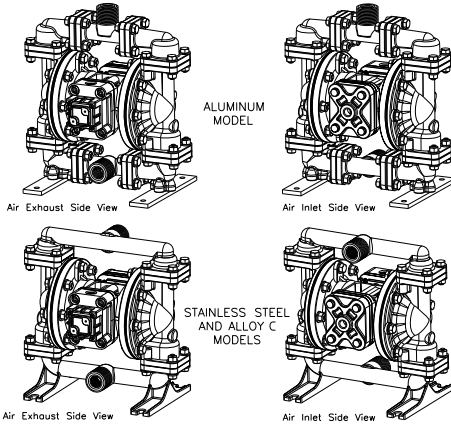


**WARREN RUPP®**

Quality System  
ISO9001 Certified

Environmental  
Management System  
ISO14001 Certified

**IDEX**  
FLUID & METERING



U.S. Patent #  
5,996,627; 6,241,487  
Other U.S. Patents  
Applied for



**SANDPIPER®**

A WARREN RUPP PUMP BRAND

**S05 Metallic  
Design Level 1  
Ball Valve**

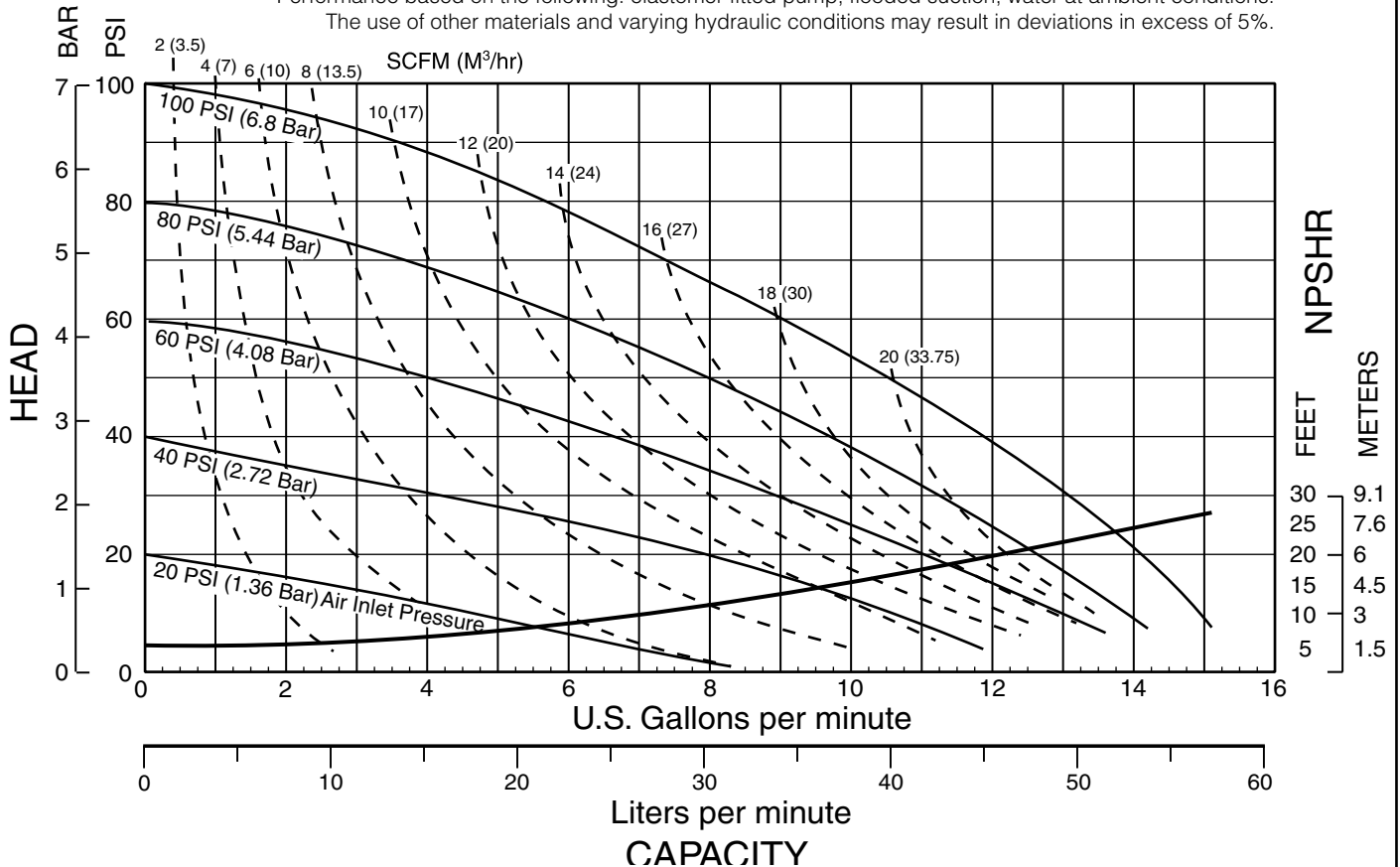
**Air-Operated  
Double Diaphragm Pump**

ENGINEERING, PERFORMANCE  
& CONSTRUCTION DATA

INTAKE/DISCHARGE PIPE SIZE	CAPACITY	AIR VALVE	SOLIDS-HANDLING	HEADS UP TO	DISPLACEMENT/STROKE
1/2" NPT or 1/2" BSP Tapered (internal) 1" NPT or 1" BSP Tapered (external)	0 to 15 gallons per minute (0 to 56 liters per minute)	No-lube, no-stall design	Up to .125 in. (3mm)	125 psi or 289 ft. of water (8.6 Kg/cm <sup>2</sup> or 86 meters)	.026 Gallon / .098 liter

**MODEL S05 Metallic Performance Curve**

Performance based on the following: elastomer fitted pump, flooded suction, water at ambient conditions.  
The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.



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

# Explanation of Pump Nomenclature

## S05 Metallic · Design Level 1 · Ball Valve

MODEL	Pump Brand	Pump Size	Check Valve Type	Design Level	Wetted Material	Diaphragm/Check Valve Materials	Check Valve Seat	Non-Wetted Material Options	Porting Options	Pump Style	Pump Options	Shipping Kit Options	Weight lbs. (kg)
S05B1ABWANS000.	S	05	B	1	A	B	W	A	N	S	0	00.	15 (7)
S05B1ACTPANS000.	S	05	B	1	A	C	T	A	N	S	0	00.	15 (7)
S05B1AEWANS000.	S	05	B	1	A	E	W	A	N	S	0	00.	15 (7)
S05B1ANWANS000.	S	05	B	1	A	N	W	A	N	S	0	00.	15 (7)
S05B1AZTANS000.	S	05	B	1	A	Z	T	A	N	S	0	00.	15 (7)
S05B1A1WANS000.	S	05	B	1	A	1	W	A	N	S	0	00.	15 (7)
S05B1A2TANS000.	S	05	B	1	A	2	T	A	N	S	0	00.	15 (7)
S05B1SBWANS000.	S	05	B	1	S	B	W	A	N	S	0	00.	21 (10)
S05B1SCTANS000.	S	05	B	1	S	C	T	A	N	S	0	00.	21 (10)
S05B1SEWANS000.	S	05	B	1	S	E	W	A	N	S	0	00.	21 (10)
S05B1SNWANS000.	S	05	B	1	S	N	W	A	N	S	0	00.	21 (10)
S05B1SZTANS000.	S	05	B	1	S	Z	T	A	N	S	0	00.	21 (10)
S05B1S1WANS000.	S	05	B	1	S	1	W	A	N	S	0	00.	21 (10)
S05B1S2TANS000.	S	05	B	1	S	2	T	A	N	S	0	00.	21 (10)
S05B1HBWANS000.	S	05	B	1	H	B	W	A	N	S	0	00.	23 (11)
S05B1HCTANS000.	S	05	B	1	H	C	T	A	N	S	0	00.	23 (11)
S05B1HEWANS000.	S	05	B	1	H	E	W	A	N	S	0	00.	23 (11)
S05B1HNWANS000.	S	05	B	1	H	N	W	A	N	S	0	00.	23 (11)
S05B1HZTANS000.	S	05	B	1	H	Z	T	A	N	S	0	00.	23 (11)
S05B1H1WANS000.	S	05	B	1	H	1	W	A	N	S	0	00.	23 (11)
S05B1H2TANS000.	S	05	B	1	H	2	T	A	N	S	0	00.	23 (11)

### Pump Brand

S= SANDPIPER®

### Pump Size

05= ½"

### Check Valve Type

B= Ball

### Design Level

1= Design Level

### Wetted Material

A= Aluminum  
S= Stainless Steel  
H= Alloy C

### Diaphragm/Check Ball Material

B= Nitrile/Nitrile  
C= FKM/PTFE  
N= Neoprene/Neoprene  
E= EPDM/EPDM  
1= Santoprene/Santoprene  
2= PTFE-Santoprene/PTFE  
Z= One Piece PTFE-Nitrile/PTFE

### Valve Seat

A= Aluminum  
C= Cast Iron  
H= Alloy C  
S= Stainless Steel  
T= PTFE  
W= UHMW Polyethylene

### Non-Wetted Material

A= Aluminum  
Y= Aluminum w/ 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)

### Pump Style

S= Standard

### Pump Options

0= Integral Muffler  
1= Sound Dampening Muffler  
2= Mesh Muffler  
⚠️ 6= Metal Muffler  
⚠️ 7= Metal Muffler with Grounding Cable

### Kit Options

⚠️ 00.= None  
P0.= 10-30VDC Pulse Output Kit  
⚠️ P1.= Intrinsically-Safe 5-30VDC, 110/120VAC, 220/240VAC 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, 60 Hz Explosion-Proof Coil  
E6.= Solenoid Kit with 220VAC Coil  
⚠️ E7.= Solenoid Kit with 220VAC 60 Hz 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



Note: Pumps are only ATEX compliant when ordered with pump options 6 or 7, and kit options 00, P1, E1, E3, E5, E7, E8 or E9.

**CAUTION! Operating temperature limitations are as follows:**

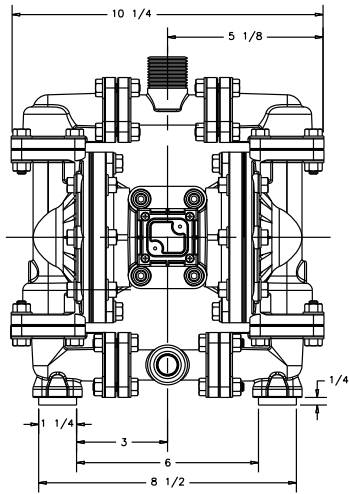
<b>Materials</b>	Operating Temperatures	
	Maximum	Minimum
<b>Nitrile:</b> General purpose, oil-resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons.	190°F 88°C	-10°F -23°C
<b>EPDM:</b> Shows very good water and chemical resistance. Has poor resistance to oil and solvents, but is fair in ketones and alcohols.	280°F 138°C	-40°F -40°C
<b>Neoprene:</b> All purpose. Resistant to vegetable oil. Generally not affected by moderate chemicals, fats, greases and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters, nitro hydrocarbons and chlorinated aromatic hydrocarbons.	200°F 93°C	-10°F -23°C
<b>Santoprene®:</b> Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
<b>Virgin PTFE:</b> 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
<b>FKM (Fluorocarbon):</b> 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) will attack FKM.	350°F 177°C	-40°F -40°C
<b>Polyethylene:</b>	180°F 82°C	-40°F -40°C

For specific applications, always consult The Warren Rupp Chemical Resistance Chart

# Dimensions: S05 Metallic (Aluminum Model)

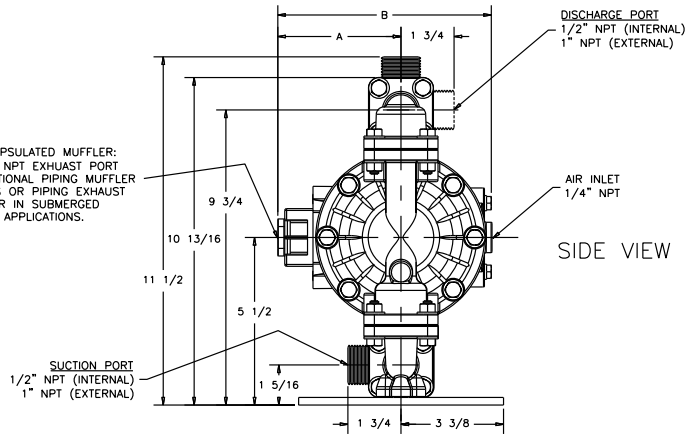
Dimensions in Inches

Dimensional Tolerance:  $\pm 1/8$ "



FRONT VIEW

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

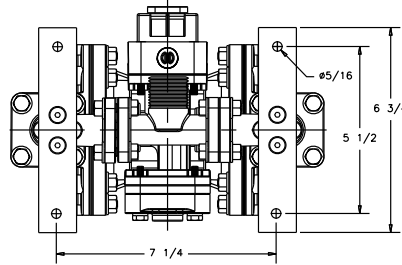


SIDE VIEW

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

AIR INLET  
1/4" NPT

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



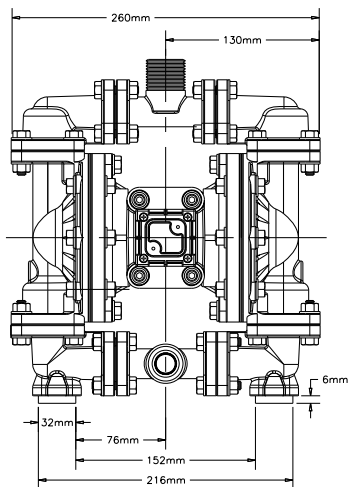
BOTTOM VIEW

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

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

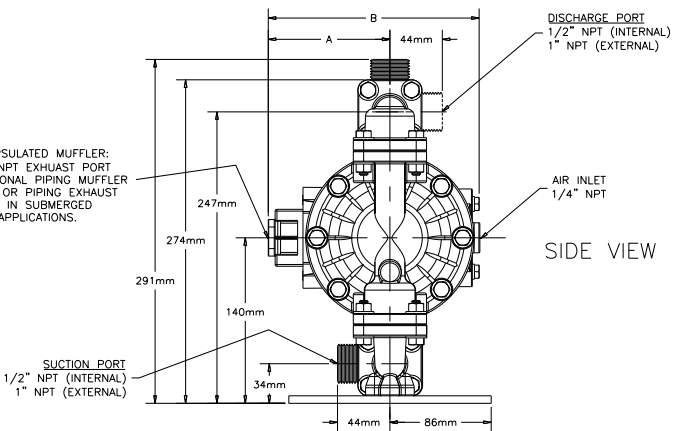
Dimensions in Millimeters

Dimensional Tolerance:  $\pm 3$ mm



FRONT VIEW

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

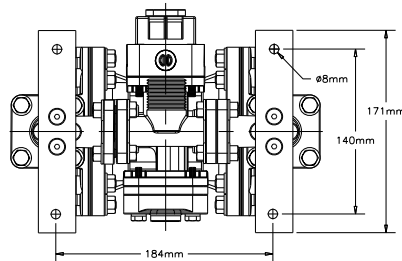


SIDE VIEW

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

AIR INLET  
1/4" NPT

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



BOTTOM VIEW

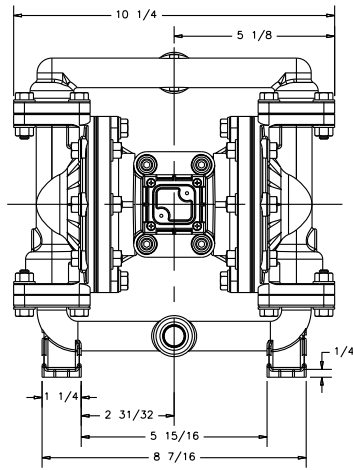
BOTH SUCTION AND DISCHARGE  
PORTS ARE AVAILABLE IN  
1/2" BSP TAPERED (INTERNAL)  
1" BSP TAPERED (EXTERNAL)

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

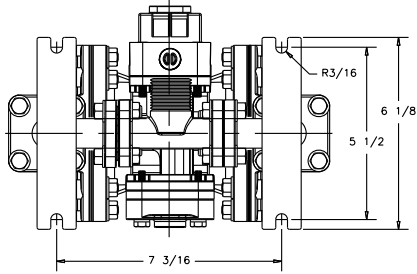
# Dimensions: S05 Metallic (Stainless Steel & Alloy C Models)

Dimensions in Inches

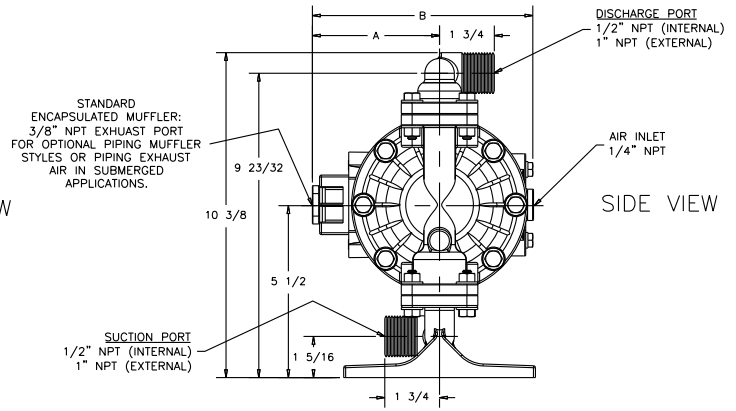
Dimensional Tolerance:  $\pm 1/8"$



FRONT VIEW



BOTTOM VIEW



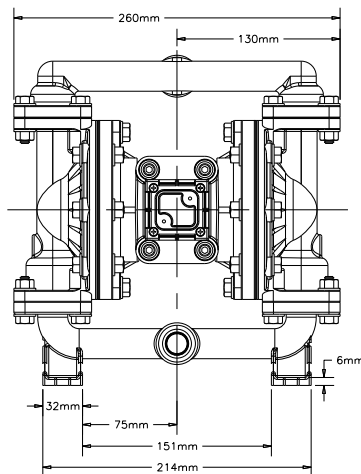
SIDE VIEW

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

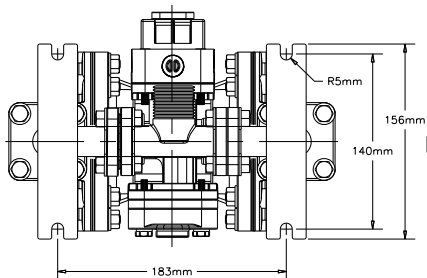
DIMENSION	A	B
Integral Muffler	4 5/16"	7 5/16"
Pulse Output Kit	4 5/16"	7 5/16"
Mesh Muffler	6"	9"
Sound Dampening Muffler	6"	9"
Metal Muffler	3 7/16"	6 7/16"

Dimensions in Millimeters

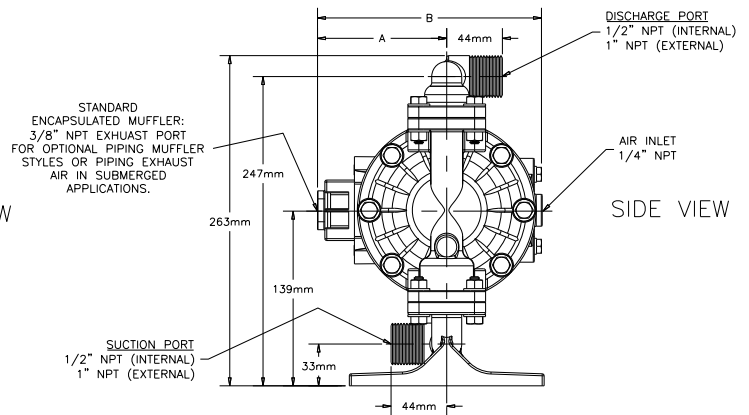
Dimensional Tolerance:  $\pm 3\text{mm}$



FRONT VIEW



BOTTOM VIEW



SIDE VIEW

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

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