

DATA SHEET

Specifications & Performance

Certified Quality



Quality System
ISO 9001 Certified



Environmental Management System
ISO 14001 Certified

Member of
Hydraulic



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

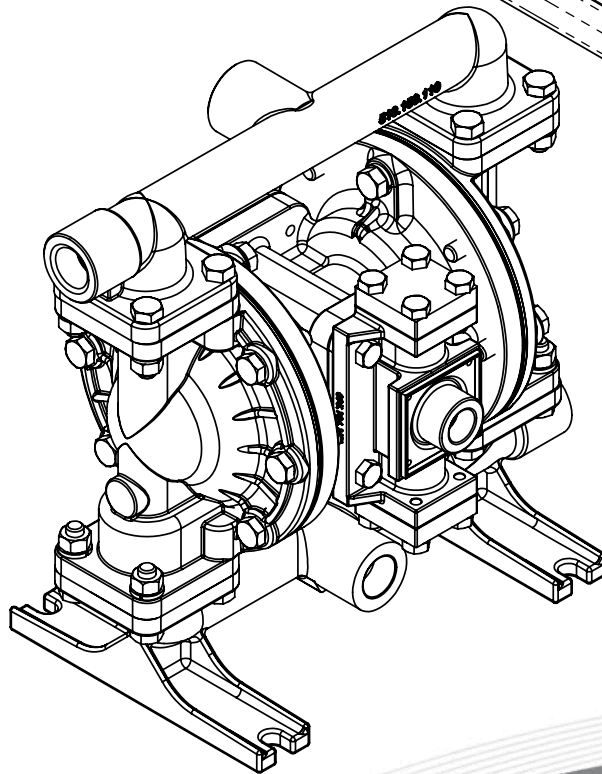
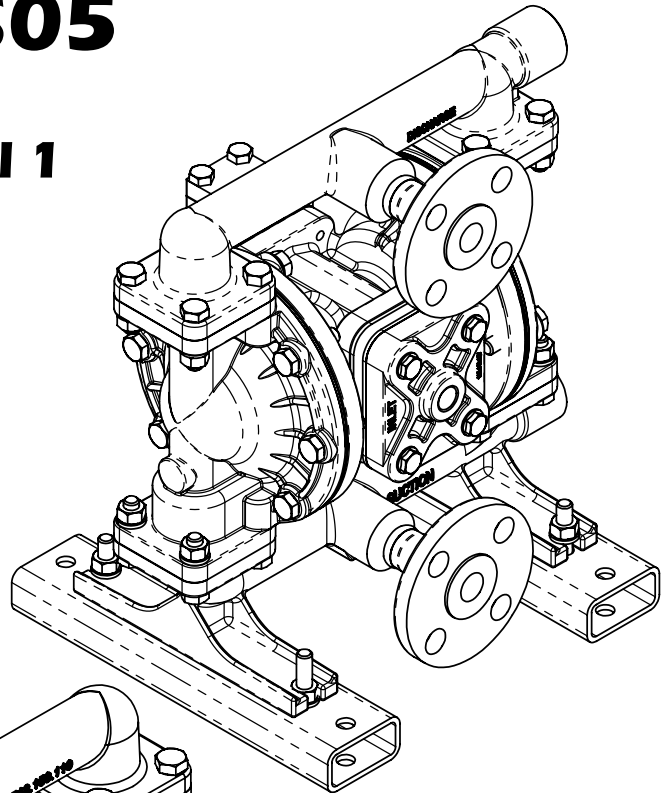


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Model S05

Metallic

Design Level 1



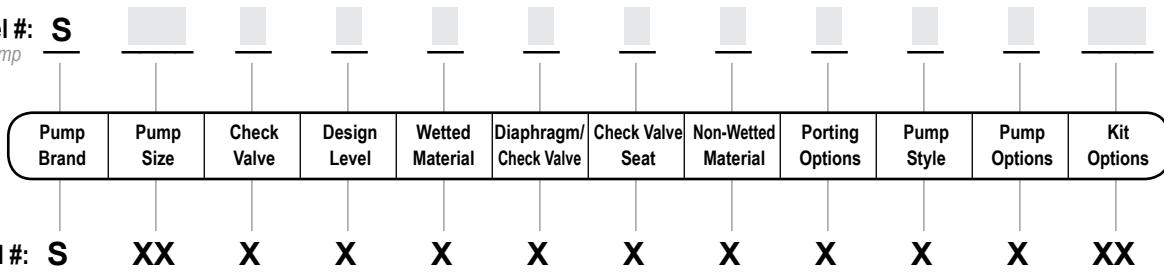
SANDPIPER[®]
A WARREN RUPP, INC. BRAND

SANDPIPERPUMP.COM

Explanation of Pump Nomenclature

Your Model #: **S**

(fill in from pump nameplate)



Pump Brand

S SANDPIPER®

Pump Size

05 1/2"

Check Valve Type

B Solid Ball

Design Level

1 Design Level

Wetted Material

A Aluminum

S Stainless Steel

H Alloy C

X Unpainted Aluminum

Diaphragm/Check Valve Materials

B Nitrile/Nitrile

C FKM/PTFE

N Neoprene/Neoprene

E EPDM/EPDM

U Polyurethane

1 Santoprene®/Santoprene®

2 PTFE-Santoprene®/PTFE

Z One Piece PTFE-Nitrile/PTFE

Check Valve Seat

A Aluminum

C Cast Iron

H Alloy C

S Stainless Steel

T PTFE

W UHMW Polyethylene

Non-Wetted Material Options

A Aluminum

Y Aluminum With Stainless Steel hardware

Non-Wetted Material Options (cont.)

†C Conductive Polypropylene With Stainless Steel hardware

†P Polypropylene With Stainless Steel hardware

Porting Options

N NPT Threads

B BSP (Tapered) Threads

1 Dual Porting (NPT)

2 Top Dual Porting (NPT)

3 Bottom Dual Porting NPT

4 Dual Porting BSP (Tapered)

5 Top Dual Porting BSP (Tapered)

6 Bottom Dual Porting BSP (Tapered)

R 1/2" Raised Face #150 ANSI Flange with Threaded Pipe Connection

W 1/2" Welded Raised Face #150 ANSI Flanged Manifolds*

Pump Style

S Standard

Pump Options

0 Integral Muffler

6 Metal Muffler

Kit 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

Kit Options (cont.)

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



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.

† Note: Pumps equipped with non-wetted options C or P are limited to a maximum operating pressure of 100 psi or 7 bar.

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

Special Conditions For Safe Use: Conductive polypropylene, conductive acetal, or conductive PVDF pumps are not to be installed in applications where the pumps may be subjected to oil, greases and hydraulic liquids

ATEX Detail

	ATEX Detail	Wetted Material Options	Non-Wetted Material Options	Pump Options	Kit Options
	II 1G c T5 II 1D c T100°C I M1 c I M2 c	H, S	C	6	00
	II 2G c T5 II 2D c T100°C	A, H, S	A, C, Y	**0, 6	00
	II 2G Ex ia c IIC T5 II 2D Ex c iaD 20 IP67 T100°C	A, H, S	A, C, Y	**0, 6	P1
	II 2G EEx m c II T5 II 2D c IP65 T100°C	A, H, S	A, C, Y	**0, 6	A1, A2, A3, A4

**Pump option 0 is only ATEX compliant with non-wetted material option C

Performance

S05 METALLIC

SUCTION/DISCHARGE PORT SIZE

- 1/2" NPT (Internal) or 1/2" BSP (Tapered)
- 1" NPT (External) or 1" BSP (Tapered)
- 1/2" Raised Face #150 ANSI Flanges - Stainless Steel ONLY

CAPACITY

- 0 to 15 gallons per minute (0 to 56 liters per minute)

AIR DISTRIBUTION VALVE

- No-lube, no-stall design

SOLIDS-HANDLING

- Up to .125 in. (3mm)

HEADS UP TO

- 125 psi or 289 ft. of water (8.6 bar or 86 meters)

MAX OPERATING PRESSURE

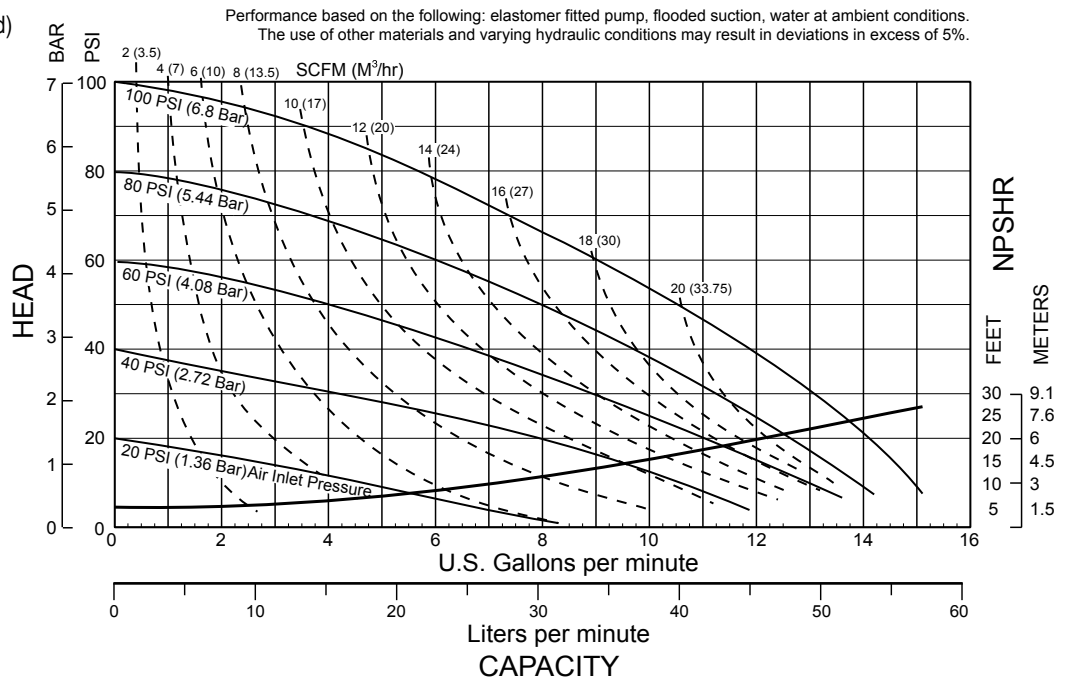
- 125 psi (8.6 bar) metallic center
- 100 psi (7 bar) non-metallic center

DISPLACEMENT/STROKE

- .026 Gallon / .098 liter

SHIPPING WEIGHT

- Aluminum 15 lbs. (7kg)
- Stainless Steel 21 lbs. (10kg)



Materials

Material Profile:	Operating Temperatures:	
	Max.	Min.
CAUTION! Operating temperature limitations are as follows:		
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
Polyurethane: 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:

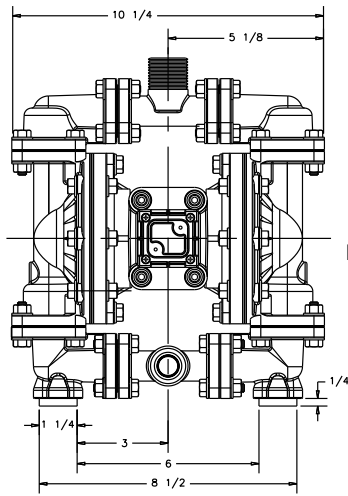
Alloy C: Equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy.

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.

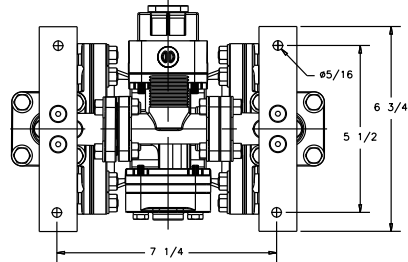
For specific applications, always consult the Chemical Resistance Chart.

S05 Metallic (Aluminum Model)

Dimensions in Inches. Dimensional tolerance: $\pm 1/8"$



FRONT VIEW

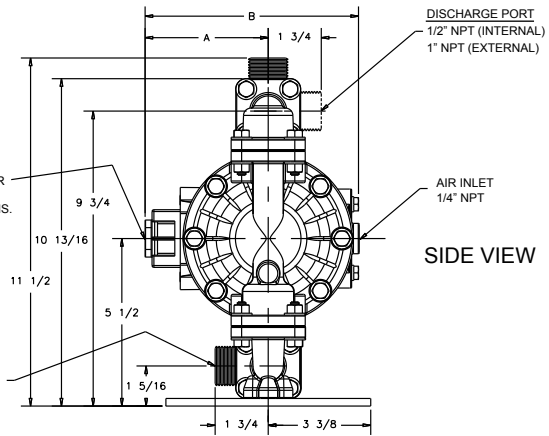


BOTTOM VIEW

ENCAPSULATED MUFFLER:
3/8" NPT EXHAUST PORT
FOR OPTIONAL PIPING MUFFLER
STYLES OR PIPING EXHAUST
AIR IN SUBMERGED APPLICATIONS.

SUCTION PORT
1/2" NPT (INTERNAL)
1" NPT (EXTERNAL)

BOTH SUCTION AND DISCHARGE
PORTS ARE AVAILABLE IN
1/2" BSP TAPERED (INTERNAL)
1" BSP TAPERED (EXTERNAL)

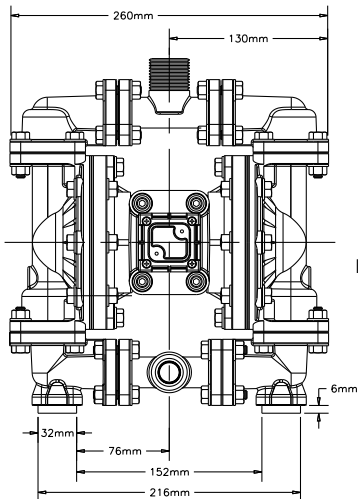


SIDE VIEW

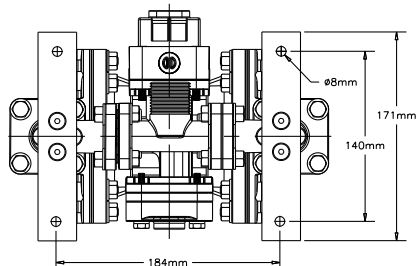
DIMENSION	A	B
Integral Muffler	4 5/16"	7 5/16"
Pulse Output Kit	4 5/16"	7 5/16"
Mesh Muffler	6"	9"
Sound Dampening Muffler	6"	9"
Metal Muffler	5 5/8"	8 5/8"

S05 Metallic (Aluminum Model)

Dimensions in millimeters. Dimensional tolerance: $\pm 3\text{mm}$



FRONT VIEW

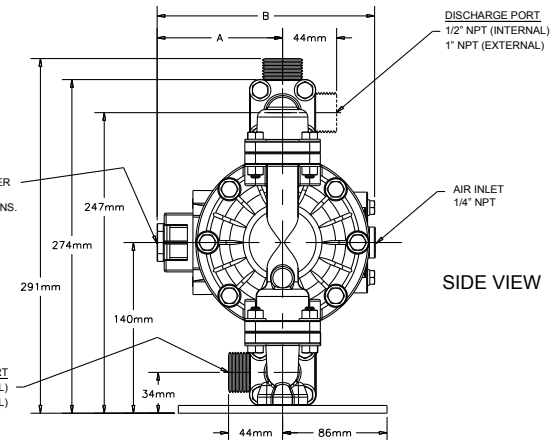


BOTTOM VIEW

ENCAPSULATED MUFFLER:
3/8" NPT EXHAUST PORT
FOR OPTIONAL PIPING MUFFLER
STYLES OR PIPING EXHAUST
AIR IN SUBMERGED APPLICATIONS.

SUCTION PORT
1/2" NPT (INTERNAL)
1" NPT (EXTERNAL)

BOTH SUCTION AND DISCHARGE
PORTS ARE AVAILABLE IN
1/2" BSP TAPERED (INTERNAL)
1" BSP TAPERED (EXTERNAL)



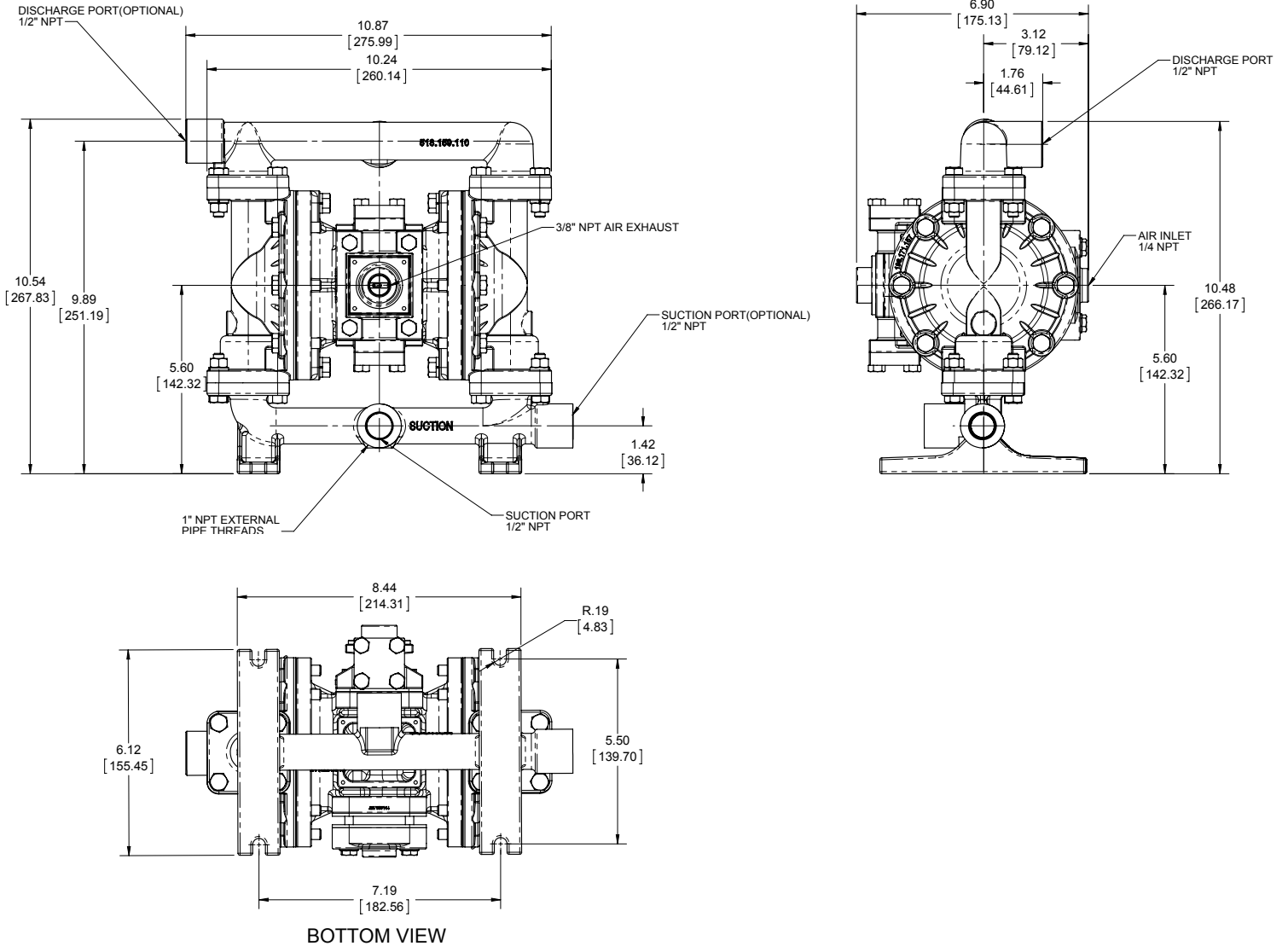
SIDE VIEW

DIMENSION	A	B
Integral Muffler	109 mm	186 mm
Pulse Output Kit	109 mm	186 mm
Mesh Muffler	152 mm	229 mm
Sound Dampening Muffler	152 mm	229 mm
Metal Muffler	143 mm	219 mm

S05 Metallic - Stainless Steel NPT

Dimensions in inches (mm dimensions in brackets). Dimensional Tolerance: $\pm 1/8"$ ($\pm 3\text{mm}$)

The dimensions on this drawing are for reference only. A certified drawing can be requested if physical dimensions are needed.



5 - YEAR Limited Product Warranty

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 Warren Rupp®, SANDPIPER®, MARATHON®, PortaPump®, SludgeMaster™ and Tranquilizer®.

~ See sandpiperpump.com/content/warranty-certifications for complete warranty, including terms and conditions, limitations and exclusions. ~

**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

Revision Level: F

October 20, 2005
Date of issue

Engineering Manager
Title

August 23, 2012
Date of revision

IBEX

CE

WARREN RUPP, INC.

EC / EU Declaration of Conformity

The objective of the declaration described is in conformity with the relevant Union harmonisation legislation: Directive 94/9/EC (until April 19, 2016) and Directive 2014/34/EU (from April 20, 2016).

Manufacturer:

Warren Rupp, Inc.
A Unit of IDEX Corporation
800 North Main Street
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

The harmonised standards have been compared to the applicable standards used for certification purposes and no changes in the state of the art technical knowledge apply to the listed equipment.

AODD Pumps and Surge Suppressors

Technical File No.: 203104000-1410/MER

AODD (Air-Operated Double Diaphragm) Pumps

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

DEKRA Certification B.V. (0344)
Meander 1051
6825 MJ Arnhem
The Netherlands

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