

**WARREN
RUPP®**

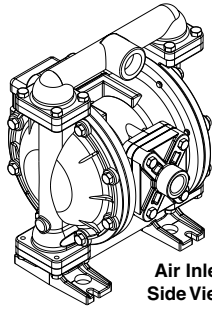
Quality System
ISO9001 Certified

Environmental
Management System
ISO14001 Certified

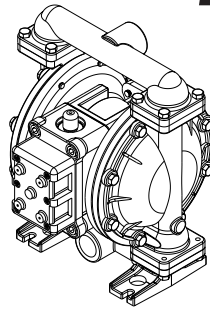
IDEX
IDEX CORPORATION

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

MARATHON II®



Air Inlet
Side View



Air Exhaust
Side View

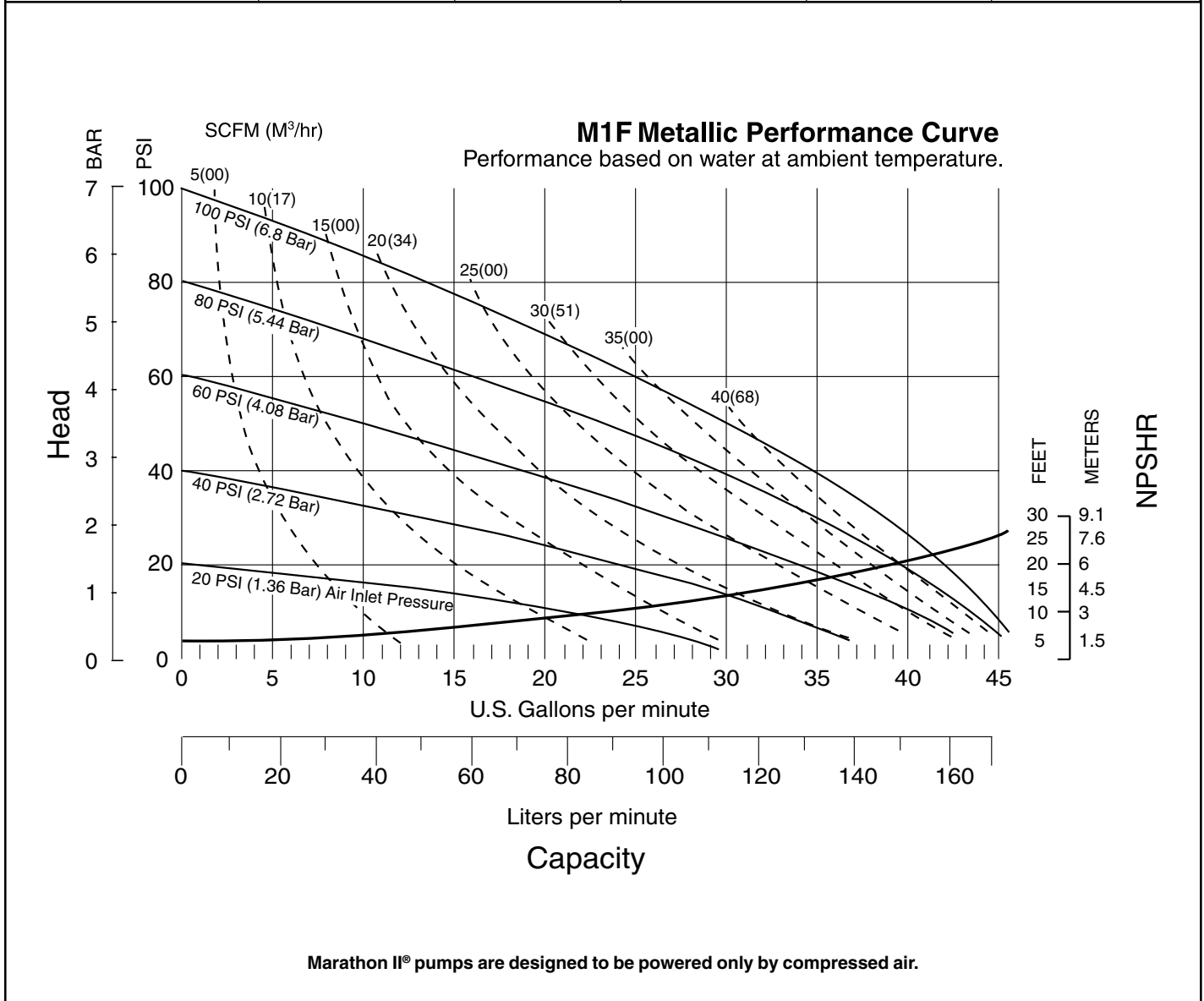
M1F Metallic Design Level I Ball Valve

**Air-Powered
Double-Diaphragm Pump**



ENGINEERING, PERFORMANCE
& CONSTRUCTION DATA

| INTAKE/DISCHARGE PIPE SIZE | CAPACITY | AIR VALVE | SOLIDS-HANDLING | HEADS UP TO | DISPLACEMENT/STROKE |
|--|--|-----------------------------|---------------------|--|------------------------|
| 1" NPT(internal) 1" BSPT Tapered (internal) | 0 to 45 gallons per minute (0 to 170 liters per minute) | No-lube, no-stall design | Up to .25 in. (6mm) | 125 psi or 289 ft. of water (8.6 Kg/cm ² or 86 meters) | .11 Gallon / .42 liter |



Explanation of Pump Nomenclature

M1F 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) |
|-----------------|------------|-----------|------------------|--------------|-----------------|----------------------------------|------------------|-----------------------------|-----------------|------------|--------------|----------------------|------------------|
| M1FB1ABWANS000. | S | 1F | B | 1 | A | B | W | A | N | S | 0 | 00. | 28 (13) |
| M1FB1AIWANS000. | S | 1F | B | 1 | A | I | W | A | N | S | 0 | 00. | 28 (13) |
| M1FB1AGTANS000. | S | 1F | B | 1 | A | G | T | A | N | S | 0 | 00. | 28 (13) |
| M1FB1ANWANS000. | S | 1F | B | 1 | A | N | W | A | N | S | 0 | 00. | 28 (13) |
| M1FB1A1WANS000. | S | 1F | B | 1 | A | 1 | W | A | N | S | 0 | 00. | 28 (13) |
| M1FB1AVTANS000. | S | 1F | B | 1 | A | V | T | A | N | S | 0 | 00. | 28 (13) |
| M1FB1IBWANS000. | S | 1F | B | 1 | I | B | W | A | N | S | 0 | 00. | 46 (21) |
| M1FB1IIWANS000. | S | 1F | B | 1 | I | I | W | A | N | S | 0 | 00. | 46 (21) |
| M1FB1IGTANS000. | S | 1F | B | 1 | I | G | T | A | N | S | 0 | 00. | 46 (21) |
| M1FB1INWANS000. | S | 1F | B | 1 | I | N | W | A | N | S | 0 | 00. | 46 (21) |
| M1FB1I1WANS000. | S | 1F | B | 1 | I | 1 | W | A | N | S | 0 | 00. | 46 (21) |
| M1FB1IVTANS000. | S | 1F | B | 1 | I | V | T | A | N | S | 0 | 00. | 46 (21) |
| M1FB1IIWANS000. | S | 1F | B | 1 | I | I | W | A | N | S | 0 | 00. | 46 (21) |
| M1FB1SBWANS000. | S | 1F | B | 1 | S | B | W | A | N | S | 0 | 00. | 43 (20) |
| M1FB1SGTANS000. | S | 1F | B | 1 | S | G | T | A | N | S | 0 | 00. | 43 (20) |
| M1FB1SNWANS000. | S | 1F | B | 1 | S | N | W | A | N | S | 0 | 00. | 43 (20) |
| M1FB1S1WANS000. | S | 1F | B | 1 | S | 1 | W | A | N | S | 0 | 00. | 43 (20) |
| M1FB1SVTANS000. | S | 1F | B | 1 | S | V | T | A | N | S | 0 | 00. | 43 (20) |

Pump Brand

M=MARATHON II®

Pump Size

1F=1"

Check Valve Type

B= Ball

Design Level

1= Design Level

Wetted Material

A= Aluminum

I = Cast Iron

S= Stainless Steel

Diaphragm Check Valve Materials

1= Santoprene®/Santoprene®

B= Buna/Buna

C= Viton®/PTFE

G=PTFE-Neoprene/PTFE

I = EPDM/Santoprene®

N= Neoprene/Neoprene

V= Viton®/Viton®

W=Neoprene Bonded

uniRupp®/PTFE

X= Santoprene® Bonded

uniRupp®/PTFE

Check Valve Seat

A= Aluminum

C= Carbon Steel

S= Stainless Steel

T= PTFE

W=UHMW Polyethylene

Non-Wetted Material Options

A= Painted Aluminum

I= Cast Iron

J= Painted Aluminum

w/PTFE Coated Hardware

Y= Painted Aluminum

w/Stainless Steel Hardware

Z= Cast Iron with Stainless Steel

Hardware

Porting Options

N=NPT Threads

B= BSPT (Tapered) Threads

Pump Style

S= Standard

Pump Options

0= None

1= Sound Dampening Muffler

2= Mesh Muffler

3= High temperature Air Valve

w/Encapsulated Muffler

4= High temperature Air

Valve w/Sound Dampening Muffler

5= High temperature Air Valve

w/Mesh Muffler

Kit Options

00.=None

P0.=0-30VDC Pulse Output Kit

P1.=Intrinsically-Safe 10-30VDC Pulse Output Kit

P2.=110/120 or 220/240VAC Pulse Output Kit

P3.=Intrinsically-Safe 110/120VAC Pulse Output Kit

P4.=Intrinsically-Safe 220/240VAC Pulse Output Kit

SP.=Stroke Indicator Pins

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

| Materials | Operating Temperatures | | |
|---|-------------------------------|-----------------|--------------------------------|
| | Maximum* | Minimum* | Optimum** |
| Buna 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° to 140°F 10°C to 60°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° to 212°F 10°C to 100°C |
| Neoprene 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. | 170°F 77°C | -10°F -23°C | 50° to 130°F 10°C to 54°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° to 212°F 10°C to 100°C |
| Virgin PTFE 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. | 212°F 100°C | -35°F -37°C | 50°F to 212°F 10°C to 100°C |
| Viton® 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 Viton®. | 212°F 100°C | +32°F 0°C | 75°F to 212°F 24°C to 100°C |
| UHMW Polyethylene | 180°F 82°C | -40°F -40°C | 50°F to 140°F 10°C to 60°C |
| Polypropylene | 150°F 65°C | 40°F 5°C | |

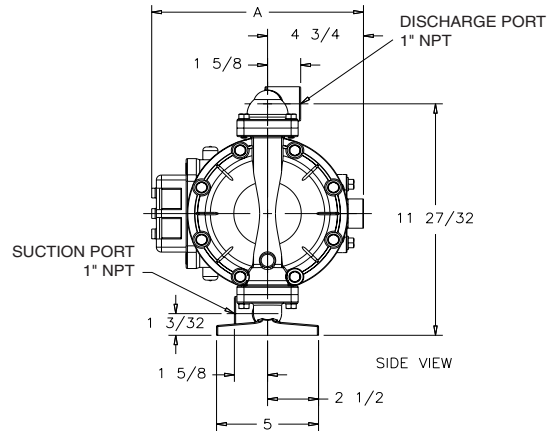
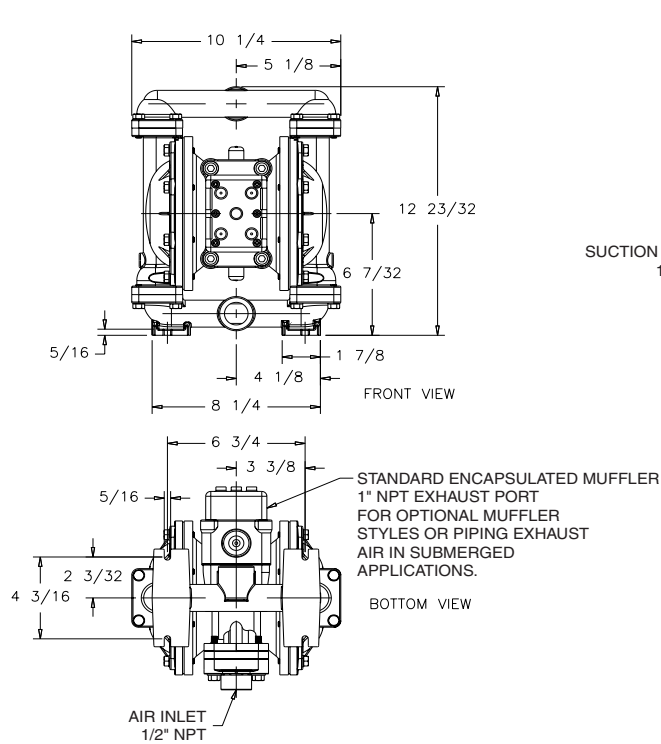
For specific applications, always consult "Chemical Resistance Chart" Technical Bulletin

*Definite reduction in service life.

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

Dimensions: M1F Metallic

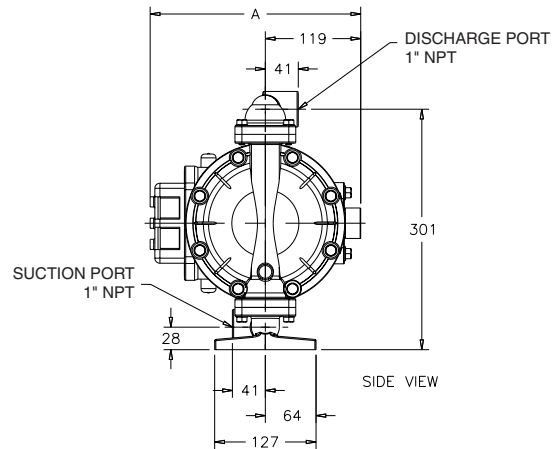
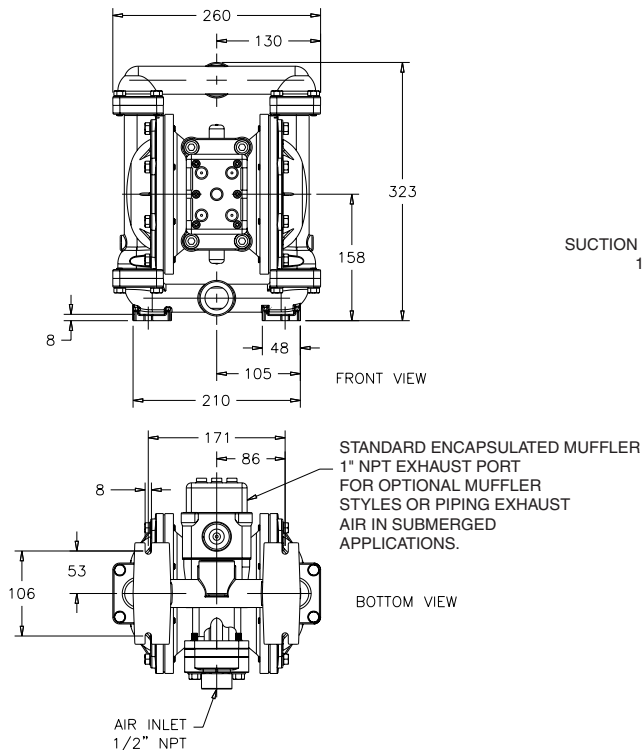
Dimensions in Inches
Dimensional Tolerance: $\pm 1/8"$



STANDARD PUMP SHOWN WITH 530-028-550 ENCAPSULATED MUFFLER
BOTH SUCTION AND DISCHARGE PORTS ARE AVAILABLE WITH 1" BSPT (TAPERED) THREADS

| DIMENSION | A |
|------------------|--------|
| Standard Pump | 10 3/8 |
| Pulse Output Kit | 11 3/4 |
| Mesh Muffler | 12 7/8 |

Dimensions in Millimeters
Dimensional Tolerance: $\pm 3\text{mm}$



STANDARD PUMP SHOWN WITH 530-028-550 ENCAPSULATED MUFFLER
BOTH SUCTION AND DISCHARGE PORTS ARE AVAILABLE WITH 1" BSPT (TAPERED) THREADS

| DIMENSION | A |
|------------------|-----|
| Standard Pump | 264 |
| Pulse Output Kit | 298 |
| Mesh Muffler | 327 |