

AIR OPERATED DOUBLE DIAPHRAGM PUMPS

www.sandogroup.com

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



Aviation: Aircraft fueling and drainage, satellite refueling, solid rocket propellant, missile silos



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, solvent, suspensions, 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

SANDO EQUIPMENTS PVT LTD

For over three decades, SANDO pumps, India's largest manufacturer of air-operated double diaphragm pumps, has been providing the industry experts with the most reliable pumps on the market. SANDO pumps are self-priming, can handle viscous and abrasive products and can run dry without damage. Additionally, they do not employ costly motors, variable speed drives, bypass plumbing or mechanical seals.

WHY BUY SANDO PUMPS

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

HOW THE PUMP WORKS

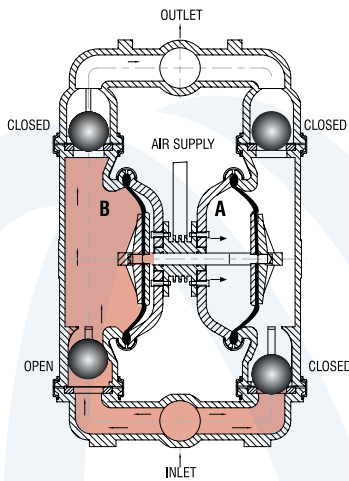


FIGURE 1 (LEFT STROKE)

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 fluid 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).

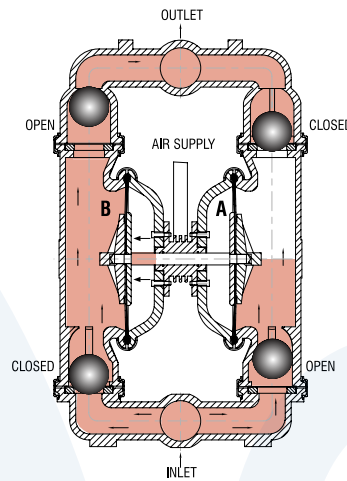


FIGURE 2 (MID STROKE)

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 fluid 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 fluid into the inlet manifold of the pump. The inlet valve ball is forced off its seat allowing the fluid being pumped to fill the liquid chamber

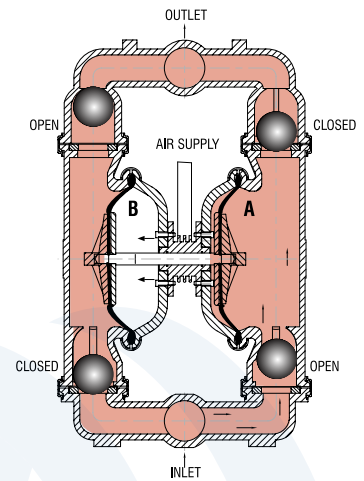


FIGURE 3 (RIGHT STROKE)

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.

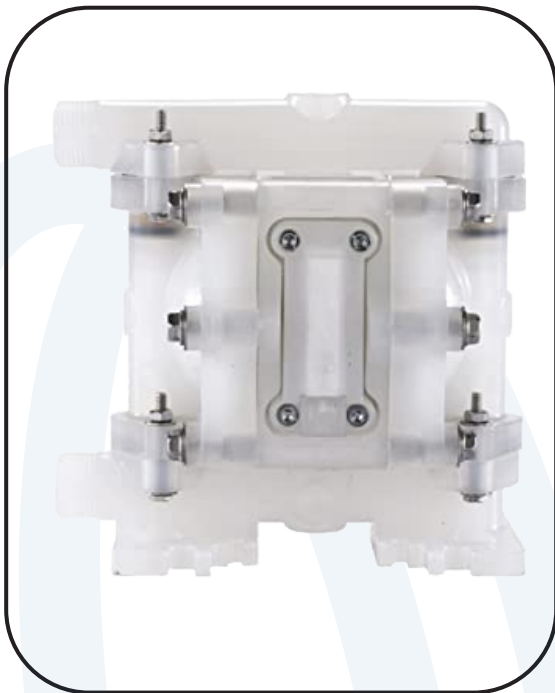
The SANDO diaphragm pump is an air-operated, positive displacement, self-priming pump. These drawings show the flow pattern through the pump upon its initial stroke.

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

NON METALLIC

P 25 PF

1/4" BSP (6.35 mm)



Specifications:

Height: 430 mm (16.92")
 Width: 300 mm (11.81")
 Depth: 370 mm (14.56")
 Air Inlet: 3 mm (1/8")
 Inlet: 6 mm (1/4")
 Outlet: 6 mm (1/4")

Wetted Material: Polypropylene, PVDF, ETFE

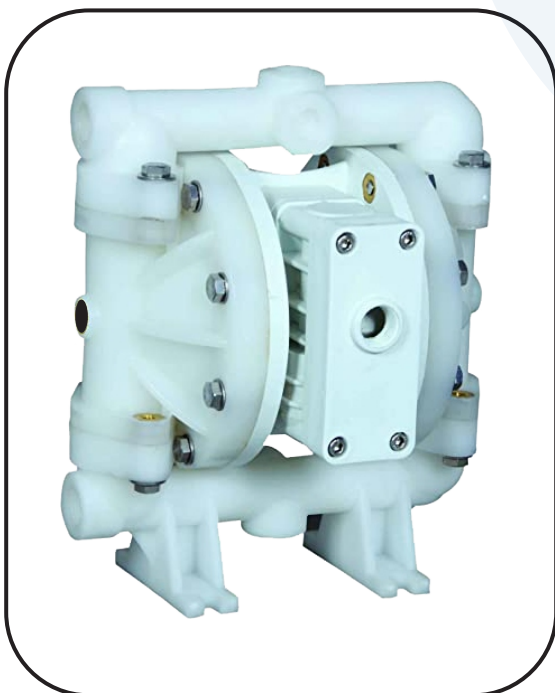
Elastomers: Teflon ®

Performance:

Max. Flow Rate: 16.7 lpm (4.4 gpm)
 Max. Size Solids: 0.7 mm (1/32")
 Suction Lift: Dry: 1.9 m (6.2')
 Wet: 9.3 m (30.6')

AOD 150 PF

1/2" BSP (15 mm)



Specifications:

Height: 330 mm (12.99")
 Width: 230 mm (9.05")
 Depth: 270 mm (10.62")
 Air Inlet: 6mm (1/4" BSP)
 Inlet: 13mm (1/2")
 Outlet: 13mm (1/2")

Wetted Material: Polypropylene, PVDF, ETFE

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

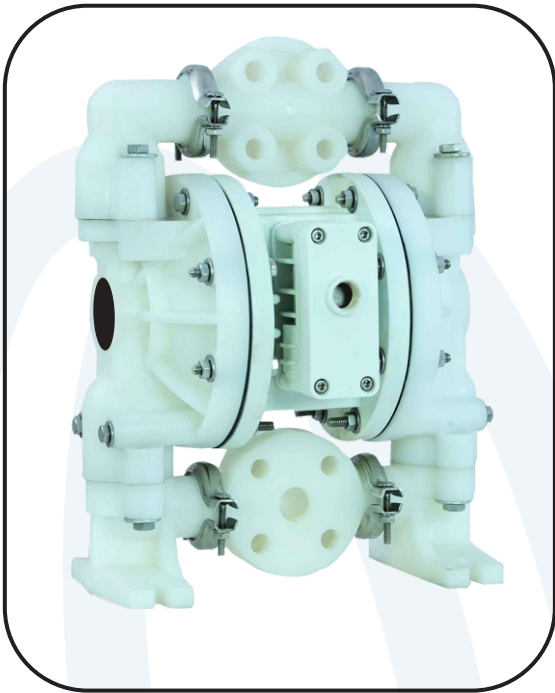
Performance:

Max. Flow Rate: 56.0 lpm (14.8 gpm)
 Max. Size Solids: 1.6mm (1/16")
 Suction Lift: Dry: 5.2m (17.0')
 Wet: 8.7m (28.4')

NON METALLIC

AOD 300 PF

1" BSP (25 mm)



Specifications:

Height:	430 mm (16.92")
Width:	300 mm (11.81")
Depth:	370 mm (14.56")
Air Inlet:	6 mm (1/4" BSP)
Inlet:	25.40 mm (1" BSP)
Outlet:	25.40 mm (1" BSP)

Wetted Material:

Polypropylene, PVDF, ETFE

Elastomers:

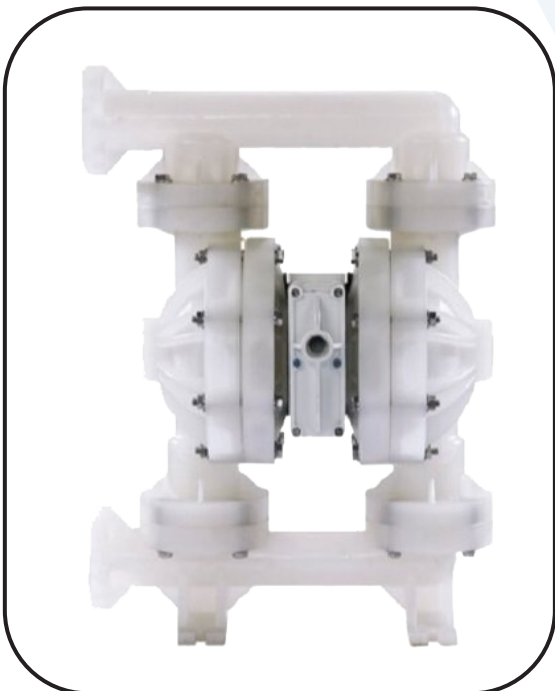
Teflon®	Santoprene®
Neoprene	Buna-N
Hytrel	Polyurethane
Viton®	EPDM

Performance:

Max. Flow Rate:	133 lpm (35 gpm)
Max. Size Solids:	3.17 mm (0.129")
Suction Lift:	Dry: 2.14 m (7')
	Wet: 3.98 m (31')

AOD 400 PF

1-1/2" BSP (40 mm)



Specifications:

Height:	720 mm (28.34")
Width:	360 mm (14.17")
Depth:	530 mm (20.86")
Air Inlet:	13 mm (1/2" BSP)
Inlet:	38 mm (1-1/2" BSP)
Outlet:	38 mm (1-1/2" BSP)

Wetted Material:

Polypropylene, PVDF, ETFE

Elastomers:

Teflon®	Santoprene®
Neoprene	Buna-N
Hytrel	Polyurethane
Viton®	EPDM

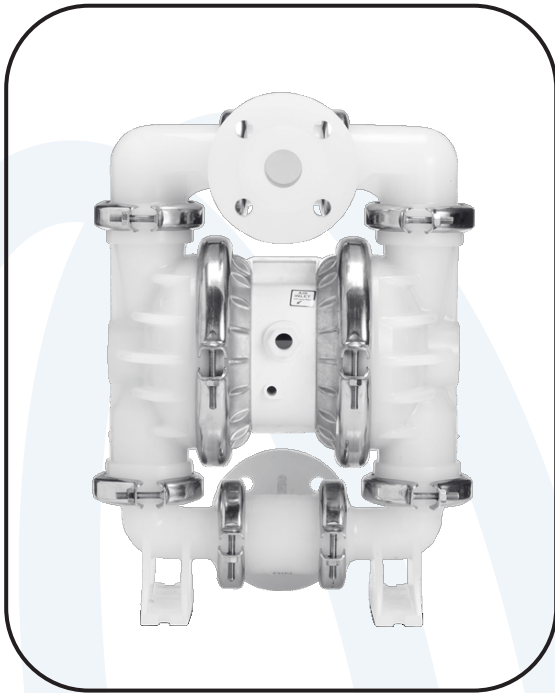
Performance:

Max. Flow Rate:	458 lpm (121 gpm)
Max. Size Solids:	6.4 mm (1/4")
Suction Lift:	Dry: 5.5 (18.2')
	Wet: 9.0 m (29.5')

NON METALLIC

AOD 40 PF

1-1/2" BSP (40 mm)



Specifications:

Height: 570 mm (22.44")
 Width: 390 mm (15.35")
 Depth: 450 mm (17.71")
 Air Inlet: 13 mm (1/2"BSP)
 Inlet: 38 mm (1-1/2"BSP)
 Outlet: 38 mm (1-1/2"BSP)

Wetted Material:

Polypropylene, PVDF,
 ETFE

Elastomers:

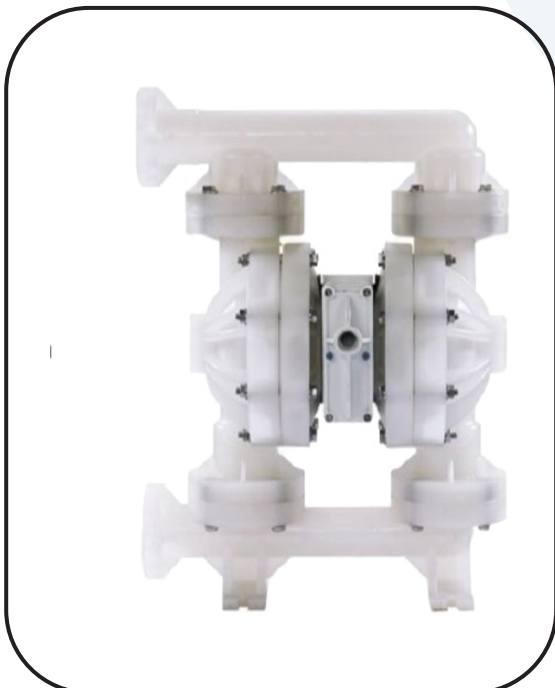
Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 379 lpm (100 gpm)
 Max. Size Solids: 4.8 mm (3/16")
 Suction Lift: Dry :4.88 m (16')
 Wet:7.92 m (26')

AOD 500 PF

2" BSP (50 mm)



Specifications:

Height: 870 mm (34.25")
 Width: 420 mm (16.53")
 Depth: 660 mm (25.98")
 Air Inlet: 13 mm (1/2"BSP)
 Inlet: 51 mm (2"BSP)
 Outlet: 51 mm (2"BSP)

Wetted Material:

Polypropylene, PVDF
 ETFE

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 709 lpm (187 gpm)
 Max. Size Solids: 6.4 mm(1/4")
 Suction Lift: Dry: 6.23 m (20.4')
 Wet: 8.65 m (28.4')

NON METALLIC

AOD 50 PF

2" BSP (50 mm)



Specifications:

Height: 840 mm (33.07")
 Width: 440 mm (17.32")
 Depth: 540 mm (21.25")
 Air Inlet: 13mm (1/2" BSP)
 Inlet: 51 mm (2" BSP)
 Outlet: 51 mm (2" BSP)

Wetted Material:

Polypropylene, PVDF
 ETFE

Elastomers:

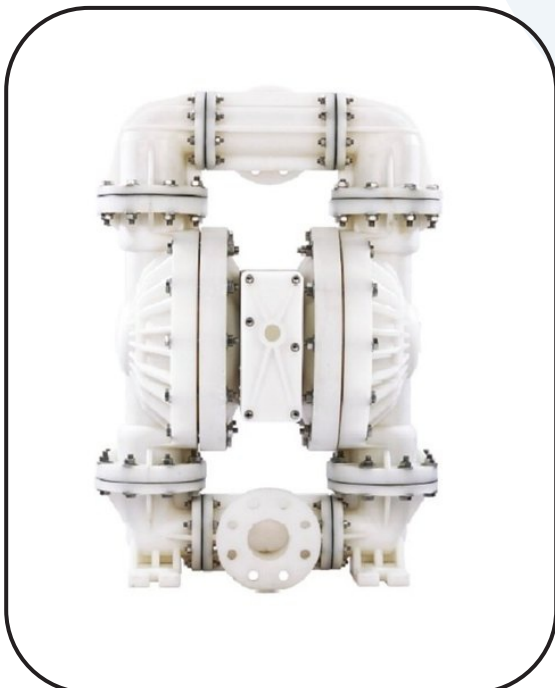
Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 643 lpm (170 gpm)
 Max. Size Solids: 6.4 mm (1/4")
 Suction Lift: Dry: 7.4 m (24.4')
 Wet: 8.6 m (28.4')

AOD 800 PF

3" BSP (80 mm)



Specifications:

Height: 550 mm (21.65")
 Width: 680 mm (26.77")
 Depth: 1060 mm (41.73")
 Air Inlet: 13mm (1/2" BSP)
 Inlet: 76mm (3" BSP)
 Outlet: 76mm (3" BSP)

Wetted Material:

Polypropylene, PVDF
 ETFE

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

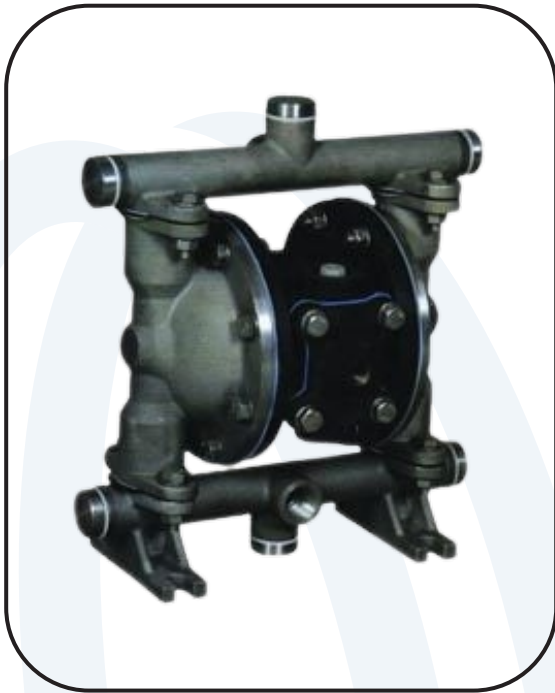
Performance:

Max. Flow Rate: 999 lpm (262 gpm)
 Max. Size Solids: 13mm (1/2")
 Suction Lift: Dry: 3.63 m (12')
 Wet: 8.64 m (28')

METALLIC

AOD 150 NSV

1/2" BSP (15 mm)



Specifications:

Height: 350 mm (13.77")
 Width: 210 mm (8.26")
 Depth: 300 mm (11.08")
 Air Inlet: 6 mm (1/4")
 Inlet: 13mm (1/2")
 Outlet: 13mm (1/2")

Wetted Material: Stainless Steel

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 56.0 lpm (14.8 gpm)
 Max. Size Solids: 1.6mm (1/16")
 Suction Lift: Dry: 5.2m (17.0')
 Wet: 8.7m (28.4')

AOD 300 PF

1" BSP (25 mm)



Specifications:

Height: 420 mm (16.53")
 Width: 280 mm (11.02")
 Depth: 270 mm (10.62")
 Air Inlet: 6 mm (1/4")
 Inlet: 25.40 mm (1" BSP)
 Outlet: 25.40 mm (1" BSP)

Wetted Material: Stainless Steel

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 133lpm (35.13gpm)
 Max. Size Solids: 3.17 mm (0.125")
 Suction Lift: Dry: 3.05 m (10')
 Wet: 4.89 m (16')

METALLIC

METALLIC

AOD 400 PF

1-1/2" BSP (40 mm)



Specifications:

Height: 520 mm (20.47")
 Width: 390 mm (15.35")
 Depth: 450 mm (17.71")
 Air Inlet: 13 mm (1/2" BSP)
 Inlet: 38 mm (1-1/2" BSP)
 Outlet: 38 mm (1-1/2" BSP)

Wetted Material:

Stainless Steel

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 500 lpm (132 gpm)
 Max. Size Solids: 4.8 mm (3/16")
 Suction Lift: Dry: 5.8 m (19.0')
 Wet: 7.9 m (26.0')

AOD 500 PF

2" BSP (50 mm)



Specifications:

Height: 430 mm (16.92")
 Width: 530 mm (20.86")
 Depth: 850 mm (33.46")
 Air Inlet: 13 mm (1/2" BSP)
 Inlet: 51 mm (2" BSP)
 Outlet: 51 mm (2" BSP)

Wetted Material:

Stainless Steel

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 640 lpm (169 gpm)
 Max. Size Solids: 6.4 mm (1.4")
 Suction Lift: Dry: 6.9 m (22.7')
 Wet: 8.6 m (28.4')

METALLIC

AOD 800 PF

3" BSP (80 mm)



Specifications:

Height: 1050 mm (41.33")
 Width: 760 mm (29.92")
 Depth: 760 mm (29.92")
 Air Inlet: 13 mm (1/2" BSP)
 Inlet: 76 mm (3" BSP)
 Outlet: 76 mm (3" BSP)

Wetted Material:

Stainless Steel

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 882 lpm (233 gpm)
 Max. Size Solids: 9.5 mm (3/8")
 Suction Lift: Dry: 6.7 m (22.1')
 Wet: 9.5 m (31.2')

T15 M1

3" BSP (80 mm)



Specifications:

Height: 990 mm (38.98")
 Width: 650 mm (25.6")
 Depth: 520 mm (20.47")
 Air Inlet: 19 mm (3/4" BSP)
 Inlet: 76 mm (3" BSP)
 Outlet: 76 mm (3" BSP)

Wetted Material:

Ductile Iron

Elastomers:

Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 878 Lpm (232 gpm)
 Max. Size Solids: 10 mm (3/8")
 Suction Lift: Dry: 5.5 m (18')
 Wet: 9.45 m (31')

METALLIC

AOD 300 PF

1" BSP (25 mm)



Specifications:

Height: 420 mm (16.53")
 Width: 280 mm (11.02")
 Depth: 270 mm (10.62")
 Air Inlet: 6 mm (1/4" BSP)
 Inlet: 25.40mm (1" BSP)
 Outlet: 25.40mm (1" BSP)

Wetted Material: Aluminum

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance: 133lpm (35.13gpm)
 Max. Flow Rate: 3.17 mm (0.125")
 Max. Size Solids: Dry: 3.05 m (10')
 Suction Lift: Wet: 4.89 m (16')

AOD 40 PF

1 1/2" BSP (40 mm)



Specifications:

Height: 590 mm (23.22")
 Width: 380 mm (14.96")
 Depth: 500 mm (19.68")
 Air Inlet: 13 mm (1/2" BSP)
 Inlet: 38 mm (1-1/2" BSP)
 Outlet: 38 mm (1-1/2" BSP)

Wetted Material: Aluminum

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance: 310 lpm (82 gpm)
 Max. Flow Rate: 4.8 mm (3/16")
 Max. Size Solids: Dry :7.0 m (22.9')
 Suction Lift: Wet:8.6 m (28.4')

METALLIC

AOD 50 PF

2" BSP (50 mm)



Specifications:

Height: 740 mm (29.13")
 Width: 360 mm (14.17")
 Depth: 500 mm (19.68")
 Air Inlet: 13 mm(1/2"BSP)
 Inlet: 51 mm (2"BSP)
 Outlet: 51 mm (2"BSP)

Wetted Material: Aluminum

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 700 lpm (185 gpm)
 Max. Size Solids: 6.4 mm (1/4")
 Suction Lift: Dry: 6.9 m (22.7')
 Wet: 8.6 m (28.4')

AOD 80 PF

3" BSP (80 mm)



Specifications:

Height: 910 mm (35.82")
 Width: 470 mm (18.50")
 Depth: 560 mm (22.04")
 Air Inlet: 13 mm(1/2"BSP)
 Inlet: 76 mm (3"BSP)
 Outlet: 76 mm (3"BSP)

Wetted Material: Aluminum

Elastomers: Teflon® Santoprene®
 Neoprene Buna-N
 Hytrel Polyurethane
 Viton® EPDM

Performance:

Max. Flow Rate: 927 lpm (245 gpm)
 Max. Size Solids: 9.5 mm (3/8")
 Suction Lift: Dry: 6.7 m (22.1')
 Wet: 9.3 m (30.6')

PULSATION DAMPENERS

PLASTIC



PD 1 (175 in3 (2.87 L))

Body Material	Bladder Material	Inlet Size	Inlet Type	Max Pressure	Air Control	Esst Shipping Weight
GFPP (Std)	Neoprene (Std)	1.5" (Std)	BSP (Std)	150 PSI	Manual	
PP*	EPDM*	2"	NPT*	10 Bar	Adjustable	Approx 8-9 kg
PVDF	Viton*	(40mm-50mm)	Flange*		Automatic	

PD 2 (370 in3 (6.06 L))

Body Material	Bladder Material	Inlet Size	Inlet Type	Max Pressure	Air Control	Esst Shipping Weight
GFPP (Std)	Neoprene (Std)	1.5" (Std)	BSP (Std)	150 PSI	Manual	
PP*	EPDM*	2"	NPT*	10 Bar	Adjustable	Approx 10-11 kg
PVDF	Viton*	(40mm-50mm)	Flange*		Automatic	

* These Models are on request
 Kindly check for suitable chemical compatability.

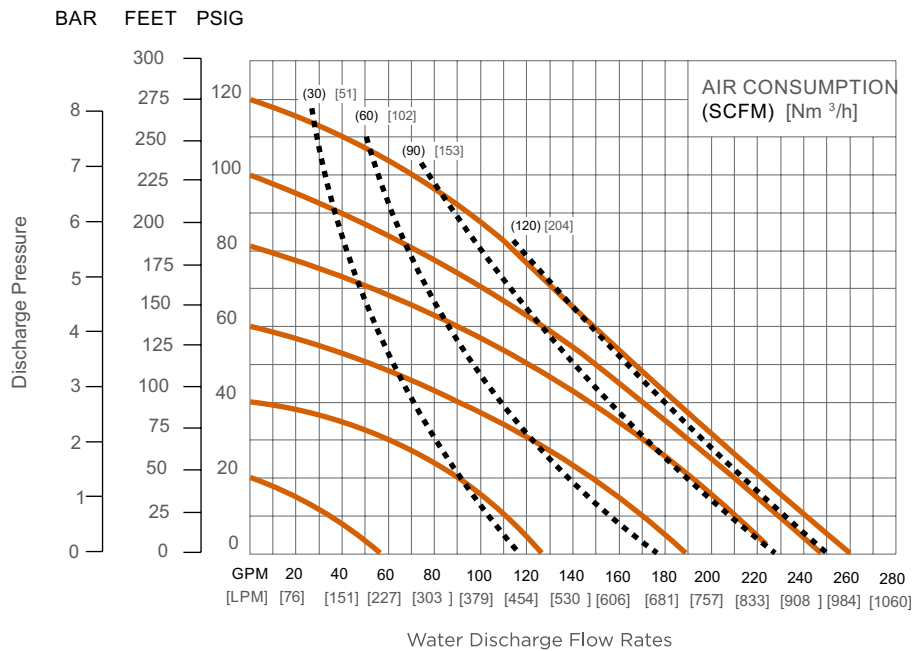
CURVES

HOW TO READ PERFORMANCE CURVES

Determine the flow rate you require & determine your discharge head. Plot the intersection of the discharge head on the vertical axis to the flow rate on the horizontal axis. Locate the orange curve closest to this intersection and follow it to the vertical axis to the left. This is the air supply pressure needed to provide the flow rate at the given head. Locate the black dotted curve closest to the intersection & follow it up to where the numbers are provided. This number is the air supply volume needed to provide the flow rate you require at the given head.

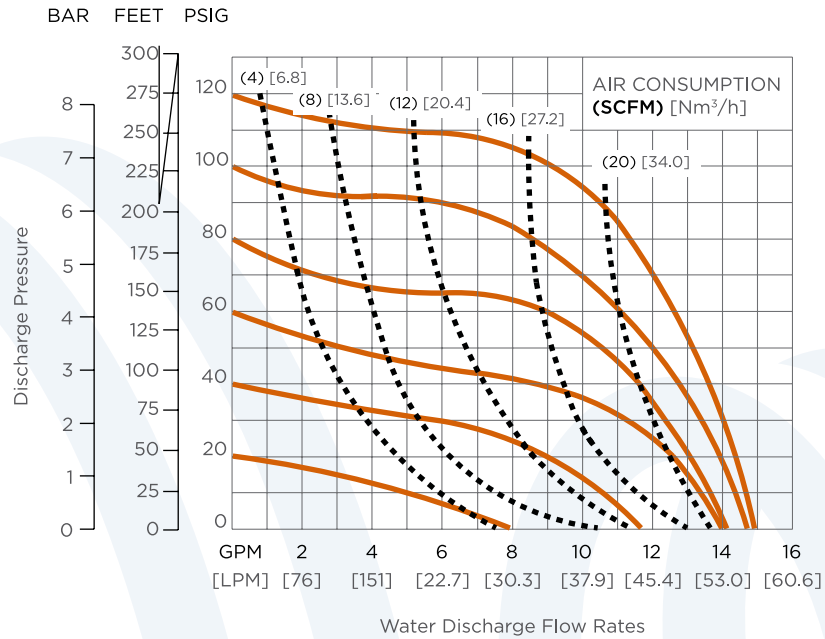
CURVES

AOD 800

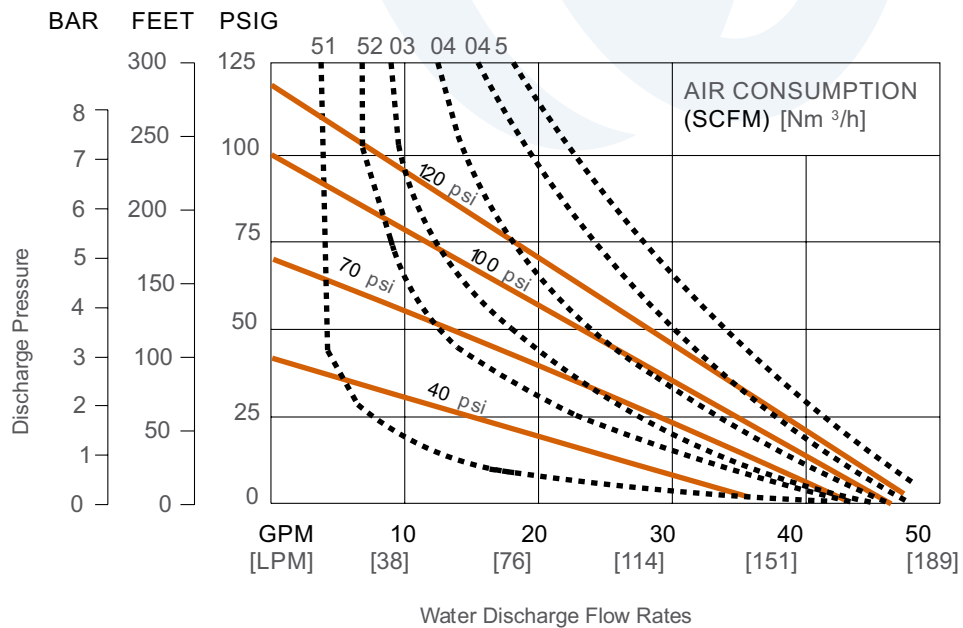


CURVES

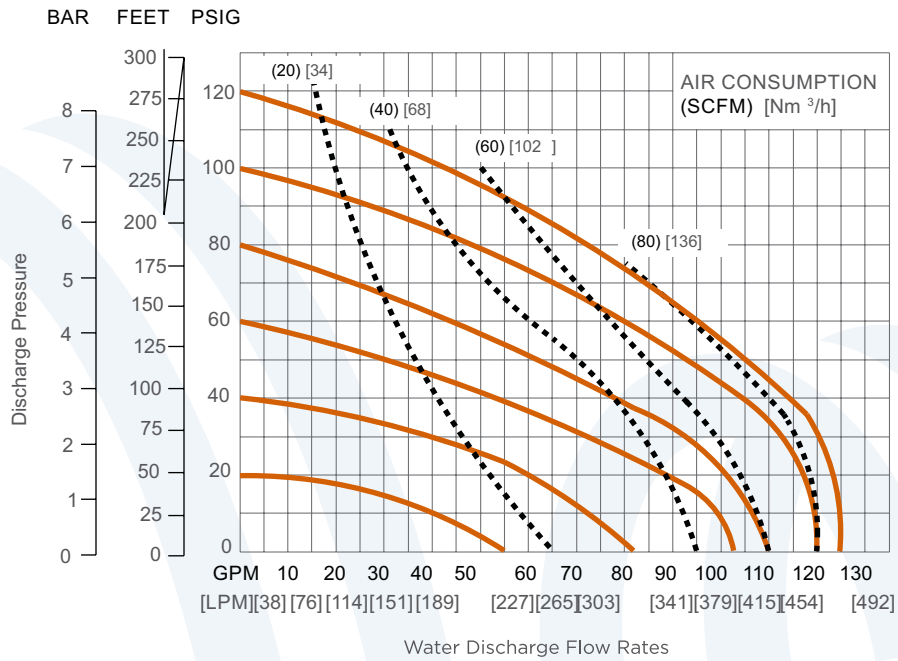
AOD 150



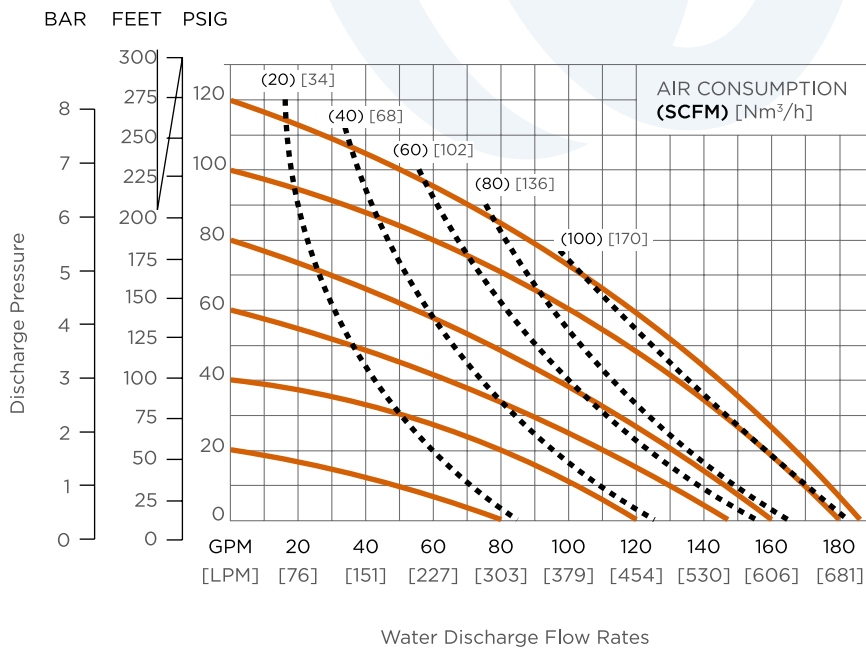
AOD 300



AOD 400



AOD 500



WHY BOLTED PUMPS ?

Bolted Plastic and Metal Pumps offered by Sando Pumps are specifically designed for maximum performance, efficiency and containment. The bolted configuration ensures total product containment while the liquid path reduces internal friction to maximize output and efficiency. Multiple elastomer options are available to meet and exceed your abrasion, temperature and chemical compatibility challenges.

YOUR NEEDS

PERFORMANCE

CONTAINMENT

COST



OUR SOLUTIONS

ADVANCED PUMPS

- Higher flow rates
- Variable flow and pressure
- Shear sensitive
- Intrinsically Safe
- Dry-run capable
- Portable and submersible
- Large solids passage
- High suction lift

SUPERIOR CONTAINMENT

- Leak-free operation
- Superior torque retention
- Unique valve seat design
- Superior finish on sealing surfaces
- Multiple liquid connections available

ENHANCED EFFICIENCIES

- Anti-freezing ADS
- Greater Flow per SCFM input
- Low cost of ownership
- Ease of operation and maintenance

THE RESULTS

SUCCESS

- Higher yields
- Increased pump output
- Increased On/Off reliability
- Reduced turbulence
- Reduced internal friction

CONTAINMENT ENSURED

- Leak-free pump operation
- Viscous and Non-viscous product transfer
- Largest chemical compatibilities
- Transfer with confidence

COST EFFICIENT

- Optimized application
- Reduced air consumption
- Reduced kilowatt usage
- Longest Mean Time Between Repair
- Lower operation costs and downtime
- Saves your money

TECH DATA

- **Sizes:** 6 mm (1/4") through (3")
- **Materials:** Polypropylene and PVDF, FTFE, Aluminium, Stainless Steel and Ductile IRON
- **Material temperatures:** for Plastic Up to 107°C (225 °F)
- **Material temperatures:** for Metal Up to 177°C (350 °F)
- **Elastomers:** Buna-N, Neoprene, Viton, Santoprene, Hytrel, Polyurethane and PTFE
- **ADS:** Power Flo®, NON STALLING and MARK 1

PERFORMANCE DATA

- **Max flow rates:** 1024 lpm (271 gpm)
- **Max suction lift:** 9.8 m (32.0') Wet, 6.6 m (21.6') Dry
- **Max disp. per stroke:** 5.8 L (1.52 gal)
- **Max discharge pressure:** 8.6 bar (125 psig)
- **Max size solids:** 12.7 mm (1/2")

WHY CLAMPED PUMPS ?

Clamped Pumps are designed for rugged utilitarian type of applications that require a robust design and reliability without sacrificing ease of maintenance. Clamped pumps have the largest material and elastomer offerings in the industry to meet your abrasion, temperature and chemical compatibility challenges. The SANDO Pumps metallic and non metallic pump line lends itself to various processes and waste application.

YOUR NEEDS

VERSATILITY

RELIABILITY

COST



OUR SOLUTIONS

ORIGINAL PUMPS

- Intrinsically safe
- Self priming
- Variable speed
- Dry run without damage
- Single-point exhaust option
- Widest range of materials and pump sizes in the industry

DEPENDABLE

- Decades of proven application success
- Proven air distribution system
- Simplicity of design
- Superior anti-freezing
- Increased On/Off reliability

LOW COST ALTERNATIVES

- Low cost
- Simple installation
- Ease of maintenance

THE RESULTS

SUCCESS

- Higher yields
- Shear sensitive
- Portability
- Large solids passage
- Strong suction-lift capabilities
- Externally serviceable air valve
- Screen base models available

UTILITARIAN SOLUTIONS

- Viscous and Non-viscous product transfer
- Largest chemical compatibilities
- Longest Mean Time between Repair (MTBR)
- Transfer with confidence

COST SAVINGS

- Efficient ADS
- Proven track record
- Optimized applications
- Low operational costs and downtime
- Saves your money

TECH DATA

- **Sizes:** 13 mm (1/2") through 102 mm (4")
- **Materials:** Polypropylene, PVDF, Aluminium, Stainless Steel and Ductile Iron
- **Material temperatures:** for Plastic Up to 107°C (225 °F)
- **Material temperatures:** for Metal Up to 177°C (350 °F)
- **Elastomers:** Buna-N, Neoprene, Viton, Santoprene, Hytrel, Polyurethane and PTFE.
- **ADS:** Power Flo®, Non-Stalling and Mark 1.

PERFORMANCE DATA

- **Max flow rates:** 643 lpm (170 gpm)
- **Max suction lift:** 9.8 m (32.0')
Wet, 7.8 m (25.5') Dry
- **Max disp. per stroke:** 2.8 L (0.75 gal)
- **Max discharge pressure:** 8.6 bar (125 psig)
- **Max size solids:** 6.4 mm (1/4")

DIAPHRAGM SELECTION GUIDE



Thermoplastic Elastomer (TPE)

- Thermoplastic elastomers (TPE) are known for their superior abrasion-resistance and durability. Due to their wide temperature range capabilities and superior flex life, SANDO Pumps TPE diaphragms are an excellent option for general purpose applications.
- SANDO Pumps TPE elastomer options available include: Polyurethane, Santoprene®, Hytrel® and Nitrile Buna -N.

Polytetrafluoroethylene (PTFE) Elastomers

- Because it is one of the most chemically inert compounds available, PTFE can be used with an extremely wide range of fluids, including highly aggressive fluids. Its properties provide excellent flex life and moderate abrasion resistance. In addition, PTFE complies with FDA 21 CFR 177 and USP Class VI standards for food, beverage and pharmaceutical applications. Because PTFE is non-elastic, a backup diaphragm of a different material must be used to provide flexibility and memory. Material options for backup diaphragm are Neoprene, Hytrel, EPDM and high temperature Buna - N.

ELASTOMER TEMPERATURE LIMITS

Rubber	Neoprene	-18° to 93 °C [0° to 200 °F]
	Buna-N	-12° to 82 °C [10° to 180 °F]
	EPDM	-51° to 138 °C [-60 ° to 280 °F]
	Viton ®	-40° to 177 °C [-40° to 350 °F]
Thermoplastic (TPE)	Polyurethane	-12° to 66 °C [10° to 150 °F]
	Santoprene™	-40° to 107 °C [-40 ° to 225 °F]
	Hytrel®	-29° to 104 °C [-20 ° to 220 °F]
PTFE	PTFE	4° to 104 °C [40° to 220 °F]
Teflon®, Hytrel®, and Viton® are registered trademarks of DuPont Company Santoprene™ is trademark of ExxonMobil		

CAUTION: Maximum temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Please verify the chemical resistance limitations of elastomers and all other pump components prior to pump installation. The SANDO Pumps online Chemical Guide and a SANDO Pump Distributor should be in elastomer selection.

Rubber Elastomers

SANDO Pumps rubber elastomers are specifically engineered to increase chemical resistance, durability and allow for greater temperature spans, making this a general purpose diaphragm well-suited for a wide range of applications.

SANDO Pumps material options available include: Neoprene, Buna -N.

Easy-Flex™ Diaphragm Technology

- The diaphragm's convolute shape and controlled fabric placement decreases tensile loading to minimize stress concentration. This design reduces internal stress resulting in extremely long diaphragm life.
- Material availability: Neoprene, Buna-N.

HOW TO SELECT YOUR PUMP ?

APPLICATION

- What application will the pump be used in?
- What are you pumping?
- Do you need lube-free operation?
- Does the pump need to be submersible?
- What cleaning fluids would be used to clean the pump?
- What are your performance parameters (flow rates, air consumption, viscosities, suction lift)?
- Do you need a pulsation dampener?

AIR DISTRIBUTION SYSTEM (ADS)

- What ADS best suits your application needs?
- How reliable is the ADS?
- How efficient is the ADS?
- Do you need On/Off reliability?

INSTALLATION

- Before installation please read the caution section of the pump manual.
- What are your piping considerations (valves, elbows, pipe friction losses, etc.)?
- Do you have sufficient air pressure and air volume for the pump?
- What is the MTBR (Mean Time Between Repair) of the AODD pump?
- What are your installation parameters (self-priming, positive suction head, high vacuum, heat generation, dry-run capable, submersible, large solids passage, variable flow and pressure, shear sensitive)
- Ease of maintenance: is the pump easy to clean, assemble/disassemble?

WETTED MATERIALS

- What media will you be pumping?
- What is the chemical compatibility of the elastomer?
- What are the temperature limits of the wetted material and elastomer?
- How abrasive is the media being pumped?
- Do diaphragm configurations affect flow?

DISTRIBUTORS

- Is your distributor local?
- Can the distributor fully support your fluid transfer needs?
- Are they a full-stocking, full-service distributor?
- How good is delivery? Is it less than 3 weeks?
- Is the distributor formally educated in specifying and maintaining your system?
- How are the services and repair capabilities of the distributors?
- Does the distributor do local training for your staff?
- How responsive is the distributor to your needs?

INDUSTRIES SERVED



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



Plup/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



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



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

SANDO ROTARY EQUIPMENTS PVT. LTD.

Air Operated Double Diaphragm Pumps

 **Ahmedabad Works**

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