

NOMAD



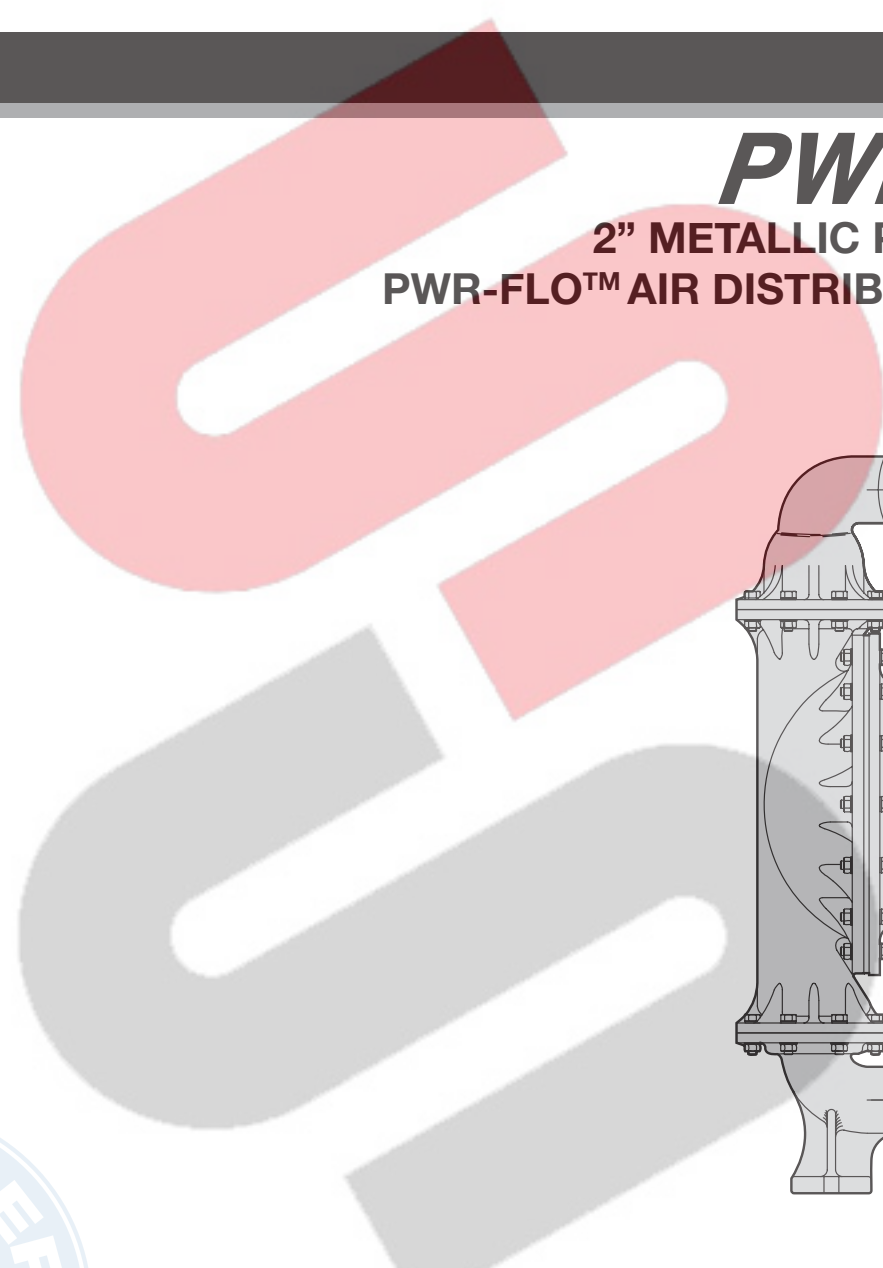
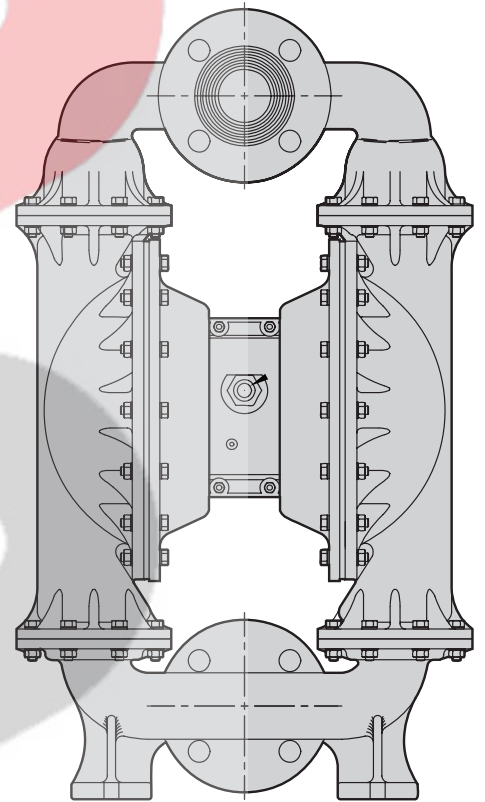
NO BOUNDARIES.

# NOMAD™

## OPERATION MANUAL

### ***PWR-FLO™***

**2" METALLIC PUMP (BOLTED)**  
**PWR-FLO™ AIR DISTRIBUTION SYSTEM**  
**NPF50**



AIR-OPERATED  DOUBLE DIAPHRAGM  PUMPS

ALUMINUM Models

316 S.S. Models



A JDA Global Company

**CAUTION:** Do not apply compressed air to the exhaust port – pump will not function.

**CAUTION:** Do not exceed 82°C (180°F) air inlet temperature.

**CAUTION:** Do not over-lubricate air supply – excess lubrication will reduce pump performance. Pump is pre-lubed.

**CAUTION:** Pumps should be thoroughly flushed before installing into process lines.

**TEMPERATURE LIMITS:**

Neoprene	-17.7°C to 93.3°C	0°F to 200°F
Buna-N	-12.2°C to 82.2°C	10°F to 180°F
EPDM	-15.1°C to 137.8°C	-60°F to 280°F

NOTE: Not all materials are available for all models. Refer to Section 2 for material options for your pump.

**CAUTION:** Always wear safety glasses when operating pump. If diaphragm rupture occurs, material being pumped may be forced out air exhaust.

**CAUTION:** Check temperature limits for all wetted components. Example: Viton® has a maximum limit of 176.7°C (350°F) but polypropylene has a maximum limit of only 79°C (175°F).

**CAUTION:** Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from pump. Disconnect all intake, discharge and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container.

**CAUTION:** Maximum temperature limit are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures.

**CAUTION:** Blow out air line for 10 to 20 seconds before attaching to pump to make sure all pipeline debris is clear. Use an in-line air filter. A 5µ (micron) air filter is recommended.

**WARNING:** Prevention of static parking – if static sparking occurs, fire or explosion could result. Pump, valves, and containers must be grounded to a proper grounding point when handling flammable fluids and whenever discharge of static electricity is a hazard.

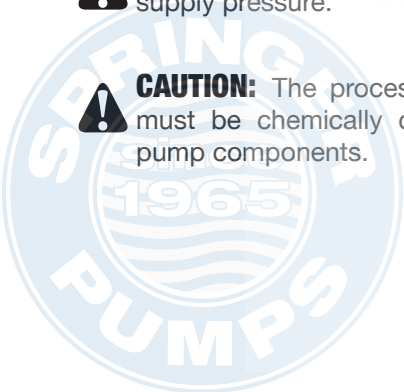
**NOTE:** When installing PTFE diaphragms, it is important to tighten outer pistons simultaneously (turning in opposite directions) to ensure a tight fit. (See torque specifications.)

**CAUTION:** Do not exceed 8.6 bar (125psig) air supply pressure.

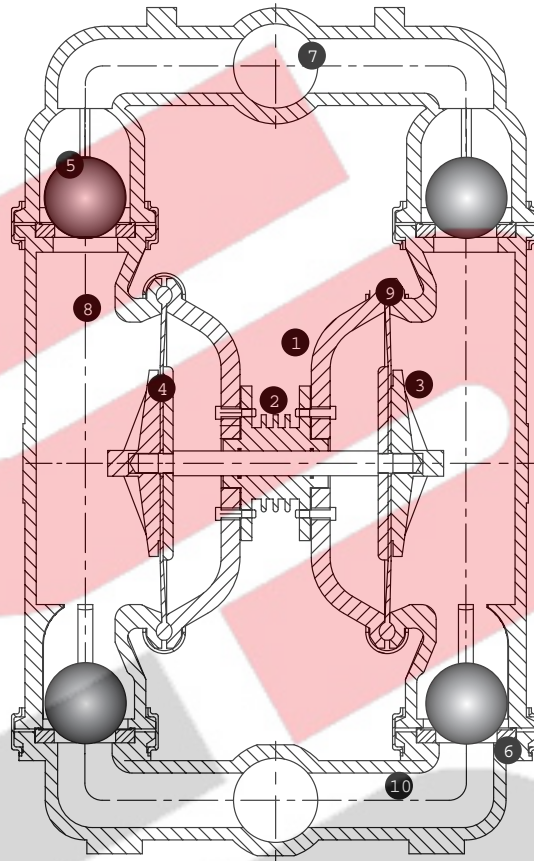
**NOTE:** Before starting disassembly, mark a line from each liquid chamber to its corresponding air chamber. This line will assist in proper alignment during reassembly.

**CAUTION:** The process fluid and cleaning fluids must be chemically compatible with all wetted pump components.

**CAUTION:** Tighten all hardware prior to installation.



The NOMAD diaphragm pump is an air-operated, positive displacement, self-priming pump. These drawings show flow pattern through the pump upon its initial stroke. It is assumed the pump has no fluid in it prior to its initial stroke.



### 1. Air Chamber

The air chamber is the chamber that houses the air which powers the diaphragms.

### 2. Air Distribution System

The air distribution system is the heart of the pump. The air distribution system is the mechanism that shifts the pump in order to create suction and discharge strokes.

### 3. Lock Nut (Outer Diaphragm Piston)

The outer diaphragm pistons provide a means to connect the diaphragms to the reciprocating common shaft and to seal the liquid side from the air side of the diaphragm.

### 4. Holding plate (Inner Diaphragm Piston)

The inner piston is located on the air side of the pump and does not come into contact with the process fluid.

### 5. Check Valve Ball

NOMAD air-operated pumps use suction and discharge check valves to produce directional flow of process fluid in the liquid chamber. The check valve balls seal and release on the check valve seats allowing for discharge and suction of process fluid to occur.

### 6. Check Valve Seat

The removable seats provide the ball valves a site to check.

### 7. Discharge Manifold

Process fluid exits the pump from the discharge port located on the discharge manifold at the top of the pump.

### 8. Liquid Chamber

The liquid chamber is filled with the process fluid during the suction stroke and is emptied during the discharge stroke. It is separated from the compressed air by the diaphragms.

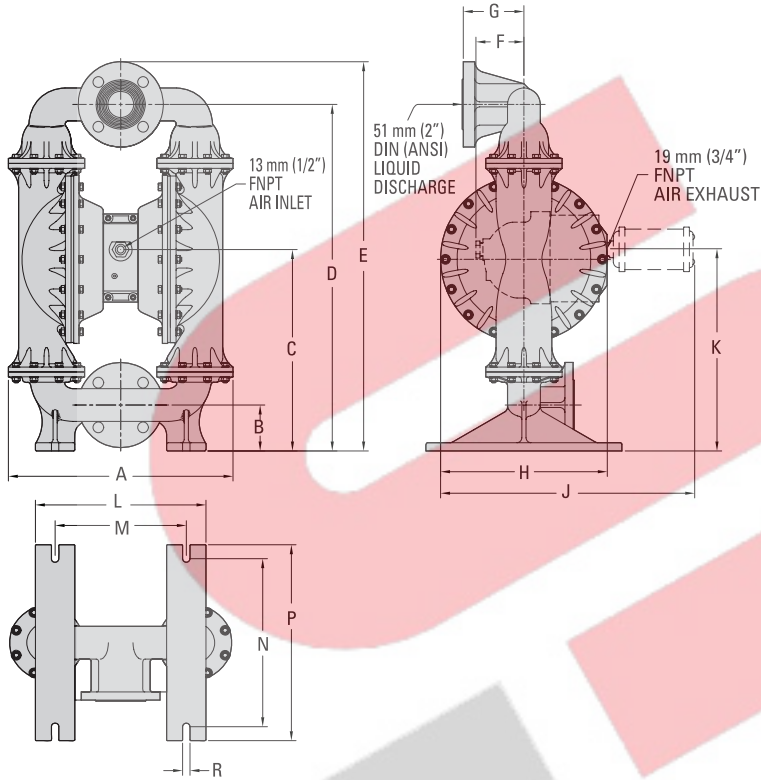
### 9. Diaphragm

The diaphragm membrane provides for separation of the process fluid and the compressed air power source. To perform adequately, diaphragms should be of sufficient thickness and of appropriate material to prevent degradation or permeation in specific process fluid applications. TABLA offers a variety of diaphragm materials for your specific application requirements.

### 10. Inlet Manifold

Process fluid enters the pump from the intake port located on the inlet manifold at the bottom of the pump.

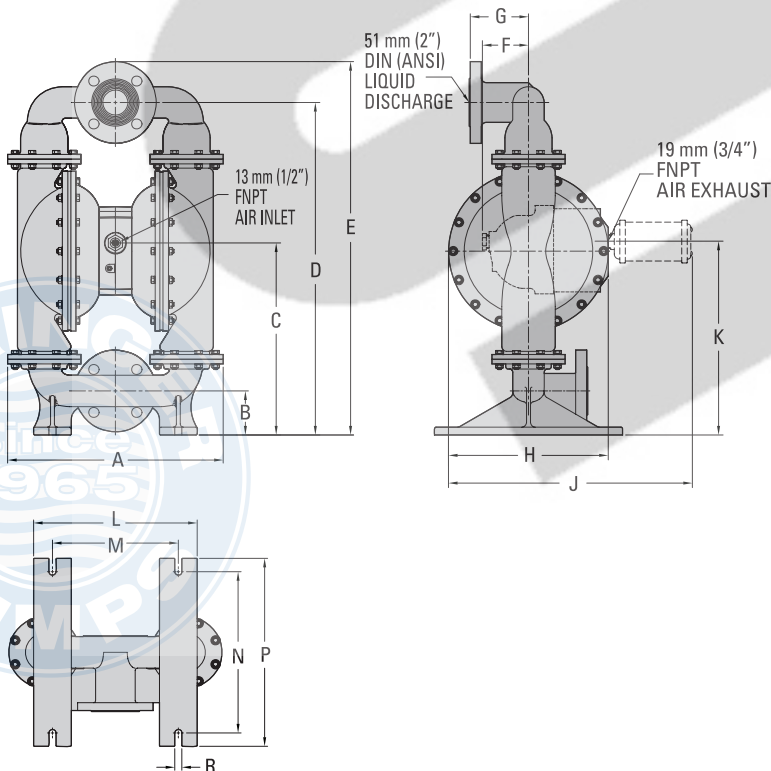
## NPF 50 BOLTED Aluminum



### DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	439	17.3
B8	93	.5
C	396	15.6
D	676	26.6
E	760	29.9
F9	43	.7
G	117	4.6
H	325	12.8
J	493	19.4
K	396	15.6
L	330	13.0
M	254	10.0
N	325	12.8
P	379	14.9
R1	50	.6

## NPF 50 BOLTED Stainless Steel



### DIMENSIONS

ITEM	METRIC (mm)	STANDARD (inch)
A	434	17.1
B8	93	.5
C	389	15.3
D	678	26.7
E	760	29.9
F9	43	.7
G	117	4.6
H	325	12.8
J	493	19.4
K	391	15.4
L	330	13.0
M	254	10.0
N	325	12.8
P	379	14.9
R1	50	.6

