

Quality System
ISO9001 Certified

Environmental
Management System
ISO14001 Certified



See pages 2, 13 and 14
for ATEX ratings.



**Model PB^{1/4}
Type 3**

**Air-Operated
Double Diaphragm Pump**

Engineering, Performance
& Construction Data

INTAKE/DISCHARGE PIPE SIZE 1/4" NPT (internal) 1/2" NPT (external)	CAPACITY 0 to 4 gallons per minute (0 to 15 liters per minute)	AIR VALVE No-lube, no-stall design	SOLIDS-HANDLING Up to 1/32" (1mm)	HEADS UP TO 100 psi or 231 ft. of water (7 bar or 70 meters)	DISPLACEMENT/STROKE .01 US Gallons / .04 liters
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CAUTION! Operating temperature limitations are as follows:

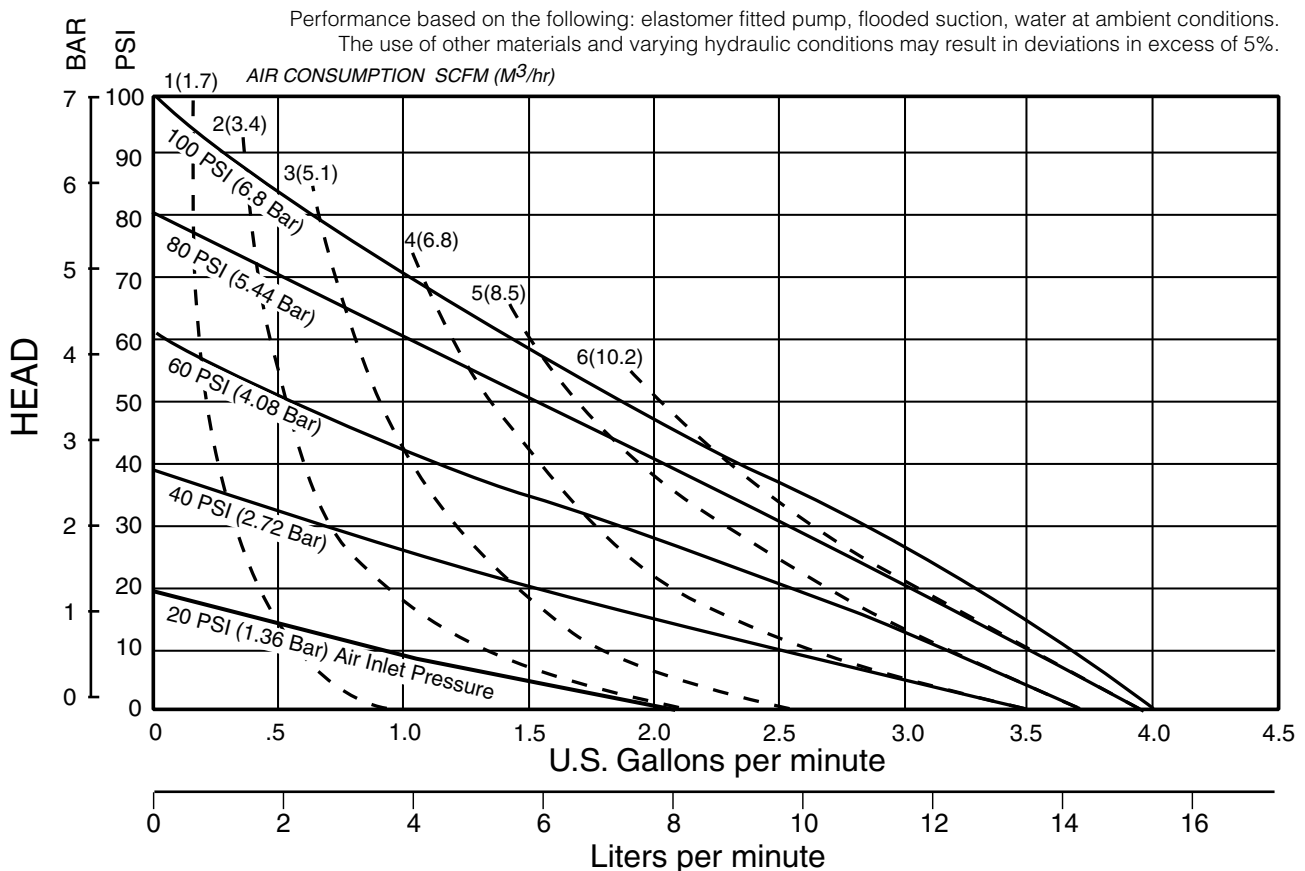
Materials

	Operating Temperatures	
	Maximum	Minimum
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
PVDF	250°F 121°C	0°F -18°C
Polypropylene	180°F 82°C	32°F 0°C
Conductive Acetal	190°F 88°C	-20°F -29°C

For specific applications, always consult the Warren Rupp "Chemical Resistance Chart"

CAUTION: Nonmetallic pumps and plastic components are not UV stabilized. Ultraviolet radiation can damage these parts and negatively affect material properties. Do not expose to UV light for extended periods of time.

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.



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

Explanation of Pump Nomenclature

MATERIALS OF CONSTRUCTION

*To order a pump or replacement parts, first enter the Model Number **PB1/4**, followed by the Type Designation listed below in the far left column.*

PB¼	Manifold	Outer Chamber	Outer Diaphragm Plate	Inner Diaphragm Plate	Intermediate Housing	Diaphragm Rod	Hardware	Valve Seat	Diaphragm	Ball Valve Material	Air Valve	Cap	Options	Shipping Weight (lbs.)
TS3PP.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	PP*	PP*	-	4
TU3PP.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	T	PP*	PP*	-	4
TT3PP.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	T	T	PP*	PP*	-	4
TS3K.	K	K	K	2011-AL	PP*	416SS	301/302SS	K	S	S	PP*	PP*	-	5
TU3K.	K	K	K	2011-AL	PP*	416SS	301/302SS	K	S	T	PP*	PP*	-	5
TT3K.	K	K	K	2011-AL	PP*	416SS	301/302SS	K	T	T	PP*	PP*	-	5
▲ TS3CA.	CA	CA	CA	2011-AL	CA*	416SS	301/302SS	AC	S	S	CA*	CA*	-	4
▲ TU3CA.	CA	CA	CA	2011-AL	CA*	416SS	301/302SS	AC	S	T	CA*	CA*	-	4
▲ TT3CA.	CA	CA	CA	2011-AL	CA*	416SS	301/302SS	AC	T	T	CA*	CA*	-	4
TS3PPE0.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E0	4
TS3PPE1.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E1	4
TS3PPE2.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E2	4
TS3PPE3.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E3	4
TS3PPE4.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E4	4
TS3PPE5.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E5	4
TS3PPE6.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E6	4
TS3PPE7.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E7	4
TS3PPE8.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E8	4
TS3PPE9.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	E	PP*	E9	4
TS3PPP0.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	PP	PP*	P0	4
TS3PPP2.	PP	PP	PP	2011-AL	PP*	416SS	301/302SS	PP	S	S	PP	PP*	P2	4



Horizontal suction and vertical discharge are standard. All combinations of suction and discharge are available.

Meanings of Abbreviations:

- AC = Acetal
- AL = Aluminum
- ▲ CA = Conductive Acetal**
- K = PVDF
- PP = Polypropylene
- SS = Stainless Steel
- T = PTFE
- S = Santoprene


- Kit Options**
- 00.= None
 - P0.= 10-30VDC Pulse Output Kit
 - P2.= 110/120 or 220/240VAC Pulse Output Kit
 - E0.= Solenoid Kit w/24VDC Coil
 - E1.= Solenoid Kit w/24VDC Explosion-Proof Coil
 - E2.= Solenoid Kit w/24VAC/12VDC Coil
 - E3.= Solenoid Kit w/12VDC Coil Explosion-Proof

- E4.= Solenoid Kit w/110VAC Coil
- E5.= Solenoid Kit w/110VAC Explosion-Proof Coil
- E6.= Solenoid Kit w/220VAC Coil
- E7.= Solenoid Kit w/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


  ATEX Compliant ONLY with no options.

* Designates Glass Filled

** Note: Only Conductive Acetal equipped pumps with no options are ATEX compliant

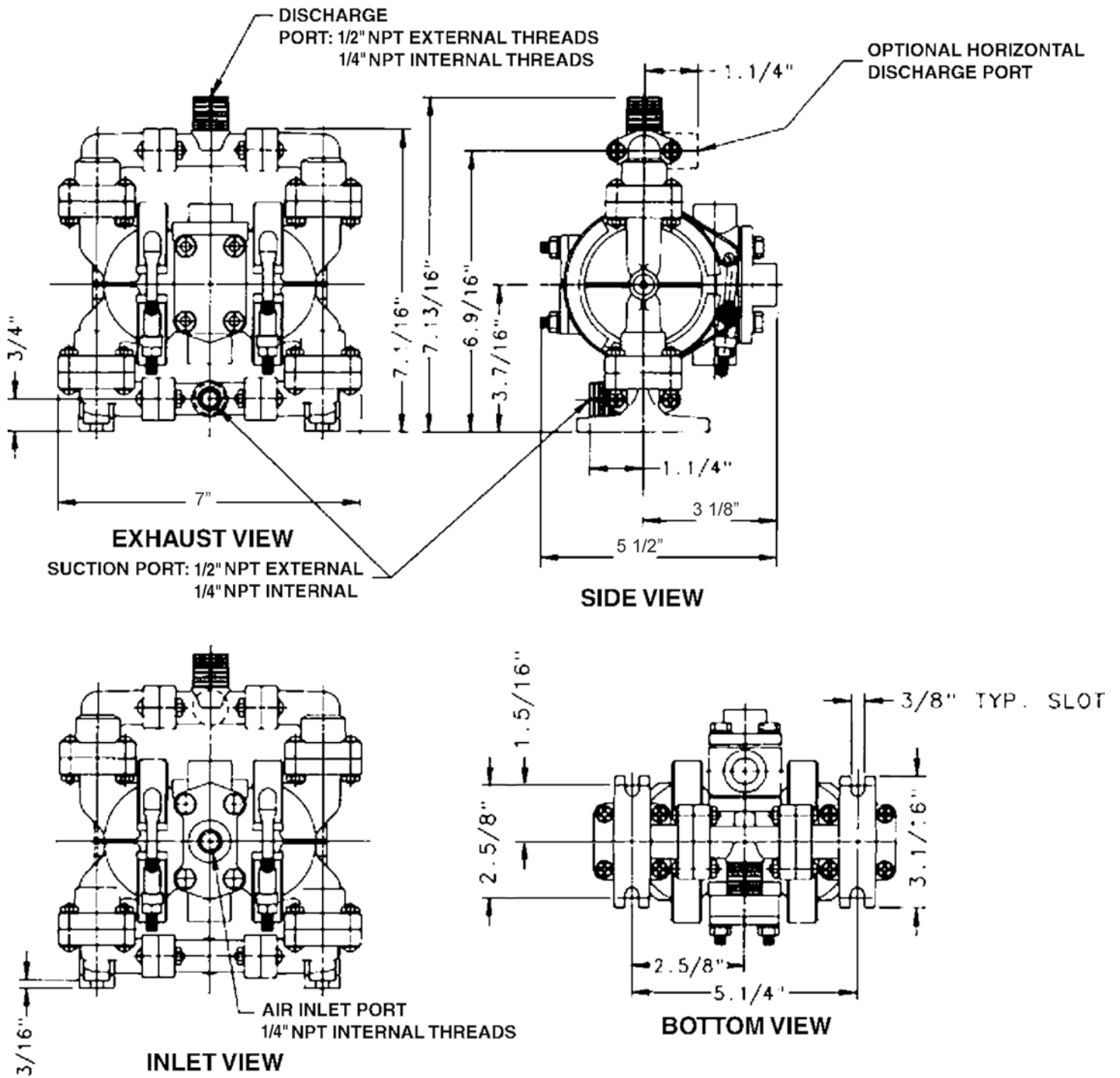
 Conductive Acetal Models equipped with Integral Mufflers:

- II 2 G c T5
- II 3/2 G c T5
- II 2 D c T100 C
- I M2 c

 Conductive Acetal Models equipped with a metal muffler:

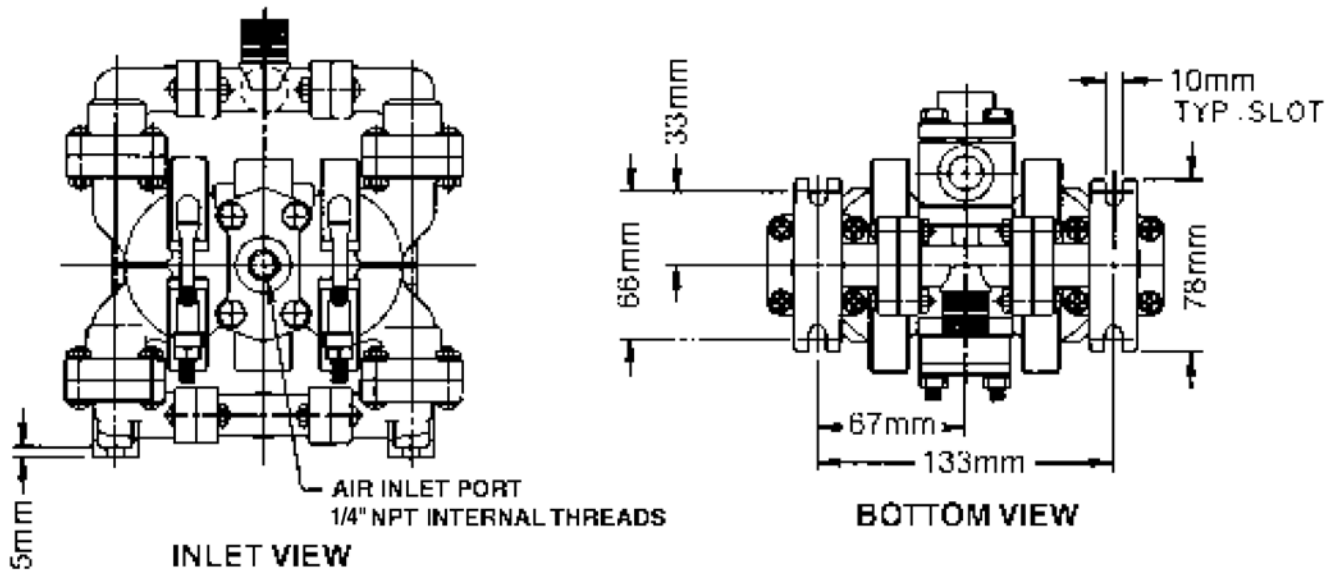
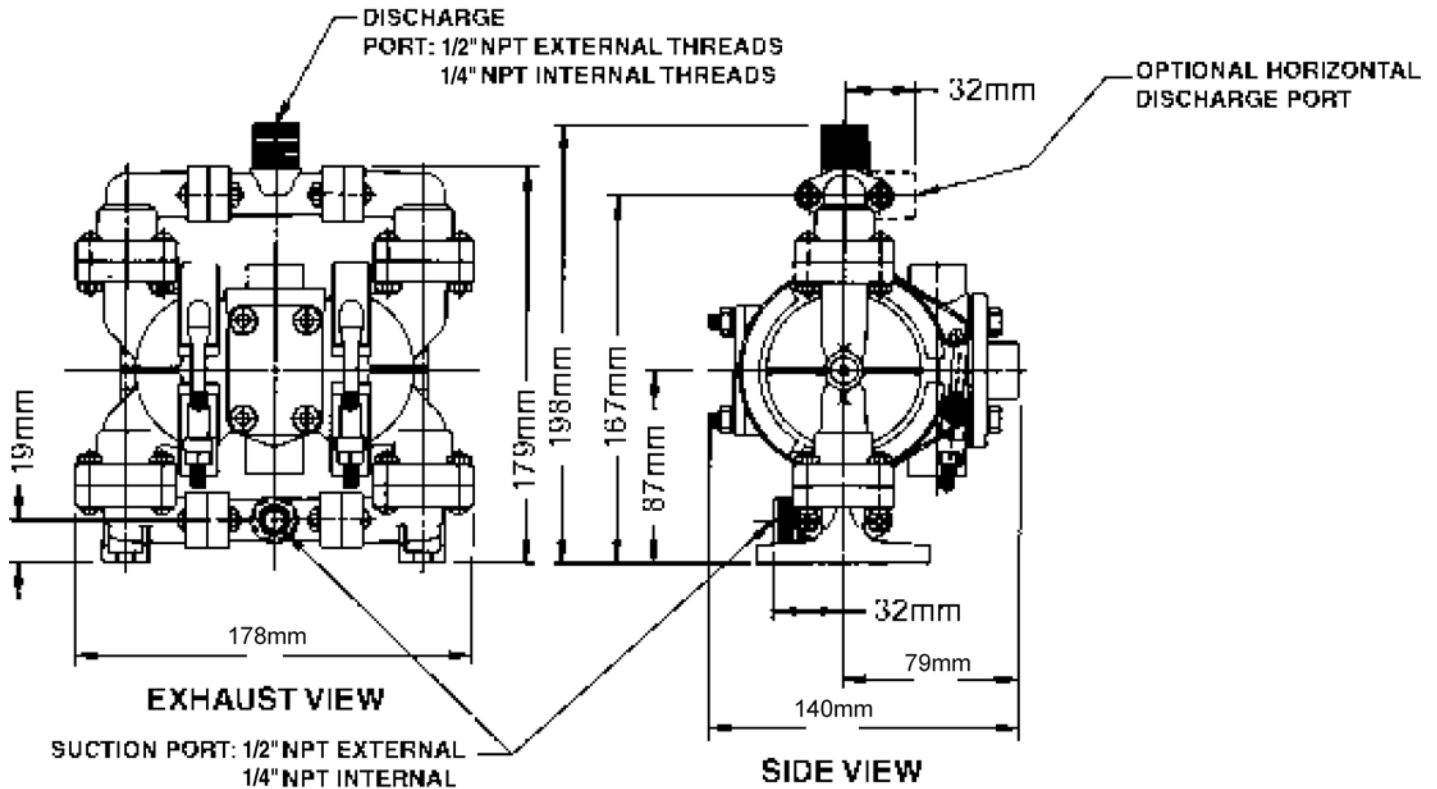
- II 1 G c T5
- II 3/1 G c T5
- II 1 D c T100 C
- I M1 c

Dimensions: PB¹/₄ Non-Metallic



Dimension	A	B	C
Standard	7"	3 1/8"	5 1/2"
Pulse Output Kit	7"	3 1/8"	5 1/2"

Metric Dimensions: PB¹/₄ Non-Metallic



Dimension	A	B	C
Standard	178	79	140
Pulse Output Kit	178	79	140

Declaration of Conformity

Declaration of Conformity

WARREN RUPP®

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, RS Series U Series, EH and SH High Pressure, 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 EN 809, Pumps and Pump Units for Liquids - Common Safety Requirements, to verify conformance.

David Roseberry
Signature of authorized person

October 20, 2005
Date of issue

David Roseberry
Printed name of authorized person

Engineering Manager
Title

Revision Level: E

MAY 27, 2010
Date of revision



WARREN RUPP®

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 Corporation
800 North Main Street
P.O. Box 1568
Mansfield, OH 44901-1568 USA

Applicable Standard:

EN13463-1: 2001,
EN13463-5: 2003



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, see page 2 (back)

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®
A WARREN RUPP PUMP BRAND

Tranquilizer®

DATE/APPROVAL/TITLE:
27 MAY 2010


David Roseberry
David Roseberry, Engineering Manager

IDEX
FLUID & METERING

WARREN RUPP®

EC Declaration of Conformity

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 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		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 09ATEX0072 X CE 0344	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, 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 II 3/2 G c T5 II 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