# S05 NON-METALLIC PUMP **TECHNICAL DATA SHEET**

## **SERIES**

#### STANDARD DUTY BALL VALVE PUMPS

Offering the widest range of performance and application capabilities

#### PERFORMANCE

#### **SUCTION / DISCHARGE PORT SIZE**

- 1/2" NPT (Internal) or 1/2" BSP (Tapered)
- 1" NPT (External) or 1" BSP (Tapered)

#### **CAPACITY**

0 to 14 GPM (0 to 52 LPM)

#### **AIR DISTRIBUTION VALVE**

· No-lube, no-stall design

#### **SOLIDS-HANDLING**

• Up to .125 in. (3mm)

#### **HEADS UP TO**

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

#### **MAXIMUM OPERATING PRESSURE**

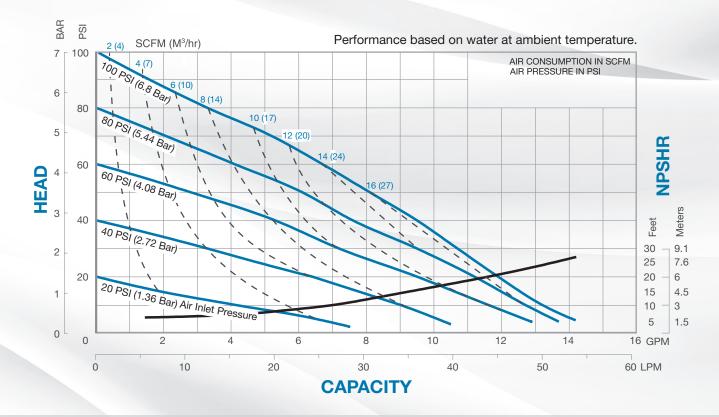
100 psi (7 bar)

#### **DISPLACEMENT/STROKE**

.026 Gallon / .098 liter

- Polypropylene 16 lbs. (8kg)
- PVDF 18 lbs. (9kg)







#### **5 YEAR LIMITED PRODUCT WARRANTY**

5 Year Guarantee for defects in material or workmanship. See sandpiperpump.com/content/warranty-certifications for complete warranty, including terms and conditions, limitations and exclusions.



#### **USE ONLY GENUINE SANDPIPER PARTS**

All certification, standards, guarantees & warranties originally supplied with this pump will be invalidated by the use of service parts not identified as "Genuine SANDPIPER Parts."









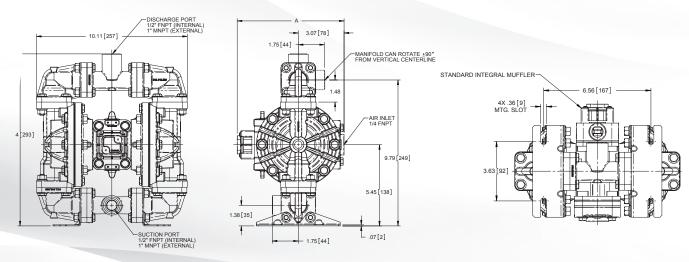




## **DIMENSIONS**

## **S05 Non-Metallic Center Ported Options**

Dimensions in inches (metric dimensions in brackets). Dimensional Tolerance .125" (3mm).

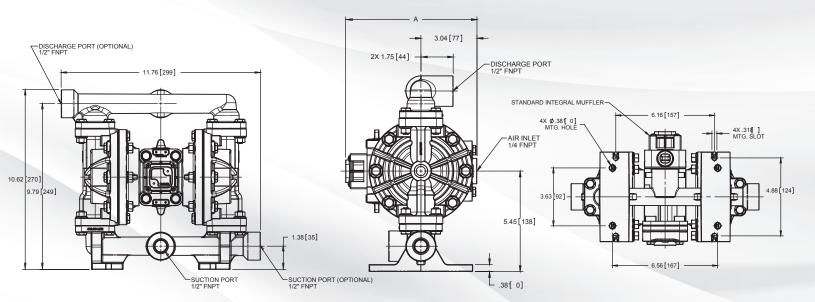


#### GENERAL NOTES

- OPTIONAL SUCTION & DISCHARGE PORTS AVAILALBE IN 1" BSP (INTERNAL) AND 1" BSP (EXTERNAL)
- STANDARD INTEGRAL MUFFLER (SHOWN) COVERS 3/8" FNPT EXHAUST PORT FOR OPTIONAL MUFFLER STYLES OR PIPING EXHAUST AIR IN SUBMERGED APPLICATIONS

Standard Integral Muffler Option	Mesh & Sound Dampening Muffler Option
7.13 [181]	8.81 [224]

# **S05 Non-Metallic Inline Ported Options - (Polypropylene Wet End Models Only)** Dimensions in inches (metric dimensions in brackets). Dimensional Tolerance .125" (3mm).



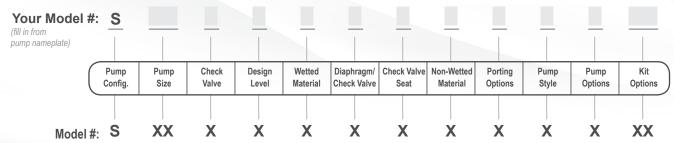
#### GENERAL NOTES

- OPTIONAL SUCTION & DISCHARGE SIDE PORTS WILL BE PLUGGED AT FACTORY, NOT SHOWN
- STANDARD INTEGRAL MUFFLER (SHOWN) COVERS 3/8" FNPT EXHAUST PORT FOR OPTIONAL MUFFLER STYLES OR PIPING EXHAUST AIR IN SUBMERGED APPLICATIONS

	Standard Integral Muffler Option	Mesh & Sound Dampening Muffler Option
Α	7.13 [181]	8.81 [224]



### EXPLANATION OF PUMP NOMENCLATURE



PUMP BRAND S SANDPIPER®

#### **PUMP SIZE**

1/2

#### **CHECK VALVE TYPE**

Soilid Ball

#### **DESIGN LEVEL**

Design Level

# WETTED MATERIAL K PVDF

N Nylon

Pólypropylene

Conductive Polypropylene Conductive PVDF

#### **DIAPHRAGM/CHECK VALVE MATERIALS**

Santoprene/Santoprene Virgin PTFE/Santoprene

Backup/Virgin PTFE

Nitrile/Nitrile

Polyurethane/Polyurethane One-Piece Bonded/PTFE

#### **CHECK VALVE SEAT**

Stainless Steel Virgin PTFE

#### **NON-WETTED MATERIAL OPTIONS**

Polypropylene

Polypropylene w/PTFE Coated

Hardware

Conductive Polypropylene C

#### **PORTING OPTIONS**

В

RTING OPTIONS
NPT Threads
BSP (Tapered) Threads
Dual Porting (NPT)
Top Dual Porting (NPT)
Bottom Dual Porting (NPT)
Dual Porting (BSP Tapered)
Top Dual Porting (BSP Tapered)
Bottom Dual Porting (BSP Tapered)

#### **PUMP STYLE**

Standard

Inline Porting NPT Threads

#### **PUMP OPTIONS**

None

Metal Muffler

#### **KIT OPTIONS**

00 None

10.30VDC Pulse Output Kit Intrinsically-Safe 5.30VDC, 110/120VAC 220/240 VAC

Pulse Output Kit

110/120 or 220/240VAC

Pulse Output Kit Solenoid Kit with 24VDC Coil Solenoid Kit with 24VDC Explosion-Proof Coil Solenoid Kit with 24VAC/12VDC Coil Solenoid Kit with 12VDC E1.

Explosion-Proof Coil

Solenoid Kit with 110VAC Coil Solenoid Kit with 110VAC

Explosion-Proof Coil Solenoid Kit with 220VAC Coil Solenoid Kit with 220VAC

Explosion-Proof Coil

Solenoid Kit with 110VAC, 50 Hz

Explosion-Proof Coil Solenoid Kit with 230VAC, 50 Hz

Explosion-Proof Coil Stroke Indicator Pins

A1. Solenoid Kit with 12 VDC

ATEX Compliant Coil

Solenoid Kit with 24 VDC

ATEX Compliant Coil

Solenoid Kit with 110/120 VAC 50/60 Hz ATEX Compliant Coil A3.

Solenoid Kit with 220/240 VAC

50/60 Hz ATEX Compliant Coil

## **MATERIALS**

Material Profile:		Operating Temperatures:	
CAUTION! Operating temperature limitations are as follows:	Max.	Min.	
<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 88°C	-20°F -29°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 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	
<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 93°C	-10°F -23°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 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	

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.	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
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.



NOTE: See service manual for ATEX details.



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