SANDPIPER®

G SERIES

EPC DATA SUBMITTAL PACK

Customizable Pump Data Sheet for RFQ (with limited scope of supply)
Specifications and Performance Data Sheet

Requester's LOGO

NATURAL GAS OPERATED DOUBLE DIAPHRAGM PUMP DATA SHEET

Document No. _____

Revision No. _____

Item No. _____

Changes

For: Proposal ☐ Purchase ☐ As Built ☐

1	Contract No.	
2	Purch Order	
3	Tag/Item No.	
4	Client Name:	
5	Location:	
6	Service Area:	Hazardous Area Classification: Zone ____ Group_____ Class _____ Other: Unclassified (non-Hazardous) ☐
7	Applicable Standards:	
8	Manufacturer:	Quantity: _____ Pumps in Operation: _____ Spare(s): _____
9	Pump Size :	

CONSTRUCTION

10	Liquid End:						
11	Gas End (Center Section):						
12	Connections:	Size	ANSI Rating	Face	Type	Position	
13	Suction:					Top	
14	Discharge:					Bottom	
15	Gas Inlet:					N/A	
16	Hydrotest Pressure:	500 psig					
17	No. of Diaphragm Chambers:	2					
18	Inlet and Outlet Valve Type:						
19	Pump Type:						
20							
21							
22							
23							
24							
25							

OPERATING CONDITIONS & LIQUID CHARACTERISTICS (for each pump)

	Service / Duty (Intermittent/Continuous)		
	Fluid Pumped:		
	Corrosion/Erosive Due To:		
	Liquid Temperature (PT):	°F / °C	
	Ambient Temperature:	°F / °C	
	Specific Gravity @Duty PT:		
	Viscosity @Duty PT:	cps	
	Vap. Pressure @Duty PT	psia/bara	
	Discharge Pressure	psig/barg	
	Suction Pressure	psig/barg	
	Capacity @ PT:	gpm / m3/hr	
	Gas Supply Pressure:	psig/barg	
	Gas Supply Pressure:	psig/barg	
	NPSH Available	FT/M	
	H_2S Concentration	ppvm	
	Solids	Size / % Conc	

MATERIALS

26	Diaphragms:	
27	Check Valve Balls/Flaps:	
28	Check Valve Seats:	
29	Gas Valve O'rings:	
30	Gas Valve Gaskets	
31	Suction Manifold	
32	Discharge Manifold	
33	Inlet Gas Inlet Valve	
34	Inlet Gas Regulator (Max 100 psig	
35	Inlet Gas Filter	
36		
37		

PERFORMANCE

Rated Capacity (GPM/M3/Hr):	
NPSH Required (FT/M):	
Max Gas Consumption: (scfm / m3/hr)	
Max Gas Inlet Pressure :(psig/barg)	
Max Discharge Pressure: (psig/barg)	

LAB TEST	REQUIRED	WITNESSED
Hydrostatic Test:		
Performance Test:		
Snoop Test: (see line 57 below)		
Other:		
Other:		

SCOPE OF SUPPLY

38 **Pump Type/Design:**
39 Compressed natural gas powered, double diaphragm pump
40 Bolted fluid and gas housing connections
41 NPT threaded or ANSI flanged process fluid connections
42 Main gas valve and pilot valve to be repairable or replaceable without disconnecting process fluid connections or disassembling fluid housings
43 Natural gas exhaust to be a single connection
44 **Materials of Construction:**
45 Aluminum or stainless steel gas housings
46 Aluminum or stainless steel liquid housings
47 Nitrile or PTFE diaphragms
48 Nitrile or PTFE check balls
49 Nitrile or Viton gas end seals
50 Diaphragm connecting rod to be 416 stainless steel or 316 stainless steel
51 **Certifications:**
52 CSA certified to ANSI LC6-2008 Natural Gas Operated Diaphragm Pumps (USA)
53 CSA certified to Technical Information Letter No. R-14 Natural Gas Operated Diaphragm Pumps (Canada)
54 Meets NACE MR0175/ISO 15156 Material Recommendations
55 ATEX Certified: Group II, Category 2 (Aluminum gas or fluid housings); Group II, Category 1 (Stainless steel gas and fluid housings)
56 **Manufacturing and Production Tests:**
57 100% testing of gas-containing housings - pumps shall not leak externally at a rate in excess of 200 cm^3 per hour at 150 PSI test pressure
58 All parts of the pump subjected to pressure, except the pumping diaphragms, shall withstand a hydrostatic test of 5 times the maximum rated operating pressure
59 Resistance to static electric charge; dissipation shall not exceed one mega-ohm between the grounding connection and each metal component
60 **Temperature Limits:**
61 Minimum: -10°F (-23°C)
62 Maximum: 180°F (82°C)

REMARKS

63
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68

DATA SHEET
Specifications & Performance

Certified Quality

Quality System
ISO9001 Certified

Environmental Management System
ISO14001 Certified

Member of Hydraulic Institute

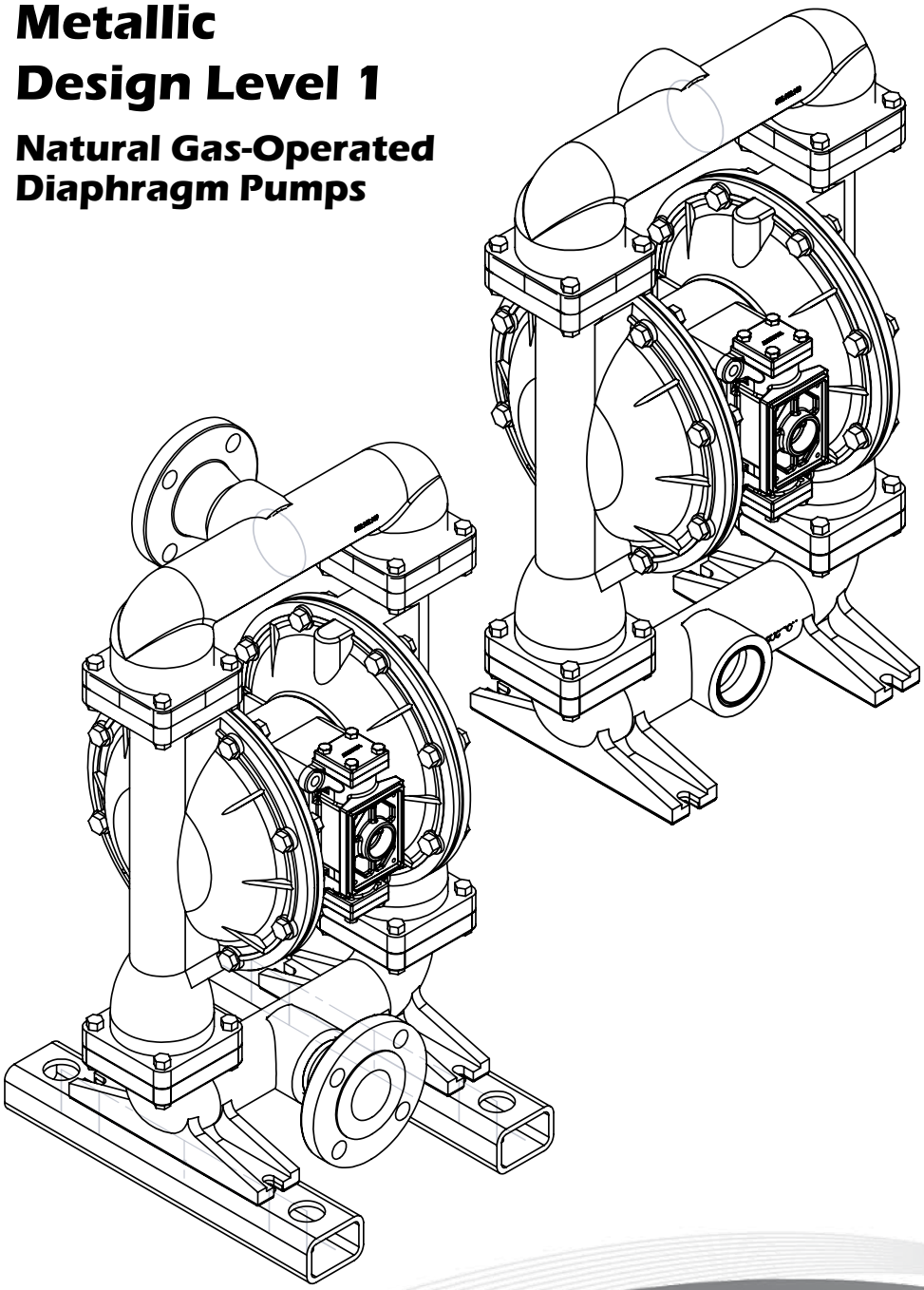
Certified to CSA Technical Letter No, R-14

Certified to ANSI LC6-2008

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

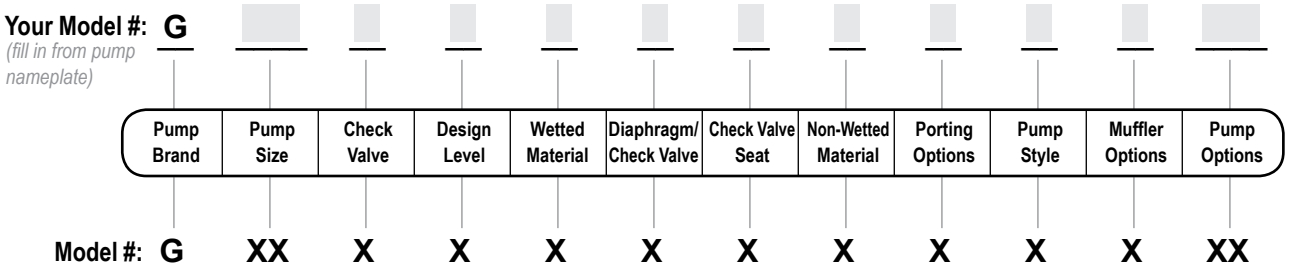
IDEX CORPORATION

Model G20
Metallic
Design Level 1
Natural Gas-Operated Diaphragm Pumps



SANDPIPER®
A WARREN RUPP, INC. BRAND
WWW.SANDPIPERPUMP.COM

Explanation of Pump Nomenclature



Pump Brand
G Gas Operated

Pump Size
20 2"

Check Valve Type
B Ball

Design Level
1 Design Level

Wetted Material
S Stainless Steel
A Aluminum

Diaphragm/Check Valve Materials
B Nitrile/Nitrile
T PTFE -Nitrile/PTFE
5 Nitrile/PTFE

Check Valve Seat
B Nitrile
T PTFE
A Aluminum
S Stainless Steel

Non-Wetted Material Options
A Painted Aluminum
B Unpainted Aluminum with Stainless Steel Gas Valve
D Unpainted Aluminum with Stainless Steel Gas Valve with FKM O-rings
X Unpainted Aluminum
0 Unpainted Aluminum/FKM Elastomers
V Unpainted Aluminum/FKM Elastomers
S Stainless Steel/ S02/304 SS Hardware
T Stainless Steel/ 316 Stainless Hardware
7 Painted Stainless Steel
8 Stainless Steel/FKM Elastomers
9 Painted Stainless Steel/FKM Elastomers

Porting Options
N NPT Threads
B BSP (Tapered) Threads
R 150# Raised Face 2" ANSI Flange w/ Threaded Pipe Connections
W 150# Welded Raised Face 2" ANSI Flanged Manifolds

Pump Style
S Standard

Muffler Options
X No Muffler Permitted *

Your Serial #: *(fill in from pump nameplate)* _____

ATEX Detail

(1) Ex

II 1G c T5
II t G c T5
II 1D c T100°C †
I M1 c
I M2 c
Models equipped with Wetted Option S Non-Wetted Options S, T, 7, 8, or 9, Pump Option X.
Note: See ATEX Explanation of EC-Type Certificate

(2) Ex

II 2G c T5
II 3/2 G c T5
II 2D c T100°C †
Models equipped with Wetted Options A or S, All Non-Wetted Options, Pump Option X.
Note: See ATEX Explanation of Type Examination Certificate

Performance

G20 METALLIC

SUCTION/DISCHARGE PORT SIZE
• 2"

CAPACITY
• 0 to 150 gallons per minute
(0 to 567 liters per minute)

GAS DISTRIBUTION VALVE
• No-lube, no-stall design

SOLIDS-HANDLING
• Up to .25 in. (6mm)

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

MAXIMUM OPERATING PRESSURE
• 100 psi (7 bar)

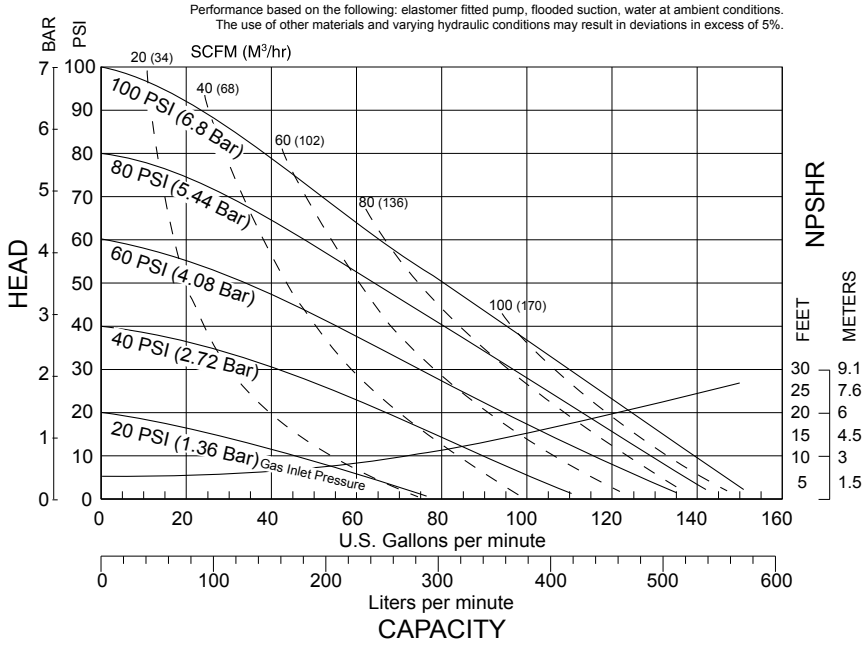
DISPLACEMENT/STROKE
• .42 Gallon / 1.59 liter

SHIPPING WEIGHT
• Aluminum 69 lbs. (31kg)
• Stainless Steel 114 lbs. (52kg)

These pump models are designed to pump the following fluids: Crude Oil, Salt Water, Drilling Mud, Condensate, Lubrication Oils, Glycol, Caustic Liquids, and Acids."

MODEL G20 Metallic 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%.



Exhaust Gas: The exhausted natural gas must be vented to a low pressure safe location in accordance with local fire safety and environmental codes, or in the absence of local codes, an industry or nationally recognized code having jurisdiction over the specific installations, and/or CAN/CGA B149, Installation Codes

Materials

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

Ambient temperature range: -20°C to +40°C
Process temperature range: -20°C to +80°C for models rated as category 1 equipment
-20°C to +100°C for models rated as category 2 equipment

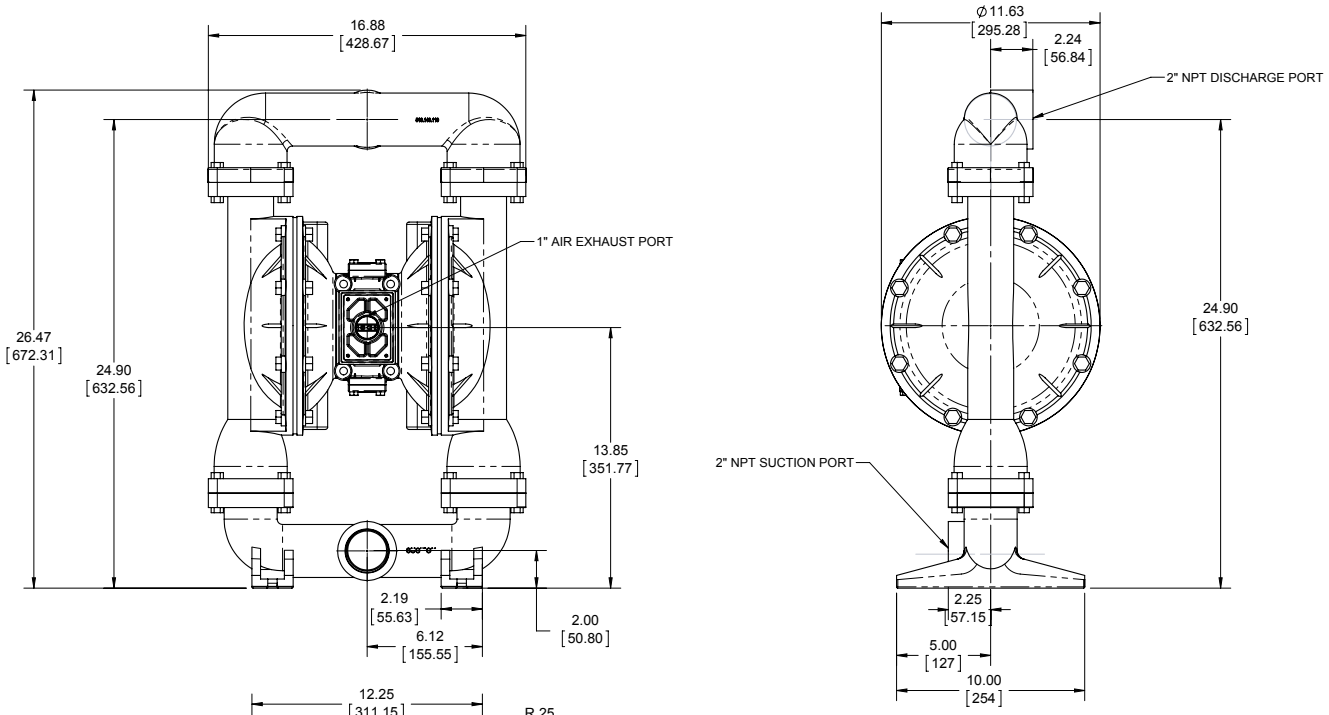
In addition, the ambient temperature range and the process temperature range do not exceed the operating temperature range of the applied non-metallic parts as listed in the manuals of the pumps.

Dimensional Drawings

G20 Metallic

Dimensions in inches (mm dimensions in brackets). Dimensional Tolerance:±1/8" (± 3mm)

The dimensions on this drawing are for reference only. A certified drawing can be requested if physical dimensions are needed.



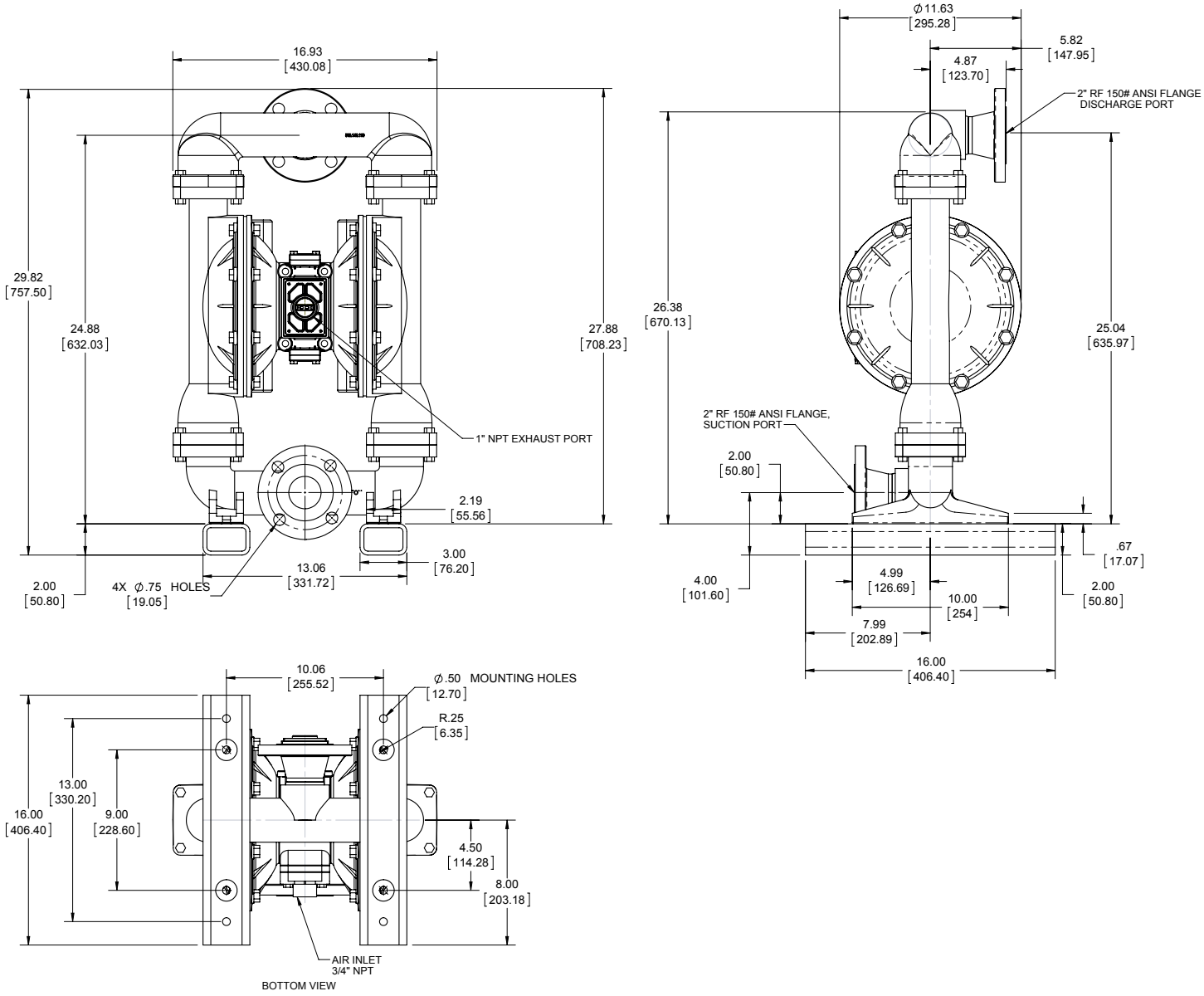
BOTTOM VIEW

Dimensional Drawings

G20 Metallic - ANSI Flange

Dimensions in inches (mm dimensions in brackets). Dimensional Tolerance:±1/8" (± 3mm)

The dimensions on this drawing are for reference only. A certified drawing can be requested if physical dimensions are needed.



Written Warranty

5 - YEAR Limited Product Warranty

Quality System ISO9001 Certified • Environmental Management Systems ISO14001 Certified

Warren Rupp, Inc. ("Warren Rupp") warrants to the original end-use purchaser that no product sold by Warren Rupp that bears a Warren Rupp brand shall fail under normal use and service due to a defect in material or workmanship within five years from the date of shipment from Warren Rupp's factory. Warren Rupp brands include SANDPIPER®, MARATHON®, PortaPump®, SludgeMaster™ and Tranquilizer®.

~ See complete warranty at www. sandpiperpump.com/About/guaranteesandwarranties.html ~

WARREN RUPP, INC.®

Declaration of Conformity

Manufacturer: Warren Rupp, Inc.®, 800 N. Main Street, P.O. Box 1568, Mansfield, Ohio, 44901-1568 USA

Certifies that Air-Operated Double Diaphragm Pump Series: HDB, HDF, M Non-Metallic, S Non-Metallic, M Metallic, S Metallic, T Series, G Series, U Series, EH and SH High Pressure, RS Series, W Series, SMA and SPA Submersibles, and Tranquilizer Surge Suppressors comply with the European Community Directive 2006/42/EC on Machinery, according to Annex VIII. This product has used Harmonized Standard EN809:1998+A1:2009, Pumps and Pump Units for Liquids - Common Safety Requirements, to verify conformance.

David Roseberry
Signature of authorized person

October 20, 2005
Date of issue

David Roseberry
Printed name of authorized person

Engineering Manager
Title

Revision Level: F

August 23, 2012
Date of revision

IDEX CORPORATION

CE

WARREN RUPP, INC.®

EC Declaration of Conformity

In accordance with ATEX Directive 94/9/EC,
Equipment intended for use in potentially explosive environments.

Manufacturer: Warren Rupp, Inc.®, A Unit of IDEX Corportion
800 North Main Street, P.O. Box 1568, Mansfield, OH 44901-1568 USA

EN 60079-25: 2004
For pumps equipped with Pulse Output ATEX Option
KEMA Quality B.V. (0344)

Applicable Standard:
EN13463-1: 2001,
EN13463-5: 2003

AODD Pumps and Surge Suppressors
For Type Examination Designations

AODD (Air-Operated Double Diaphragm) Pumps
EC Type Examination Certificate No. Pumps: KEMA 09ATEX0071 X
KEMA Quality B.V.
Utrechtseweg 310
6812 AR Arnhem, The Netherlands

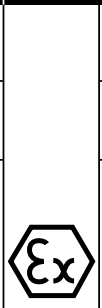
SANDPIPER® A WARREN RUPP, INC. BRAND Tranquilizer®

IDEX CORPORATION

DATE/APPROVAL/TITLE:
27 MAY 2010

David Roseberry, Engineering Manager

ATEX Summary of Markings

Type	Marking			Listed In	Non-Conductive Fluids
Pump types, S1F, S15, S20, and S30 provided with the pulse output option		II 2 G Ex ia c IIC T5 II 3/2 G Ex ia c IIC T5 II 2 D Ex c iaD 20 IP67 T100°C	KEMA 09ATEX0071 X CE 0344	KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X	No Yes Yes
Pump types, S1F, S15, S20, and S30 provided with the integral solenoid option		II 2 G EEx m c II T5 II 3/2 G EEx m c II T5 II 2 D c IP65 T100°C	KEMA 09ATEX0071 X CE 0344	KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X	No Yes Yes
Pump types, HDB1½, HDB40, HDB2, HDB50, HDB3, HDF1, HDF25, HDF2, HDF3M, PB¼, S05, S1F, S15, S20, S30, SB1, SB25, ST1½, ST40, G15, G20, and G30, without the above listed options, no aluminum parts		II 1 G c T5 II 3/1 G c T5 II 1 D c T100°C I M1 c I M2 c	KEMA 09ATEX0071 X KEMA 09ATEX0072 X CE 0344	KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0071 X KEMA 09ATEX0072 X	No Yes Yes No Yes
Pump types, DMF2, DMF3, HDB1½, HDB40, HDB2, HDB50, HDB3, HDF1, HDF25, HDF2, HDF3M, PB¼, S05, S1F, S15, S20, S30, SB1, SB25, SE½, ST1, ST25, ST1½, ST40, U1F, G05, G1F, G15, G20, and G30		II 2 G c T5 II 3/2 G c T5 II 2 D c T100°C	KEMA 09ATEX0072 X CE	KEMA 09ATEX0072 X KEMA 09ATEX0072 X KEMA 09ATEX0072 X	No Yes Yes
Surge Suppressors all types		II 2 G T5 II 3/2 G T5 II 2 D T100°C	KEMA 09ATEX0073 CE	KEMA 09ATEX0073 KEMA 09ATEX0073 KEMA 09ATEX0073	No Yes Yes

EC Type Certificate No. Pumps: KEMA 09ATEX0071 X
Type Certificate No. Pumps: KEMA 09ATEX0072 X
Type Certificate No. Suppressors: KEMA 09ATEX0073