

EUROPA PUMPS



OVER
10
YEARS
EXPERIENCE



AODD Pumps

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WHY CHOOSE AODD PUMPS

PERFORMING IN THE MOST CHALLENGING APPLICATIONS, AODD PUMPS DELIVER UNIQUE BENEFITS THAT ARE UNRIVALED BY OTHER PUMP TECHNOLOGIES

AODD Pumps are air (or natural gas) operated displacement type pumps which uniquely differ from all other positive displacement pumps. As a result of air pressure acting on the entire surface of the diaphragm, the diaphragm is in a balanced condition while pumping. This measurably extends diaphragm life over that of mechanically operated diaphragm pumps. Because compressed air is limited, the maximum pressure developed by the pump is also safely limited. Thus, AODD pumps are appropriately selected for on-demand intermittent requirements.

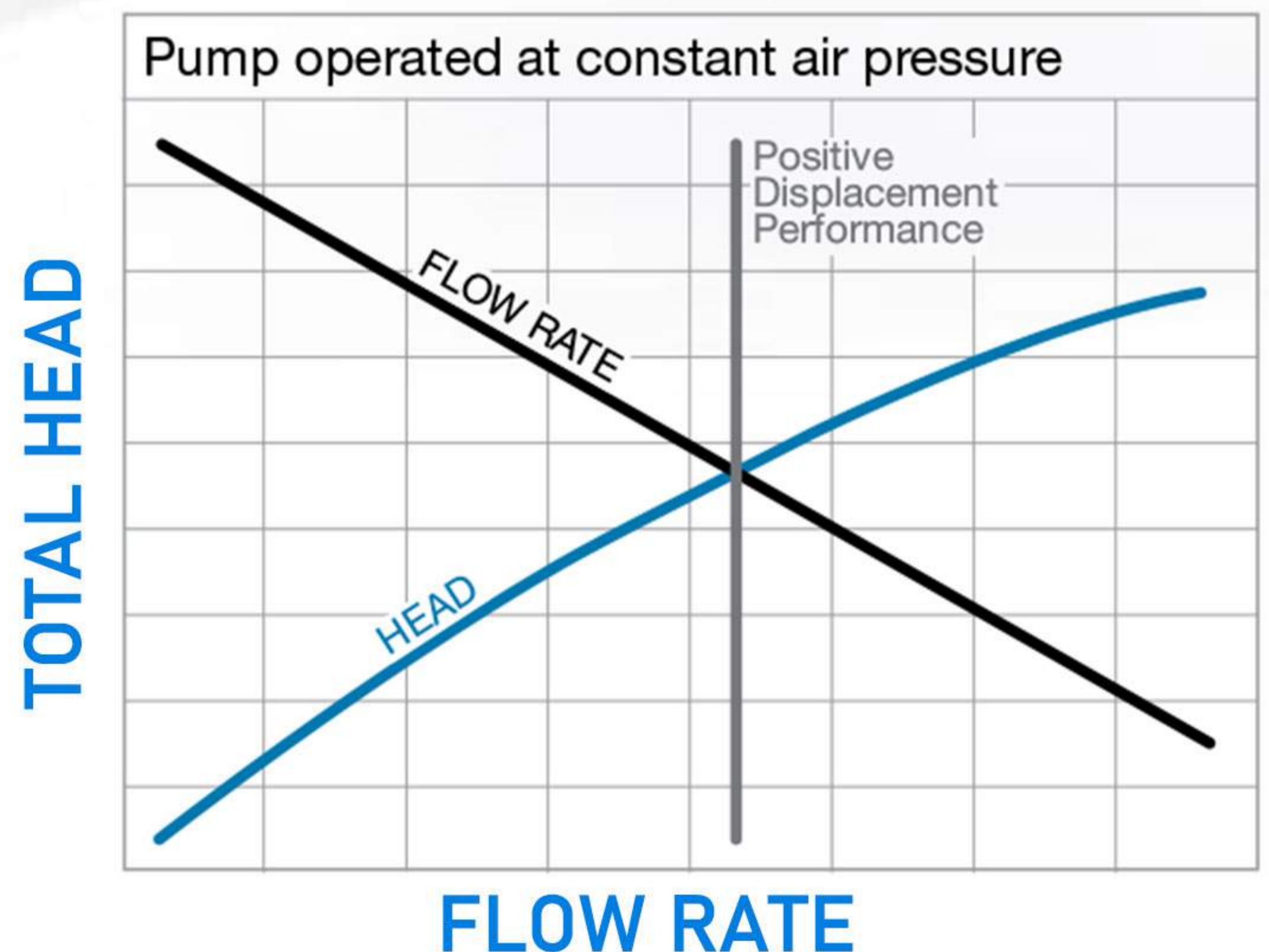
FEATURES & BENEFITS



▶ Dry-Run without damaging the Pump or system	▶ Variable flow and head pressures, without sophisticated controls
▶ Pumps solid laden fluids without Pump or product damage	▶ Optional bottom discharge porting depending on fluid characteristics
▶ Self-priming, works in suction lift applications	▶ Low initial purchase price compared to other technologies
▶ Deadheads safely, with no Pump or product damage	▶ Submersible, can be submerged completely without safety or performance issues
▶ Shear sensitive, does not shear or separate product being pumped	▶ Sealless design, no expensive mechanical seals or packing are required
▶ No electricity required, and can be fully grounded	

UNIQUE PERFORMANCE

Although the **AODD Pump** is a displacement type, it is actually a hybrid and defies strict classification. While its pressure versus capacity characteristics resemble those of a centrifugal pump, it is best defined as a sealless, non (or semi) positive displacement pump.

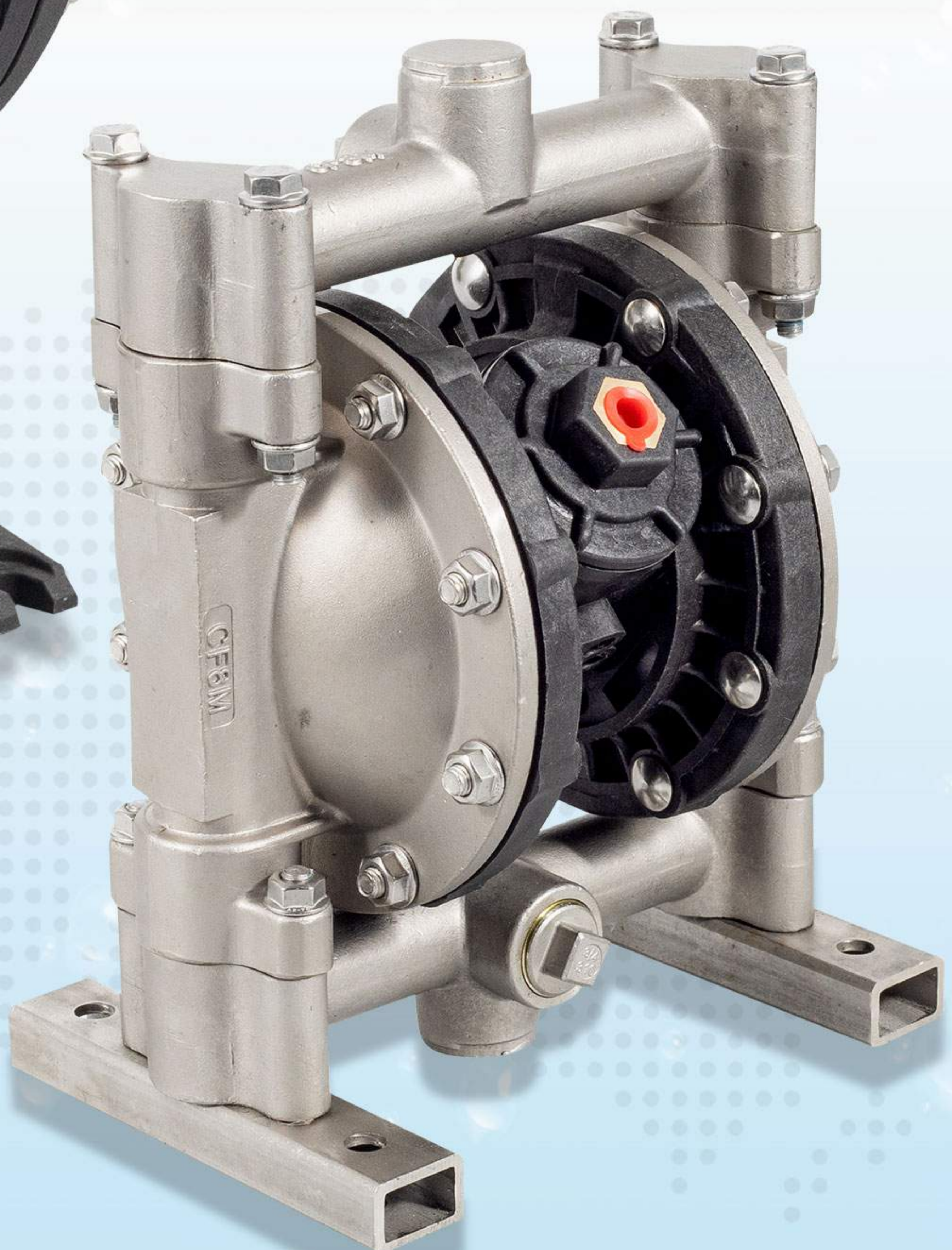


AODD PUMPS



WARNING
To reduce risk of serious injury:
• Before servicing, relieve fluid pressure.
• Equipment must be grounded.
• Always wear protective eyewear.
• Fluid must be compatible with pump.
• Dispose of exhaust air safely. It discharges
explosive fluid will be exhausted with air
• Never use submersible hydraulic
systems in aluminum pumps.
• Read instruction manual before operating.

BODILY INJURY HAZARD
FIRE AND EXPLOSION HAZARD



AODD PUMPS

PUMPING PRINCIPLE

AODD VS. OTHERS	AODD	Centrifugal	Lobe	Progressive (Screw)	Positive Displacement Progressive (Screw)	Peristaltic (Hose)	Piston/ Plunge
Variable Flow & Head Control (inherently adjustable)	✓	✓	✓	✓	!	!	✓
Deadheads Safely (at zero energy consumption)	✓	!	!	!	!	!	!
Dry-Running	✓	✗	✗	✗	✗	✗	✗
Dry-Priming (lift installations)	✓	✗	✗	✓	✗	✗	!
No Installation Alignment Required	✓	✗	✗	✗	✗	✗	✗
No Electrical Installation Required	✓	✗	✗	✗	✗	✗	✗
Portability	✓	✓	!	!	!	✓	!
Submersible	✓	!	✗	✗	✗	✗	✗
Sealless (no packing or mechanical seals)	✓	!	!	!	!	!	!
No Slip (thin liquids)	✓	✓	!	!	✓	!	!
Cavitation Tolerance (low NPSHa)	✓	✗	!	!	!	!	!
Low Shear & Degradation	✓	✗	✓	✓	!	!	!



✓ = Suitable ! = Limitations ✗ = Not Recommended

Wide Range of sizes and materials suited to variety of conditions and chemicals fluids

Safely "dead head" function, against closed discharge, without pump damage

Dry-run without damaging the pump or system: seal-less design

Handled liquids with solids particles: ideal for abrasive and viscous media

Self-priming dry up to 6 meters: works in suction lift applications

Fully submersible: can be submerged completely according to the fluid compatibility

Efficient performance: high flow rates through optimal casings designs

Serviceability: easily and quickly maintained without any special tools

1	2	3	4	5	6	7	8
Long-lasting diaphragm construction ensures a consistent performance and a longer operating life.	Efficient air distribution design: low air consumption. Un-balanced pilot spool, precisely controls positioning of the main power spool to eliminate stalling and increase efficiency.	All bolted design for an effective sealing to extended leak-proof service.	Solid polypropylene air chambers and plastic air valve for maximum chemical resistance in highly corrosive environments.	Acetalic shuttle ensures long valve life, auto-lubricated material.	Pneumatic exchanger is easily externally accessible for a quick inspection. Special Air system: lube-free, non-stall, non-freeze.	Special pinch clamping, design to minimize wear and increase life of the diaphragm, and provides a uniform seal to avoid leak.	Special exhaust chamber with double silencer to expand passages, reduce the icing and assure low noise level.

SAFE ATEX certifications in all versions: Conductive plastic pumps available

QUALITY 100% wet tested after final assembly: deadheading, priming and sealing

FLEXIBILITY Multiple porting options available along with interface options

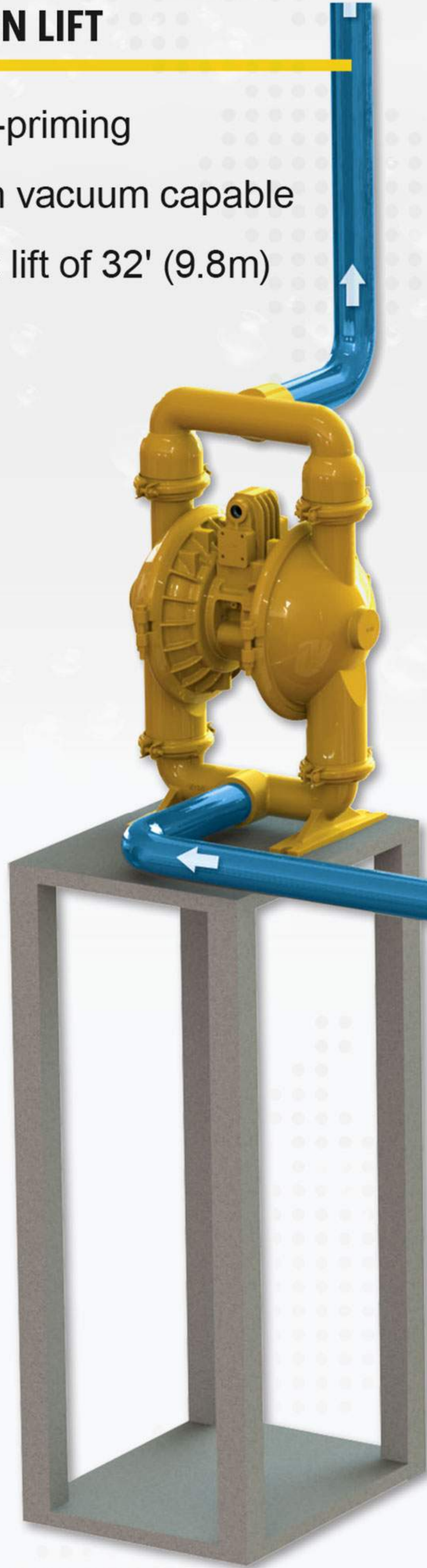


INSTALLATION VERSATILITY

All installations: Run-dry capable • No heat generation • No electricity required

SUCTION LIFT

- Self-priming
- High vacuum capable
- Max lift of 32' (9.8m)



SUBMERGED

- Capable of full submersion
- Screened inlet option



FLOODED SUCTION

- Preferred for viscous fluids
- Most common application
- Screened inlet option

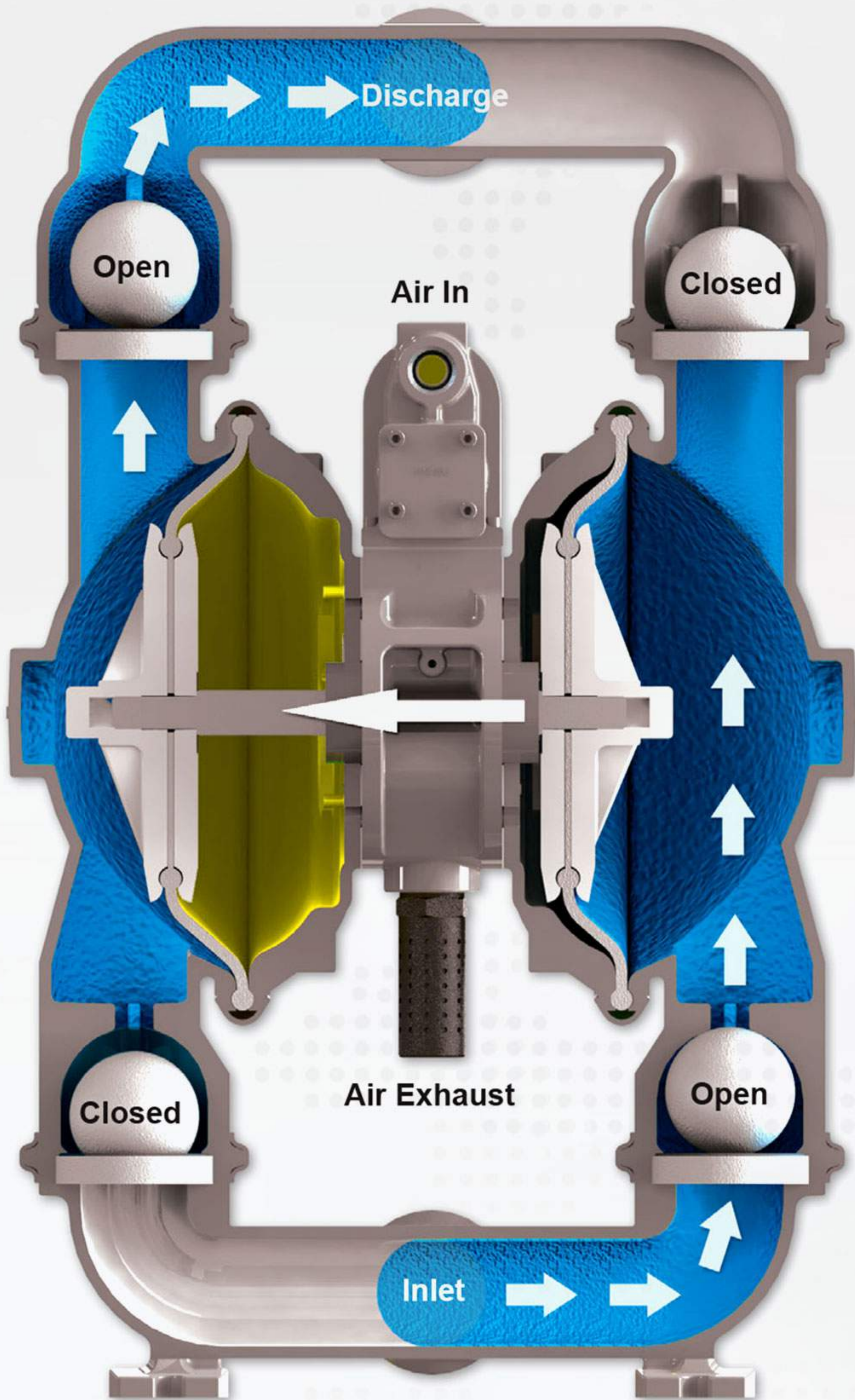


NOTE: Consult your distributor or owners manual for proper materials of construction and installation for your application.



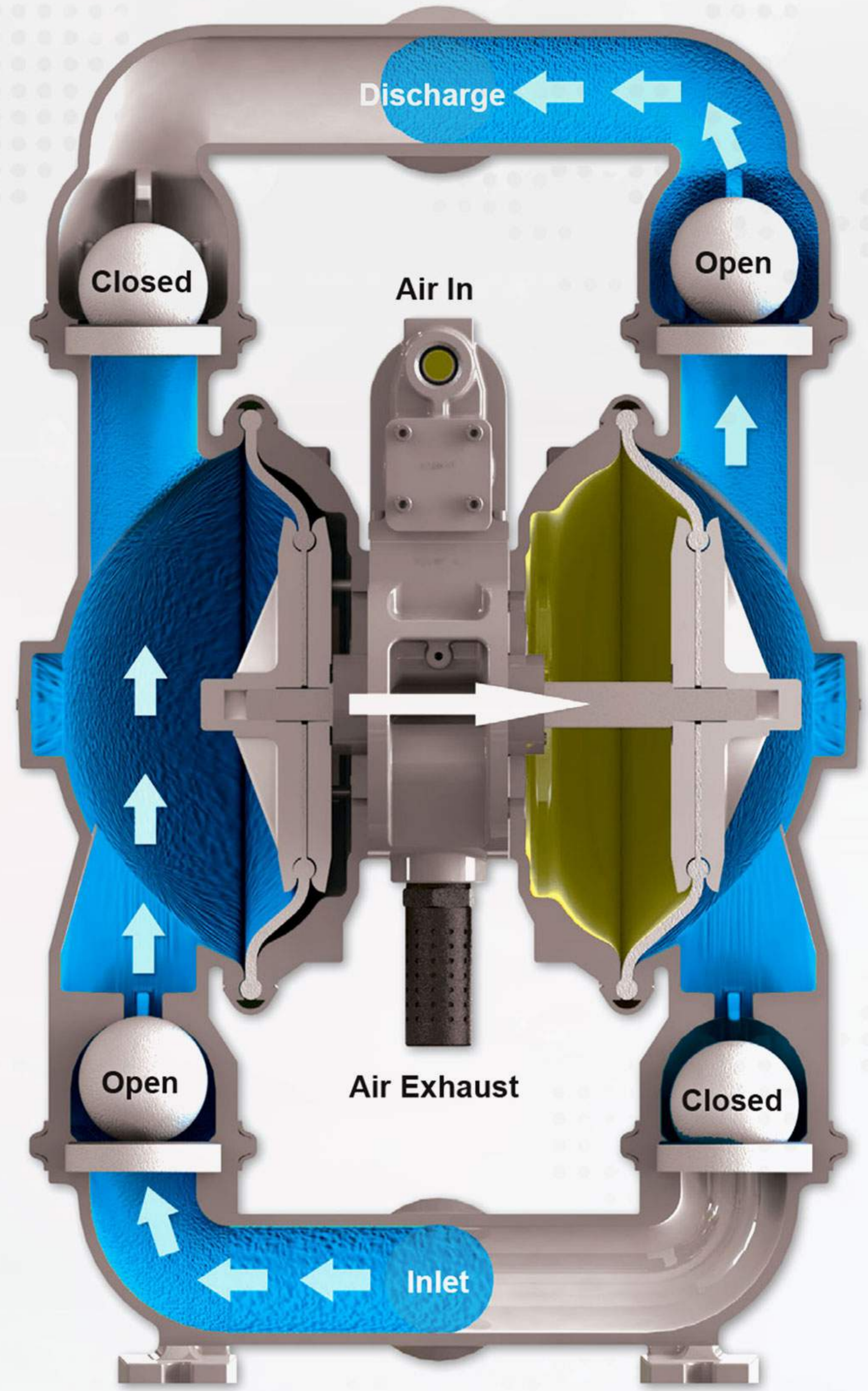
HOW AODD PUMPS WORKS

AODD PUMP OPERATION



1: SUCTION CYCLE

Compressed air fills left inner chamber, causing the opposing diaphragm to create suction, lifting the lower valve ball, pulling in fluid at inlet. Simultaneously the left chamber is in "Discharge" cycle.



2: DISCHARGE CYCLE

Compressed air fills right inner chamber, causing upper valve ball to open and discharge fluid. Simultaneously, the left chamber is in "Suction" cycle.

 = Compressed Air

 = Pumped Fluid

MARKETS WE SERVE



MANUFACTURING



CERAMICS



CHEMICAL



MARINE



MINING



OIL & GAS



FOOD & BEVERAGE



PAINTS & COATING



CONSTRUCTION



MODEL

SIZE

CASING



PP AODD Pump

0.25
Inch



PP AODD Pump

POLYPROPYLENE
Wide chemical compatibility. General purpose. Reinforced with glass-fiber

0.37
Inch



PVDF AODD Pump

0.5
Inch



PVDF AODD Pump

PVDF
Wide range of solvent and hydrocarbons. Good level of abrasion resistance. Groundable.

1
Inch



Aluminium AODD Pump

1.5
Inch



Aluminium AODD Pump

ALUMINIUM
Wide range of solvent and hydrocarbons. Good level of abrasion resistance.

2
Inch



SS AODD Pump

3
Inch



SS AODD Pump

SS AISI 316
High level of corrosion and abrasion resistance.



DIAPHRAGM

NBR

Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.

EPDM

Good with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance.

PTFE

Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

HYTREL

Good low temperature properties. Good abrasion resistance.

SANTOPRENE

solutions and dilute acids

BALL

NBR

Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.

EPDM

Good with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance

PTFE

Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

SS

High level of corrosion and abrasion resistance. Good for viscous fluids.

BALL SEAT

POLYPROPYLENE

Wide chemical compatibility. General purpose.

PVDF

Strong chemical resistance to acids. High temperature resistance.

ALUMINIUM

Wide range of solvent and hydrocarbons. Good level of abrasion resistance.

SS

High level of corrosion and abrasion resistance.

GASKET

VITON

High heat resistance. Good resistance to aggressive chemicals and hydrocarbons.

NBR

Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.

EPDM

Good with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance.

PTFE

Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

0.25 INCH AODD PUMP

0.25 INCH
AODD PUMP

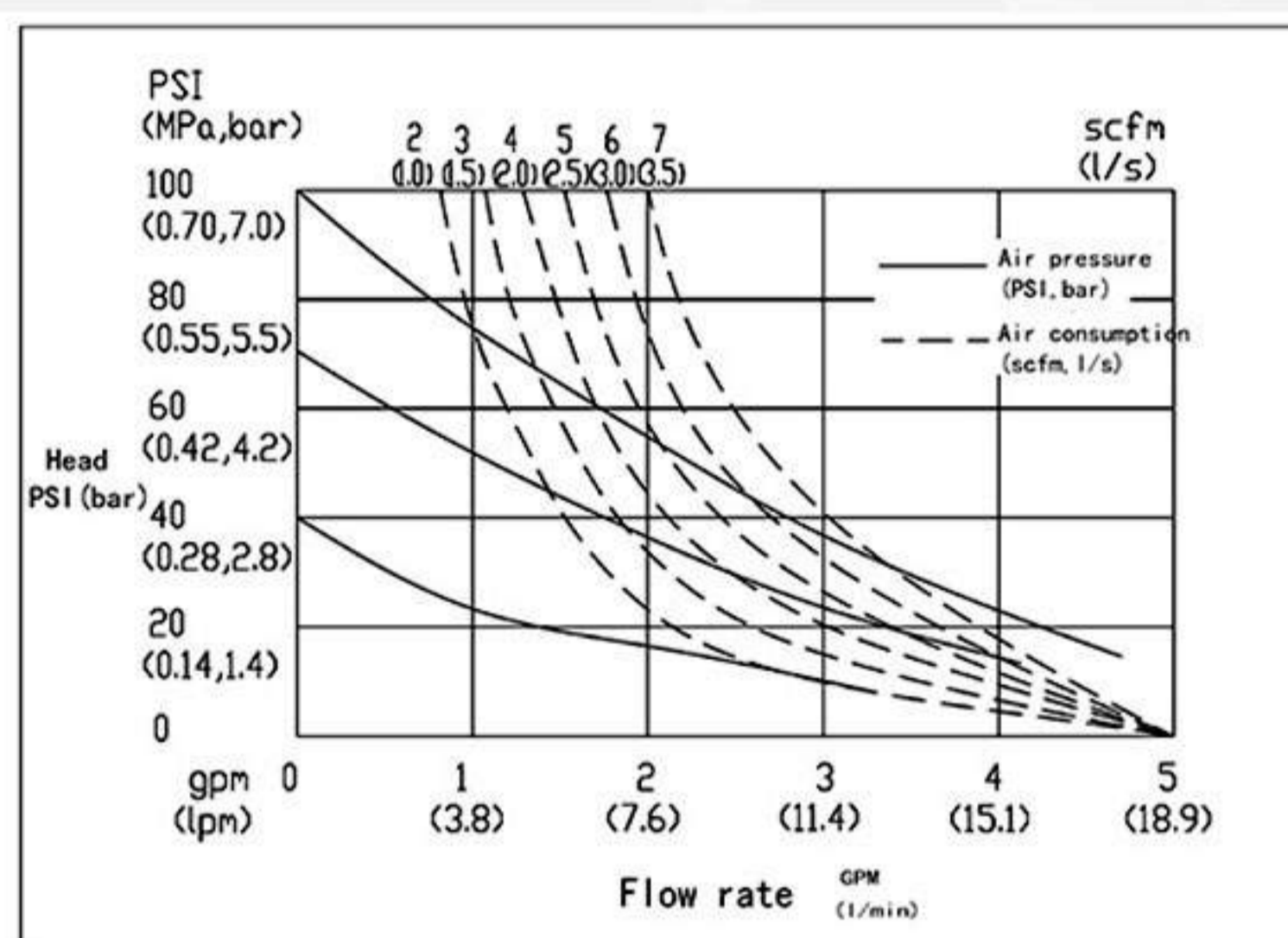


PP AODD Pump

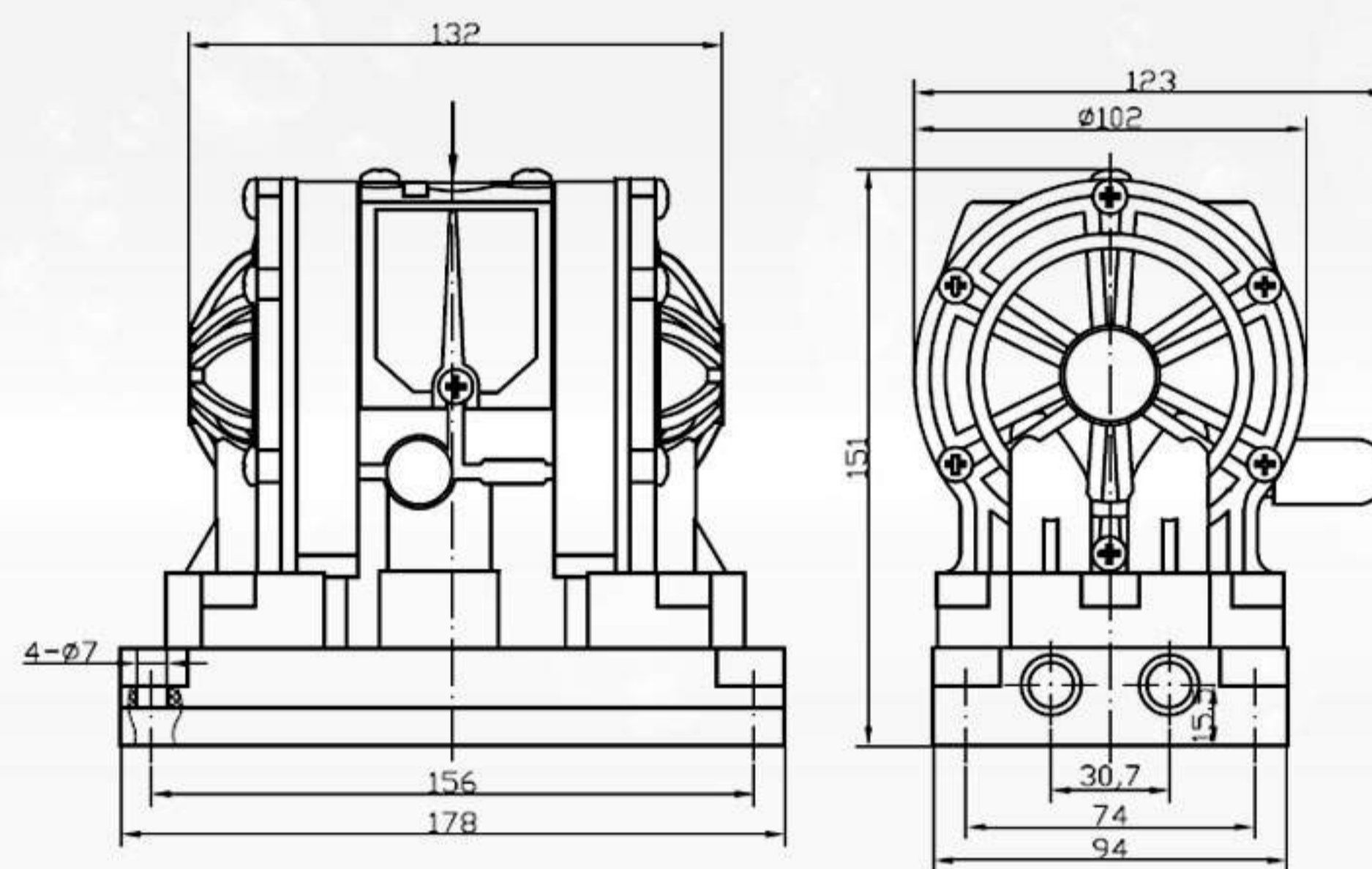


PVDF AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- Low-cost, compact design
- 1/4 in (6.35 mm) end-porting
- External controller for optional remote operation
- Spring check valves for superior priming in any mounting configuration
- True-formed PTFE and Santoprene diaphragms for enhanced performance

PARAMETER

PKP06 Diaphragm Pump Technical Specifications

Max Working Pressure	100psi (0.7Mpa,7bar)
Max Flow Rate	4.5gpm (17lpm)
Max Reciprocating Speed	Dry running 320cpm, Wet running 250cpm
Max Suction Height (Dry Sucking)	3m
Max Permitted Grain	1.5mm
Max Air Consumption	7.0scfm (3.5L/s)
Air Inlet Size	1/4in.npt(f) 1/4in.bsp(f)
Air Outlet Size	1/4in.npt(f) 1/4in.bsp(f)
Fluid Inlet Size	1/4in.npt(f) 1/4in.bsp(f)
Fluid Outlet Size	1/4in.npt(f) 1/4in.bsp(f)
Weight	PP pump 1.1kg



0.37 INCH AODD PUMP

0.37 INCH
AODD PUMP

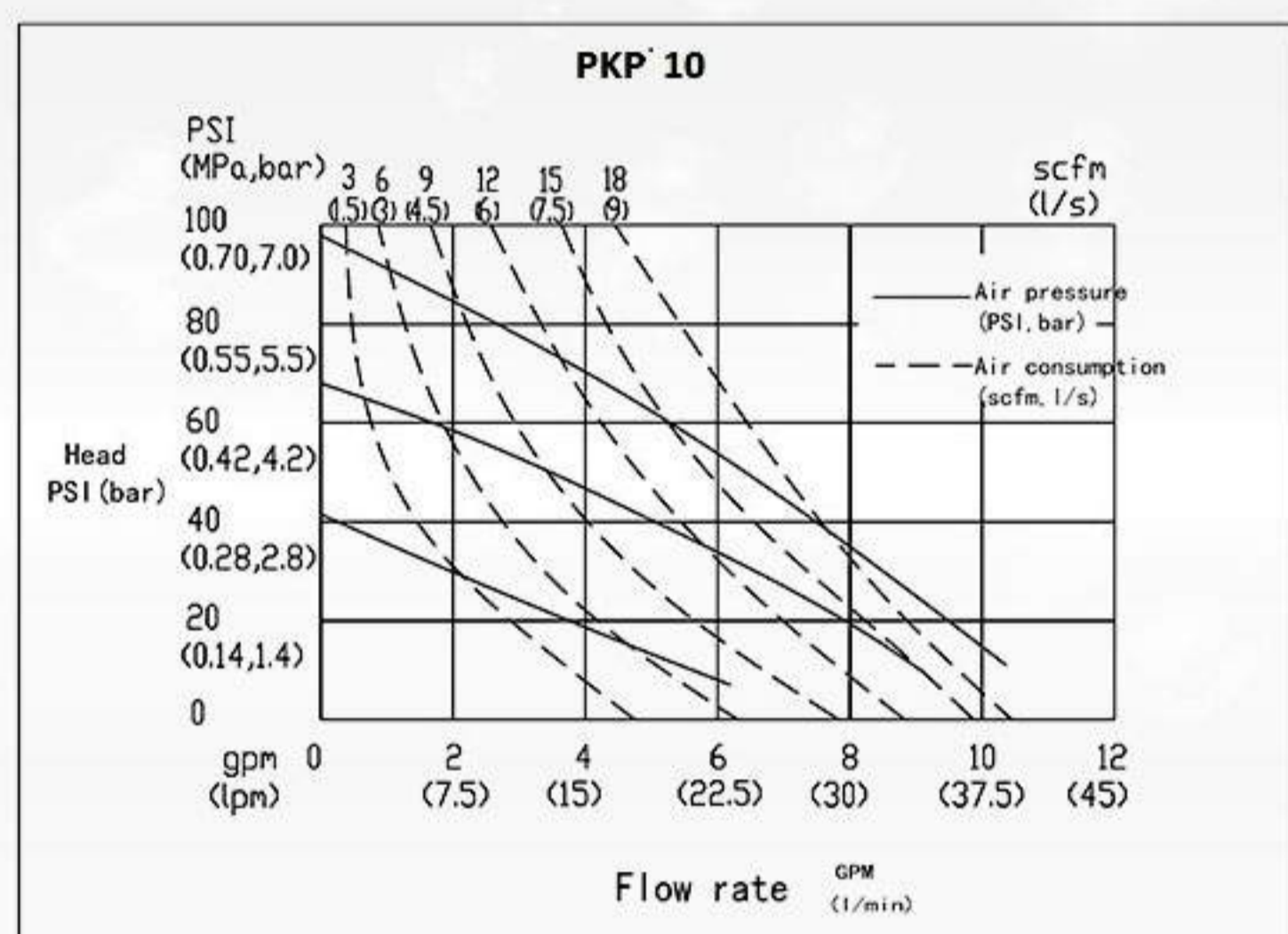


PP AODD Pump

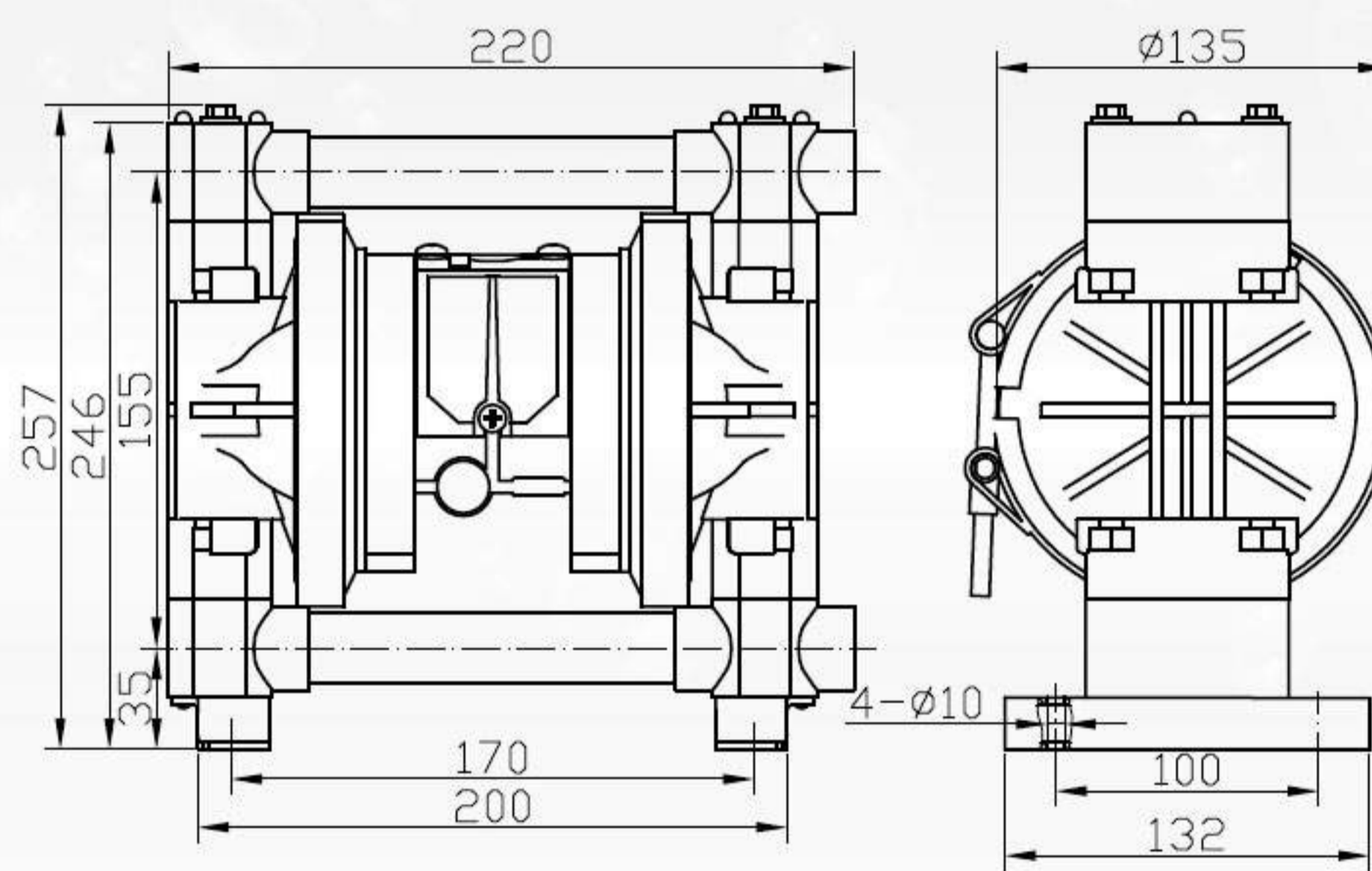


PVDF AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- Quiet operation
- 3/8 in (9.52 mm) end-porting
- Fully-groundable acetal model
- Delivery up to 7 gpm (26.5 lpm)
- Operates on as little as 12 psi (0.8 bar, 0.08 MPa) air pressure

PARAMETER

PKP 10 Diaphragm Pump Technical Specifications

Max Working Pressure	100psi (0.7Mpa,7bar)
Max Flow Rate	10.5gpm (38lpm)
Max Reciprocating Speed	330 cpm
Max Suction Height (Dry Sucking)	Dry 3.7m, Wet 6.4m
Max Permitted Grain	1/16in.(1.6mm)
Max Air Consumption	18 scfm (9L/s)
Air Inlet Size	1/4in.npt(f)
Air Outlet Size	1/4in.npt(f)
Fluid Inlet Size	3/8in.npt(f)
Fluid Outlet Size	3/8in.npt(f)
Weight	PP pump 2.5kg



0.5 INCH AODD PUMP



PP AODD Pump



PVDF AODD Pump

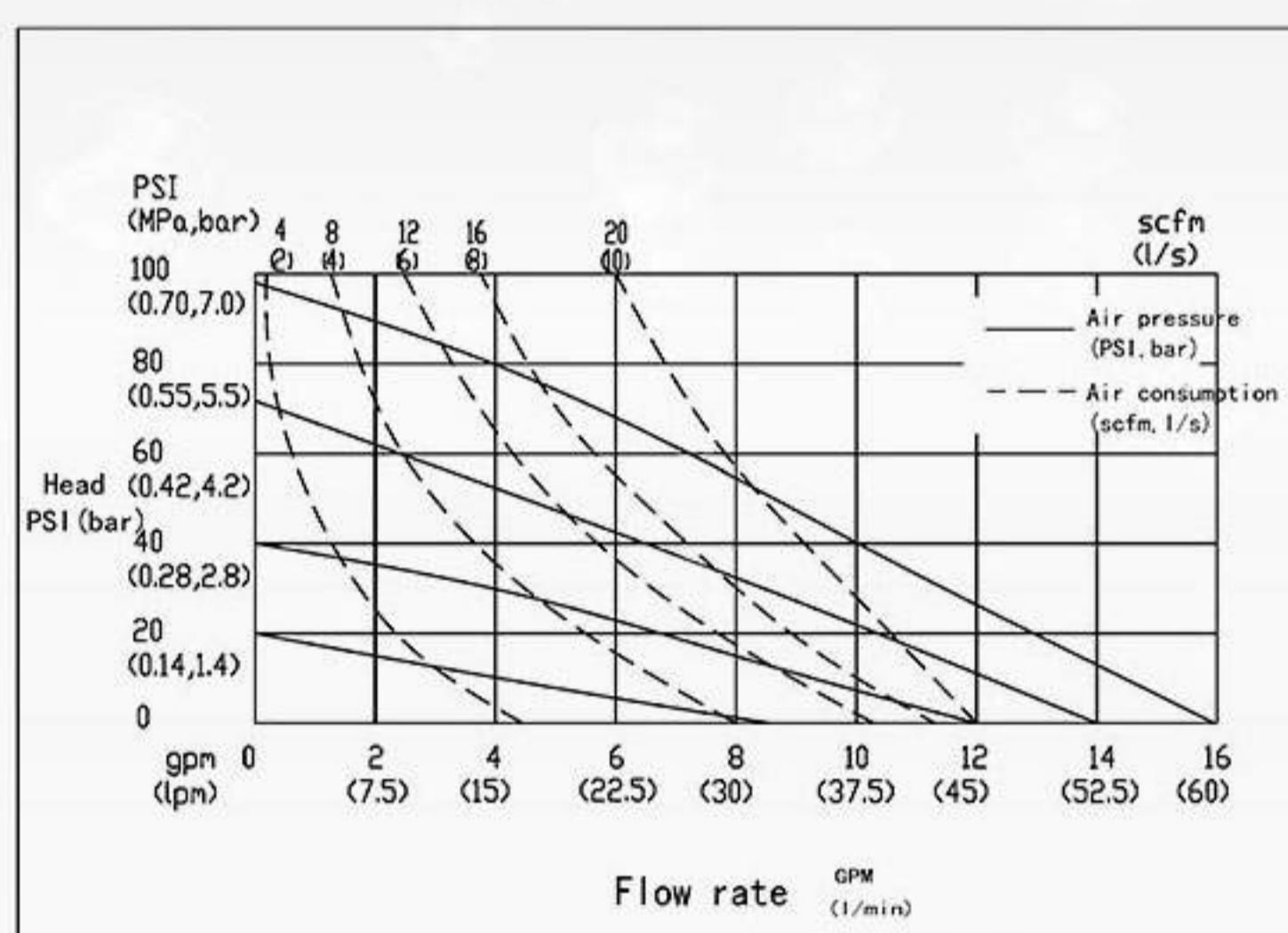


Aluminium AODD Pump

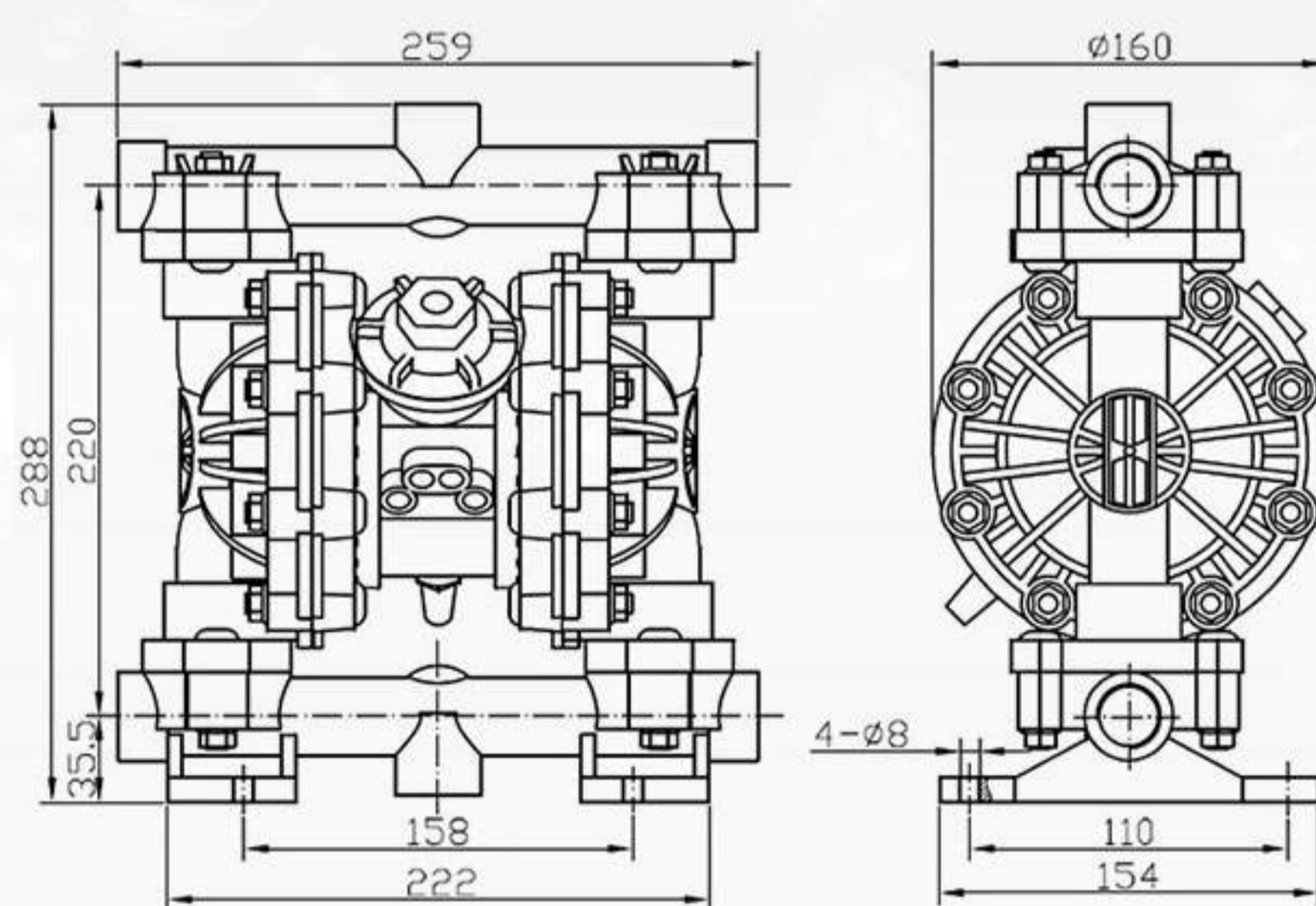


SS AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- No seals to leak or fail
- 1/2 in (12.7 mm) center- and end- porting
- High flow rates in a small, portable package
- External controller for optional remote operation
- Quiet running – less than 85 dB with easy-to-use remote muffler capability for even lower noise levels

PARAMETER

PKP15 Diaphragm Pump Technical Specifications

Max Working Pressure	100psi (0.7Mpa ,7bar)
Max Flow Rate	15gpm (57lpm)
Max Reciprocating Speed	400 cpm
Max Suction Height (Dry Sucking)	4.5m
Max Permitted Grain	3/32in. (2.5mm)
Max Air Consumption	20gpm (10L/s)
Air Inlet Size	1/4in.npt(f)
Air Outlet Size	3/8in.npt(f)
Fluid Inlet Size	1/2 in.npt(f)or bspt(f)
Fluid Outlet Size	1/2 in.npt(f)or bspt(f)
Weight	PVDF pump 3.7kg PP pump 2.7kg



1 INCH AODD PUMP



PP AODD Pump



PVDF AODD Pump

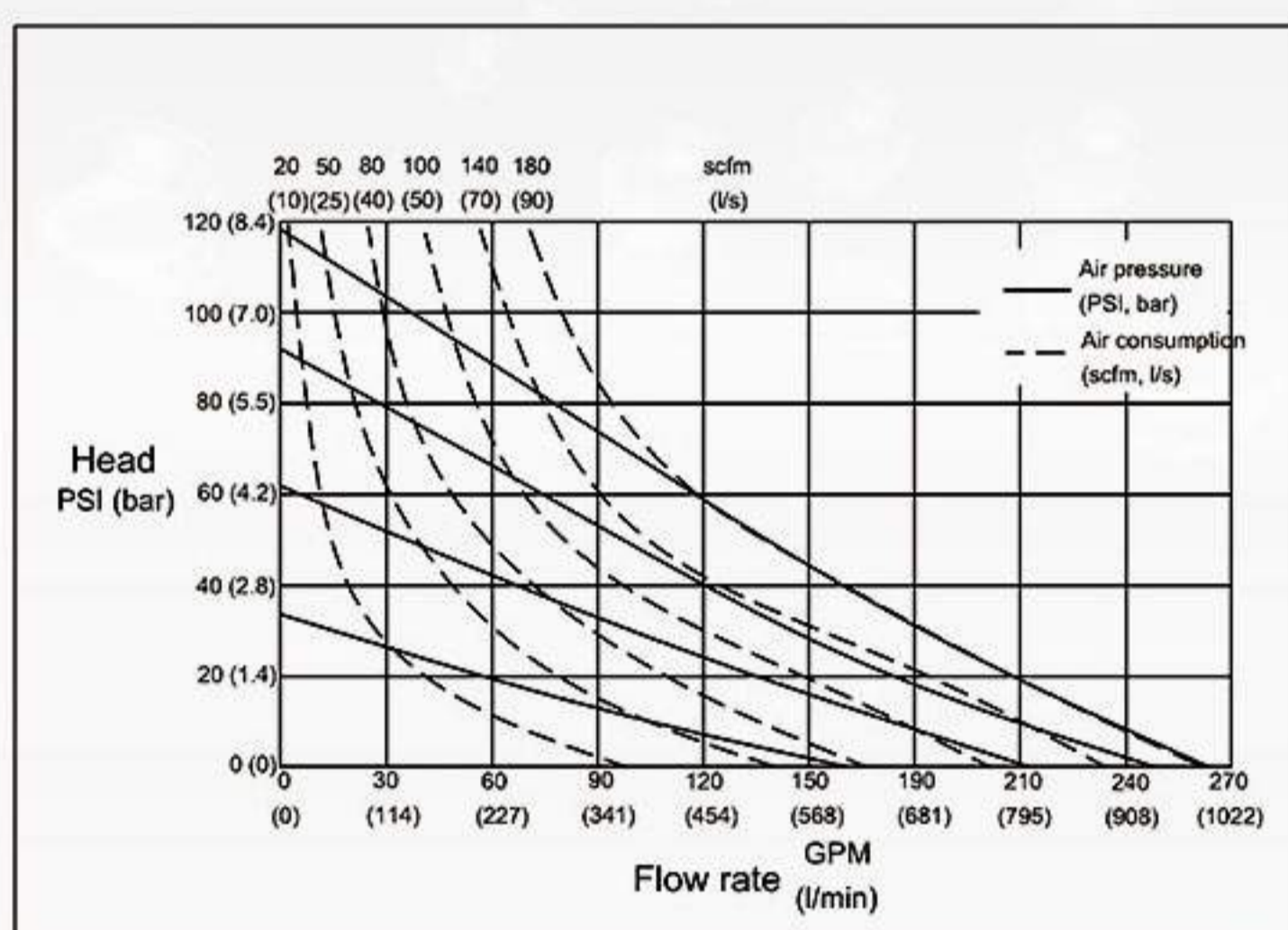


Aluminium AODD Pump

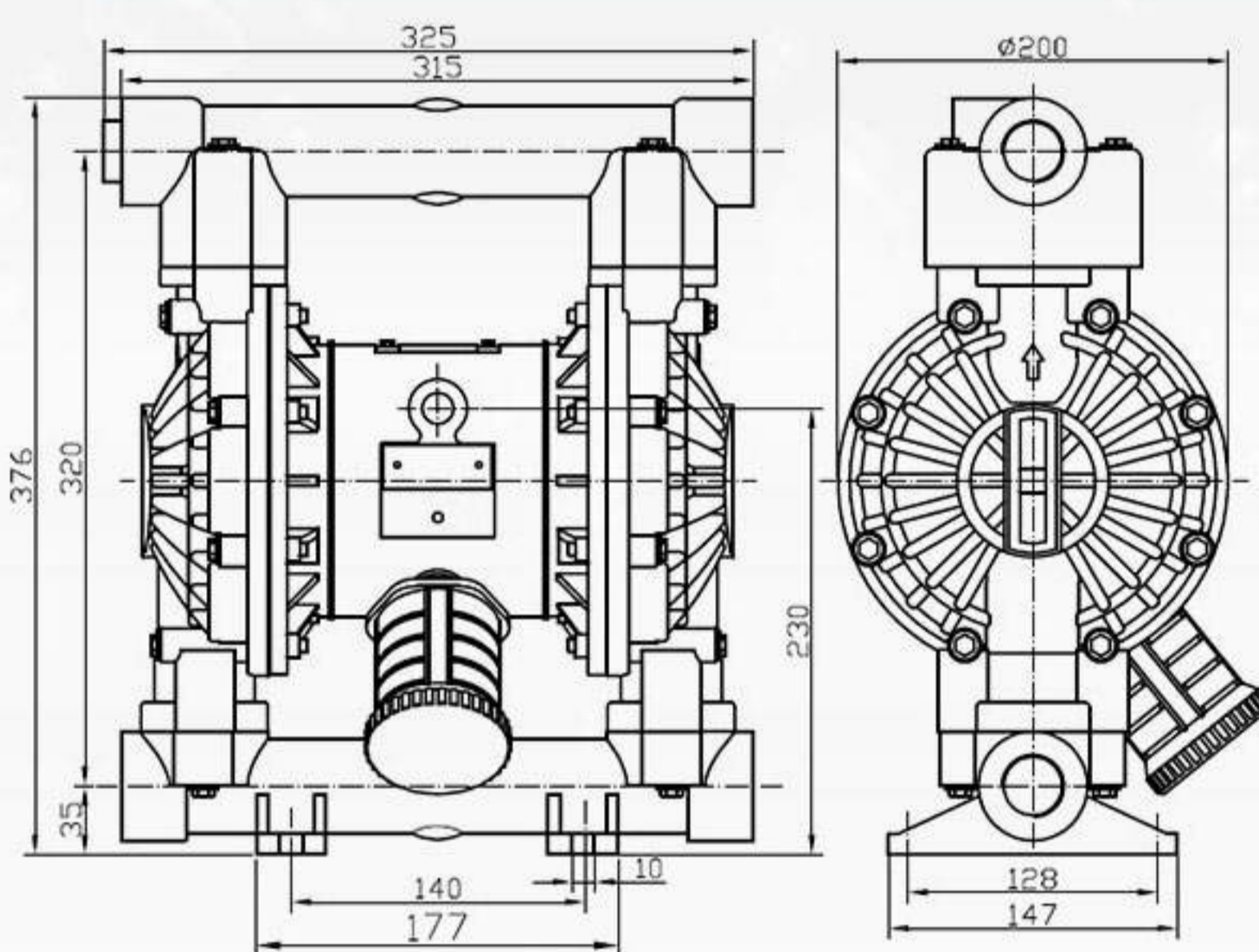


SS AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- 1 in (25.4 mm) end-porting
- Epoxy-coated center section
- Fluid pressure to 120 psi (8.4 bar, 0.84 MPa)
- External controller for optional remote operation
- High flow - 40 gpm (151 lpm) in a compact, portable size

PARAMETER

PKP25 Diaphragm Pump Technical Specifications

Max Working Pressure	120psi (0.84Mpa ,8.4bar)
Max Flow Rate	40 gpm(150 lpm)
Max Reciprocating Speed	276cpm
Max Suction Height (Dry Sucking)	5.48m
Max Permitted Grain	4mm
Max Air Consumption	45scfm (22.5L/s)
Air Inlet Size	1/2 in.npt(f)
Air Outlet Size	1/2 in.npt(f)
Fluid Inlet Size	1 in.npt(f)
Fluid Outlet Size	1 in.npt(f)
Weight	PVDF Pump 10.0kg, PP pump 8.0kg



1.5 INCH AODD PUMP



PP AODD Pump



PVDF AODD Pump

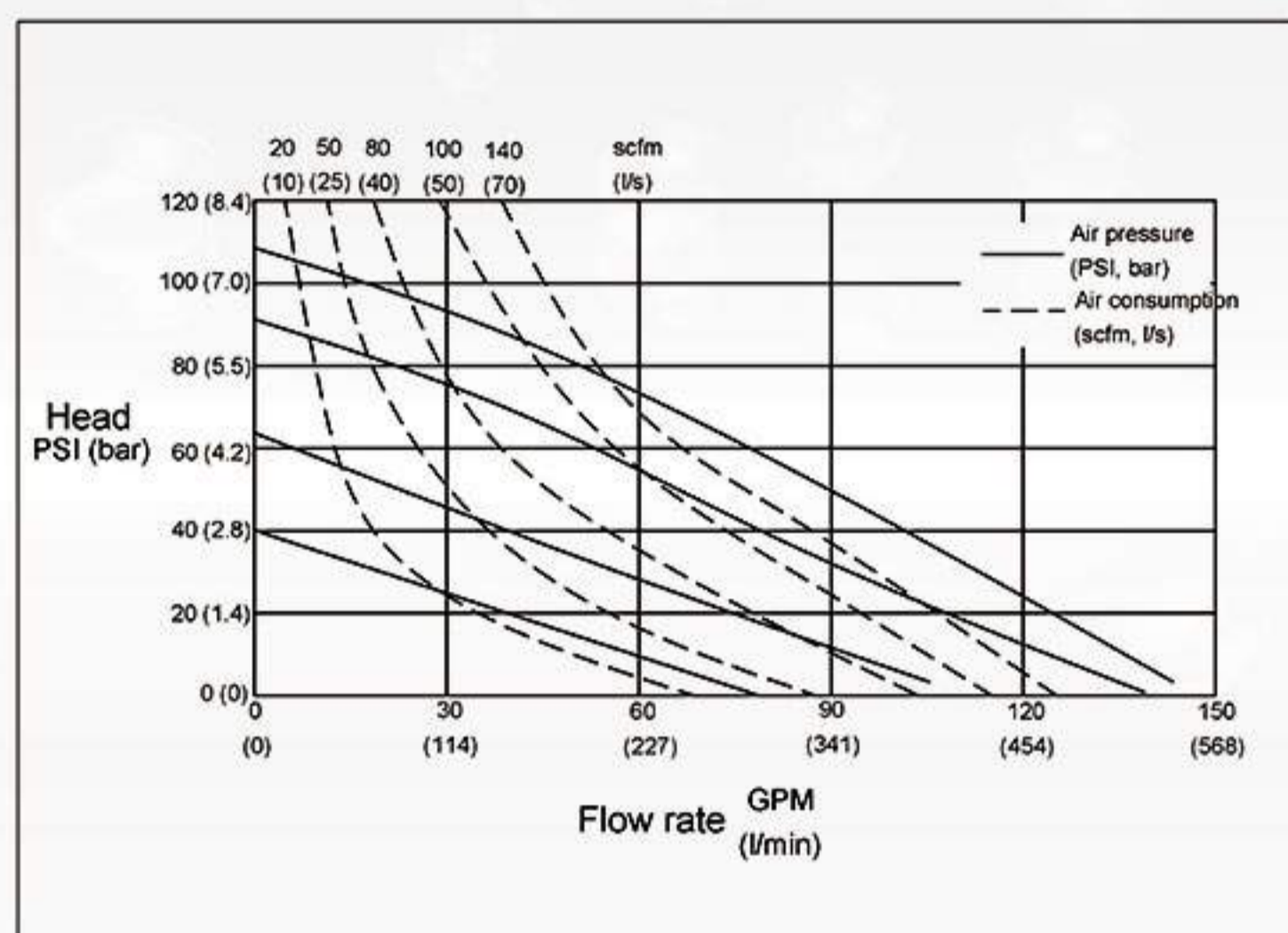


Aluminium AODD Pump

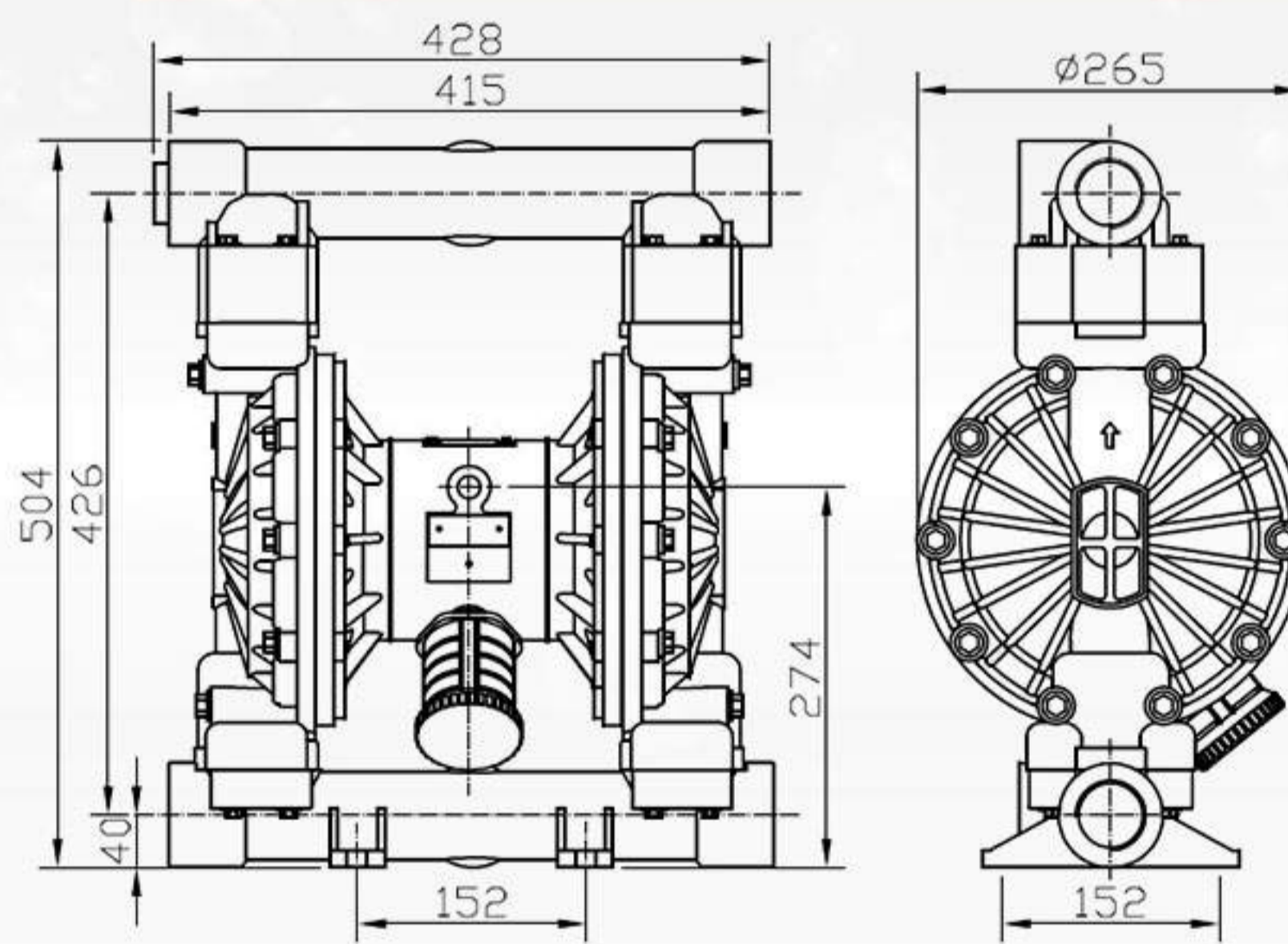


SS AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- Lube-free operation
- Epoxy-coated air section
- 1-1/2 in (38.1 mm) end-porting
- Fluid pressure to 120 psi (8.4 bar, 0.84 MPa)
- External controller for optional remote operation
- High flow - 100 gpm (378 lpm) in a compact, portable size
- Patented, high-reliability closed center air valve is online sepkPiceable

PARAMETER

PKP40 Diaphragm Pump Technical Specifications

Max Working Pressure	120psi (0.84Mpa ,8.4bar)
Max Flow Rate	118 gpm (446 lpm)
Max Reciprocating Speed	200cpm
Max Suction Height (Dry Sucking)	5m
Max Permitted Grain	5mm
Max Air Consumption	80scfm (40L/s)
Air Inlet Size	1/2 in.npt(f)
Air Outlet Size	1/2 in.npt(f)
Fluid Inlet Size	1 1/2 in.npt(f)
Fluid Outlet Size	1 1/2 in.npt(f)
Weight	PVDF pump 20.0kg PP pump 16.0kg



2 INCH AODD PUMP



PP AODD Pump



PVDF AODD Pump

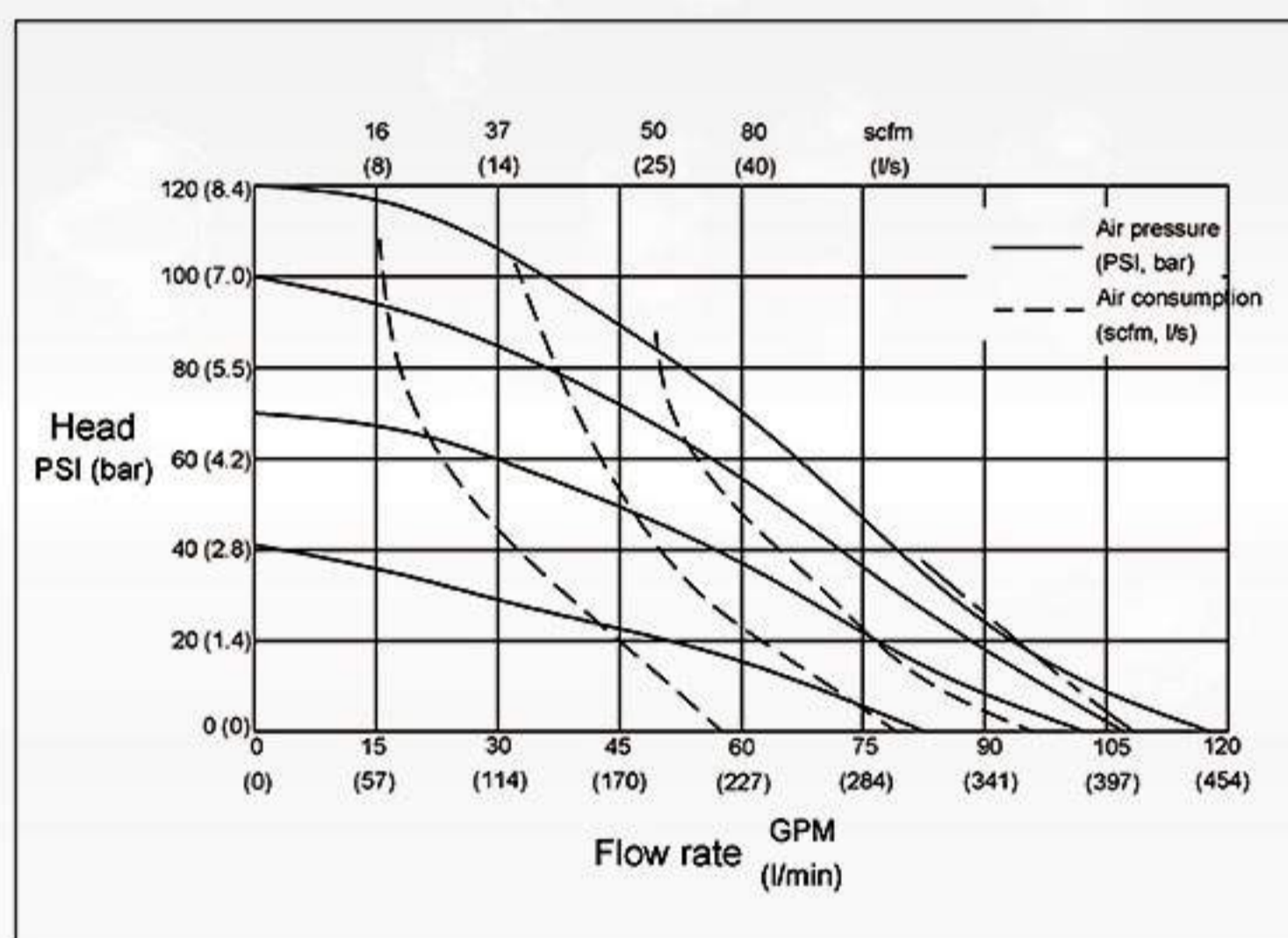


Aluminium AODD Pump

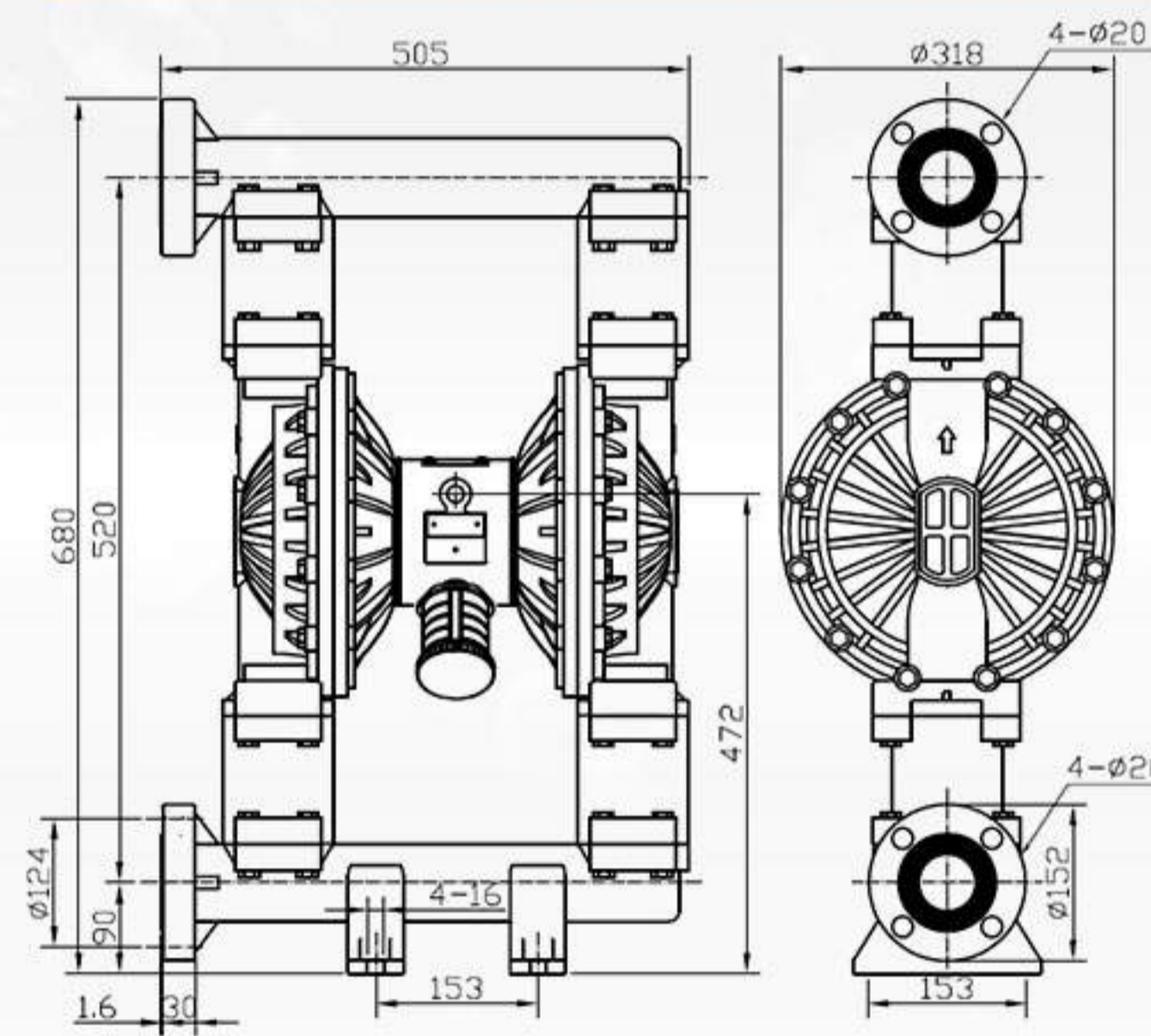


SS AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- Lube-free operation
- Epoxy-coated air section
- 2 in (50.8 mm) ANSI end-porting
- Fluid pressure up to 120 psi (8.4 bar, 0.84 MPa)
- Larger ports for more flow – up to 150 gpm (568 lpm)
- External controller for optional remote operation
- Patented, high-reliability closed center air valve is online sepkPiceable

PARAMETER

PKP50 Diaphragm Pump Technical Specifications

Max Working Pressure	120psi (0.84Mpa ,8.4bar)
Max Flow Rate	150 gpm (570 lpm)
Max Reciprocating Speed	145cpm
Max Suction Height (Dry Sucking)	5m
Max Permitted Grain	6mm
Max Air Consumption	140scfm (70L/s)
Air Inlet Size	1/2 in.npt(f)
Air Outlet Size	1/2 in.npt(f)
Fluid Inlet Size	2 in.npt(f)
Fluid Outlet Size	2 in.npt(f)
Weight	PVDF Pump 30.5kg



3 INCH AODD PUMP



PP AODD Pump



PVDF AODD Pump

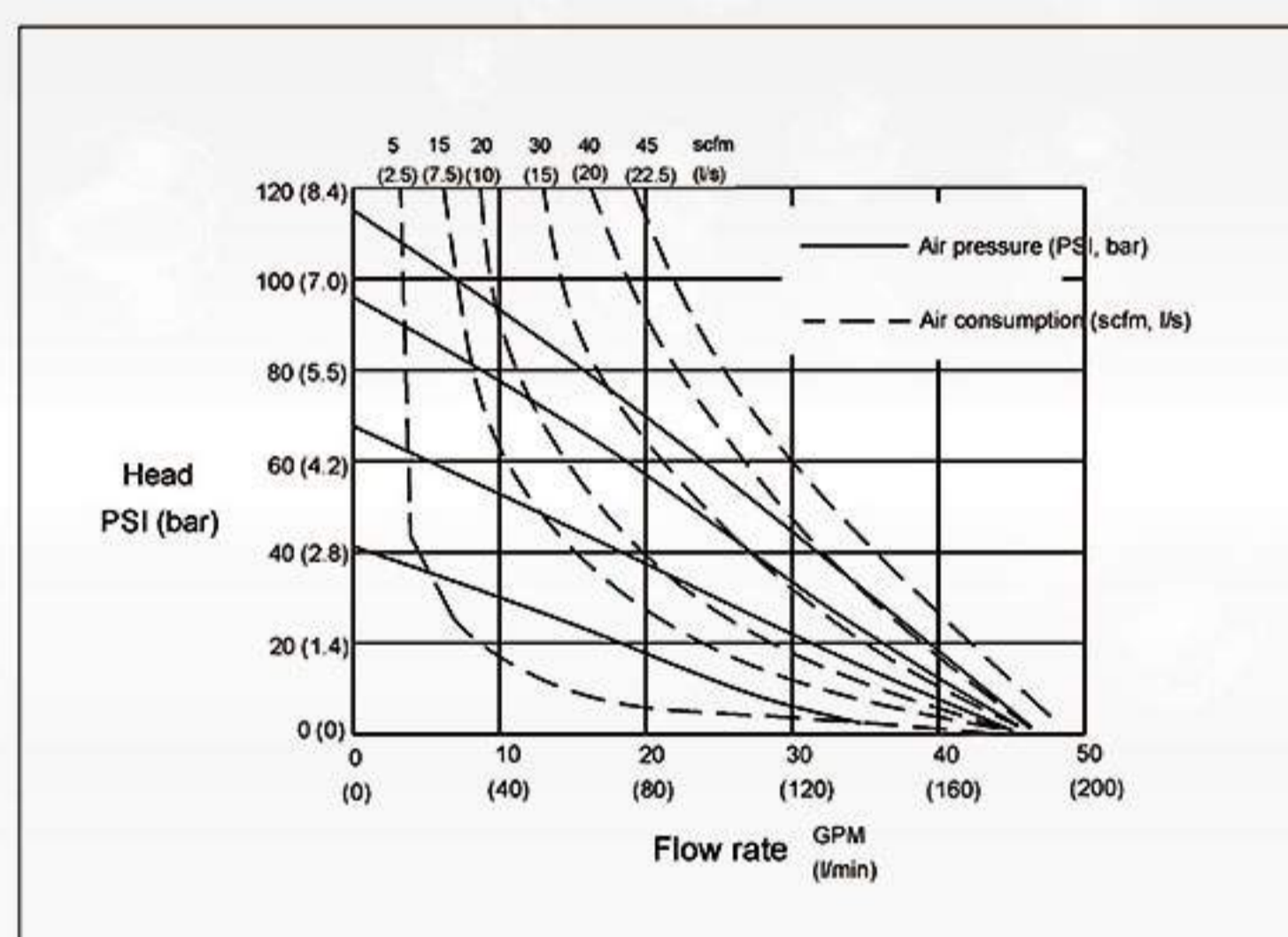


Aluminium AODD Pump

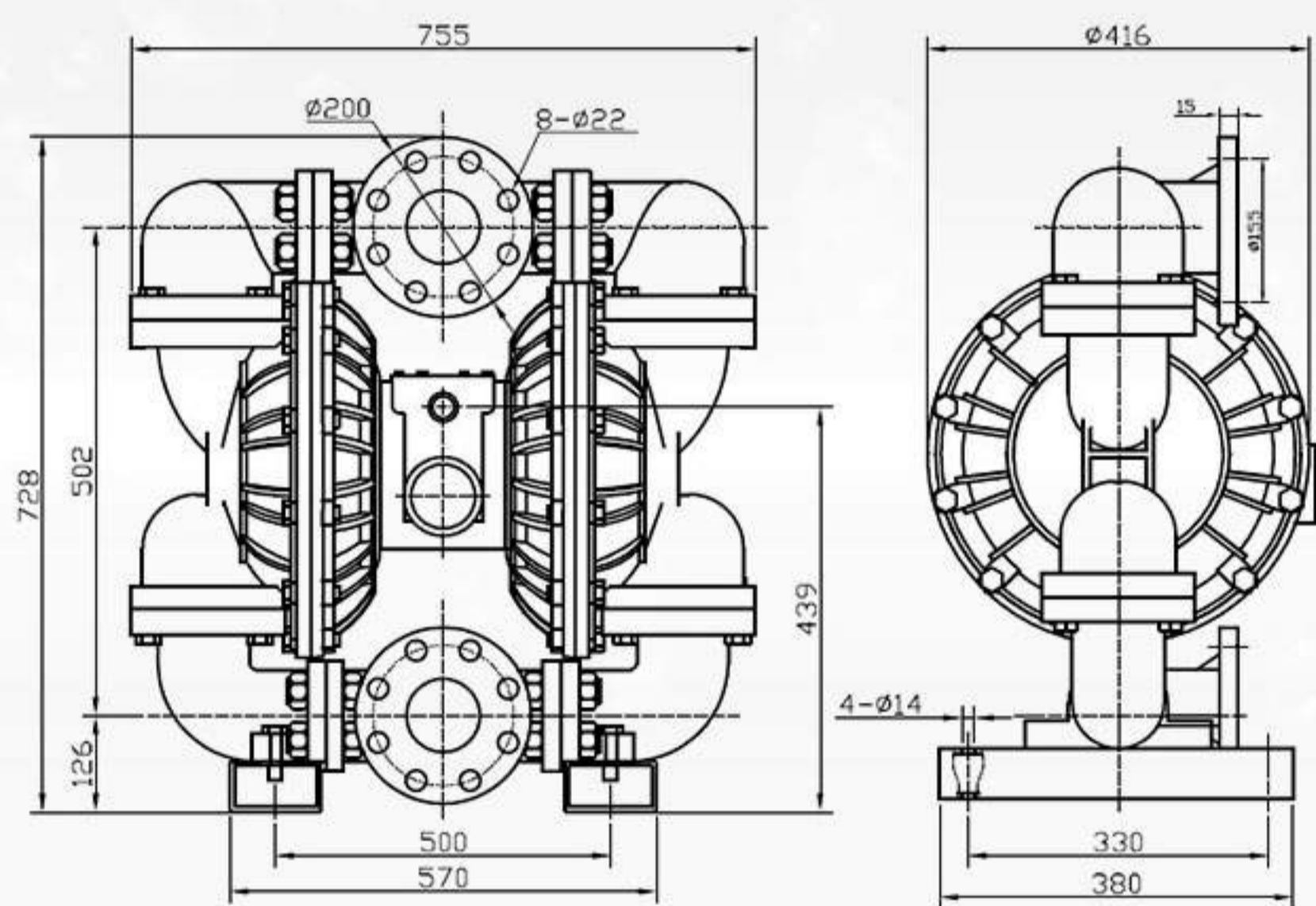


SS AODD Pump

DIAGRAM



INSTALLATION



FEATURES

- Heavy-duty construction
- Easy air valve maintenance
- Large flow paths for high viscosities
- Fluid flow up to 275 gpm (1040 lpm)
- Bolted leak-free, flanged connections — no clamp bands used
- 3 in (76.2 mm) ANSI center-porting that is internally threaded 3 npt or bspt

PARAMETER

PKP80 Diaphragm Pump Technical Specifications

Max Working Pressure	120psi (0.84Mpa ,8.4bar)
Max Flow Rate	275gpm (1041 lpm)
Max Reciprocating Speed	135cpm
Max Suction Height (Dry Sucking)	5m
Max Permitted Grain	9.4mm
Max Air Consumption	180scfm (90L/s)
Air Inlet Size	3/4in.npt(f)
Air Outlet Size	1 in.npt(f)
Fluid Inlet Size	3 in.npt(f)
Fluid Outlet Size	3 in.npt(f)
Weight	PP pump 66kg



POWDER TRANSFER AODD PUMP

Powder Pumps were specifically designed to move bulk solids more effectively throughout your process.

They are a cost-effective replacement for Augers and Conveyors and eliminate unsafe and labour-intensive means of moving bulk powders. These heavy-duty pumps consistently transfer fine-grained (100um or finer), low bulk density (5 to 50 lbs. / cubic foot), dry powders in a dust-free operation.

Economical and compact solution

The Europa Powder Transfer Pump can do the same job as many complex and large powder systems. The compact design also makes the unit portable.

What kind of powders?

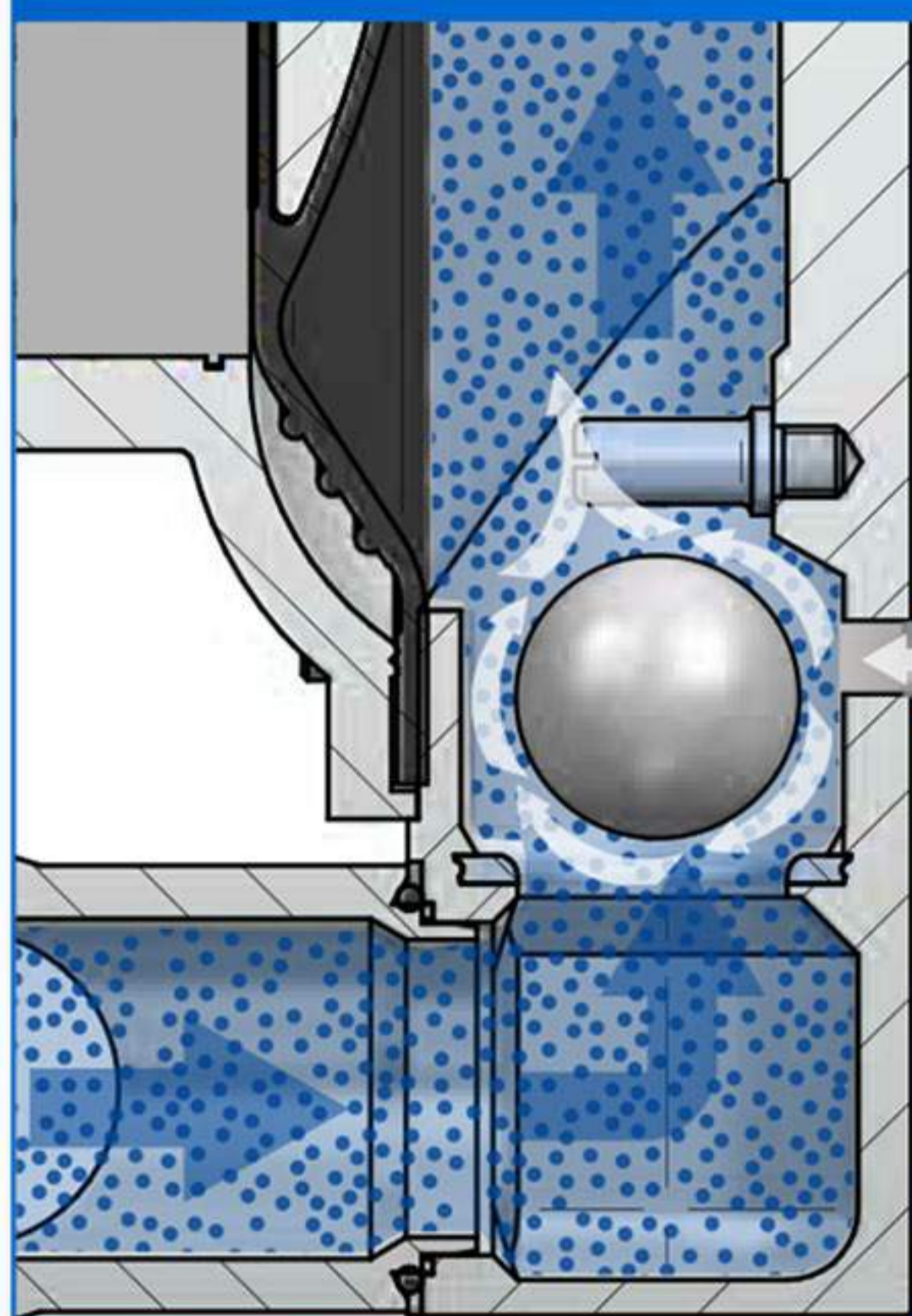
The Powder Transfer Pump will handle different types of process powders, with specific weight from 80 up to 720 kg/m³ dry weight. Generally, if the powder does not clump together when squeezed in hand, the Europa Powder Transfer Pump can be used successfully. A few examples of common powders are sintering powder, carbon black, resins and silicones.



EN 10204



Working principle



No start up problems

The air induction system eliminates powder pack up problems when starting the pump.

Air is induced to the powder side of the pump for diffusion of the powder. The induction flow can manually be adjusted by means of a needle valve to obtain a optimum performance.

Features & Benefits

- 
Economical
 compared with other complex powder systems
- 
Convenient
 and safer than manual powder handling

Model	PKP/PW 100	PKP/PW 150	PKP/PW 200	PKP/PW 300
In/outlet connections	1" BSP threads (NPT upon request)	1 1/2" BSP threads (NPT upon request)	2" BSP threads (NPT upon request)	3" BSP threads (NPT on request)
Features	Complete air induction system included			
Housing material	WCB, Stainless Steel 304 & Stainless Steel 316			
Diaphragm material	Teflon, Santoprene, Buna-N, Hytrel			
Valve ball	Teflon, Santoprene, Buna-N, Hytrel			



PRINCIPLES OF OPERATION

SPECIFICATIONS

- ▶ PTFE check balls are recommended for sticky powders.
- ▶ Europa recommends regulating compressed air to 70PSI Maximum.
- ▶ The Pump can be located a maximum of 15 feet above powder source.
- ▶ Conveying distance depends upon the micron size and the bulk density of the powder. For example, fumed silica can be conveyed 150 feet while flour a maximum of 40 feet.
- ▶ Europa Recommends aeration / fluidization of the powder a minimum of 10 to 15 seconds prior to starting the pump- premature diaphragm, center shaft, and center disk failure can be avoided.
- ▶ Powder must be 150 mesh (106 micron) or smaller size particle / powder and dry. The Pump will not pump crystals or flakes and the bulk density should be less than 50lbs / cubic feet. The higher the bulk density, the shorter the conveying distance and the lower the flow rate.

APPLICATIONS	
Activated Carbon	Dust
Acrylic Resins	Pearlite
Aluminum Oxide	Pesticides
Bentonite	Pharmaceuticals
Carbon Black	Pigments
Cereal Flours	Powder Coatings
Clay Powder	Powdered Plastics
Diatomaceous Earth	Powdered Rock
Expanded Mica	Quartz Powder
Fire-extinguishing Powder	Salicylic Acid
Fumed Silica	Silicones
Ground Limestone	Starch
Kaolin	Talc
Micro Dolomite Filter	Toners
	And many more

Sr.No	Size of Pump-Inch	Transfer Rate (Kg/Hr)
1	1"	200-300
2	1.5"	300-600
3	2"	600-900
4	3"	900-1200

CAPACITY

The capacity of the powder transfer is extremely different from one powder to another, depending on the consistency and weight etc.



SANITARY SERIES PUMPS

Hygienic design - made from electropolished stainless steel AISI 316L to meet the requirements in hygienic installations.

The Europa sanitary series is particularly designed to meet the requirements of the food, beverage, pharmaceutical and cosmetic industries.

Lubrication free air distribution system, maintenance free ball check valve system and total visual inspection of the wetted parts are some of the major features for this pump series. The materials used on certain models comply with the FDA guidelines.

Models with extra fine internal surface finish
Ra < 0.8 and Ra < 0.5 are available upon request.



EN 10204

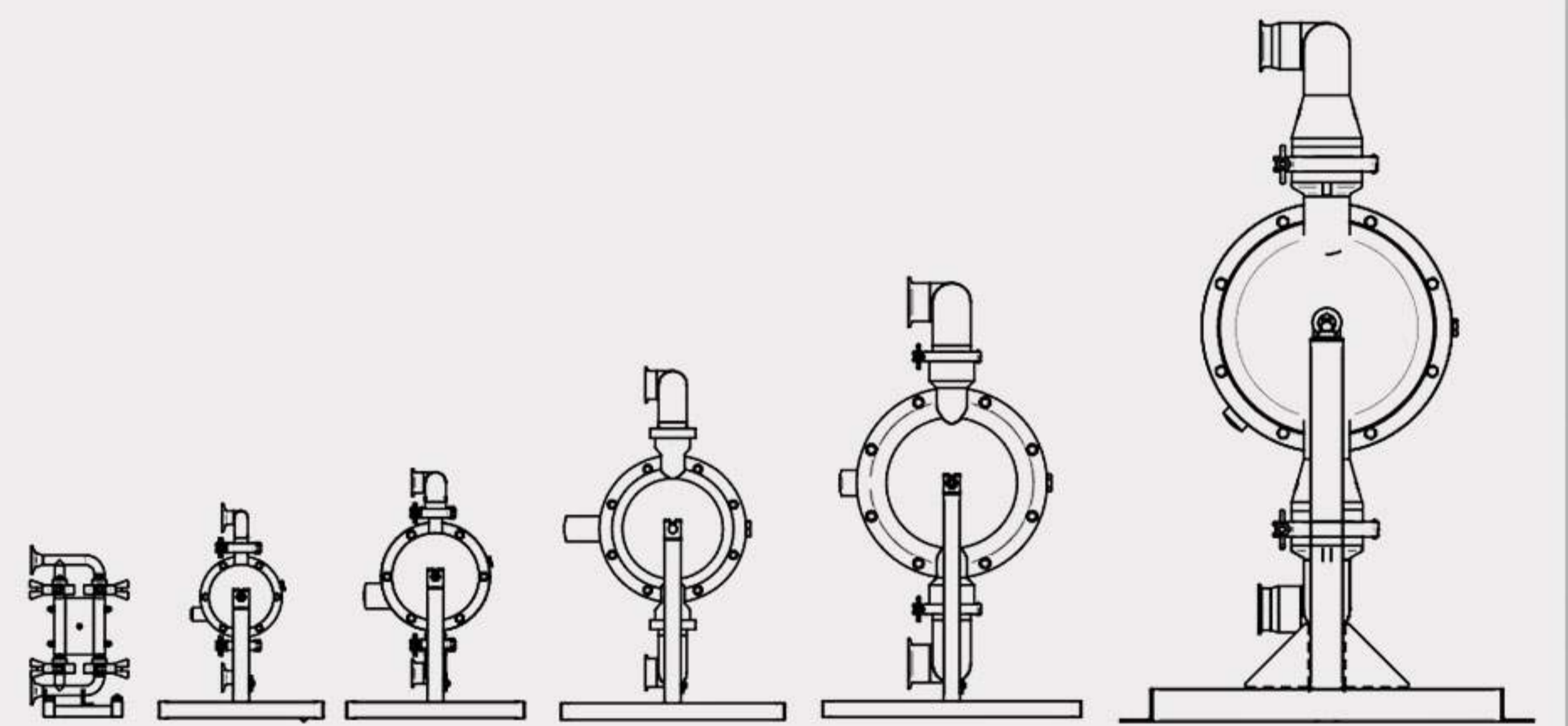


Pump Range

- 1" - 150 LPM
- 1-1/2" (1.5") - 338 LPM
- 2" - 570 LPM

MOC

- Stainless Steel 304
- Stainless Steel 316
- Stainless Steel 316L



TYPICAL APPLICATIONS

Sector	Example of applications
Dairy products	Milk, cream, yogurt, cream cheese, melted cheese
Grocery	Ketchup, mayonnaise, tomato products, mustard
Beverages	Flavors, coloring, fruit juice
Bakery	Dough, ingredients
Brewery	Beer, flavors, coloring, wort
Hygiene	Soap, shampoo
Cosmetics	Cream, alcohols, perfume





WE BUILD YOUR BUSINESS WITH OUR GREATE **CONCEPTS**



EUROPA PUMPS
(SWITZERLAND)

E-MAIL ADDRESSES

Orders
info@europapumps.com

Tech Support
daniel@europapumps.com

Commercial Questions
info@europapumps.com