

ORBIT PUMPS & SYSTEMS PVT. LTD

AIR-DRIVEN DOUBLE DIAPHRAGM PUMPS



SUCCESS THROUGH CUSTOMER SATISFACTION

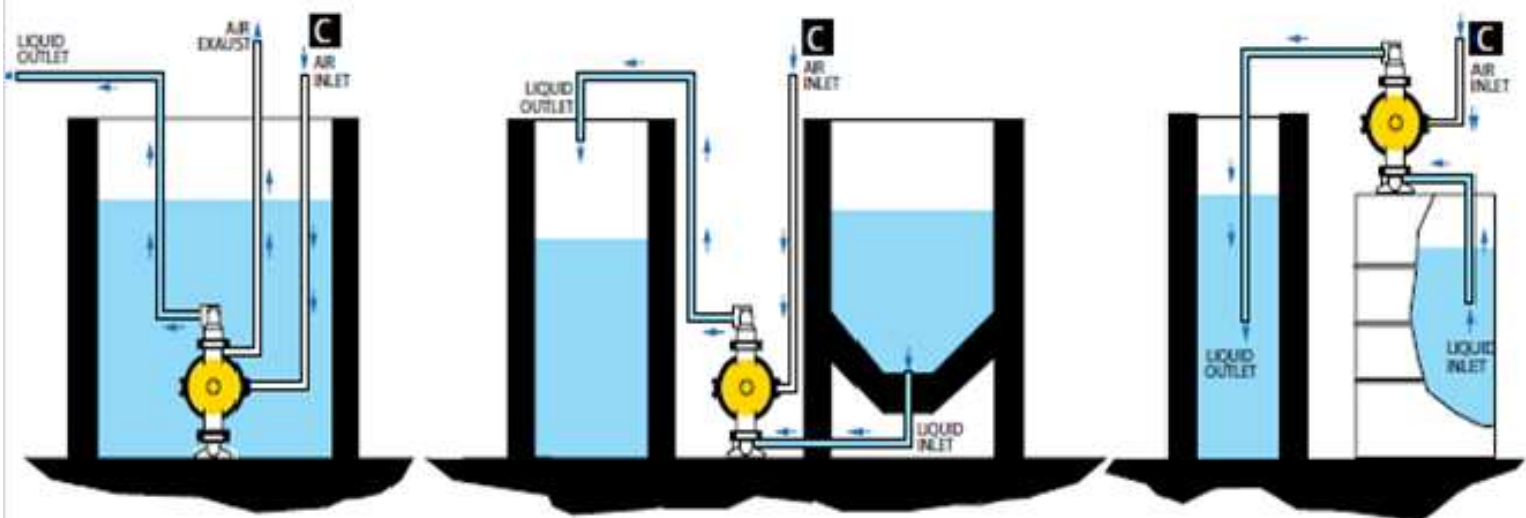
BENEFIT OF ORBIT MAKE AODD PUMPS

Orbit Pumps & Systems Pvt. Ltd., india's largest manufacturer of Air Operated Double Diaphragm Pumps has been providing the industry experts with the most reliable Pumps on the market.

Why buy Orbit Make AODD Pumps

1. No electrical motor - non sparking.
2. No mechanical seals or gland packing.
3. The pumps can run dry indefinitely without damage.
4. Safe for use in hazardous/explosive environments.
5. Variable flow - simply regulate the inlet air supply to adjust the pump flow from zero to max.
6. If discharge is clogged or closed pump stops immediately; no power consumed, no wear.
By opening discharge, flow starts automatically.
7. Self-priming from a dry start up to 6 meters without a foot valve.
8. Pressure up to 100 PSI (7 bar).
9. Operates submerged or with flooded suction.
10. No close fitting, sliding or rotating parts so can handle a wide range of fluids with high solid content.
11. Gentle non-shearing action.
12. Quick assembly and disassembly with split clamp bands.
13. Pumps are light weight and portable.

INSTALLATION VERSATILITY



SUBMERGED

Pumps are totally submersible.

It is important that the air exhaust be ported above the level of the fluid, and that the MOC also be compatible.

POSITIVE SUCTION

Pump can draw from the bottom of the vessel. Preferred installation for viscous fluids.

SELF PRIMING / DRUM TRANSFER

The suction capabilities of each pump may vary due to system design, product being pumped, and pump materials of construction.

HOW ORBIT MAKE AODD PUMPS WORKS

HOW THE PUMP WORKS

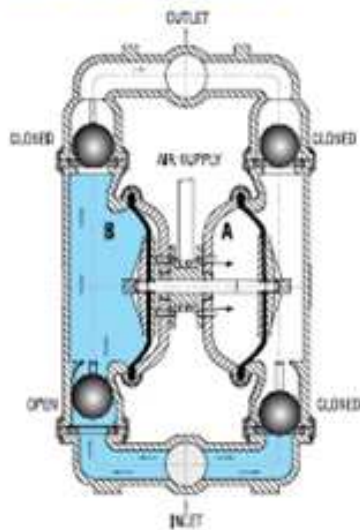


FIGURE 1 (LEFT STROKE)

The air valve directs pressurized air to the back side of diaphragm A. The compressed air is applied directly to the liquid column separated by elastomeric diaphragms. The diaphragm acts as a separation membrane between the compressed air and liquid, balancing the load and removing mechanical stress from the diaphragm. The compressed air moves the diaphragm away from the center block of the pump. The opposite diaphragm is pulled in by the shaft connected to the pressurized diaphragm. Diaphragm B is on its suction stroke; air behind the diaphragm has been forced out to the atmosphere through the exhaust port of the pump. The movement of diaphragm B toward the center block of the pump creates a vacuum within chamber B. Atmospheric pressure forces liquid into the inlet manifold forcing the inlet valve ball off its seat. Liquid is free to move past the inlet valve ball and fill the liquid chamber (see shaded area).

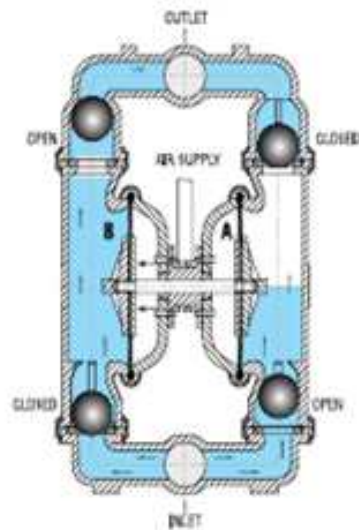


FIGURE 2 (MID STROKE)

When the pressurized diaphragm, diaphragm A, reaches the limit of its discharge stroke, the air valve redirects pressurized air to the back side of diaphragm B. The pressurized air forces diaphragm B away from the center block while pulling diaphragm A to the center block. Diaphragm B is now on its discharge stroke. Diaphragm B forces the inlet valve ball onto its seat due to the hydraulic forces developed in the liquid chamber and manifold of the pump. These same hydraulic forces lift the discharge valve ball off its seat, while the opposite discharge valve ball is forced onto its seat, forcing liquid to flow through the pump discharge. The movement of diaphragm A toward the center block of the pump creates a vacuum within liquid chamber A. Atmospheric pressure forces liquid into the inlet manifold of the pump. The inlet valve ball is forced off its seat allowing the liquid being pumped to fill the liquid chamber.

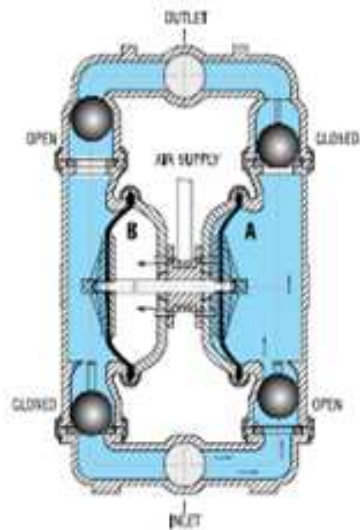
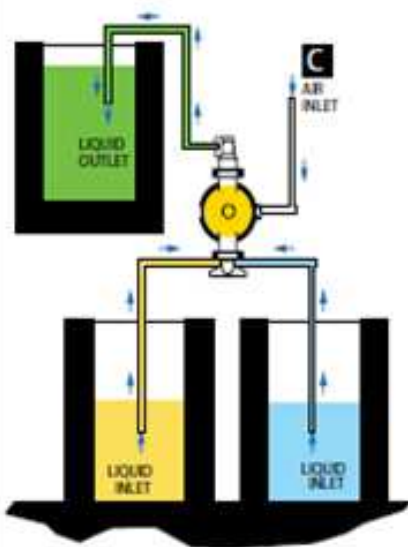


FIGURE 3 (RIGHT STROKE)

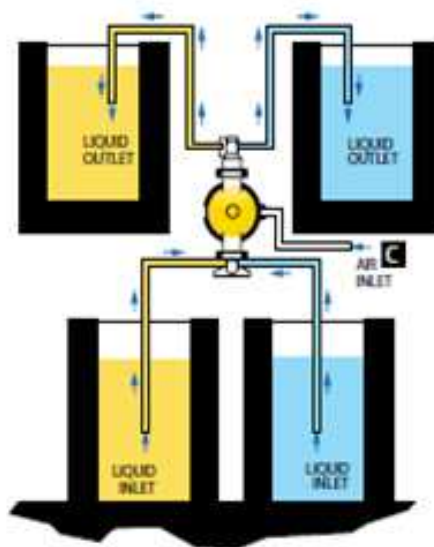
At completion of the stroke, the air valve again redirects air to the back side of diaphragm A, which starts diaphragm B on its exhaust stroke. As the pump reaches its original starting point, each diaphragm has gone through one exhaust and one discharge stroke. This constitutes one complete pumping cycle. The pump may take several cycles to completely prime depending on the conditions of the application.

The diaphragm pump is an air-operated positive displacement, self-priming pump. These drawings show the flow pattern through the pump upon its initial stroke.

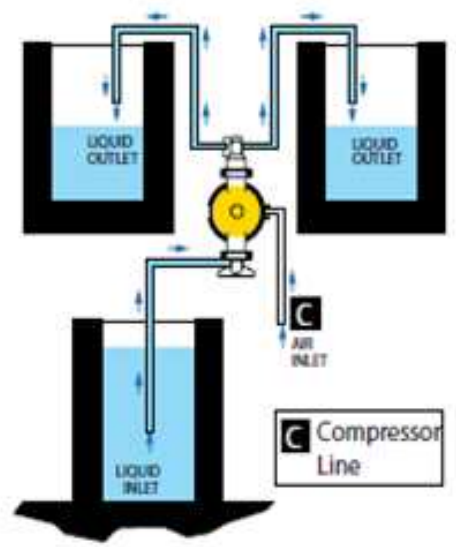
It is assumed the pump has no liquid in it prior to its initial stroke.



MIXING - TWIN SUCTION MANIFOLD



TWIN SUCTION & DELIVERY MANIFOLD



TWIN DELIVERY MANIFOLD

C Compressor Line

SPECIFICATION & PERFORMANCE

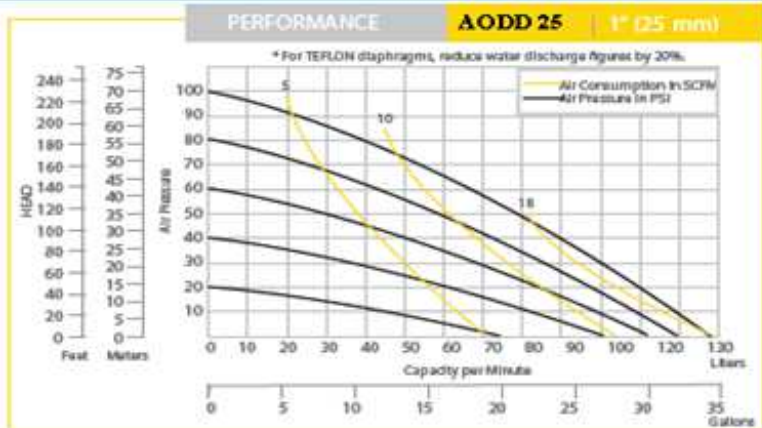
PUMP MODEL : AODD - 15 (MOC : P.P., PVDF, SS-316, ALUMINUM)

Max Flow Rate: 23Lpm (6gpm)
Port Size: Inlet: 12.70mm (1/2" BSP)
 Discharge: 12.70mm (1/2" BSP)
 Air Inlet: 6.35mm (1/4" BSP)
 Air Exhaust: 12.70mm (1/2" BSP)
Suction Lift: Dry: 1.45m (4.75')
 Wet: 2.83m (9.28')
Teflon: Dry: 0.50m (1.64')
 Wet: 0.90m (2.95')
Max Particle Size (Dia): 2mm (0.078")



PUMP MODEL : AODD - 25 (MOC : P.P., PVDF, SS-316, ALUMINUM)

Max Flow Rate: 135Lpm (34gpm)
Port Size: Inlet: 25.40mm (1" BSP)
 Discharge: 25.40mm (1" BSP)
 Air Inlet: 9.53mm (3/8" BSP)
 Air Exhaust: 12.70mm (1/2" BSP)
Suction Lift: Dry: 3.05m (10')
 Wet: 4.89m (16')
Teflon: Dry: 2.14m (7')
 Wet: 3.98m (13')
Max Particle Size (Dia): 3.17mm (0.125")



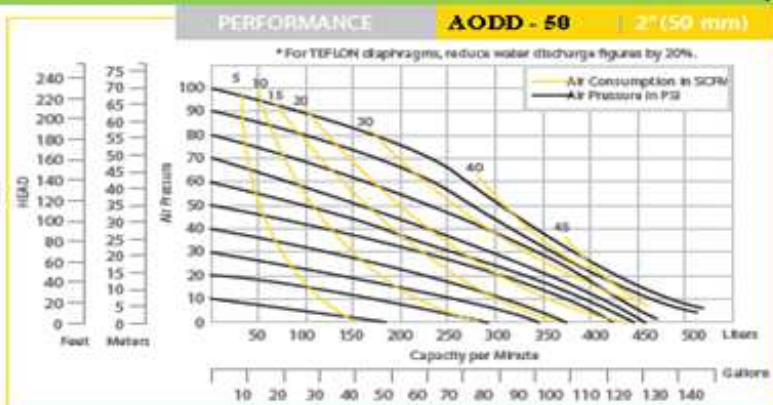
PUMP MODEL : AODD - 40 (MOC : P.P., PVDF, SS-316, ALUMINUM)

Max Flow Rate: 270Lpm (72gpm)
Port Size: Inlet: 38.10mm (1 1/2" BSP)
 Discharge: 38.10mm (1 1/2" BSP)
 Air Inlet: 9.64mm (3/8" BSP)
 Air Exhaust: 12.70mm (1/2" BSP)
Suction Lift: Dry: 4.57m (15')
 Wet: 7.62m (25')
Teflon: Dry: 3.05m (10')
 Wet: 6.09m (20')
Max Particle Size (Dia): 4.76mm (0.188")



PUMP MODEL : AODD - 50 (MOC : P.P., PVDF, SS-316, ALUMINUM)

Max Flow Rate: 586Lpm (155gpm)
Port Size: Inlet: 50.80mm (2" BSP)
 Discharge: 50.80mm (2" BSP)
 Air Inlet: 12.70mm (1/2" BSP)
 Air Exhaust: 19.05mm (3/4" BSP)
Suction Lift: Dry: 4.57m (15')
 Wet: 7.62m (25')
Teflon: Dry: 3.05m (10')
 Wet: 6.09m (20')
Max Particle Size (Dia): 6.35mm (0.250")

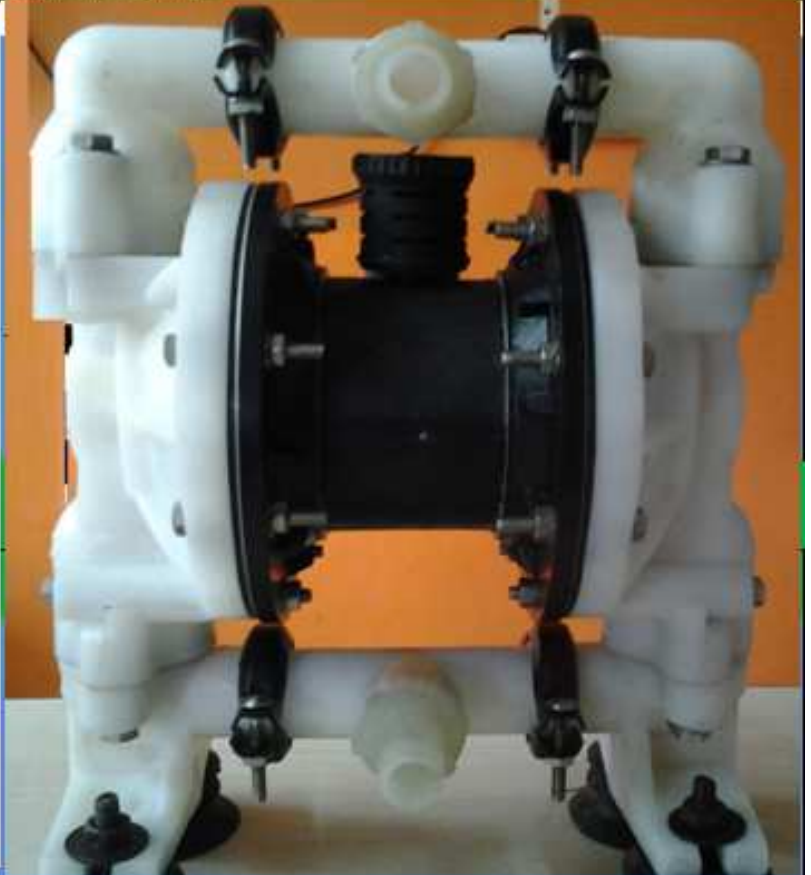


ORBIT MAKE AODD PUMP PHOTOS

MOC : P. P. & PVDF PUMPS
BOLTED TYPE



MOC : P. P. & PVDF
CLAMPED TYPE



MOC : SS-316, ALUMINUM
BOLTED TYPE



MOC : SS-316, ALUMINUM
CLAMPED TYPE



INDUSTRIES SERVED

Automotive Industry: Grinding emulsion, oil, coolant, hydraulic fluid, sulfuric, automotive primer, soluble oil, varnish disposal, varnish additives, degreasing baths, cutting oil, water and glycol mixture, paint

Beverage Industry: Yeast, diatomaceous earth slurry, hot pulp, liquid hops, sugar syrup, concentrates, gas-liquid mixtures, wine, fruit pulp, fruit juice, corn syrup

Ceramics: Slip, glaze, enamel slip, effluent, clay, clay slurry, lime slurry, kaolin slurry

Chemical Industry: Acids, alkalies, solvents, suspensions, dispersions, magnesium hydroxide, varnishes, sump water, resins, latex, adhesives, effluent sludge, stabilizers, filter press, electrolytes

Construction Industry: Sump and pit drainage, cement slurry, ceramic tile adhesive, rock slurry, ceiling coating paints, texture spray

Cosmetics: Lotions, creams, shampoos, emulsions, hand creams, surfactants, hair permanents, soaps

Electronics Industry: Solvents, electroplating baths, ultrapure liquids, carrier fluids for ultrasonic washing, sulfuric, nitric and acid wastes, etching acids, MEK, acetone, polishing compounds

Food: Brine, chocolate, vinegar, molasses, dog food, vegetable oil, soy bean oil, honey, cat food, HCL, animal blood

Furniture Industry: Adhesives, varnishes, dispersions, solvents, stains, Elmer's Glue, white good glue, solvents, glue (5-6000 cps) epoxy, starch adhesives, spray packages

Mining: Sump gallery drainage, water drainage, coal sludge and rock slurry, cement slurry, grouting mortar, oil transfer, explosive slurry, adhesive, lube oil, foaming

Municipalities: Tank and sump drainage, sewer cleaning, chemicals, contaminated surface water, emergency pumping, spill clean-up, waste oil, oil/water separators

Paints & Coatings: Resins, solvents, acrylic, wood preservative stain, concrete paints, varnishes, titanium dioxide slurry, primers, stains, dispersions, varnish cleaning baths, alkalyd resin

Pharmaceutical Industry: Vegetables extracts, tablet pastes, ointments, alcohols, filtering aids, ultra filtration, Blood plasma, waste solvents, sump waste

Plating: Anodic sludge, electroplating baths, varnishes, enamels, solvents, cleaning baths, filtering

Pulp/Paper/Packaging: Latex, adhesives, paints, resins, printing inks, dispersions, TiO2 slurry, Kaolin clay, hydrogen peroxide

Refineries: Tank roof drainage, oil sludge, tank cleaning, tank moat drainage, portable pumping

Road Tanker Trucks: Loading and draining of tank by means of pump on vehicle, tank vehicle washing facilities, acid spraying, foaming

Shipbuilding: Tank and bilge drainage, ship cleaning, stripping, oil skimming, seawater

Smelters, Foundries & Dye Casting: Metal slurry, hydroxide and carbide slurry, dust scrubbing slurry, back wash for flushing of cores, mold release

Textile & Carpet: Dyeing chemical, scotch guard, starch and sizing, resins, dyes, latex

Water and Sewage Treatment: Milk of lime, thin slurry, effluents, chemicals, charging of filter presses, polymer, waste water

Utility: Contaminated liquids, charging of scrubbers, milk of lime, transformer oil, resins

MANUFACTURED & MARKETED BY

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