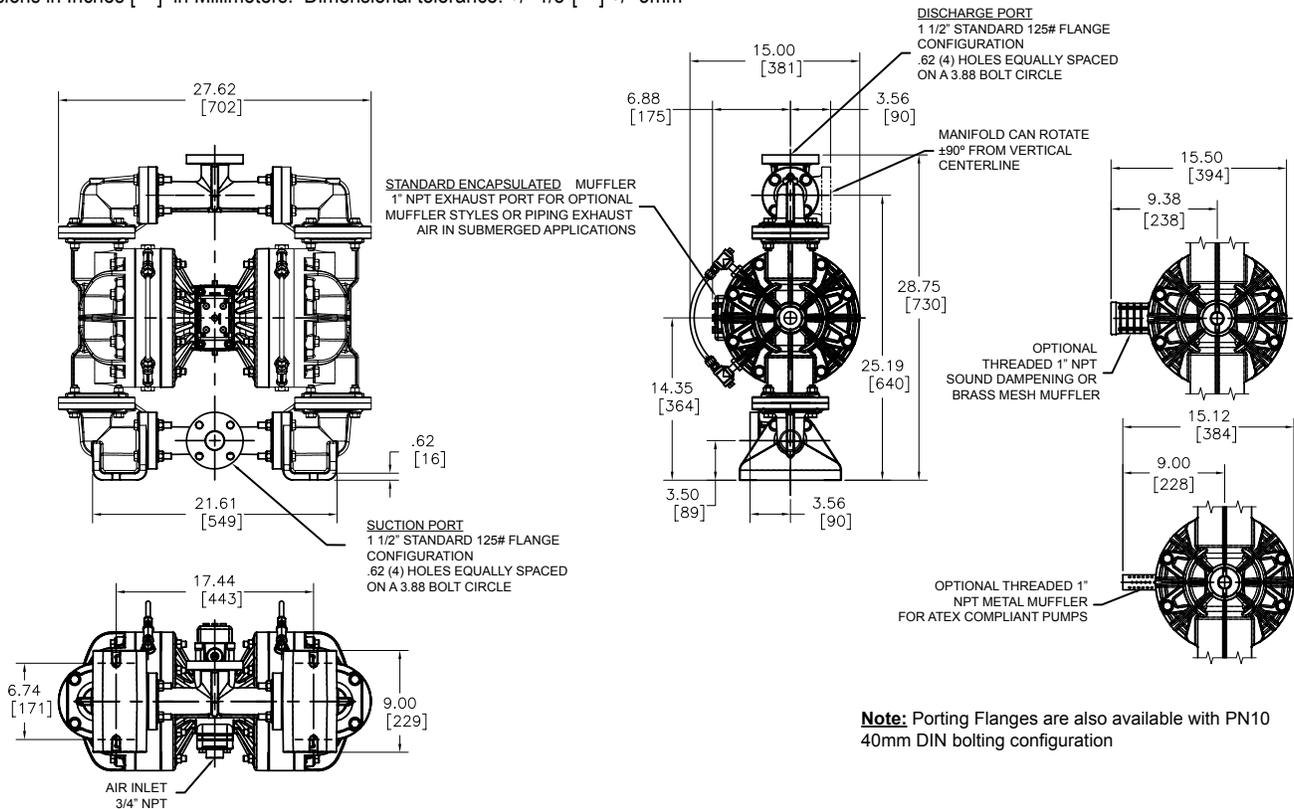
## S15 Non-Metallic

Dimensions in Inches [ ] in Millimeters. Dimensional tolerance: +/- 1/8" [ ] +/- 3mm



## S15 Non-Metallic with Spill Containment

Dimensions in Inches [ ] in Millimeters. Dimensional tolerance: +/- 1/8" [ ] +/- 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](http://www.sandpiperpump.com/About/guaranteesandwarranties.html) ~

**WARREN  
RUPP, INC.®**

## Declaration of Conformity

Manufacturer: Warren Rupp, Inc.®, 800 N. Main Street  
Mansfield, Ohio, 44902 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.

David Roseberry  
Signature of authorized person

David Roseberry  
Printed name of authorized person

October 20, 2005  
Date of issue

Engineering Manager  
Title

Revision Level: F

August 23, 2012  
Date of revision

**IDEX**  
FLUID & METERING

**CE**

# WARREN RUPP, INC.<sup>®</sup>

## EC Declaration of Conformity

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

**Manufacturer: Warren Rupp, Inc.<sup>®</sup>, A Unit of IDEX Corporation**  
800 North Main Street, P.O. Box 1568, Mansfield, OH 44902 USA

### EN 60079-25: 2004

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

**Applicable Standard:**  
EN13463-1: 2001,  
EN13463-5: 2003



### 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



**Tranquilizer<sup>®</sup>**



DATE/APPROVAL/TITLE:  
27 MAY 2010

*David Roseberry*  
David Roseberry, Engineering Manager

## ATEX Summary of Markings

| Type   | 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<br>II 3/2 G Ex ia c IIC T5<br>II 2 D Ex c iaD 20 IP67 T100°C | KEMA 09ATEX0071 X<br>CE 0344                      | KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X   | No<br>Yes<br>Yes              |
| Pump types, S1F, S15, S20, and S30 provided with the integral solenoid option  | II 2 G EEx m c II T5<br>II 3/2 G EEx m c II T5<br>II 2 D c IP65 T100°C             | KEMA 09ATEX0071 X<br>CE 0344                      | KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X   | No<br>Yes<br>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 | II 1 G c T5<br>II 3/1 G c T5<br>II 1 D c T100°C<br>I M1 c<br>I M2 c                | KEMA 09ATEX0071 X<br>KEMA 09ATEX0072 X<br>CE 0344 | KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X<br>KEMA 09ATEX0071 X<br>KEMA 09ATEX0072 X | No<br>Yes<br>Yes<br>No<br>Yes |
| Pump types, DMF2, DMF3, HDB1½, HDB40, HDB2, HDB50, HDB3, HDF1, HDF25, HDF2, HDF3M, PB¼, S05, S1F, S15, S20, S30, SB1, SB25, SE½, ST1, ST25, ST1½, ST40, U1F, G05, G1F, G15, G20, and G30           | II 2 G c T5<br>II 3/2 G c T5<br>II 2 D c T100°C                                    | KEMA 09ATEX0072 X<br>CE                           | KEMA 09ATEX0072 X<br>KEMA 09ATEX0072 X<br>KEMA 09ATEX0072 X   | No<br>Yes<br>Yes              |
| Surge Suppressors all types  | II 2 G T5<br>II 3/2 G T5<br>II 2 D T100°C  | KEMA 09ATEX0073<br>CE                             | KEMA 09ATEX0073<br>KEMA 09ATEX0073<br>KEMA 09ATEX0073   | No<br>Yes<br>Yes              |

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

Pumps marked with equipment Category II 3/1 G (internal 3 G / external 1 G), 1D, M1 and M2 when used for non-conductive fluids. The pumps are Category II 2 G when used for conductive fluids.

Pumps and surge suppressors marked with equipment Category II 3/2 (internal 3 G / external 2 G), 2D when used for non-conductive fluids. The pumps are Category II 2 G when used for conductive fluids.