1/4" - 2" Air Operated Pumps

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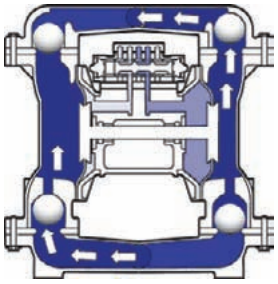
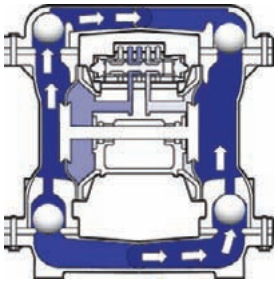
Basic Design Features



Right chamber—discharge
Left chamber—suction



Left chamber—discharge
Right chamber—suction

Diaphragm pumps are driven by compressed air. The directional air distribution valve and pilot valve—the "air end"—are located in the center section of the pump. Liquid moves through two manifolds and outer chambers of the pump—the "wet end". Generally, check valves are located at the top and bottom of each outer chamber or on a common manifold. The two outer chambers are connected by suction and discharge manifolds. Lincoln's double diaphragm self-priming design offers many advantages over other pumps.

- *Pump abrasive and sheer-sensitive materials.* Low interval velocities move abrasives easily with no damage. Gentle pumping action does not sheer fragile materials.
- *Pumps viscous materials.* Even heavy or solids-laden materials can be pumped.
- *Environmentally friendly.* No motors, seals or packing to leak.
- *Self-priming.* Able to dry prime under most suction lift or flooded suction conditions.
- *Variable flow.* Regulate the inlet air supply to adjust flow.
- *Runs dry without damage.*
- *Deadheads against closed discharge.* Excessive back pressure stops operation without damage until discharge opens. Eliminates bypass systems or relief valves.
- *Explosion-proof.* Eliminates sparking concerns of other electrical or rotating pumps.

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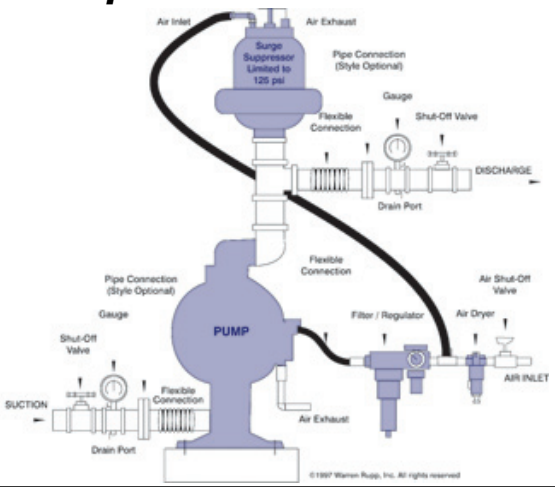
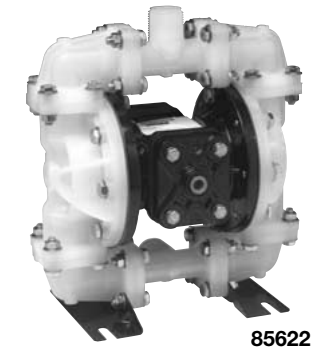
Pump Installation Guide





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WARNING

The pump exhaust should be piped to an area for safe disposal of product being pumped in the event of a diaphragm failure.

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Diaphragm Pump Materials Profile

Material/ Profile	Operating Temperatures Maximum	Minimum	Optimum
Buna-N	190°F / 88°C	-10°F / -23°C	50° to 140° F / 10° to 60° C
General purpose, oil resistant. 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.			
Conductive Acetyl	Governed by diaphragm material of pump		
Tough, impact resistant, ductile. Good abrasion resistance and low friction surface. Generally inert, with good chemical resistance except for strong acids and oxidizing agents.			
Polypropylene	150°F / 66°C	40°F / 5°C	40° to 150° F / 5° to 66° C
Thermoplastic polymer. high tensile and flex strength. Resist strong acids and alkalies. Attacked by chlorine, fuming nitric acid and other strong oxidizing agents.			
Hytrel®	190°F / 88°C	-10°F / -23°C	50° to 140° F / 10° to 60° C
Good on acids, bases, amines and glycols at room temperature only.			
Urethane	150°F / 66°C	32°F / 0°C	50° to 110° F / 10° to 60° C
Good resistance to abrasives. Poor resistance to most solvents and oils.			
Santoprene®	212°F / 100°C	-10°F / -23°C	50° to 212° F / 10° to 43° C
Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.			
Teflon®	212°F / 100°C	-35°F / -37°C	50° to 212° F / 10° to 43° C
(PFA/TFE) 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.			