WARREN RUPP®

Quality System ISO9001 Certified

Environmental Management System ISO14001 Certified

IDEX FLUID & METERING

SANDPIPER®
A WARREN RUPP PUMP BRAND

Heavy Duty Flap Valve

HDF3-M
HDF4-M Type 2

Air-Operated Double Diaphragm Pump

ENGINEERING, PERFORMANCE & CONSTRUCTION DATA

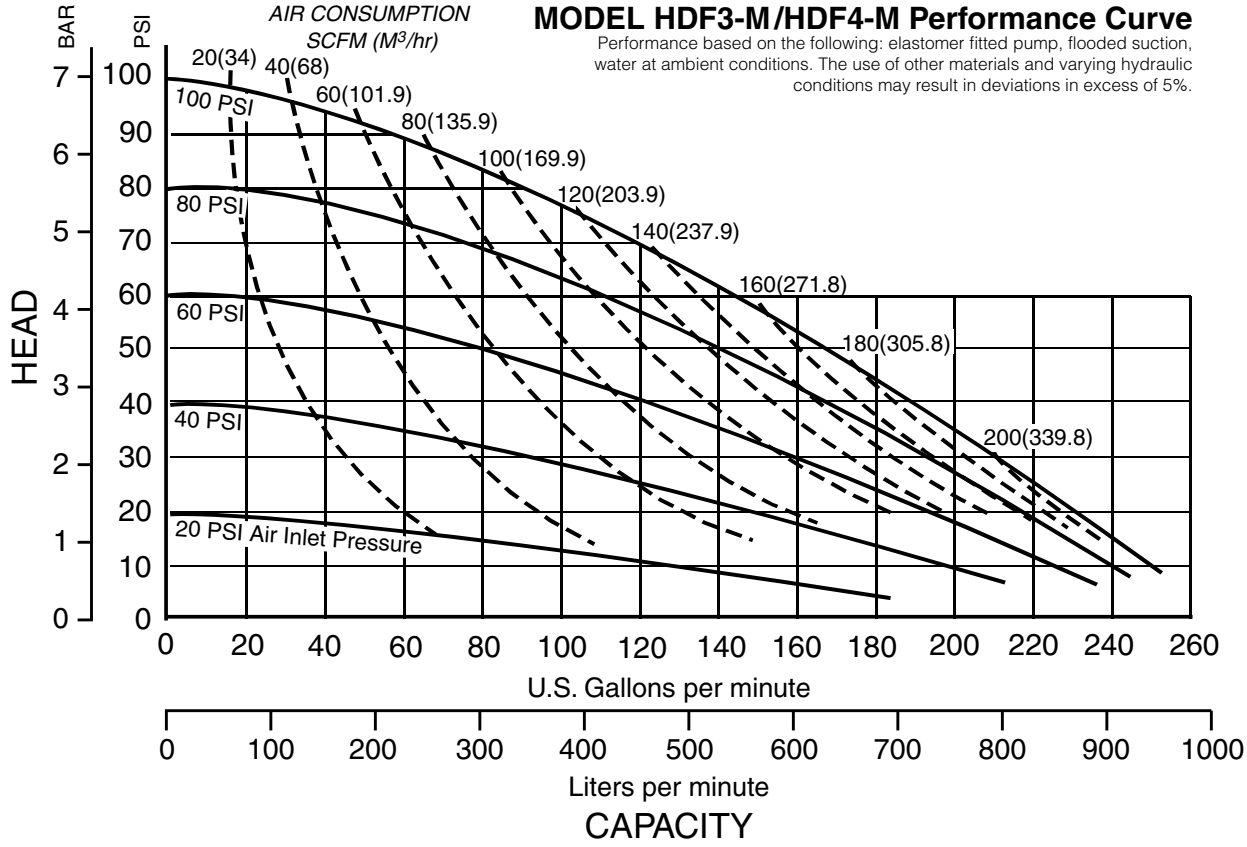
CE

Ex See pages 17 & 18 for ATEX ratings

INTAKE/DISCHARGE PIPE SIZE	CAPACITY	AIR VALVE	SOLIDS-HANDLING	HEADS UP TO
HDF3-M: 3" 150# ANSI Flange HDF4-M: 4" 150# ANSI Flange	0 to 260 gallons per minute (0 to 988 liters per minute)	No-lube, no-stall design	Up to nearly 3" *(75mm)*	125 psi or 289 ft. of water (8.8 Kg/cm² or 88 meters)

MODEL HDF3-M/HDF4-M 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, HDF3-M & HDF4-M

MATERIALS OF CONSTRUCTION

To order a pump or replacement parts, first enter the Model Number HDF3-M, or HDF4-M, followed by the Type Designation listed below in the far left column.

HDF3-M Type	Manifold Elbow	Outer Chamber	Inner Chamber	Outer Diaphragm Plates	Inner Diaphragm Plate	Intermediate Housing	Diaphragm Rod	Valve Seat	Hardware	Diaphragm	Flap Valve Material	Seat Gasket	Sealing Rings	Shipping Wt. (lbs)
DA2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	N	U	A	B	245
DN2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	N	N	A	B	363
DB2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	B	B	A	B	363
DK2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	N	H	A	B	363
HDF4-M Type 2														
DN2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	N	N	A	B	390
DB2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	B	B	A	B	390
DA2II	CI	CI	DI	CI	PS	CI	416SS	SS	PS	N	U	A	B	390

Meanings of Abbreviations:

A = Compressed Fibre
B = Nitrile
CI = Cast Iron
DI = Ductile Iron
H = Hytrel®
N = Neoprene
PS = Plated Steel
SS = Stainless Steel
U = Urethane

Most types available in dual port design. See price book or consult factory for details.
Hytrel is a registered tradename of E.I. du Pont. Santoprene is a registered tradename of Exxon Mobil Corp.

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.

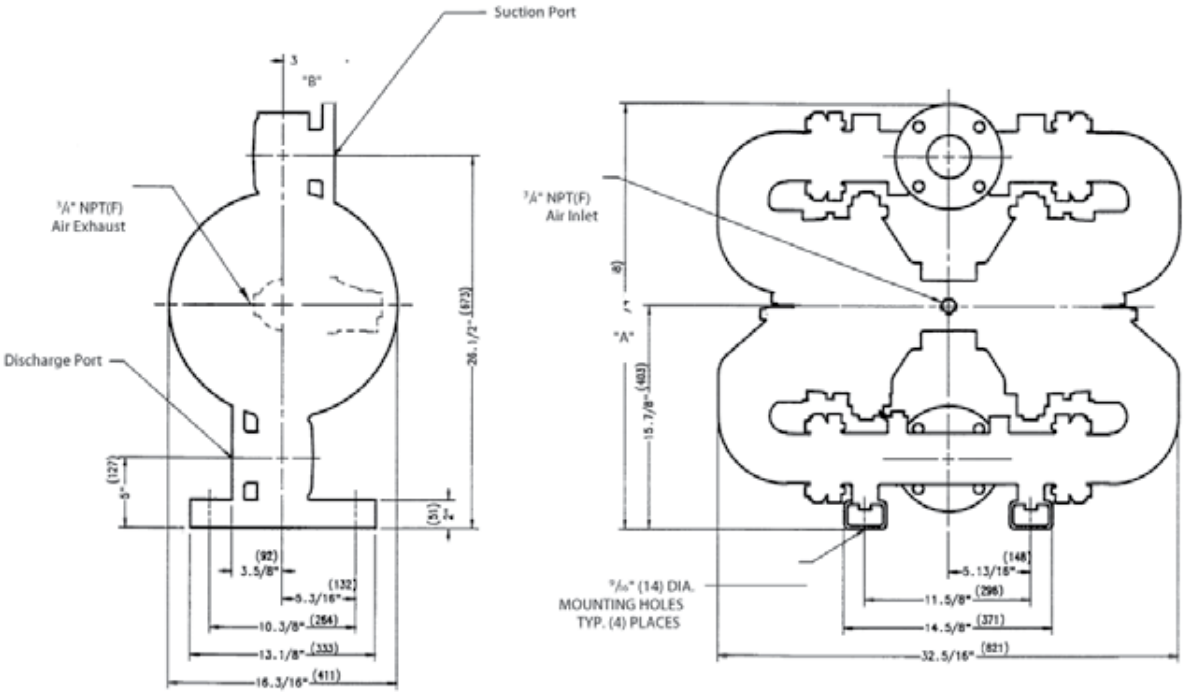
Materials	Operating Temperatures Maximum	Minimum
Nitrile General purpose, oil-resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons.	190°F 88°C	-10°F -23°C
NEOPRENE 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.	200°F 93°C	-10°F -23°C
HYTREL® Good on acids, bases, amines and glycols at room temperature.	220°F 104°C	-20°F -29°C
Urethane Shows good resistance to abrasives. Has poor resistance to most solvents and oils.	150°F 66°C	+32°F 0°C
‡ **CF-8M Stainless Steel** 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.		

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

II 1 G c T5
II 3/1 G c T5
II 1 D c T100oC
I M1 c
I M2 c
Models equipped with Cast Iron wetted parts, and Cast Iron midsection parts. See page 18 for ATEX Explanation of EC-Type Certificate.

Dimensions: HDF3-M & HDF4-M

Dimensions are ± 1/8"
Figures in parenthesis = millimeters



	HDF3-M	HDF4
Suction & Discharge Ports	Four(4) 3/4" dia. thru holes equally spaced on a 6" diameter bolt circle	4" Eight(8) 5/8-11 unc tapped holes equally spaced on a 7 1/2" diameter bolt circle
Dimension "A"	30 1/4" (768)	31" (787)
Dimension "B"	3 3/8" (92)	6 5/8" (168)