

**WARREN RUPP®**

Quality System  
ISO9001 Certified

Environmental  
Management System  
ISO14001 Certified

**IBEX**  
FLUID & METERING



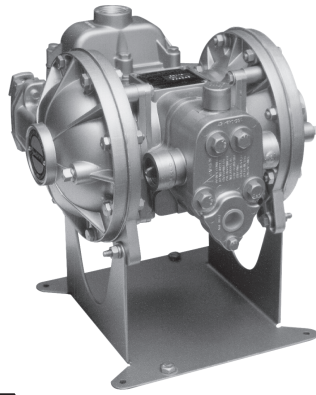
**SANDPIPER®**

A WARREN RUPP PUMP BRAND

**BALL VALVE**  
**SB1-A Type 4**  
**SB25-A Type 4**

**Air-Operated  
Double Diaphragm Pump**

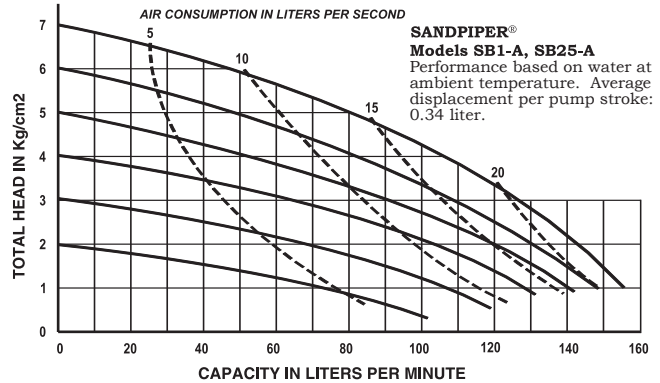
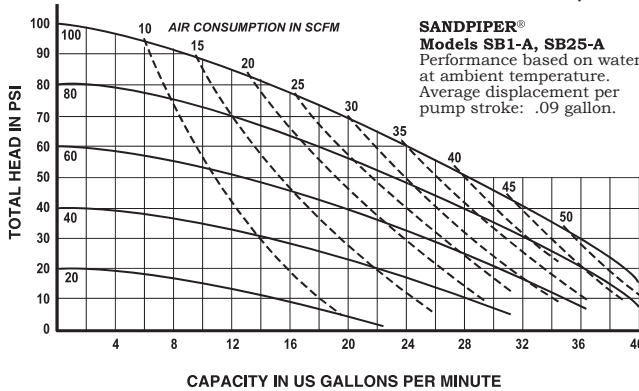
ENGINEERING, PERFORMANCE  
& CONSTRUCTION DATA



| INTAKE/DISCHARGE PIPE SIZE                               | CAPACITY   | AIR VALVE                   | SOLIDS-HANDLING         | HEADS UP TO  |
|--|--|-----------------------------|-------------------------|--|
| SB1-A: 1" (25mm) NPT(F)<br>SB25-A: 1" (25mm) BSP Tapered | 0 to 42 gallons per minute<br>(0 to 159 liters per minute) | No-lube, no-stall<br>design | Up to nearly ¼" (6.3mm) | 125 psi or 289 ft. of water<br>(8.8 Kg/cm <sup>2</sup> or 88 meters) |

**PERFORMANCE CURVES**

(SANDPIPER® pumps are designed to be powered **only** by compressed air)  
Temperature Limit: 212°F - 100°C MAXIMUM



**MATERIALS OF CONSTRUCTION**

| SB1-A<br>SB25-A | Manifold Porting |      |      | Manifold | Outer Chamber | Inner Chamber | Outer Diaphragm Plate | Inner Diaphragm Plate | Intermediate Housing | Dia-phragm Rod | Valve Seat | Hard-ware | Dia-phragm | Ball Valve Material | Manifold Gasket | Seat Gasket | Air Valve | Air Valve Cap | Shipping Wt. (lbs) |
|-----------------|------------------|------|------|----------|---------------|---------------|-----------------------|-----------------------|----------------------|----------------|------------|-----------|------------|---------------------|-----------------|-------------|-----------|---------------|--------------------|
|                 | Bottom           | Dual | Side |          |               |               |                       |                       |                      |                |            |           |            |                     |                 |             |           |               |                    |
| SB-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | R          | PS        | B          | B                   | A               | B           | PE        | AL380DC       | 31                 |
| SC-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | SS         | PS        | V          | T                   | T               | T           | PE        | AL380DC       | 31                 |
| SH-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | SS         | PS        | I          | T                   | T               | T           | PE        | AL380DC       | 31                 |
| SN-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | R          | PS        | N          | N                   | A               | N           | PE        | AL380DC       | 31                 |
| SR-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | R          | PS        | H          | H                   | A               | B           | PE        | AL380DC       | 31                 |
| SS-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | SS         | PS        | S          | S                   | T               | T           | PE        | AL380DC       | 31                 |
| SV-4-A          | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | AL380DC               | PS                    | AL380DC              | 416SS          | R          | PS        | V          | V                   | T               | T           | PE        | AL380DC       | 31                 |
| SGN-4-A         | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | N/T        | T                   | T               | T           | PE        | AL380DC       | 31                 |
| SGR-4-A         | X                | X    | X    | 356-T6AL | AL380DC       | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | H/T        | T                   | T               | T           | PE        | AL380DC       | 31                 |
| SB-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | R          | PS        | B          | B                   | A               | B           | PE        | AL380DC       | 45                 |
| SC-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | V          | T                   | T               | T           | PE        | AL380DC       | 45                 |
| SH-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | I          | T                   | T               | T           | PE        | AL380DC       | 45                 |
| SJ-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | B          | T                   | A               | B           | PE        | AL380DC       | 45                 |
| SN-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | R          | PS        | N          | N                   | A               | N           | PE        | AL380DC       | 45                 |
| SR-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | R          | PS        | H          | H                   | A               | B           | PE        | AL380DC       | 45                 |
| SS-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | S          | S                   | T               | T           | PE        | AL380DC       | 45                 |
| SV-4-SS         | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | R          | PS        | V          | V                   | T               | T           | PE        | AL380DC       | 45                 |
| SGN-4-SS        | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | N/T        | T                   | T               | T           | PE        | AL380DC       | 45                 |
| SGR-4-SS        | X                | X    | X    | SS       | SS            | AL380DC       | SS                    | PS                    | AL380DC              | 416SS          | SS         | PS        | H/T        | T                   | T               | T           | PE        | AL380DC       | 45                 |
| SB-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | R          | PS        | B          | B                   | A               | B           | PE        | PE            | 60                 |
| SC-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | SS         | PS        | V          | T                   | T               | T           | PE        | PE            | 60                 |
| SH-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | SS         | PS        | I          | T                   | T               | T           | PE        | PE            | 60                 |
| SJ-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | SS         | PS        | B          | T                   | A               | B           | PE        | PE            | 60                 |
| SN-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | R          | PS        | N          | N                   | A               | N           | PE        | PE            | 60                 |
| SR-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | R          | PS        | H          | H                   | A               | B           | PE        | PE            | 60                 |
| SV-4-SI         | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | R          | PS        | V          | V                   | T               | T           | PE        | PE            | 60                 |
| SGN-4-SI        | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | SS         | PS        | N/T        | T                   | T               | T           | PE        | PE            | 60                 |
| SGR-4-SI        | X                | X    | X    | SS       | SS            | CI            | SS                    | PS                    | CI                   | 416SS          | SS         | PS        | H/T        | T                   | T               | T           | PE        | PE            | 60                 |
| SC-4-HC         | X                | X    | X    | Alloy C  | Alloy C       | AL380DC       | Alloy C               | PS                    | AL380DC              | 416SS          | Alloy C    | PS        | V          | T                   | T               | T           | PE        | AL380DC       | 50                 |
| SN-4-HC         | X                | X    | X    | Alloy C  | Alloy C       | AL380DC       | Alloy C               | PS                    | AL380DC              | 416SS          | Alloy C    | PS        | N          | N                   | A               | N           | PE        | AL380DC       | 50                 |
| SV-4-HC         | X                | X    | X    | Alloy C  | Alloy C       | AL380DC       | Alloy C               | PS                    | AL380DC              | 416SS          | Alloy C    | PS        | V          | V                   | T               | T           | PE        | AL380DC       | 50                 |
| SGN-4-HC        | X                | X    | X    | Alloy C  | Alloy C       | AL380DC       | Alloy C               | PS                    | AL380DC              | 416SS          | Alloy C    | PS        | N/T        | T                   | T               | T           | PE        | AL380DC       | 50                 |

# SB1-A & SB25-A BALL VALVE



## MATERIALS OF CONSTRUCTION (Continued)

| SB1-A<br>SB25-A | Manifold Porting |      |      | Manifold | Chamber | Chamber | Outer Diaphragm Plate | Inner Diaphragm Plate | Intermediate Housing | Diaphragm Rod | Valve Seat | Hard-ware | Diaphragm | Ball Valve Material | Manifold Gasket | Seat Gasket | Air Valve | Air Valve Cap | Shipping Wt. (lbs) |
|-----------------|------------------|------|------|----------|---------|---------|-----------------------|-----------------------|----------------------|---------------|------------|-----------|-----------|---------------------|-----------------|-------------|-----------|---------------|--------------------|
|                 | Bottom           | Dual | Side |          |         |         |                       |                       |                      |               |            |           |           |                     |                 |             |           |               |                    |
| SR-4-HC         | X                |      | X    | Alloy C  | Alloy C | AL380DC | Alloy C               | PS                    | AL380DC              | 416SS         | Alloy C    | PS        | H         | H                   | A               | B           | PE        | AL380DC       | 50                 |
| SGR-4-HC        | X                | X    |      | Alloy C  | Alloy C | AL380DC | Alloy C               | PS                    | AL380DC              | 416SS         | Alloy C    | PS        | H/T       | T                   | T               | T           | PE        | AL380DC       | 50                 |
| *ESC-4-S        |                  | X    |      | Alloy C  | Alloy C | AL380DC | Alloy C               | PS                    | AL380DC              | 416SS         | SS         | PS        | V         | T                   | T               | T           | PE        | AL380DC       | 45                 |
| SGN-4-HI        | X                |      | X    | Alloy C  | Alloy C | CI      | Alloy C               | PS                    | CI                   | 416SS         | Alloy C    | PS        | N/T       | T                   | T               | T           | PE        | PE            | 65                 |

### Meanings of Abbreviations:

Kit available to convert to top porting

A = Compressed Fibre  
AL = Aluminum  
B = Nitrile  
CI = Cast Iron  
DC = Die Cast  
H = Hytrel®

H/T = Hytrel® Backup/ PTFE Overlay  
I = EPDM  
N = Neoprene  
N/T = Neoprene Backup/PTFE Overlay  
PE = Conductive HDPE  
PS = Plated Steel

R = Ryton  
S = Santoprene®  
SS = Stainless Steel  
T = Virgin PTFE  
V = FKM  
Alloy C = Alloy C

\*Most other types available in dual ported design. See price book or consult factory for details.

Viton® & Hytrel® are registered tradenames of E.I. du Pont. Santoprene® is a registered tradename of Monsanto Corp.

## MATERIALS

### Operating Temperatures

Maximum\* Minimum\* Optimum\*\*

**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

50°F to 140°F  
10°C to 60°C

**NEOPRENE** All purpose. Resistant to vegetable oils. 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.

170°F  
77°C

-35°F  
-37°C

50°F to 130°F  
10°C to 54°C

**HYTREL®** Good on acids, bases, amines and glycols at room temperature.

190°F  
88°C

-10°F  
-23°C

50°F to 140°F  
10°C to 60°C

**Virgin PTFE** Chemically inert, virtually impervious. Very few chemicals are known to chemically react with Teflon 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.

212°F+  
100°C+

-35°F  
-37°C

50°F to 212°F  
10°C to 100°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) will attack FKM.

212°F+  
100°C+

+32°F  
0°C

75°F to 212°F  
24°C to 100°C

**EPDM** Shows very good water and chemical resistance. Has poor resistance to oil and solvents, but is fair in ketones and alcohols.

212°F+  
100°C+

-10°F  
-23°C

50°F to 212°F  
10°C to 100°C

**SANTOPRENE®** Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.

212°F+  
100°C+

-10°F  
-23°C

50°F to 212°F  
10°C to 100°C

**STAINLESS STEEL** CF-8M equal to or exceeding ASTM specification A743 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.

**ALLOY C** CW-12MW equal to or exceeding ASTM A494 specification for nickel and nickel alloy castings.

For specific applications, always consult "Chemical Resistance Chart" Technical Bulletin.

\*Definite reduction in service life.

\*\*Minimal reduction in service life at ends of range.

Dimensions are ± 1/8"

Figures in parenthesis = millimeters

| Models          | "A"            | "B"        |
|-----------------|----------------|------------|
| SST & Alloy "C" | 1 11/16" (286) | 5/8" (143) |
| All Others      | 1 1/4" (298)   | 5/8" (149) |

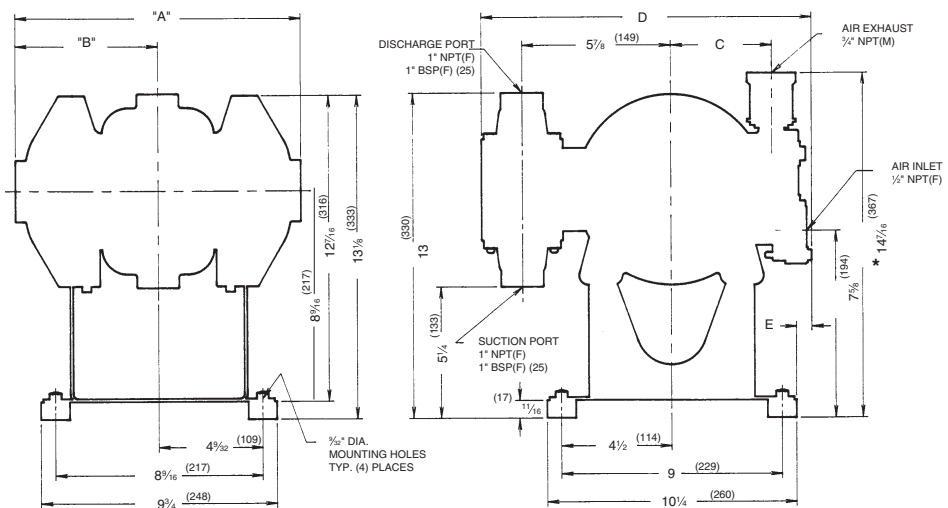
| Dimension        | C              | D               | E            |
|------------------|----------------|-----------------|--------------|
| Std. Pump        | 4.3/32" (104)  | 13.9/32" (337)  | 5/8" (16)    |
| Pulse Output Kit | 4.17/32" (115) | 13.23/32" (348) | 1.1/16" (27) |

Model SB1-A features NPT threaded connections.

Model SB25-A features British Standard Pipe (BSP) Tapered threaded connections

NOTE: UNIT FURNISHED WITH FEET AS STANDARD. FOR STATIONARY BOLT DOWN USE, RUBBER FEET CAN BE REMOVED.

\*16 7/16 With Metal Muffler



SB1-A: 1" NPT(F) SUCTION AND DISCHARGE • 1/2" NPT(F) AIR INLET PORT • 3/4" NPT(F) AIR EXHAUST PORT (NOT SHOWN)

SB25-A: 1" BSP(F) TAPERED SUCTION AND DISCHARGE • 1/2" NPT(F) AIR INLET PORT • 3/4" NPT(F) AIR EXHAUST PORT (NOT SHOWN)

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Specifications are subject to improvement without notice.

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