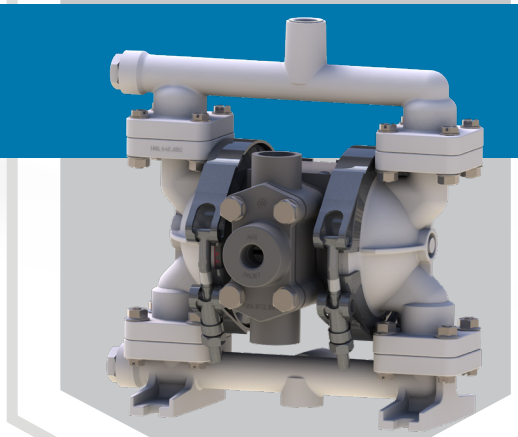
PB¼ NON-METALLIC PUMP TECHNICAL DATA SHEET



SERIES

STANDARD DUTY BALL VALVE PUMPS

Offering the widest range of performance and application capabilities

PERFORMANCE

SUCTION / DISCHARGE PORT SIZE

- ¼" NPT (internal)
- ½" NPT (external)

CAPACITY

- 0 to 5 GPM (0 to 19 LPM)

AIR DISTRIBUTION VALVE

- No-lube, no-stall design

SOLIDS-HANDLING

- Up to $^{1}/_{32}$" in. (1mm)

HEADS UP TO

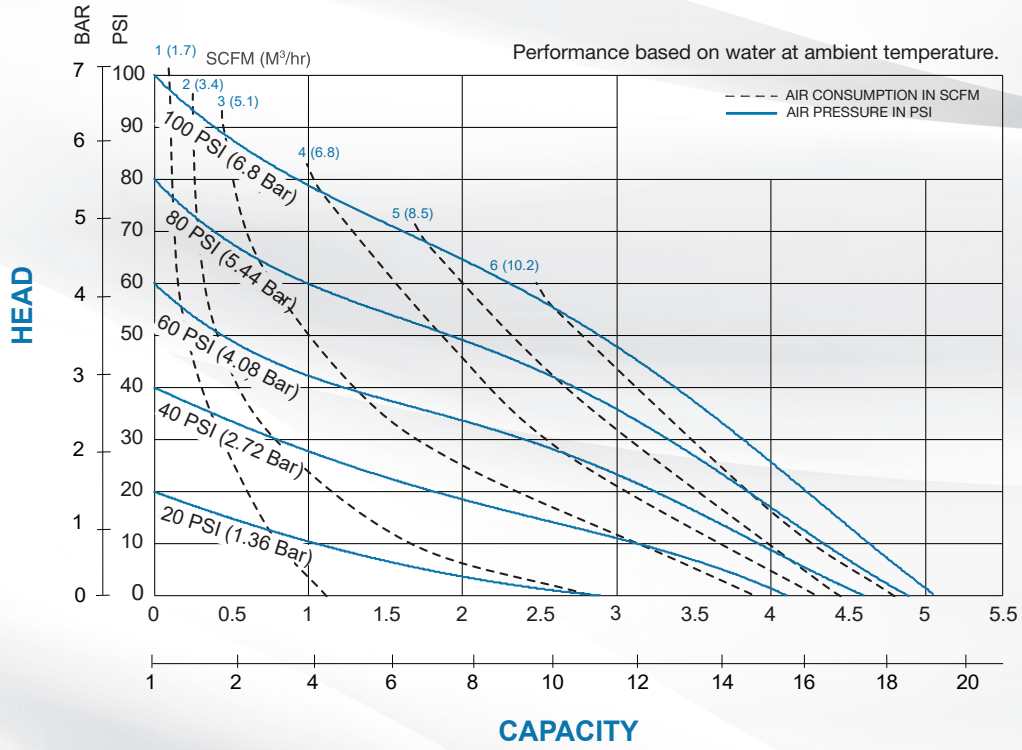
- 100 psi or 231 ft. of water (7 bar or 70 meters)

MAXIMUM OPERATING PRESSURE

- 100 psi (7 bar)

DISPLACEMENT/STROKE

- .01 Gallon / .04 liter



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."

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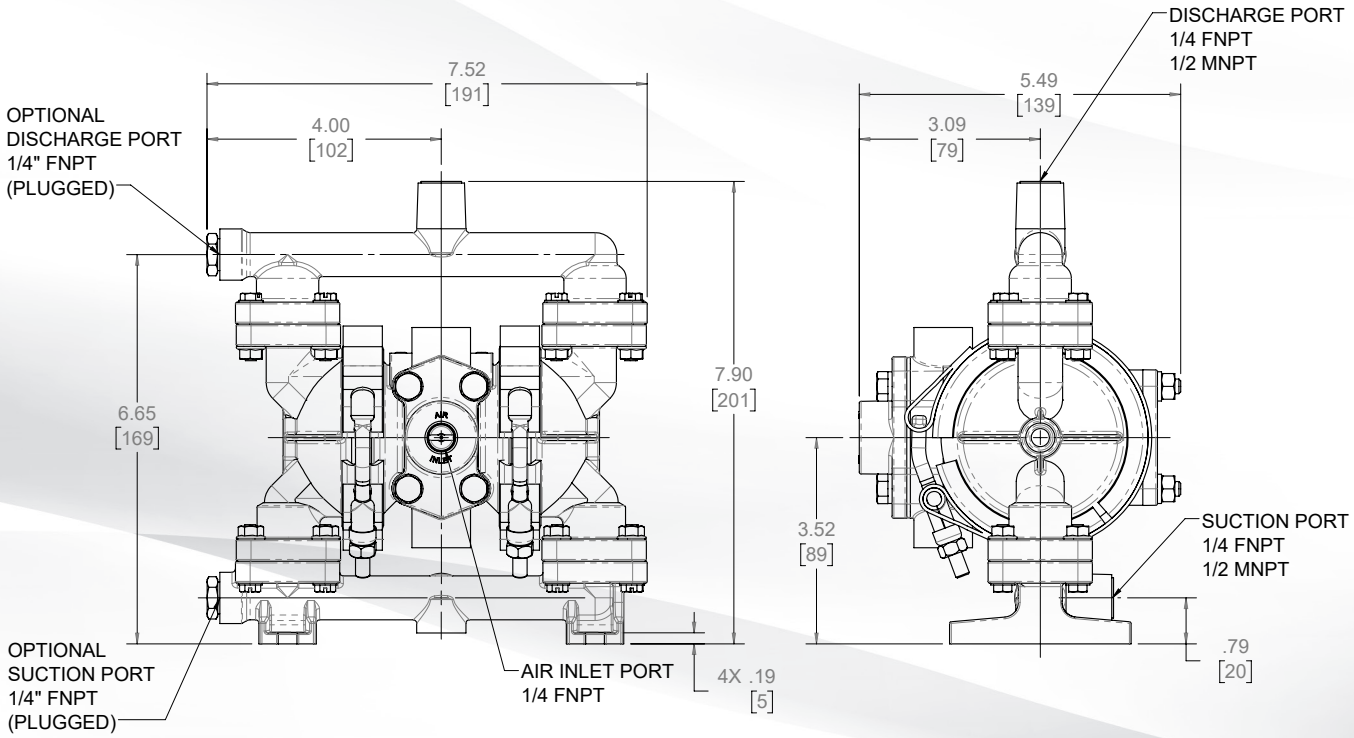
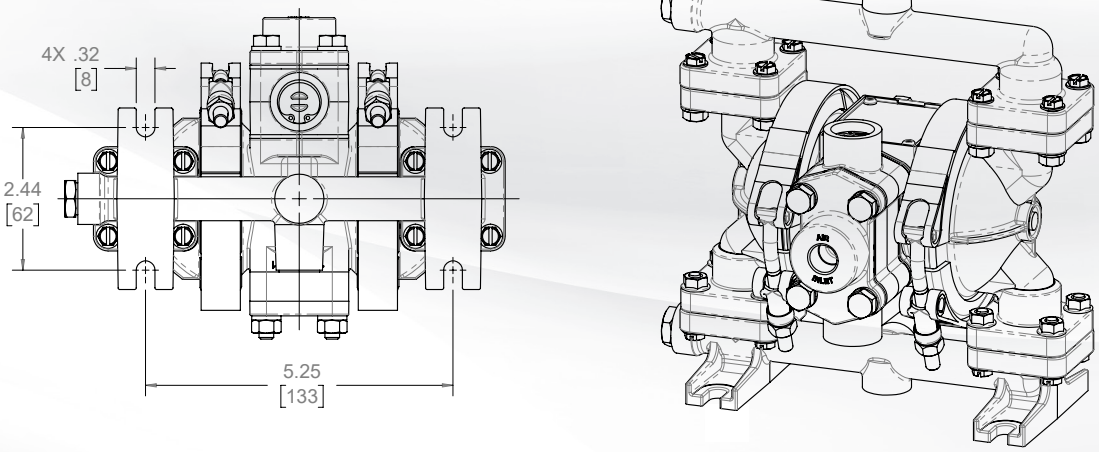
ISO 9001 Certified
ISO 14001 Certified

DIMENSIONS





PB 1/4 NON-METALLIC

DESIGN LEVEL 4

DIMENSIONAL TOLERANCE = ±.125 [3mm]

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EXPLANATION OF PUMP NOMENCLATURE

Your Model #:
(fill in from pump nameplate)

Pump Series	Pump Design	Pump Size and Options	Discharge Porting	Diaphragm/ Valve	Design Level	Construction
XX	X	XXXXXX,	XX	XXX	X	XX

PUMP SERIES
P Plastic

PUMP DESIGN
B Soilid Ball

PUMP SIZE AND OPTIONS
1/4 1/4" NPT
P1 Intrinsically Safe ATEX Compliant Pulse Output
P0 10-30VDC Pulse Output Option
P2 110/120 or 220/240VAC Pulse Output Option
E0 Integral Solenoid 24VDC Coil
E1 Integral Solenoid 24VDC Explosion-Proof Coil
E2 Integral Solenoid 24VAC/12VDC Coil
E3 Integral Solenoid 12VDC Explosion-Proof Coil
E4 Integral Solenoid 110VAC Coil
E5 Integral Solenoid 110VAC Explosion-Proof Coil
E6 Integral Solenoid 220VAC Coil
E7 Integral Solenoid 220VAC Explosion-Proof Coil
E8 Integral Solenoid 115VAC, 50Hz Explosion-Proof Coil
E9 Integral Solenoid 230VAC, 50Hz, Explosion-Proof Coil

DISCHARGE PORTING POSITION
T Horizontal Suction, Vertical Discharge

DIAPHRAGM CHECK VALVE MATERIALS
R Hytrel
S Santoprene
T Virgin PTFE
U Santoprene Diaphragms/PTF E Ball

DESIGN LEVEL
4

CONSTRUCTION
PP Polypropylene Wet End and Center
K PVDF Wet End and Polypropylene Center
CA Conductive Acetal Wet End and Center

MATERIALS

Material Profile: ⚠ CAUTION! Operating temperature limitations are as follows:	Operating Temperatures: Max.	Min.
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
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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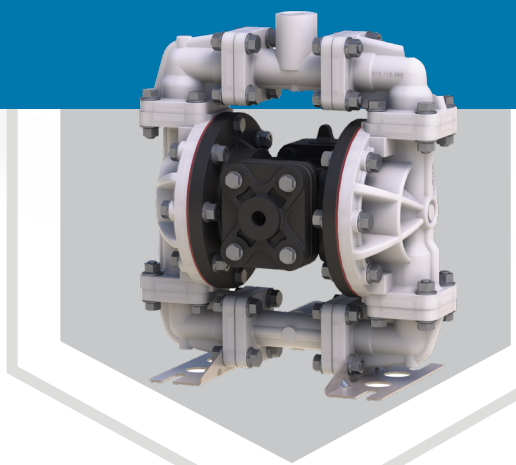
S05 NON-METALLIC PUMP
TECHNICAL DATA SHEET



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)

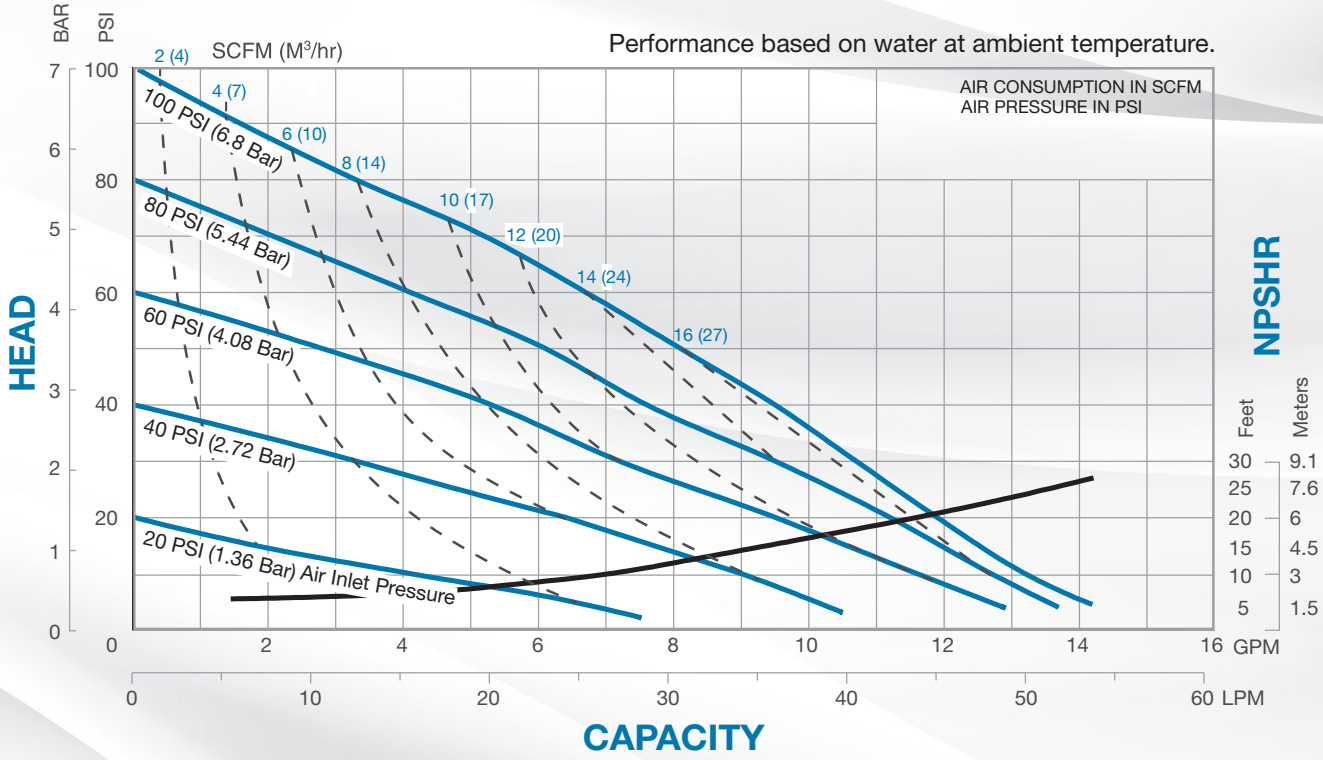
HEADS UP TO
- 100 psi or 231 ft. of water (7 bar or 70 meters)

MAXIMUM OPERATING PRESSURE
- 100 psi (7 bar)

DISPLACEMENT/STROKE
- .026 Gallon / .098 liter

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

Performance based on water at ambient temperature.



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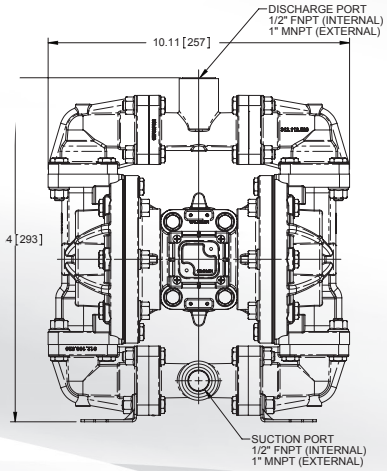
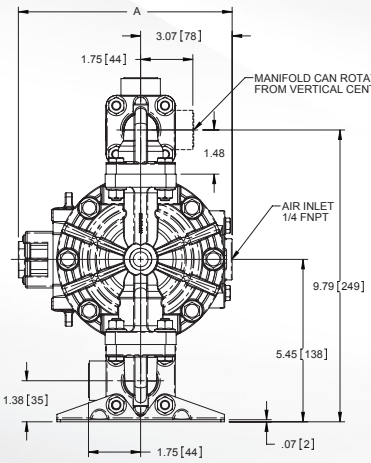
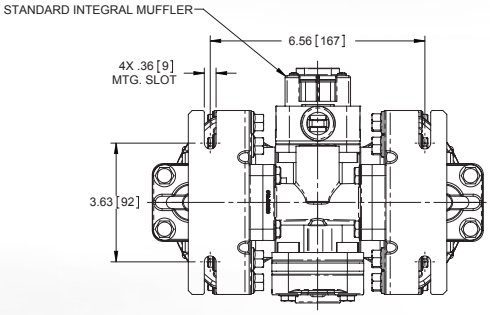
DIMENSIONS

S05 Non-Metallic Center Ported Options

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







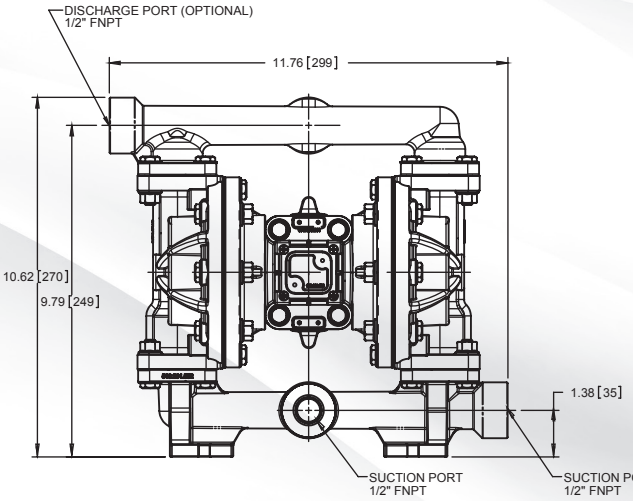
GENERAL NOTES

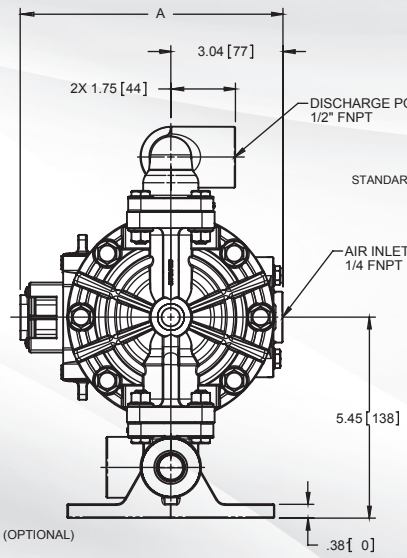
1. OPTIONAL SUCTION & DISCHARGE PORTS AVAILALBE IN 1" BSP (INTERNAL) AND 1" BSP (EXTERNAL)
2. STANDARD INTEGRAL MUFFLER (SHOWN) COVERS 3/8" FNPT EXHAUST PORT FOR OPTIONAL MUFFLER STYLES OR PIPING EXHAUST AIR IN SUBMERGED APPLICATIONS

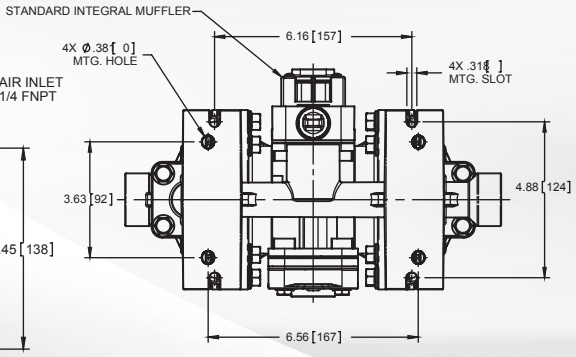
	Standard Integral Muffler Option	Mesh & Sound Dampening Muffler Option
A	7.13 [181]	8.81 [224]

S05 Non-Metallic Inline Ported Options - (Polypropylene Wet End Models Only)

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







GENERAL NOTES

1. OPTIONAL SUCTION & DISCHARGE SIDE PORTS WILL BE PLUGGED AT FACTORY, NOT SHOWN
2. 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
A	7.13 [181]	8.81 [224]

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EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S SANDPIPER®

PUMP SIZE
05 1/2"

CHECK VALVE TYPE
B Soilid Ball

DESIGN LEVEL
2 Design Level

WETTED MATERIAL
K PVDF
N Nylon
P Polypropylene
C Conductive Polypropylene
V Conductive PVDF

DIAPHRAGM/CHECK VALVE MATERIALS
1 Santoprene/Santoprene
2 Virgin PTFE/Santoprene Backup/Virgin PTFE
B Nitrile/Nitrile
U Polyurethane/Polyurethane
Z One-Piece Bonded/PTFE

CHECK VALVE SEAT
S Stainless Steel
T Virgin PTFE

NON-WETTED MATERIAL OPTIONS
P Polypropylene
1 Polypropylene w/PTFE Coated Hardware
C Conductive Polypropylene

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
I Inline Porting NPT Threads

PUMP OPTIONS
0 None
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
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

MATERIALS

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

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Metals:

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For specific applications, always consult the Chemical Resistance Chart.

NOTE: See service manual for ATEX details.

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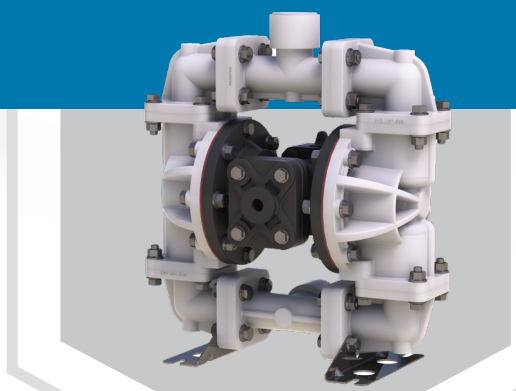
S07 NON-METALLIC PUMP TECHNICAL DATA SHEET



SERIES

STANDARD DUTY BALL VALVE PUMPS

Offering the widest range of performance and application capabilities

PERFORMANCE

SUCTION / DISCHARGE PORT SIZE

- ¾" NPT (internal)
- ¾" BSP Tapered (internal)
- 1½" NPT (external)
- 1½" BSP (external)

CAPACITY

- 0 to 23 gallons per minute (0 to 87 liters per minute)

AIR DISTRIBUTION VALVE

- No-lube, no-stall design

SOLIDS-HANDLING

- Up to .15 in. (4 mm)

HEADS UP TO

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

MAXIMUM OPERATING PRESSURE

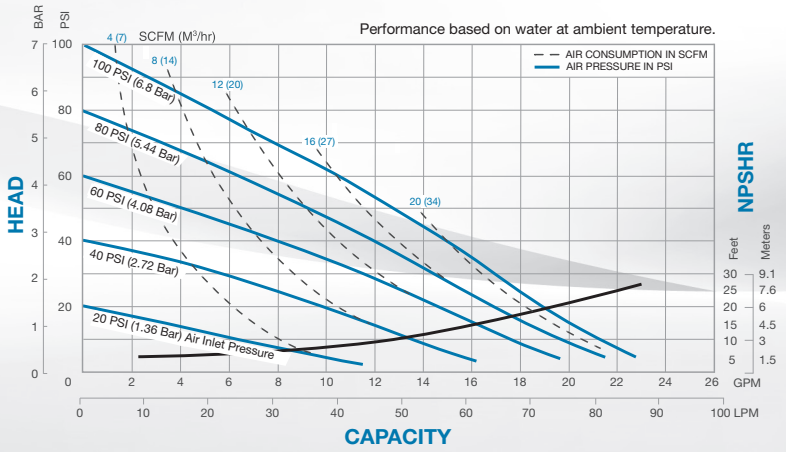
- 100 psi (7 bar)

DISPLACEMENT/STROKE

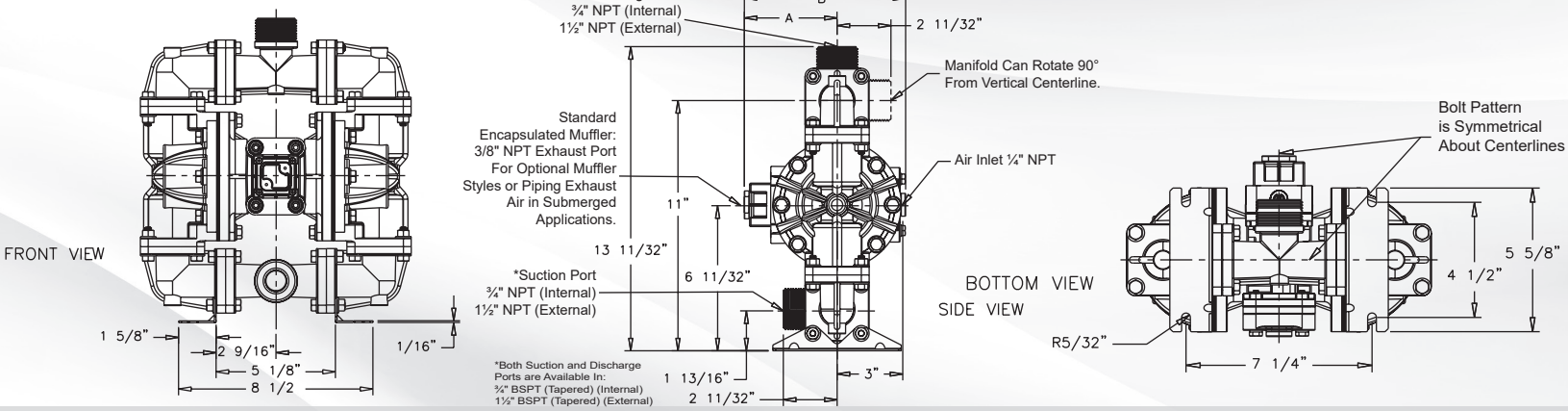
- .026 Gallon / .098 liter

WEIGHTS

- PVDF 21 lbs. (9.5kg)
- Polypropylene 18 lbs. (9kg)
- Nylon 17lbs. (8kg)
- Conductive Polypropylene 18 lbs. (9kg)



DIMENSIONS



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ISO 14001 Certified

EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S SANDPIPER®

PUMP SIZE
07 3/4"

CHECK VALVE TYPE
B Ball
T Tihedral

DESIGN LEVEL
1 Design Level 1

WETTED MATERIAL
K PVDF
N Nylon
P Polypropylene

DIAPHRAGM/CHECK VALVE MATERIALS
1 Santoprene/Santoprene
2 Virgin PTFE-Santoprene Backup/Virgin PTFE
7 Santoprene/Nitrile
8 Virgin PTFE-Santoprene Backup/FKM
B Nitrile/Nitrile
U Polyurethane/Polyurethane
Z One-Piece Bonded/PTFE

CHECK VALVE SEAT
K PVDF
N Nylon
P Polypropylene

NON-WETTED MATERIAL OPTIONS
P Polypropylene
I Polypropylene with PTFE Hardware

PORTING OPTIONS
N NPT Threads
1 Dual Porting (NPT)
2 Top Dual Porting (NPT)
3 Bottom Dual Porting (NPT)
B BSP Threads (tapered)
4 Dual Porting (BSP) (tapered)
5 Top Dual Porting (BSP) (tapered)
6 Bottom Dual Porting (BSP) (tapered)

PUMP STYLE
S Standard

PUMP OPTIONS
0 None
6 Metal Muffler

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 w/24VDC Coil
E1. Solenoid Kit 24VDC Explosion-Proof Coil
E2. Solenoid Kit w/24VAC/12VDC Coil
E3. Solenoid Kit w/12VDC Explosion-Proof Coil
E4. Solenoid Kit w/110VAC Coil
E5. Solenoid Kit w/110VAC 60 Hz Explosion-Proof Coil
E6. Solenoid Kit w/220VAC Coil
E7. Solenoid Kit w/220VAC 60 Hz Explosion-Proof Coil
E8. Solenoid Kit w/110VAC 50 Hz Explosion-Proof Coil
E9. Solenoid Kit w/230VAC 50 Hz Explosion-Proof Coil
SP Stroke Indicator Pins

MATERIALS

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

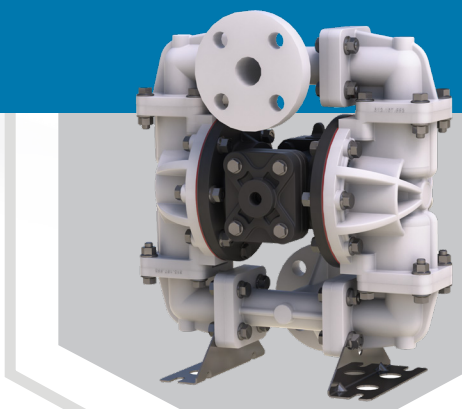
ALLOY C: Equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy.

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.

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

S10 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" ANSI Flange

CAPACITY
- 0 to 23 gallons per minute
  (0 to 87 liters per minute)

AIR DISTRIBUTION VALVE
- No-lube, no-stall design

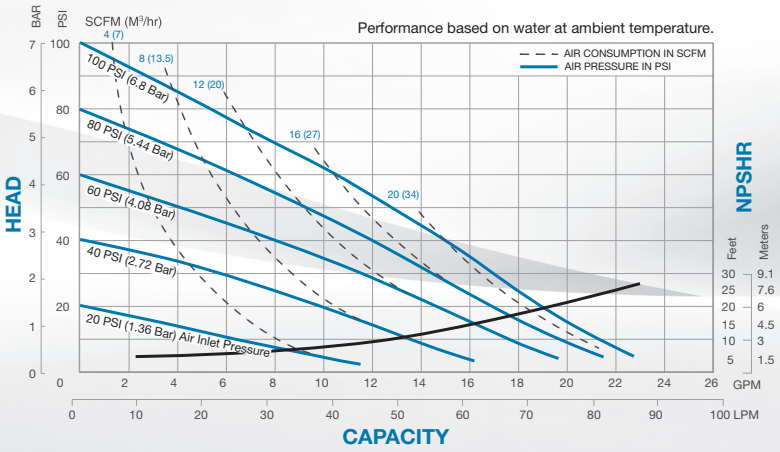
SOLIDS-HANDLING
- Up to .15 in. (4 mm)

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

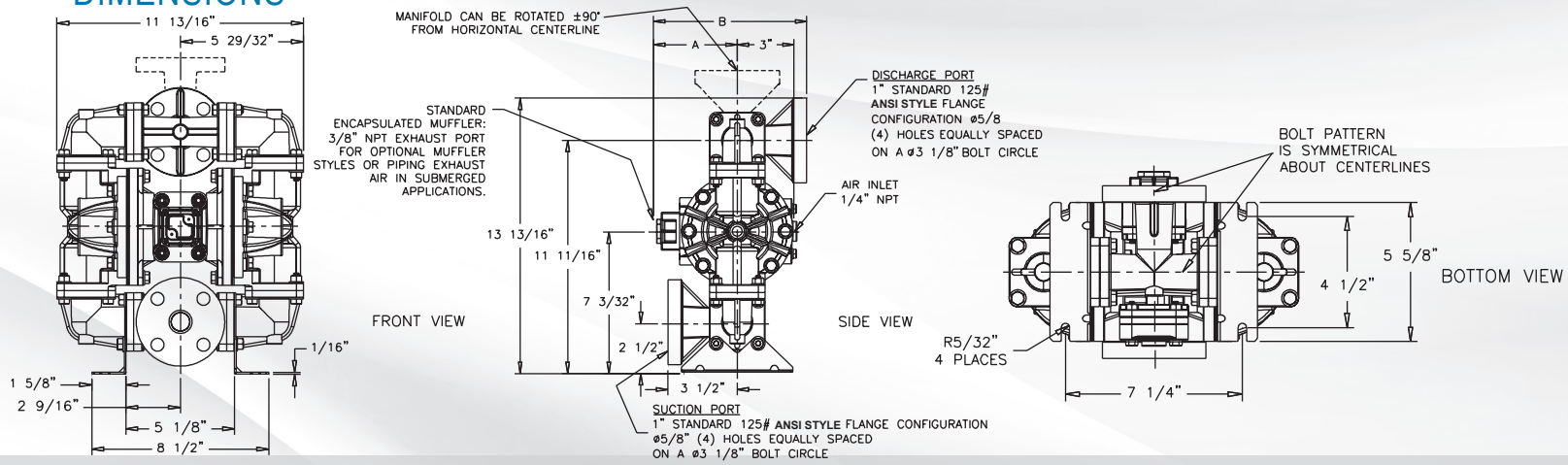
MAXIMUM OPERATING PRESSURE
- 100 psi (7 bar)

DISPLACEMENT/STROKE
- 0.026 Gallon / .098 liter

WEIGHTS
- PVDF 23 lbs. (10kg)
- Polypropylene 19 lbs. (9kg)
- Nylon 20 lbs. (9kg)



DIMENSIONS



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."

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EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S= Sandpiper®

PUMP SIZE
10= 1”

CHECK VALVE TYPE
B= Ball

DESIGN LEVEL
1= Design Level 1

WETTED MATERIAL
K= PVDF
N= Nylon
P= Polypropylene

DIAPHRAGM/CHECK VALVE MATERIALS
1= Santoprene/Santoprene
2= Virgin PTFE-Santoprene Backup/Virgin PTFE
7= Santoprene/Nitrile
8= Virgin PTFE-Santoprene Backup/FKM
Z= One-Piece Bonded/PTFE

CHECK VALVE SEAT
K= PVDF
N= Nylon
P= Polypropylene

NON-WETTED MATERIAL OPTIONS
P= Polypropylene
I= Polypropylene with PTFE Hardware

PORTING OPTIONS
A= ANSI Flange

PUMP STYLE
S= Standard

PUMP OPTIONS
0= None
6= Metal Muffler

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 w/24VDC Coil
E1.= Solenoid Kit 24VDC Explosion-Proof Coil
E2.= Solenoid Kit w/24VAC/12VDC Coil
E3.= Solenoid Kit w/12VDC Explosion-Proof Coil
E4.= Solenoid Kit w/110VAC Coil
E5.= Solenoid Kit w/110VAC 60 Hz Explosion-Proof Coil
E6.= Solenoid Kit w/220VAC Coil
E7.= Solenoid Kit w/220VAC 60 Hz Explosion-Proof Coil
E8.= Solenoid Kit w/110VAC 50 Hz Explosion-Proof Coil
E9.= Solenoid Kit w/230VAC 50Hz Explosion-Proof Coil
SP= Stroke Indicator Pins

MATERIALS

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

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Metals:

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For specific applications, always consult the Chemical Resistance Chart.

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S1F 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" ANSI Flange or
  PN10 25mm DIN Flange

CAPACITY
- 0 to 53 gallons per minute
  (0 to 200 liters per minute

AIR DISTRIBUTION VALVE
- No-lube, no-stall design

SOLIDS-HANDLING
- Up to .25 in. (6 mm)

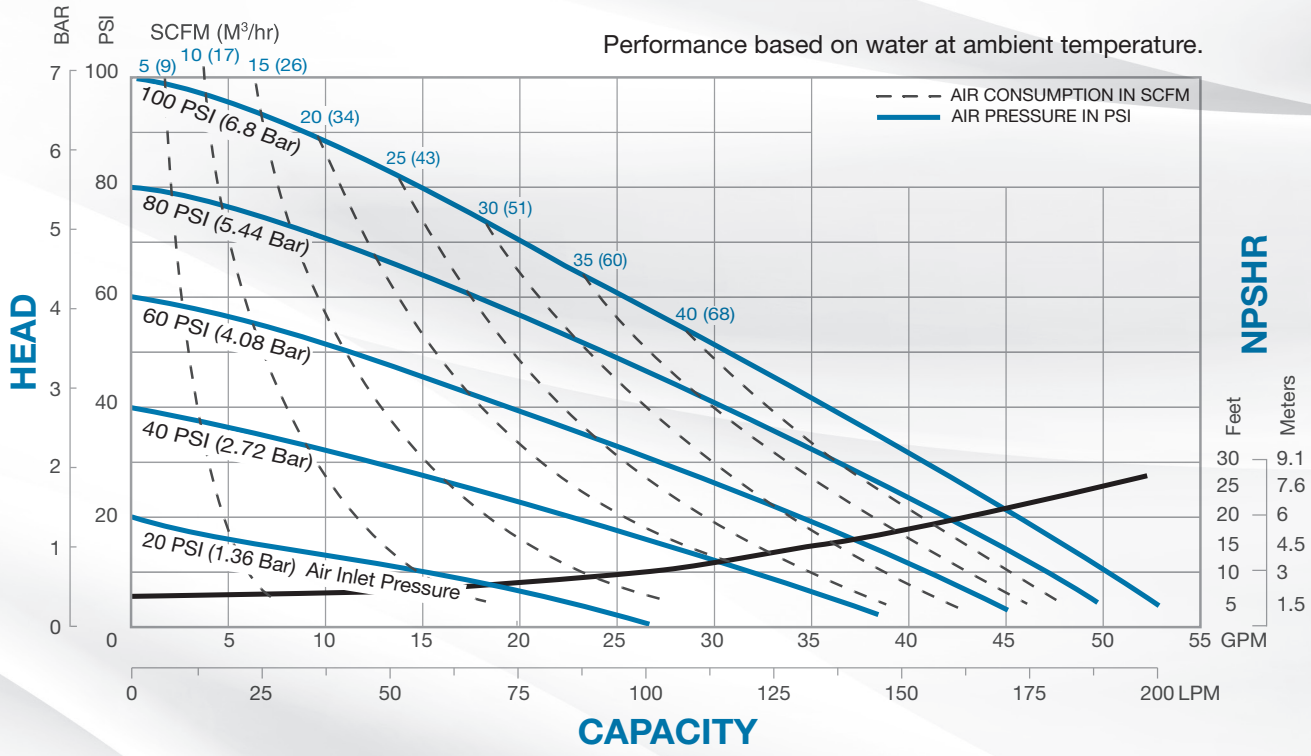
HEADS UP TO
- 100 psi or 231 ft. of water
  (7 bar or 70 meters)

MAXIMUM OPERATING PRESSURE
- 100 psi (7 bar)

DISPLACEMENT/STROKE
- .19 Gallon / .72 liter

WEIGHTS
- Polypropylene 42 lbs. (19kg)
- PVDF 54 lbs. (24kg)
- Conductive Polypropylene 40 lbs. (18kg)

Performance based on water at ambient temperature.



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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."

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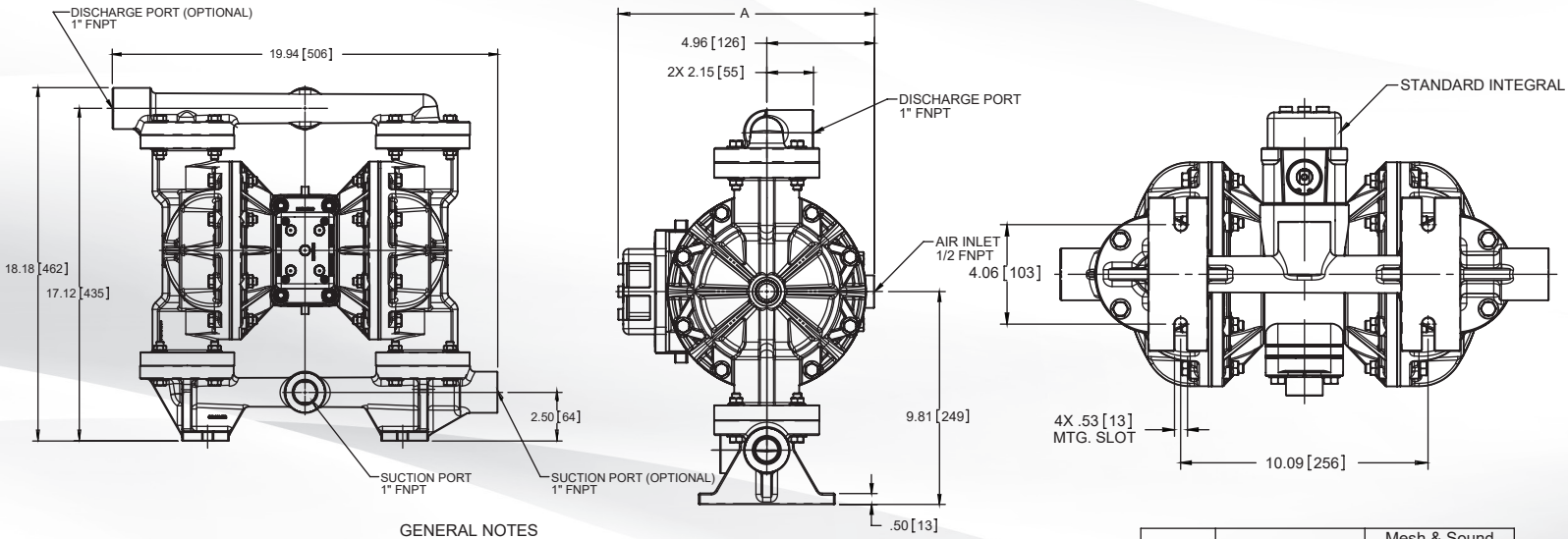
SAI GLOBAL
ISO 9001 Certified
ISO 14001 Certified

DIMENSIONS

S1F Non-Metallic Inline Ported Option- Polypropylene Wet End Models ONLY

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



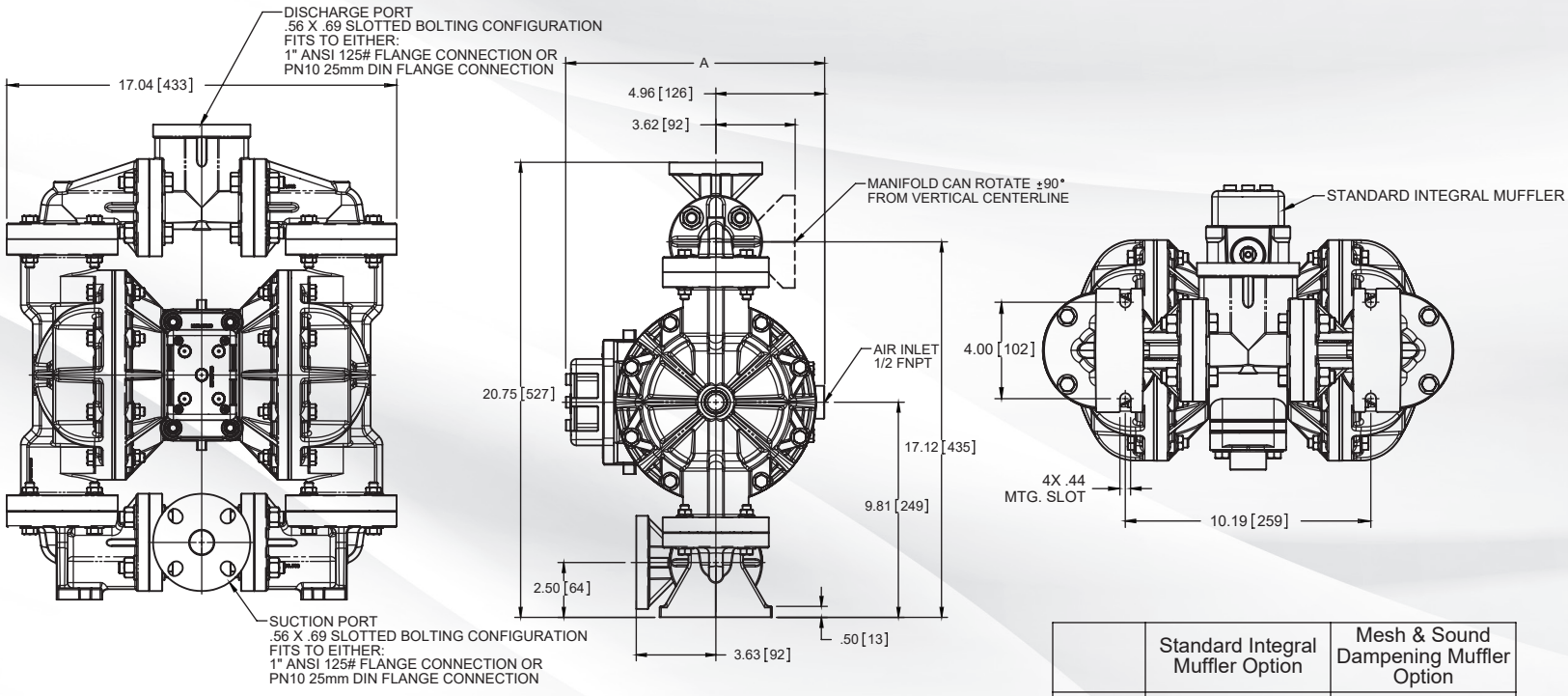
GENERAL NOTES

1. OPTIONAL SUCTION & DISCHARGE SIDE PORTS WILL BE PLUGGED AT FACTORY, NOT SHOWN
2. STANDARD INTEGRAL MUFFLER (SHOWN) COVERS 1" FNPT EXHAUST PORT FOR OPTIONAL MUFFLER STYLES OR PIPING EXHAUST AIR IN SUBMERGED APPLICATIONS

	Standard Integral Muffler Option	Mesh & Sound Dampening Muffler Option
A	11.81 [300]	13.50 [343]

S1F Non-Metallic Center Ported Options

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



	Standard Integral Muffler Option	Mesh & Sound Dampening Muffler Option
A	11.81 [300]	13.50 [343]

GENERAL NOTES

1. STANDARD INTEGRAL MUFFLER (SHOWN) COVERS 1" FNPT EXHAUST PORT FOR OPTIONAL MUFFLER STYLES OR PIPING EXHAUST AIR IN SUBMERGED APPLICATIONS

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EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S SANDPIPER®

PUMP SIZE
1F 1" Full Flow

CHECK VALVE TYPE
B Ball

DESIGN LEVEL
3 Design Level

WETTED MATERIAL
K PVDF
P Polypropylene
C Conductive Polypropylene
V Conductive PVDF

DIAPHRAGM/CHECK VALVE MATERIALS
1 Santoprene/Santoprene
2 PTFE Santoprene Backup/PTFE
3 PTFE Pumping, PTFE-Santoprene Backup Driver/PTFE
4 Santoprene Pumping/Santoprene
B Nitrile/Nitrile
G PTFE-Neoprene Backup/PTFE
M Santoprene/PTFE
N Neoprene/Neoprene
V FKM/FKM
Y PTFE Pumping/One-Piece Bonded Driver/PTFE
Z One-Piece Bonded/PTFE

CHECK VALVE SEAT
K PVDF
P Polypropylene

NON-WETTED MATERIAL OPTIONS
P Polypropylene
1 40% Glass Filled Polypropylene with PTFE hardware
C Conductive Polypropylene

PORTING OPTIONS
N NPT Thread
U Universal (Fits ANSI and DIN)
7 Dual Porting (ANSI)
8 Top Dual Porting (ANSI)
9 Bottom Dual Porting (ANSI)

PUMP STYLE
D With Electronic Leak Detection (110 V)
E With Electronic Leak Detection (220V)
I Inline Porting NPT Threads
M With Mechanical Leak Detection
S Standard
V With Visual Leak Detection

PUMP OPTIONS
0 None
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

KIT OPTIONS (CONT.)
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

MATERIALS

Material Profile: ⚠ CAUTION! Operating temperature limitations are as follows:	Operating Temperatures: Max.	Min.
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
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For specific applications, always consult the Chemical Resistance Chart.

NOTE: See service manual for ATEX details.

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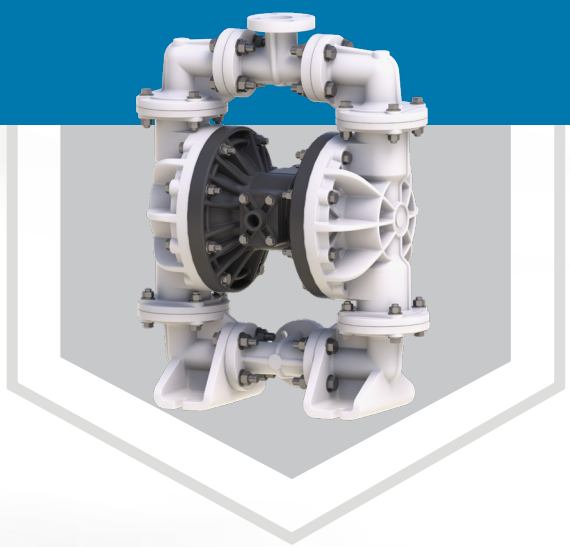
S15 NON-METALLIC PUMP TECHNICAL DATA SHEET



SERIES

STANDARD DUTY BALL VALVE PUMPS

Offering the widest range of performance and application capabilities

PERFORMANCE

SUCTION / DISCHARGE PORT SIZE

- 1 1/2 ANSI Flange or

CAPACITY

- 0 to 100 GPM (0 to 378 LPM)

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)

MAXIMUM OPERATING PRESSURE

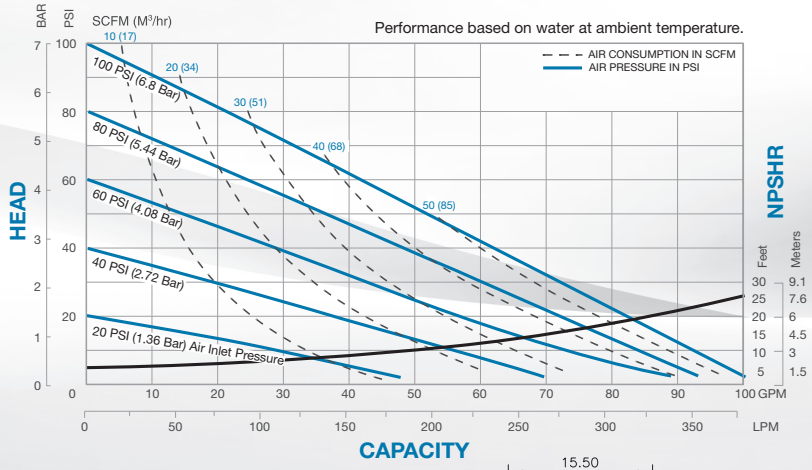
- 100 psi (7 bar)

DISPLACEMENT/STROKE

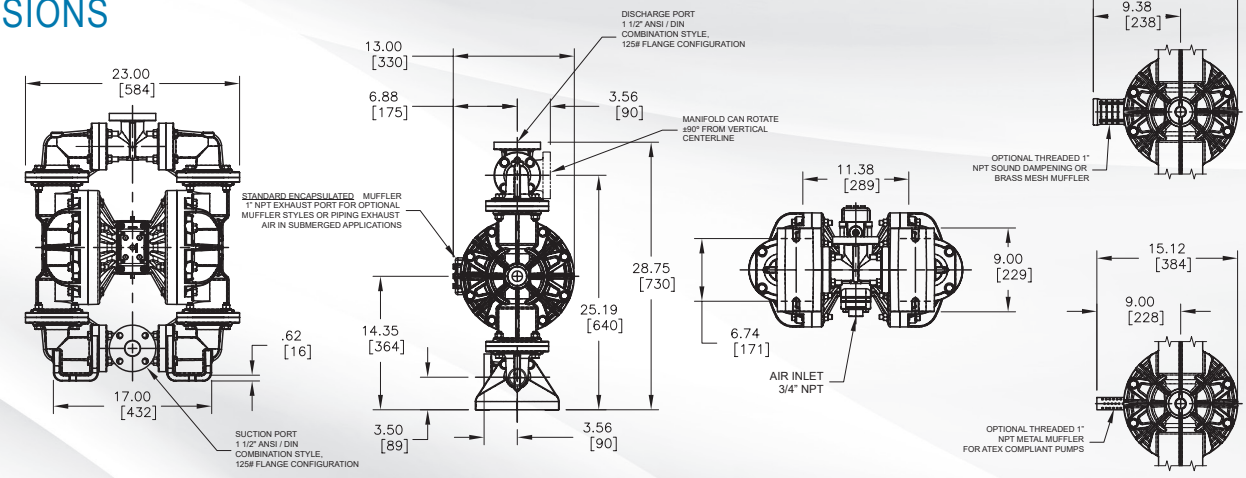
- .43 Gallon / 1.63 liter

WEIGHTS

- 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)



DIMENSIONS



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ISO 9001 Certified
ISO 14001 Certified

EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

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
M Santoprene/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
U Universal Flange (Fits ANSI & DIN)
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
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
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
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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

MATERIALS

Material Profile: ⚠ CAUTION! Operating temperature limitations are as follows:	Operating Temperatures: Max.	Min.
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
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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S20 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
- 2" Universal Flange
  (Fits ANSI & DIN Flange)

CAPACITY
- 0 to 160 GPM (0 to 605 LPM)

AIR DISTRIBUTION VALVE
- No-lube, no-stall design

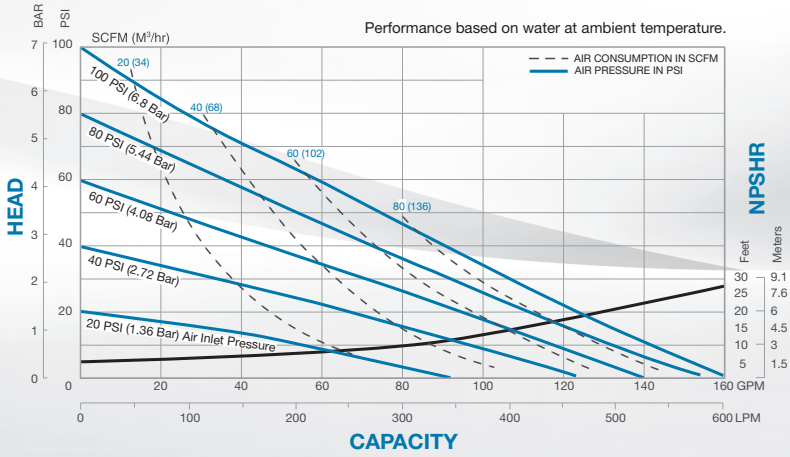
SOLIDS-HANDLING
- Up to .66 in. (17mm)

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

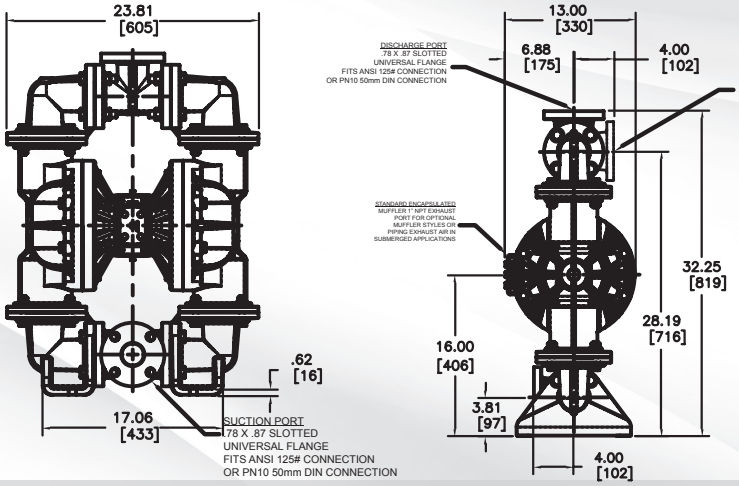
MAXIMUM OPERATING PRESSURE
- 100 psi (7 bar)

DISPLACEMENT/STROKE
- .46 Gallon / 1.73 liter

WEIGHTS
- Polypropylene 95 lbs. (43kg)
- PVDF 130 lbs. (59kg)
- Conductive Polypropylene 100 lbs. (45kg)



DIMENSIONS



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."

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ISO 9001 Certified
ISO 14001 Certified

EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #: S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S SANDPIPER®

PUMP SIZE
20 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
M Santoprene/PTFE
N Neoprene/Neoprene
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
U Universal Flange (Fits ANSI & DIN)
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
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
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

MATERIALS

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

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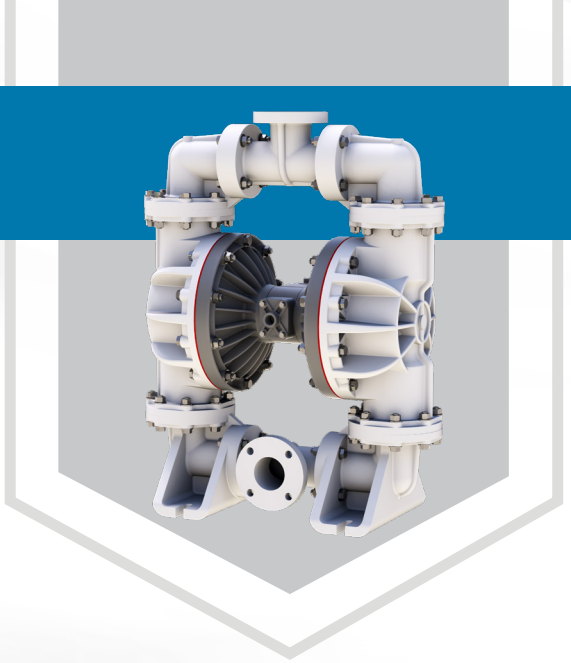
S30 NON-METALLIC PUMP
TECHNICAL DATA SHEET



SERIES

STANDARD DUTY BALL VALVE PUMPS
Offering the widest range of performance and application capabilities

PERFORMANCE

SUCTION / DISCHARGE PORT SIZE
- 3" ANSI Flange or 80mm DIN Flange

CAPACITY
- 0 to 280 GPM (0 to 1060 LPM)

AIR DISTRIBUTION VALVE
- No-lube, no-stall design

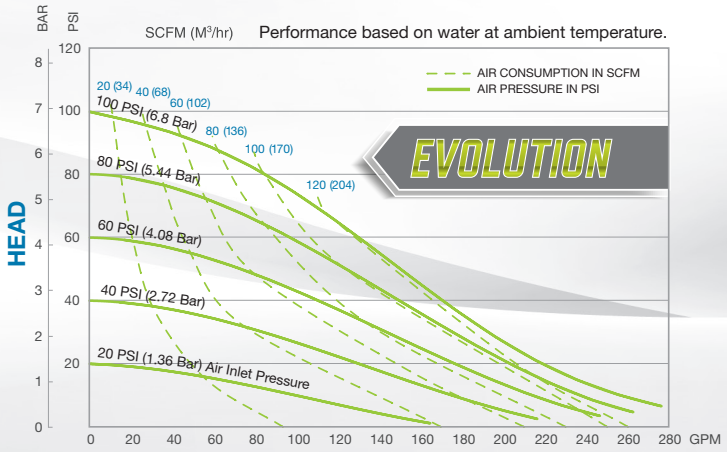
SOLIDS-HANDLING
- Up to .75 (19 mm)

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

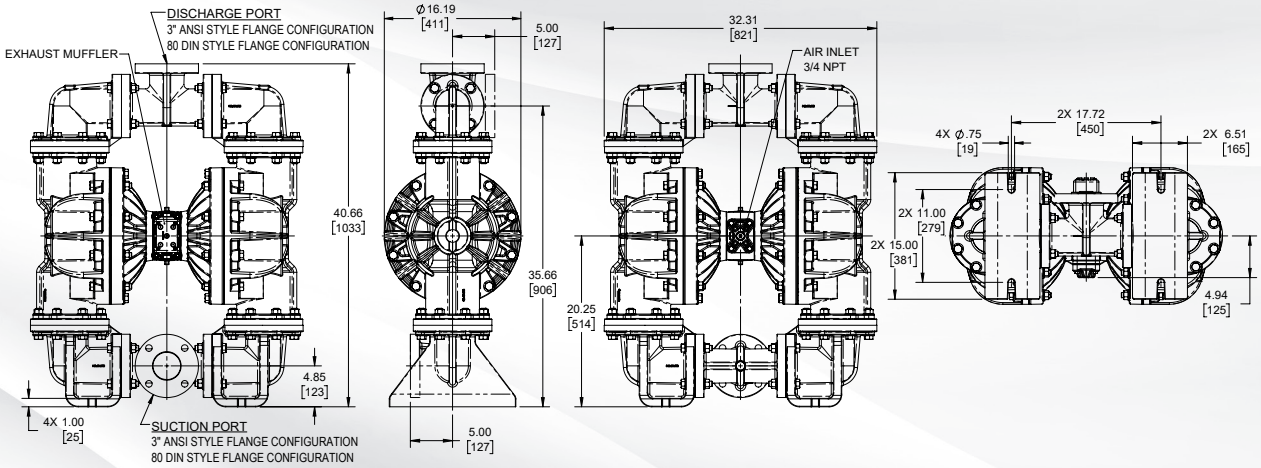
MAXIMUM OPERATING PRESSURE
- 100 psi (7 bar)

DISPLACEMENT/STROKE
- 1.0 Gallon / 3.78 liter

WEIGHTS
- Polypropylene 208 lbs (94 kg)
- PVDF 271 lbs (123 kg)



DIMENSIONS



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EXPLANATION OF PUMP NOMENCLATURE

Your Model #: S _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

(fill in from pump nameplate)

	Pump Config.	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/ Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
Model #:	S	XX	X	X	X	X	X	X	X	X	X	XX

PUMP BRAND
S SANDPIPER®

PUMP SIZE
30 3"

CHECK VALVE TYPE
B Ball

DESIGN LEVEL
3 Design Level

WETTED MATERIAL
K PVDF
P Polypropylene

DIAPHRAGM/CHECK VALVE MATERIALS
1 Santoprene/Santoprene
2 PTFE-Santoprene Backup/PTFE
3 PTFE Pumping, PTFE - Santoprene, Backup Driver / PTFE
4 Santoprene Pumping, Santoprene Driver / Santoprene
M Santoprene/PTFE

CHECK VALVE SEAT
K PVDF
P Polypropylene

NON-WETTED MATERIAL OPTIONS
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

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
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

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